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Targeting Post-Secondary Readiness Skills in Students With Disabilities for Successful Transition to Adult Living

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TARGETING POST-SECONDARY READINESS SKILLS IN STUDENTS WITH DISABILITIES FOR SUCCESSFUL TRANSITION TO ADULT LIVING

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Abstract

This study reviews the literature pertaining to post-school outcomes for students with disabilities in light of the IDEA mandate. It includes research into which skills students need, which are most lacking, and how to transfer these skills to students while they remain in the confines of the high school environment. Multiple studies have demonstrated that in spite of the IDEA mandate and despite attempts to address disparities, students with disabilities continue to lag behind their neurotypical peers across all areas of transition which includes those outcomes related to post-secondary education, employment and independent living. The studies reviewed further indicate that many special education teachers are leaving the field due to stress and the overwhelming nature of their many and varied responsibilities. For this reason, it is important to determine appropriate means of addressing transition skills deficits in students with disabilities while also doing so in a way that does not further burden special education teachers, but rather equips them to meet the needs of students by working smarter. Multiple studies are reviewed addressing post-secondary readiness skills, many of which have made clear that students across all disability categories are lacking in self-determination skills which are critical to post-school success regardless of post-secondary aspirations. The Self-Determined Learning Model of Instruction (SDLMI) is an evidence based practice designed, not as a curriculum, but as a means to help teachers transfer the development of key self-determination skills in students through a three phase, student directed, process: setting a goal; developing a plan; reflecting on progress and re-evaluating the goal and plan based on lessons learned.

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CHAPTER I: INTRODUCTION

High school graduation. It is an exciting event that most high school students anticipate, wearing their caps and gowns, processing into an auditorium with classmates as the band plays Pomp and Circumstance. This event marks the end of living life at home as adolescents, with parents or guardians in charge, and the beginning of adulthood. No longer are the students seen as children. Following graduation, the students are now considered young adults with the freedom–and responsibilities–of adulthood. For many, this next stage includes gaining a post-secondary degree through enrollment at a college, university or trade school. For others, this means pursuing the military or stepping directly into a job. Whatever the chosen path, for most, though there is excitement at moving on in life, there is also a certain level of fear and trepidation. Will I be able to get a job I like and be able to support myself? Will I be able to pay my rent and all my bills? All of a sudden, moving on in life sounds daunting and hard. Yet, whether excited or not, ready or not, adolescence gives way to adulthood with all its privileges and pressures. Graduation is our society's means of marking this significant change in our lives. For students with disabilities, this transition from childhood to adulthood, even graduation itself, can be particularly overwhelming. These students, like their peers, also want to move forward with their lives, get a job and live as independently as possible. Yet, the particulars of their disabilities make this transition especially difficult, for them and for their families. Leaving the security and predictability of the high school environment, with case managers and IEP teams ready to support, is terrifying for many and questions abound.

Research Rationale

As a teacher working with high school juniors and seniors, my primary goal is to do all I can to best prepare my students for their transition to life beyond graduation. This, actually, is the

mandate given to schools through the Individuals with Disabilities Education Act of 2004. Section 1401 (34) of this law states that high schools are required to provide strengths-based programming to students with disabilities aimed at preparing them for further education, independent living, and employment after high school, all of which fall into the broad category understood as transition. To best support such outcomes, these services, targeted in increasing measure during the secondary school years, are available at taxpayer expense even beyond high school and until the age of 21.

Unlike most neurotypical students whose main objective is to earn their course credits to graduate, students with disabilities not only have credits to earn but all need to make headway in developing those particular skills which are negatively impacted by their disability and necessary to their success following high school. For this reason, the weight and responsibility of educating this population, in light of the IDEA mandate, is real. The school is required to identify not just the needs of each student but their strengths in order to craft an individualized education plan, known as the IEP (IDEA, Part B, Section 1414). As students move nearer to graduation, the needs of the student highlighted in their annual IEP become increasingly focused on those certain skills the student will need to transition most successfully to adulthood. Therefore, in addition to the credits needed to graduate, students with disabilities have IEP goals to meet, goals that target the skills and abilities the IEP team recognizes as most necessary for that student's seamless adjustment to adult living.

During my first year of teaching, I was assigned the “transition” class for juniors and seniors. All I understood at that point in time was that I was supposed to prepare my students for life beyond high school. “PIE” is the acronym I learned very quickly, representing the three broad areas of transition that I needed to address with my students: post-secondary education,

independent living, and employment. Though this was helpful, still the challenge remained to understand how exactly to cover these areas, including the skills and abilities I should target and the best means to transfer the needed skills to my students. How could I prepare them within the confines of the school building to get and keep a job? How could I expose them to post-secondary educational options and responsibilities? Where would I find guidance in transferring the numerous independent living skills needed to carry them beyond high school? I contacted other teachers and searched the internet for a curriculum to support this new endeavor. This, I came to discover, is one of the many challenges that not only I was facing, but other teachers in my school and beyond face as well (Sprunger et al., 2018). Though IDEA stipulates the transition goals for high school students with disabilities, it does not articulate how these objectives are to be met specifically within the context and limitations of the high school environment.

Understanding this, and now nearly 20 years following the passage of IDEA, what does research say are the outcomes, post-high school, for students with disabilities? Are these students better prepared to tackle life as an adult? Have outcomes comparing them and their neurotypical peers demonstrated that the goals of IDEA are being met? Sadly, according to numerous studies, students with disabilities continue to lag behind their neurotypical peers in independent living, post-secondary educational, and employment outcomes. According to the 2020 Youth Transition Report, students with disabilities are not keeping pace with their general education peers in post-secondary outcomes related to employment and education (Cheng & Schaewitz). They also are far less likely to be employed or in school, which directly impacts their quality of life and independent living opportunities. Furthermore, outcomes for students with particular disabilities,

like autism, are poor even when compared with other students with disabilities (Findley et al., 2022, p. 1; Bouck & Park, 2018, p. 253).

Guiding Research Questions

In light of the IDEA mandate to prepare high school students with disabilities to transition to adult living and a recognition of discrepancies in outcomes between students with and without disabilities, the purpose of this study was to address the following questions:

- What does research indicate are the post-secondary outcomes for students with disabilities and do these outcomes vary by disability category?
- What does research indicate are the critical skills and abilities students with disabilities most lack and therefore must learn in order to transition most successfully to life as an adult?
- What does research indicate are the most successful means of transferring the critical skills and abilities students with disabilities need following high school while they still remain within the safety, programming and confines of the high school environment?

I am now a number of years past my initial challenge to teach my first “transition” class. I have been through many IEP meetings, worked with students and their families, teachers, and outside service providers, to determine the strengths and transition needs of those on my caseload. I have organized field trips to community and technical colleges and invited speakers to present from local junior and four-year colleges. Apartment searches and tours have given students some idea of costs to live independently. Strengths and interest assessments have become a regular part of classroom assignments with presentations by students to help them better understand themselves as they think and plan for their futures. Students have been given a taste of what it takes to get a job through mock interviews. All of these exercises and experiences

have addressed a particular area of transition, yet with budget cuts and time constraints, many of these opportunities are limited. Therefore, the challenge persists to identify and transfer, in context of the high school environment, the skills essential to each student's post-secondary flourishing.

My purpose, therefore, in pursuing this research is first for myself, though my hope is that other special education teachers will be helped through this endeavor. As I continue to work with this population of individuals with special needs, guiding them and their families through these stressful years as they anticipate and prepare for life beyond high school, I recognize more clearly that my understanding must be clear as I help guide the IEP team to establish goals which will actually address the transition needs of each student. Theory must work itself out in relevant and meaningful practice. Thankfully, the research to date, again nearly 20 years post IDEA, has made clear those skills and abilities which are essential for each student's successful transition to life after high school. Research also sheds additional light on the varying impact of different disabilities which helps me as the teacher more intelligently and specifically guide the programming for each student, that which will most directly foster his or her growth as a high school student soon entering adulthood. In light of this, while each student has their IEP goals to tackle, my aim is threefold: to know my students including their strengths and struggles; to know what skills the research says they need most to succeed after high school; and lastly, to help them not simply to make it through graduation, but more importantly to prepare them to begin the race of adult life following high school equipped with the skills they need to meet and persevere through the challenges each will face.

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

Information and peer-reviewed research articles for this thesis were found through searches of ERIC, EBSCOhost Academic Search Primer, LibSearch, JSTOR Arts and Sciences IV, Education Database and Sage Premier between the years 1996-Present. Search topics included “post-secondary outcomes over time,” “post-secondary outcomes and students with disabilities,” “post-secondary outcomes and autism,” “transition and students with disabilities,” “transition needs and students with disabilities,” “transition needs and students with autism,” “post-secondary transition curriculum and students with disabilities,” “preparing students with disabilities for transition,” “transition skills and students with disabilities,” “employment and students with disabilities,” “employment and autism,” “post-secondary education and students with disabilities,” “predictors of post-secondary success and students with disabilities,” “post-secondary transition readiness and students with disabilities,” “post-secondary transition readiness and autism,” “self-advocacy and post-secondary transition,” “post-secondary skills and students with disabilities,” “post-secondary skills and students with autism”, “special education teacher burnout,” “special education teacher training in transition skills,” “special education teacher understanding of transition skills.” This chapter will review the literature in the following order: Post-secondary outcomes over time for students with disabilities, skills and abilities students with disabilities lack yet need to transition successfully beyond high school, and how to best transfer these skills to students with disabilities while they are still in high school, and means of doing so that respects the already heavy curricular, due process and caseload responsibilities of special education teachers leading to widespread burnout. Each area will review the literature for students with developmental disabilities in general yet where the

research allows will emphasize the indicators for students with autism spectrum disorder (ASD) in particular.

Transition Outcomes Over Time for Students with Disabilities

With the passing of IDEA in 2004 and its focus on fostering transition skills for students with disabilities, and because IDEA was enacted to fundamentally alter the education of students with disabilities so that their post-secondary outcomes would more closely approximate those of their neurotypical peers, it is important to understand how this mandate has actually impacted the post-secondary outcomes for this population. With this objective in mind, it is relevant to determine whether or not students with disabilities are leaving high school equipped to face the realities of adult living in areas related to post-secondary education, independent living, and employment readiness. Sprunger and colleagues (2018) noted that studies of post-secondary outcomes for students with disabilities relative to education, employment and independent living, continue to show concerning gaps (p. 116). According to the 2020 Youth Transition Report, students with disabilities are failing to keep pace with their non-disabled peers across every area included in transition readiness and skills acquisition (Cheng & Shaewitz, 2020, p. 5; Sprunger et al., 2018, p. 116). This report was a customized analysis at both state and national levels of youth, ages 14-17, and young adult, ages 18-24, which measured the descriptive status of students at both the national and state level in the areas of education and employment. This study further measured the gaps in education and employment outcomes for all students, with and without disabilities, and found these gaps to be statistically significant. In addition to research such as this, other research indicates that outcomes vary between disability categories where students with autism demonstrate the most troubling post-secondary outcomes (Chou et al., 2017, p. 128; Lee et al., 2015, p. 989).

Post-Secondary Education Outcomes

According to the National Center for Education Statistics, which is part of the United States Department of Education, an average of nearly 70% of students who graduated from high school between the years of 2010 to 2020 began some type of two or four year post-secondary training in the fall immediately following their graduation (Digest of Education Statistics, 2020). Training in some field following high school is widely recognized as a primary means of preparing for adult living by having the skills needed to pursue a career and support oneself (Sanford et al., 2011, p. 13). For this reason, it is important for students with disabilities to have the opportunity to pursue similar objectives made possible through post-secondary training.

The United States Department of Education conducted a longitudinal study spanning 10 years which followed a group of special education students between the ages of 13-16, grade seven and higher, and receiving services on December 1, 2000. This study followed 11,276 students from across the United States representing each of the 12 recognized disability categories of special education (Sanford et al., 2011, pp. 1-2). This study was conducted in five waves beginning in 2001 and ending in 2009. Included in Wave 1 were parent interviews, surveys of school staff, and testing students 16-18 in 2002 on their academic skills. Wave 2 consisted of interviews with parents and students, a paper survey sent to students whose parents said they could not interview by phone, school staff interviews pertaining to students still in high school, and academic testing of students ages 16-18 in 2004. Wave 3, which took place in 2005, was designed to repeat parent and student interviews and surveys by mail. Wave 4 in 2007 and Wave 5 in 2009 entailed telephone and mail surveys of parents and students. Each year of the study, researchers collected high school transcripts (Sanford et al., 2011, p. 2) This extensive study found that though many students with disabilities recognize the importance of training

following high school and make plans for technical college or a two to four year degree program, of the almost 90% of students with disabilities who make plans to attend some type of post-secondary training, less than half of these individuals actually complete their line of intended study (Sanford et al., 2011, p. 20). One study found that of those with learning disabilities, roughly 67% enroll in some form of post-secondary education within eight years of leaving high school, yet only 41% of those students actually complete their line of study (Williams et al., 2020, p. 326).

While students with disabilities generally attend post-secondary training with far less frequency than their mainstream peers, those with particular disabilities, such as autism, are recognized as even less likely than their peers with disabilities to attend some type of post-secondary training (Bouck and Park, 2018, p. 257). Bouck and Park set out to accomplish a secondary analysis of the NLTS2 data, in order to decipher the data regarding post-school outcomes for students with autism in particular, outcomes immediately following high school and in the subsequent years (Bouck and Park, 2018, p. 254). Using data from the NLTS2, including Waves 1-4 where each "wave" represented two years of data collection, researchers targeted 4,665 students with ASD with the following demographics: roughly 94% were male, most were white or black–approximately 59% and 37% respectively–and 56% were ages 17-18 (Bouck and Park, 2018, p. 255). Researchers for the NLTS2 relied on various types of data collection but for the purposes of the Bouck and Park study, only two types of data collected in the original study, namely the parent/youth survey and the school program survey, were included. Parents completed the phone survey in Wave 1 of the original study but students completed these surveys in subsequent waves, unless unable to do so (Bouck and Park, 2018, p. 255). The parent/youth survey gave insight into the transition outcomes for that student. The hard copy

school survey was given to the educator most familiar with that student including the programming, services, and transition planning that student received. To answer their research questions, Bouck and Park created both an in-school database, based on results from Wave 1 and Wave 2 (high school seniors and juniors) survey results, and an out-of-school database based on results from Waves 2-4 (out of school two, four and six years respectively) (p. 255). The researchers found that only 25-33% of students with autism, even those without a learning disability, attend some form of training within six years of leaving high school, and less than half of these actually complete their study programs (p. 256). For those who did attend some form of post-secondary education, most attended a community college, the likelihood of which increased the longer students were out of high school, up to 23% by year six (p. 256). The same was found for attendance at a four-year college, that the longer students were out of high school, the greater likelihood that they would pursue this education such that by year six post high school, 15% of students with autism attend college or university (p. 256). Conversely, likelihood of enrollment in a technical training program decreased the longer students were out of high school (p. 257). This study found further that the greatest likelihood of students not only beginning some form of post-secondary training, but actually completing a degree, happened within the same six-year window, indicating that more time results in more students completing their training, but only up until a certain point (Bouck & Park, 2018, p. 257). In summary, gaps in post-secondary enrollment, 16.6% in 2018, and degree attainment, 7.4%, between students with and without disabilities remain significant (Cheng and Shaewitz, 2020, pp. 15, 17).

Employment Outcomes

Recognizing the impact of post-secondary training on job satisfaction and income, and the degree to which students with disabilities lag behind their neurotypical peers in completing

some type of training following high school, it is to be expected that employment outcomes will mirror these discrepancies (Sanford et al., 2011, pp. 13-14). According to the 2020 Youth Transition Report, students with disabilities are far less likely to be in the labor force, meaning they have looked for employment within the past four weeks, at a rate of 49% compared with 33% of their peers ages 14-24 (p. 19). They are also more likely to be unemployed compared to their neurotypical peers at a respective rate of 8% vs. 6% (Cheng & Shaewitz, 2020, p. 19). Compensation rates also reveal differences in outcomes over time. Sanford and colleagues, looking at outcomes for students with disabilities within six years of high school graduation as part of the NLTS2, found that on average this population earned less than their peers, $9.40 vs $13.20 respectively, per hour (Sanford, et al., 2011, p. 27) . Differences in pay also reflected types of disabilities, those with cognitive disabilities and autism on average earning a further $2.00 less per hour, $7.50, compared to those with learning disabilities (Sanford, et. al, 2011, pp. 27-28).

More recent studies indicate that outcomes have not improved significantly in the intervening years. While it is expected that most individuals will earn an increasingly higher wage over time, the trend for people with autism is the opposite, with employment and corresponding wages decreasing over time (Bouck & Park, 2018, p. 257). This study found that though the numbers of those with ASD who were ever employed increased over time, the numbers of those currently employed decreased between years 4 and 6 after leaving high school (Bouck and Park, 2018, p. 257). Furthermore, this study found that though individuals with ASD had greater job satisfaction the longer they were out of high school, fewer were likely to maintain full time employment or earn wages any higher than the minimum wage (Bouck and Park, 2018, p. 257).

Independent Living Outcomes

As trends for students with disabilities following high school indicate gaps in post-secondary educational and employment outcomes, these trends are similarly reflected in independent living and community participation outcomes. According to Merriam-Webster's dictionary (n.d), to be independent means to be self-governing, free, and lacking dependence on others for the basic needs of life. When looking at independent living as a category of transition, this area includes similar indicators such as financial independence and the degree to which one is able to live alone or with others, apart from the primary caregivers needed during adolescence (Sanford, et. al,. 2011, p. 39). Smith and Vasile (2021) describe independent living for both the disabled and non-disabled as being able to care for oneself and others in the course of day-to-day life (p. 568). Included in the abilities to do such things are the need to be organized, maintain personal hygiene, manage routine household tasks, prepare food and manage money and bills (Smith and Vaslie, 2021, p. 569). The NLTS2 found that those with disabilities are less likely to live both independently, 36% compared to 44% of peers, or semi-independently, 2.5% vs. 3.5% of peers, defined as living in a college dorm or military housing, in the six years following high school (p. 39). 62% of respondents for this study, which included over 4000 individuals with disabilities, indicated they were living with parents, guardians or family members (p. 39 footnote). The study also revealed vast differences in living outcomes when considering disability categories, those with learning disabilities at the high end of living independently, 40%, compared to those with multiple disabilities and autism at the low end, 10% and 11% respectively (Sanford, et. all, 2011, p. 41). A further finding from this study was the likelihood of students with disabilities having or fathering a child within six years of high school graduation. This group was more likely to have a child, relative to their peers, yet less likely to be married or

in a committed long-term relationship (p. 43). These numbers were higher for students with disabilities who did not complete high school compared to those who completed their high school diploma (Sanford, et. al. 2011, pp. 42-43). Bouck and Park found in their 2018 secondary analysis of the Sanford NLTS2 study that, again, students with ASD fare worse than their peers with other disabilities in terms of their independent living outcomes, here defined as living with a spouse, a roommate or in college/military housing (Bouck and Park, 2018, p 257). This study found that the highest likelihood of students with ASD living thus defined as independently, occurred within four years of leaving high school, at 23% of participants, but then dropping to 4% within the subsequent two year period (p. 257).

Another aspect of independent living, that of financial management, also highlights differences between students with disabilities and their neurotypical peers noting that those with disabilities are less likely to have a checking account or credit card but as likely to have a savings account (Sanford, et. al., 2011, p. 46). The numbers from this study were further impacted by the status of students when they left high school and whether they did or did not earn their high school diploma (p. 48). Those with a diploma were more likely to use these financial tools when compared to those who did not complete high school (p. 48). However, it was found that annual income was not impacted by high school leaving status (p. 48). Another variable impacting the independent financial management of students with disabilities was the income of the student's family of origin, where greater household income leads to higher income for their student with disabilities and greater use of financial management tools such as savings accounts, checking accounts, and use of credit cards (Sanford, et. al., 2011, p. 49).

Disability category was again found to impact outcomes in the area of financial management and income, indicating that those with developmental disabilities such as autism are

far less likely to earn over $25,000.00 per year and less likely than most to use financial management tools beyond a savings account (Sanford, et. al., 2011, p. 47). Bouck and Park (2018) discovered through their secondary analysis of the NLTS2 research results, which included nearly 4,700 individuals with autism, that over 85% of those interviewed had had a job at some point during the first six years since leaving high school (p. 257). However, only about 50% of participants were currently employed indicating that a large percentage of young adults with autism do not maintain consistent employment within six years of leaving high school (p. 259).

In-School Predictors of Post-Secondary Success: A Brief History of the Research

Going all the way back to the 1980's, researchers observed that students with disabilities were struggling longer, and with poor transition readiness skills, leading to dismal outcomes when compared with their mainstream peers (Test et. al., 2009, p. 160; Haber et al., 2016, 123, Kohler et. al, 1996, p. 10). For this reason, researchers sought over the years to determine the "why" behind these discrepancies and the steps that need to be taken to more intelligently target and implement programing which will facilitate individual flourishing, rather than floundering, following high school (Test et al., 2009, 160, 161).

Early research into transition-related outcomes found a positive correlation between a number of in-school indicators, such as work experience (Test et al., 2009, p. 161; Lee and Carter, 2012, p. 989; Benz et al., 2000, p. 517), self-determination (Lee & Carter, 2012, p. 993; Pierson et. al, 2008, p. 113; Wehmeyer & Palmer 2003, p. 139), and student involvement in transition planning (Wehmeyer, et. al., 2011, p. 38) all leading to improved post-school outcomes. Underlying much of this research was the seminal study conducted by Kohler and colleagues in 1996 who determined to create a research-based taxonomy that might inform the

transition planning process and improve outcomes for students with disabilities (Kohler et al., 1996, p.13). This study recognized that despite the common understanding that post-school outcomes for students with disabilities remained poor, and despite attempts to prepare students for adult living, still there remained a need to link theory to those practices, the "best" practices, which produced documented outcomes (Kohler, 1996, pp.12-13). Using a process called concept mapping, Kohler and colleagues studied the data to organize and pictorially represent those practices most relevant for transitioning planning and practice (Kohler, 1996, p. 16). To accomplish this, participants for this study included 207 transition specialists from throughout the United States including researchers, educators, and both state and local program directors all closely connected to transition related programming and practices. Participants represented 47 states as well as Puerto Rico, American Samoa, Guam and the District of Columbia (Kohler, 1996, p. 18). Using feedback to an eight page survey packet sent to participants, phase one of this study followed the first step of concept mapping, the need to articulate and define the concepts, those here being the specific transition practices commonly recognized by practitioners and highlighted through results of the survey packet. Once the concepts were defined, phase two entailed grouping the concepts, which were transition related practices from phase one, into categories. Using a color coded system of cards, participants–91 respondents of the original 207–were to organize the various practices in whatever way each believed appropriate and to order those practices in each category in level of importance. These groupings of cards were then bound together and returned to the researchers (Kohler, 1996, p. 21-22). These groups of cards became the five broad categories which formed the basis of Kohler's taxonomy for transition programming (See Appendix): Student development, student-focused planning, program structure and attributes, family involvement and interagency collaboration (Kohler et al., p. 62).

Each of these categories included its own list of transition practices relevant to that category and which need to be addressed in the transition planning process (p. 62). Once the taxonomy was created, Kohler and colleagues developed a transition assessment, based on their taxonomy, to evaluate the strengths and weaknesses of the transition plan for any particular student. Use of these assessment results would facilitate the creation of an IEP plan and any programming needed to target noted gaps in a student's transition readiness skills (Kohler et al., 1996, p. 64).

Years later, Test and colleagues conducted a review of the literature (2009) to determine what previous research indicated were the skills most closely linked to post-secondary flourishing for students with various disabilities, further examining the high school programming available for these students (Test, et. al, 2009, p. 162). Using EBSCO Host and Cambridge search engines, they identified all the articles published between 1984 and 2009 that used correlational methods to identify secondary predictors of post-secondary success (Test, et. al., 2009, p. 163). Sixty-three articles were initially found to meet research criteria (p. 162). During review, researchers found that 35 of these articles should be discarded since they did not address one or more key components of their study, such as not including in-school or post-school variables or studies which did not include students with disabilities (p. 162). The remaining 28 articles underwent a 13 item checklist to determine the quality of their correlational research leaving 22 articles to be included in this study which addressed their primary research question: For students with disabilities, what are the particular indicators in high school linked to the best outcomes after high school (p. 162). Each of their 22 selected articles gave insight into employment predictors with some further addressing indicators for improved educational and/or independent living outcomes (p. 170). This study resulted in the identification of the following 16 predictors of post-school success: career awareness, community experiences, exit exam

requirements/high school diploma status, inclusion in general education, interagency collaboration, occupational courses, paid work experience, parental involvement, program of study, self-advocacy/self-determination, self-care/independent living, social skills, student support, transition program, vocational education, and work-study (Test et al., 2009, p 170).

Research-Based Predictors of Post-Secondary Success

While previous research laid the groundwork for transition programming and readiness planning, and while progress has been made, more recent studies indicate that post-high school outcomes for students with disabilities continue to show discouraging trends (Haber, 2016, p. 123). For this reason, studies targeting these disparities have continued with a shift to now understand which of the previously identified predictors do impact outcomes, to what degree, and under what circumstances, in order to bring further clarity to these issues (Haber, 2016, pp. 123, 145-146).

Recent Analysis of Kohler's Taxonomy and Test's 16 Predictors

In more recent years, Haber (2016) sought to answer many of the same questions addressed in earlier research by using detailed meta-analysis of that research (pp. 123-124). Comparing multiple studies and the findings from these various projects allowed practitioners the ability to determine with more reliability the results of interventions during high school, such as improvements in social skills and academic performance, on transition-related outcomes following high school (pp. 123-124). Haber focused specific attention on the Test et al. (2009) and Kohler (1993) research due to the influence of these particular studies on transition programming, namely their means of targeting and categorizing transition needs and the research-based outcomes associated with each (pp. 127-128). Something missing from previous research, Haber noted, was an investigation into which, when, to what degree, and for which

populations the various interventions affected transition outcomes (p. 124). Haber further studied the impact of the different stakeholders, recognized in Kohler's taxonomy, who are central to the transition planning and implementation process (p. 124). Most research over the years focused narrowly on instruction and interventions during high school to prepare for life after high school rather than tracking actual outcomes after high school (pp. 124-125). These studies made correlational inferences based on experiences and outcomes during high school, such as social skills development or vocational training, and linked these to post-school outcomes in the areas of education, employment, and independent living (pp. 124-125). Haber went deeper into the previous research, using meta-analysis of the literature to determine the size, strength and generalizability of interventions, and the impact of these interventions on the key transition outcomes including which interventions related to the 16 predictors recognized by Test et al. (2009) and which predictors related to Kohler's Taxonomy (1996) (p. 128). Haber further investigated the impact of disability type on transition outcomes. Hypotheses for this study included the following: that impact of interventions would vary between the 16 predictors of Test et al. versus Kohler's taxonomy categories but helpful distinctions would remain clear nonetheless; that interventions pertaining to collaboration between multiple stakeholders would show greater impact on outcomes than other interventions; and that correlations would be stronger between interventions targeted to particular outcomes such as employment readiness interventions to employment outcomes and academic interventions to post-secondary education outcomes (p. 128). Haber's goal was to expand on previous research in order to strengthen the understanding of in-school predictors and the generalizability of outcomes, namely which post-secondary outcomes are affected by particular interventions, to what degree, if any, and for whom (p.145).

To accomplish this objective, Haber's study began with a survey of the 22 articles reviewed by Test and colleagues to determine which of those articles met the research criteria at hand (Haber, 2016, p. 128). Unlike the Test study, Haber included articles rejected by Test due to their failure to meet the quality standards of Thompson et al (2005). This became one of the multiple moderator variables used by Haber, that studies which met the criteria for quality research would provide clearer distinctions between interventions and effects than those that did not meet criteria (p. 128). With this distinction for inclusion in mind, Haber conducted a search similar to Test in 2009, looking for peer reviewed articles between 1984-2010 which addressed predictors and/or post-secondary outcomes for students with disabilities (p. 128). Haber found that 255 of the original 332 articles found did not meet inclusion criteria. More articles were then discarded for reasons such as not distinguishing between students with and without disabilities, not including students with disabilities, research not being available in English, and other such reasons (pp. 128-129). Of the 35 articles remaining, 21 were included in the Test analysis of 2009 and 14 which were particular to Haber's study (p. 128). The 35 articles selected included a total of 27 distinct sample populations since some studies used the same samples (p. 129). These 27 samples created a total of 16,957 participants for this study. Also, the NLTS data was included in this research but not the NLTS2 since the latter was still in process and the Haber study was intended to complement this latter study (p. 129). Somewhat unique to Haber's research was his use of moderator analysis to determine more clearly actual differences in effects and impacts of interventions to outcomes by accounting for variables such as the numbers of studies included in previous studies, sample sizes, and variables of demographics and research designs, and as previously stated, whether or not a study met Thompsons quality criteria (pp. 125-126). He recognized that failure to account for variables such as these skew the interpretation of research

results and negatively impact the ability to accurately link theory to practice (Haber, 2016, p.126).

Haber's (2016) research indicated most significantly that the broad nature of the taxonomy categories of Kohler were more helpful in identifying relationships between predictors and outcomes than were the more narrow 16 predictors identified by Test et al (pp. 145-146). In other words, the results of this study did not allow researchers to identify significant differences in effect sizes for the predictors but did detect differences for the taxonomy categories (pp. 145-146). This was attributed to the smaller numbers of studies aimed specifically at the individual predictors of Test (p. 146). Haber concluded that at present, apart from those predictor categories that are associated with extensive research, such as vocational readiness and training, the more general categories of Kohler's taxonomy are more helpful for the field and for the purposes of understanding general relationships of predictors to outcomes, than the specificity of Test's 16 predictors (p.146). As expected, some specific interventions directly impacted specific outcomes such as employment readiness to employment outcomes. Conversely, however, Haber discovered that there were unexpected impacts from some interventions. This study found that interagency collaboration and transition programs directly impacted post-secondary educational outcomes but not employment outcomes (p. 146). Furthermore, it was discovered that particular interventions during high school in one area may obstruct post-secondary outcomes in another area (p. 146). For example, focus on employment readiness could negatively impact post-secondary education outcomes and vice versa (p. 146). Haber noted that while this effect–the inverse relationship between employment and education readiness outcomes as a result of focus on one area over another–has been studied in the general population, similar effects amongst those with disabilities could be expected (p.146). Haber further found that the

effects of multi-stakeholder interventions were greater than some of the more commonly identified interventions related to student development (p. 146). This suggests a need for further research into the collaboration between stakeholders and a potential need to shift some of the targeted interventions in high school depending, fundamentally, on the post-secondary goals of each student (pp. 146, 150). Finally, Haber found that unlike the positive correlations between predictors and outcomes in post-secondary education and employment, the relationship between predictors and independent living was negligible, likely due to the difficulty defining this outcome with specificity (p. 145).

As stated, Haber's research found that the taxonomy categories are more helpful for programming and planning purposes than a narrow adherence to the 16 predictors named by Test and colleagues (Haber, 2016, p. 146). He did, however, find that specific predictors associated with extensive research and recognized by both studies are extremely relevant for the purpose of planning and targeting interventions for students with disabilities (p.150) Predictors that would fit this category include inclusive practices, work experience, vocational education, and transition programs (p.150). Furthermore, Haber concluded that since research to date indicates that predictors do not consistently impact both employment and educational outcomes, interventions in high school should be specific to the post-secondary goals of each individual student rather than implemented broadly simply because they are "evidence-based" interventions (Haber, 2016, p. 150).

Self-Determination

As previously stated, those in-school predictors associated with both the Kohler and Test research and the subject of extensive research are extremely relevant for the purpose of planning and targeting interventions for students with disabilities (Haber, 2016, p.150). One such

predictor, which is highlighted in both studies and is also the topic of extensive research, is self-determination (Shogren et. al., 2014, p. 221). Test lists self-determination as one of the 16 predictors and Kohler includes self-determination under the broad category of student development (Test et al., 2009, p. 177; Kohler, 1996, p. 133). The concept of self-determination has been around for decades, reaching as far back as the 1940's, when the concept of autonomy–being governed and directed from within and not from without–became recognized as a key aspect of what it means to live and a fundamental aspect of personality development (Shogren et al., 2015, p. 252). Those in the field of Special Education found in the psychological research of the past this theory of autonomy and recognized the significance of this concept for special education (Shogren et al., 2015, p. 252). Early research made evident the fact that students with all types of disabilities–from intellectual, to emotional and behavioral, to autism–were less self-determined than their neurotypical peers (Shogren et al., 2015, p. 253). For this reason, the 1990's was a decade in which many of the ideas pertaining to self-determination were studied, defined, and refined for their usefulness in the field of special education (Shogren et al., 2018, p. 252). Early in this decade, self-determination was understood in a functional sense, defined as "acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference (Shogren, 2015, p. 252)." At this time, research into what it meant to be a "causal agent", greatly influenced by the field of positive psychology, resulted in four distinct and necessary components of self-determination: autonomous functioning, self-regulation, psychological empowerment, and self-awareness (Shogren & Shaw, 2016, p. 55; Wehmeyer, 1996, p. 24).

Wehmeyer (1996) clarified the meaning of each of these components of self-determination as follows: Autonomous functioning is fundamentally the idea of "self-rule"

rooted in the Greek “autos,” meaning “self,” and “nomos,” meaning “rule” (p. 25). He highlights autonomy as “separation from parents, the development of a sense of personal control over one’s life, the establishment of a personal value system and the ability to execute behavioral tasks which are needed in the adult world (p. 25).” The second component of self-determination, self-regulation, includes those skills needed to manage one's behaviors in a manner that is appropriate relative to each context. This component includes goal setting, including the requisite self-management skills to meet one's goals, problem solving, and the skills involved in observational learning meaning seeing and sensing what is happening around oneself in order to manage behavior appropriately (p. 26). The third component of self-determined behavior, psychological empowerment, includes the metacognitive aspect of attitudes and dispositions, internal and unobservable, that are critical to and necessary for behaviors to occur. These metacognitive aspects of self-determination include an individual's beliefs about their control over circumstances that matter to them, their belief in their ability to achieve their goals, and their belief that if they take action they can achieve the outcomes they desire (p. 26). The final and fourth component recognized by research as critical to self-determined behavior is that of self-awareness, namely, the ability of the individual to accurately recognize their strengths and their struggles through their own experiences, the input of others, and their ability to attribute outcomes to behaviors (pp. 26-27). These categories became the basis for the ARC Scale of Self-Determination, created in 1995, to measure the self-determination skills of individuals. This rating scale is still used today (Shogren et al., 2015, pp. 253, 255).

Though the definition of what it means to be self-determined and what practitioners reference when speaking of self-determination skills has not changed significantly over the years, the emphasis in the accepted definition of self-determination has become increasingly

focused on “agency”, further clarifying what it means to be a “causal agent” (Shogren et al., 2018, pp. 252-253). Over the years, researchers recognized that especially as self-determination related to the field of special education, the emphasis on control over one's life seemed to indicate that self-determination would be an impossibility for those with more debilitating disabilities (Shogren, et. al, 2015, p. 253). For this reason, the emphasis and definition of self-determination as a category shifted to mean “volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one’s quality of life” meaning that one “acts”, primarily, through choice and decision making (Shogren et al., 2015, p. 253). Wehmeyer articulates this further when he states that “agency” includes the idea of having self-directed goals and aspirations towards which an individual perseveres through adversity, learning from mistakes, and presses forward aligning behaviors such that they are able to attain the goals they have set for themselves (Wehmeyer, 2014, p. 178).

The significance of self-determination as a category in the field of special education is well substantiated in research, is linked to practice through assessment and various interventions and is the subject of ongoing research (Shogren et al., 2015, p. 253). For these reasons, instruction in self-determination skills is now considered best practice due to widely documented outcomes across all transition categories, including improved post-secondary education, employment, independent living, and quality of life categories (Shogren et al., 2015, p. 253; Weymeyer, 2015, p. 20; Shogren & Shaw, 2016, p. 55). Evidence makes clear that students with disabilities who receive targeted interventions to enhance their self-determination skills do become better able to advocate for themselves, set and attain their goals, problem-solve, access resources in the community, and make decisions aligned with their goals and aspirations (Shogren et al., 2015, p. 254; Raley et al., 2018, p. 63, Shogren et al., 2014, p. 222).

In 2015, Shogren and colleagues conducted a study aimed at researching the correlation between self-determination skills when leaving high school and transition outcomes following high school graduation (Shogren, et. al., 2015, p. 256). For this study, researchers sampled 779 special education students from six states representing 50 school districts. All participants were involved in previous research conducted by Wehmeyer and colleagues (2011 and 2013) while they were still in high school. The present research, a two-year follow up study to the initial research, used a survey mailed to participants in order to measure adult outcomes one and two years post-high school in the following transition areas: employment, community access, financial independence, independent living and life satisfaction. Researchers used a latent construct model to identify the strength of indicators beyond a single construct, such as having a job. Rather, participants were asked to go deeper to identify hours worked, benefits received and any career goals beyond present employment (Shogren et al., 2015, p. 263). The findings of this secondary study, measuring outcomes two years after graduation, indicated that self-determination skills at graduation are reflected in post-secondary outcomes, yet the relationship across time is not as not easy to decipher (Shogren et al., 2015, p. 262). During the initial phase of this study, years one through three, self-determination skills at any point determined their future level of self-determination. Yet, in years four through five, the two years following high school, research indicates that such direct correlations to outcomes are not consistent (Shogren, 2015, p. 263). Though self-determination skills at graduation did predict employment outcomes one year following high school, outcomes only one year later did not follow consistently (p. 263). However, self-determination related to employment at one year following high school did indicate self-determination the following year, two years following graduation. Further findings on self-determination skills to outcomes in this study indicated that

self-determination at graduation was a valid predictor of community access one and two years following graduation though independent living and life satisfaction outcomes were not impacted (p. 263). Interestingly, the fact that community access targeted individual access to transportation and specifically if the individual has a driver's license and their own car, results were consistent with previous research showing that access to transportation, or lack thereof, accounts for significant differences in employment outcomes for students with disabilities (p. 263). Those who showed greater self-determination skills in this area, meaning greater ability to access transportation, were shown to maintain consistent results two years beyond high school (p. 263). Though results of this study did not indicate self-determination as a predictor of independent living two years following high school, Shogren (2015) noted other studies which have demonstrated improved independent living outcomes three years and more following graduation for students with disabilities (p. 264). The previously highlighted NLTS2 found that students with disabilities out of school five to eight years were more likely to live independently than those out of high school for less time, which may indicate that it takes longer for this population to achieve the skills necessary to live independently (p. 264). Finally, this study did not find any correlation between life satisfaction and self-determination skills at high school graduation which researchers indicate may be due to the difficulty of measuring a category such as life satisfaction, since it is fundamentally subjective in nature (p. 264).

As seen in other categories of post-secondary outcomes, where students with ASD lag behind not just their neurotypical peers but also behind other students with disabilities, the same is true in the area of self-determination skills. Chou and colleagues (2017) research consisted of a multivariate analysis of covariance (MANCOVA) of the Self-Determination Scale (SDS) subscales of autonomy, self-regulation, psychological empowerment and self-realization, using a

sample of 222 special education students ages 13-22. All students in this study were receiving services under the categories of ASD, learning disabilities (LD) and/or intellectual disabilities (ID). Students in this study were recruited from both a previous study on self-determination including those receiving special education services under all three categories and students recruited directly from school districts who were receiving special education services under the primary category of ASD in particular. Of those newly recruited, all fit within these criteria: they were between the ages of 13-21 during the 2010-2011 school year, they were receiving services under the primary special education category of ASD/Aspergers Syndrome, they had the ability to independently communicate their preferences and finally, they were able to answer open ended question. Using the Self-Determination Scale and the dependent variables of autonomy, self-regulation, psychological empowerment and self-realization, and disability type–ASD, LD, ID– as the independent variables, this research found that those with ASD lag behind students with other disabilities, most notably in the area of autonomy (Chou et al., 2017, p. 129).

Transferring Transition Skills to Students with Disabilities

Research indicates that post-secondary outcomes for students with disabilities relating to education, employment, and independent living reflect ongoing and significant disparities between this population and their neurotypical peers (Findley et al., 2022; Bouck & Park, 2018, p. 253; Haber, 2016, p. 123). Research further indicates that there are certain skills that, when present, improve the transition outcomes for students with disabilities (Shogren et al., 2015, p. 253; Weymeyer, 2015, p. 20; Shogren & Shaw, 2016, p. 55; Test et al., 2009, pp. 170, 176-177; Kohler, 1996, p. 62). These research based predictors include those highlighted by Test's 16 predictors and more succinctly by Kohler's taxonomy (Test et al., 2009, pp. 170, 176-177; Kohler, 1996, p. 62). Included in both of these frameworks is the recognition that students with

disabilities have significant gaps in their self-determination skills that need addressing in order to facilitate their transition to adult living (Test et al., 2009, p. 177; Kohler, 1996, p. 133). With these findings established, the question becomes how high school educators can confront these post-secondary discrepancies by working smarter during the high school years to transfer the skills research indicates lead to better outcomes for students with disabilities following high school.

Challenges Teachers Face

In order for special education teachers at the secondary level to address the post-secondary discrepancies in outcomes indicated by research, they must know the following: first, that these discrepancies exist; second, the skills students lack that oftentimes account for these discrepancies; and third, how to teach and transfer these missing skills most effectively within the context, confines, and demands of the high school classroom. Though special education teachers are responsible to directly facilitate the IEP and transition planning process, research indicates that many often have a limited understanding of the predictors of post-secondary success for students with disabilities, including the skills that need to be targeted and how to target them (Lee & Carter, 2012, p. 121). Studies indicate that pre-service teachers receive little to no training in transition readiness skills such as self-determination and so feel ill-equipped to teach these skills to their students (Thoma et al., 2008, p. 95). Thoma and colleagues (2008) conducted a qualitative study of 50 graduate level special educational students with various levels of classroom experience, from years of teaching and pursuing their MA to students still in their initial teacher-training courses. A module for these special education graduate students was created that would allow these researchers to measure the degree to which the participants understood the concept of self-determination and their ability to assess and teach

these skills to students. The module was intended to further spotlight any lingering misconceptions about self-determination even after receiving direct instruction on the concept (p. 96). Data for this study was gathered following the module through the administration of a midterm exam where students answered direct questions (pp. 97-98). According to the exam results, researchers found that most students could give an accurate definition of self-determination; however, when asked how to transfer these skills to students, participants addressed only a few components of self-determination, namely, choice-making in the form of giving students in their classrooms more opportunities to make decisions (pp. 98-99). A notable finding from this study was the fact that even after direct instruction on self-determination and how to transfer these skills to secondary students, these seasoned and soon-to-be teachers still evidenced a lack of understanding of this concept and further how to effectively transfer these skills to students with disabilities (p. 104). Another significant finding from this study was the need to better prepare teachers not simply to understand this concept of self-determination in its fullness, but also how they can transfer these skills students need while simultaneously managing the expectations of various stakeholders such as parents and administrators, helping students meet graduation requirements according to state standards, and, managing their classrooms given the variety of student needs (Thoma et al., 2008, p. 103). This last finding made evident the fact that special education teachers are continually weighing their many responsibilities at various levels and the corresponding demands placed on them with their ability to effectively carry out the research based practices to transfer self-determination skills to their students (p. 103). Because of this, the degree to which they feel able to implement best practices in order to transfer these needed skills becomes one of the many responsibilities they must determine their

ability to do successfully, while simultaneously meeting the other demands placed on them by the state, their administrations, and the families they serve (p. 103).

It is because of these many demands placed upon special educators that many are simply leaving the field, discouraged at their inability to keep up and fulfill the expectations placed upon them by the state, their districts and again, the families they serve. Hagaman and Casey (2018) conducted a recent study surveying a group of 52 individuals representing three categories: preservice special education teachers, special education teachers still within their first three years of teaching and administrators (p. 279). Participants represented multiple school districts located between two midwestern states (p. 281-282). Using a nominal group technique (NGT), which allows for both qualitative and quantitative analysis and the ability for participants to expand and develop their responses based on the feedback of others, something which standard surveys do not allow, researchers conducted a series of focus groups in order to answer their research questions, namely, why new special educators are leaving the field, the extent of their responsibilities and the support they receive from administrators (p. 279). Results of this study indicated that all three groups named stress and the myriad of demands placed upon special educators as the number one reason these teachers are leaving the field (Hagaman & Casey, 2018, p. 282). In addition to other reasons named for why teachers are leaving this field–-including large and difficult caseloads, paperwork demands, lack of support and training and state standard requirements–was the lack of curriculum which specifically targets the needs of students (p. 282).

Curricular Means of Transferring Self-Determination Skills

In recognition of self-determination skills as a key indicator of post-secondary success for students with disabilities, the need to link theory to practice, and the requests of teachers for

help with implementing means to develop these skills various curricula have been developed to support both student and teacher needs (Lee et al., 2015 p. 237; Hagiwara et al., 2020, p. 17). Curricula vary in terms of focus and audience. For those working with high school students preparing to leave the confines of the secondary setting, the goal is to help these students move successfully to their next phase of life with the self-determination skills research indicates will help them to succeed. One curriculum, *Whose Future Is It Anyway?*, helps teachers involve students in their own IEP meetings in order to develop these skills, as they talk about their strengths, struggles and identify short term goals which will help the student achieve their personal longer term post-secondary goals, whether that be attending two to four year college, trade school, or another option (Weymeyer et al., 2011, p. 46). A second curriculum which is the subject of extensive research is the *Self-Determined Learning Model of Education (SDLMI)*. This curriculum was developed by researchers to help teachers transfer skills of goal setting and attainment by teaching students to create actionable steps which they then must revise and adjust as needed, after ongoing self-evaluation and reflection, to achieve their goals (Raley et al., 2018, p. 63). One of the primary differences between these two curricula is that the first targets specific self-determination skills developed through the IEP process and is, therefore, not only specific in the skills taught, but this curriculum is also specific in its application to students with special needs (Shogren et al., 2018, p. 167). The second curriculum, highlighted in this study, the SDLMI, is different in two primary ways. First, this curriculum is not specific in the skills taught and is not actually a "curriculum" but rather a method of delivering instruction (Shogren et al., 2018, p. 167). This program is intended to help teachers teach and transfer the skills included in self-determination by helping them shift their educational practices to student-directed vs teacher-directed initiatives, in terms of problem solving, goal setting and attainment, using the

following student directed questions: What is my goal? What is my plan? What have I learned? (Shogren et al., 2018, p. 167; Raley et al., 2018, p. 65). A second distinctive feature of this program is that it can be implemented across all settings, including both special and general education classrooms (p. 167).

Whose Future Is It?

As stated, *Whose Future Is It Anyway?*, changed since its inception to, *Whose Future Is It? (WFA/WF),* was developed to engage students directly in the IEP planning and decision making process (Wehmeyer et al., 2011, p. 45). Previous research, using the measures of either Arc's Self-Determination Scale or the AIR Self-Determination Scale, indicated that students who were involved in their educational planning meetings, and the decisions inherent to these, were more self-determined than their less-involved peers (Wehmeyer et al., 2011, p. 46). However, a study to measure the effectiveness of such interventions on self-determination skills of participants, up until 2011, had not been conducted using a control group in order to have data comparing and contrasting responses to the intervention, in this case, WFA (Wehmeyer et al., 2011, p. 46). To remedy this, Weymeyer and colleagues conducted a randomized trial using a placebo control group to determine whether WFA improved the self-determination scores of students with disabilities (p. 46). This study included 493 participants in both middle and high school with various disabilities, both male and female, from multiple school districts located across six states, and randomly assigned to either the control or to the intervention group (p. 47-48). To maintain involvement in the study, the control group was given an intervention aimed at promoting parental involvement in the education of their children. Teachers in the intervention group were given instruction on implementing WFA with their students (p. 48). Data on student's self-determination skills was gathered via the ARC Self-Determination Scale (SDS) and the

AIR-Student version before and after implementation of interventions to both the control and testing groups (p. 50). Following implementation of both interventions, data showed that those given the intervention of WFA did show marked improvement in their self-determination skills (Wehmeyer et al., 2011, p. 54). Results indicated that both groups, according to the SDS, actually showed improved self-determination skills, which researchers accounted to the impact of time, maturing and the difference in the SDS as a measure of overall self-determination skills at a point in time. The AIR, on the other hand, is designed to measure opportunity and capacity at a point in time and according to this measure, those in the WFA intervention group demonstrated significant improvements over the control group in their self-determination skills (p. 54). Students were further recognized as growing not only in their self-determination skills but also in their transition awareness and skills (p. 54).

Self Determined Learning Model of Instruction

Like Whose Future Is It Anyway?, the Self-Determined Learning Model of Instruction (SDLMI) is an evidenced based practice. Unlike WF, however, the SDLMI is not a stand-alone curriculum but rather a means of helping teachers structure their classrooms and lessons such that students become equipped to self-regulate and manage their learning, which research indicates leads to increased self-determination and transition related skills (Lee et al., 2015, p. 237). Two studies were conducted which established the efficacy of the SDLMI as a research based practice to improve the self-determination skills of students with special needs (Lee et al., 2015, p. 238). In 2012, Wehmeyer and colleagues conducted a study to measure the impact of the SDLMI specifically on students' self-determination skills (p. 137). Using a sample group of 312 high school students with intellectual and learning disabilities, ranging in age from 13-21 and spread across 20 school districts in three states, researchers conducted a group-randomized,

modified equivalent control group study over a two-year period (p. 137). Randomization for this study occurred at the school level, with schools assigned either to the treatment or to the control groups (p. 138). Because SDLMI is actually designed to help teachers teach in a way that builds self-determination skills in their students, teachers in the treatment group received instruction on implementing the SDLMI during year one of this study, and teachers in the control group received this instruction in year two (p. 138). Data was collected using two measures of self-determination, the SDS and the AIR, at three points in time during this study: at the outset, at the end of year one, and again at the end of year two (p. 138). Results of this study demonstrated significant improvements in the intervention groups scores on both the SDS and the AIR from baseline to the final measure at the end of year two (p. 144). The control group, not having received the intervention in year one, demonstrated decreased scores in self-determination skills during this time period. Yet, with the implementation of the intervention in year two, scores for this group shifted upward with similar increases in self-determination skills to those of the intervention group in year one (pp. 144, 149). The intervention group demonstrated further developments of their self-determination skills during year two of the study with the ongoing implementation of the SDLMI (p. 149). Because both groups, randomly assigned to treatment and control groups, showed marked improvements in self-determination skills with the implementation of the SDLMI, even after receiving the intervention at differing points in time, researchers concluded that there is causal evidence for the use of SDLMI to build self-determination skills in students with disabilities (Wehmeyer et al., 2012, p. 149).

With the efficacy of both the WF and the SDLMI curricula established through research, Shogren and colleagues conducted an additional study in 2018 to determine the impact of the SDLMI implemented alone verses implementing this curriculum alongside the WF curriculum,

to determine the relative impact of one vs both curricula on the self-determination skills and goal attainment outcomes for students with disabilities (p. 168). The study took place in Rhode Island and included 340 transition aged students from 17 different school districts and all with intellectual disabilities (p. 168). Researchers attempted to determine the level of intellectual impairment but only got reports on 72 of the students, 67 of whom were reported to have moderate, severe, and profound disabilities (p. 169). During year one of this study, 40 special education teachers from the various school districts participated in a one and a half day intensive training on the SDLMI with ongoing coaching from in-district coaches. Implementation of the SDLMI would include three phases of instruction: Phase 1: Set a goal, Phase 2: Take Action, and Phase 3: Adjust the goal or plan (p. 170). This three step cycle was to be completed three times during the course of the school year (p. 170). During year two of this study, school districts were randomly assigned almost equally to either the SDLMI only or the SDLMI + WF group (p. 169). Any new teachers in year two received the intensive SDLMI training and all received on-going support from trained SDLMI coaches in their districts. Those in the SDLMI + WF group received additional training in the WF curriculum, which was expected to be part of class three times each week for 45 minutes to ensure teachers completed each of the 15 chapters in this curriculum (p. 170). Coaches observed each class at least three times during the school year and monitored fidelity to each program with an average, and acceptable, fidelity rating of 1.43 for the SDLMI group and 1.62 fidelity rating for the SDLMI + WF group based on a zero (not at all) to three (completely) scale (p. 170). The measures used in this study included the Self-Determination Inventory, both the Student (SDI: SR) and Parent/Teacher Reports (SDI: PTR) and the Goal Attainment Scale (GAS) to measure transition related goals (pp. 170-171). SDI:PTR measures were taken at both the beginning and end of the year for all students and at

the same points in time for the SDI: SR version, for those students able to self-report (p. 171). GAS measures were taken at three points during the school year, at each of the three SDLMI phases (p. 171). Results of this study indicated that students in the SDLMI only group demonstrated significant change in their self-determination and GAS skills according to both student and teacher SDI reports (p. 175). The study showed that this model of instruction, SDLMI, does increase self-determination and goal attainment according to students and teachers respectively (p. 175). The fact that the SDLMI + WF group did not demonstrate the same increases in self-determination and goal attainment according to the measures used led researchers to conclude that the added WF curriculum, and the time needed to teach it, may have diluted students' and teachers' abilities to actually focus on goal attainment (p. 175). Teachers in this group reported increases in students' self-determination but the students themselves did not indicate this same growth perhaps, researchers speculated, because they were focusing on the transition planning skills outlined in WF, targeting student-directed IEP meetings and related indicators, but were not yet able to apply these skills (p. 175). Conclusions from this study indicate that students demonstrate growth in both self-determination and goal attainment through implementation of the SDLMI, and that adding additional curriculum, such as WF, may not enhance outcomes in these same areas (Shogren et al, 2018, p. 175).

Chapter III will provide a summary of the literature reviewed, highlighting the central place self-determination has as a key indicator of post-school success for students with disabilities and how development of this skill can be targeted and transferred in context of the high school environment without over-burdening teachers. Also covered will be why distilling the breadth of post-secondary needs to focus on a specific set of skills encompassed in self-determination, applicable to all students regardless of disability type or post-school goals,

addresses both the needs of students to develop their transition readiness skills, and gives teachers a means of working smarter by supporting student transition readiness across a broad spectrum of student needs.

Chapter III: Discussion and Conclusion

Summary of Literature

The critical years extending from high school to those years following graduation, the period of life understood as "transition" for students with disabilities, are particularly stressful for this population and for their families. While all students are focused on completing high school graduation requirements and weighing options for their futures, students with disabilities are faced with the additional challenges of IEP goals to meet. These goals, according to IDEA (2004) Section 1401 (34), must target those transition skills the IEP team determines are most lacking and most needed for the student to shift most successfully to life after high school. Areas covered under transition readiness include those skills required for post-secondary education and training, independent living, and employment (PIE). Sadly, nearly 20 years after the IDEA mandate, research into post-secondary outcomes for students with disabilities across all areas of transition reveal lingering and concerning gaps in these skills, despite the many attempts to address them (Findley et al., 2022; Bouck & Park, 2018, p. 253).

The IDEA mandate means that the development of transition readiness skills must be at the heart of instruction during the secondary school years for those with disabilities. For this reason, special education teachers must not only have a clear understanding of transition categories and the skills associated with them, but they must also know how to identify and best foster the transfer of needed skills while the student remains in the context of the high school environment. Research indicates that oftentimes, however, special education teachers receive little training in transition readiness in their graduate level classes and therefore leave school feeling ill equipped to actually recognize and transfer in practice the skills students need (Thoma et al., 2008, p. 95).

Research further indicates that due to the demands placed on special education teachers, many are simply leaving the field, feeling overwhelmed and unable to simultaneously manage heavy and varied caseload needs, meet the requirements and expectations of IDEA, administrators, and families, while also fulfilling all due process timelines and deadlines (Hagaman & Casey, 2018, p. 282). In addition to these, another reason research indicates teachers are leaving the field is due to a lack of curriculum (Hagaman & Casey, 2018, p. 282). In light of this, the more teachers understand key indicators of transition readiness and how to address deficiencies directly and seamlessly, not requiring them to work harder but smarter with the guidance they need to do so, the better not only for the longevity of our teachers, but especially for the students who will be the beneficiaries of the transition skills they develop while in high school.

According to previous studies to determine the predictors of post-school success for students with disabilities, two studies emerged which have become foundational to the transition construct in special education: Kohler's (1996) taxonomy for transition programming and Test and colleague's (2009) 16 in-school predictors of post-school success. Kohler's (1996) taxonomy identified five broad categories included in transition readiness: student development, student-focused planning, program structure and attributes, family involvement, and interagency collaboration (p. 62). Test and colleagues (2009) identified 16 in-school predictors of post school success: career awareness, community experiences, exit exam requirements/high school diploma status, inclusion in general education, interagency collaboration, occupational courses, paid work experience, parental involvement, program of study, self-advocacy/self-determination, self-care/independent living, social skills, student support, transition program, vocational education, and work-study (p. 170). In subsequent research, Haber (2016) went deeper into the

research of Kohler and Test, using meta-analysis of the literature to determine the size, strength, and generalizability of interventions, and the impact of these interventions on the key transition outcomes including which interventions related to the 16 predictors recognized by Test et al. and which predictors related to Kohler's Taxonomy (p.128). Haber (2016) found that for the purposes of transition planning and programming, the five broad categories of Kohler's taxonomy were more helpful than the narrow categories of Test's 16 predictors (pp. 145-146). He found further that those categories included in both studies and the subject of extensive research were highly relevant for the purposes of transition planning and programming (p. 150).

Another key takeaway from the Haber (2016) study was the finding that targeted interventions in one area, such as employment readiness, may negatively impact post-school outcomes in another area, such as post-secondary education and training, and vice versa (p. 150). For this reason, this study concluded that identifying the post-secondary aspirations of each student is necessary to properly target their in-school transition related goals, addressing skills deficits that are needed to achieve, and will not negatively impact, their post-school goals and aspirations (p. 150). Such findings lead back to the dilemma, however, that teachers face: trying to target individual student's transition needs and the specific skills for each one–the right skills–that will serve and not hinder their future goals; while also fulfilling the demands and expectations of IDEA, their districts, and the families they serve; while also finding and implementing curriculum; while also fulfilling all due process requirements in accordance with state regulations. Stress due to this multiplicity of demands placed upon teachers is at the heart of why many in special education are leaving the field (Hagaman & Casey, 2018, p. 282).

For this reason, and in light of the research, it is imperative that teachers are equipped to work smarter, not harder, so that they can fulfill the many demands placed upon them while also

best serving the needs of their students. One key way of working smarter is recognizing which transition skills are needed across all disability categories and are most relevant and necessary for all students, regardless of the post-secondary aspirations of each one. From the earliest research, it became evident that deficits in self-determination were evident across all disability categories (Shogren et al., 2015, p. 253). Furthermore, self-determination has been identified by researchers as one of the key skills most lacking and therefore most needed in students with disabilities for successful transitioning to post-high school living, regardless of post-secondary goals (Haber, 2016, p.150; Shogren et. al., 2014, pp. 221, 252; Test et al., 2009, p. 177; Kohler, 1994, p. 133). Self-determination, rooted in secularism and the psychological research of the past, has come to include four key components: autonomous functioning – the development of personal control over one's life, including one's value system and the ability to execute behavioral tasks which are needed in the adult world; self-regulation – self-management, goal-setting and attainment, problem solving, and the ability to regulate one's behavior appropriate to the context; psychological empowerment – the metacognitive aspect of attitudes and dispositions, internal and unobservable, that are critical to and necessary for behaviors to occur; and self awareness – one's ability to accurately recognize their own strengths and struggles through their experiences, the input of others, including the ability to attribute outcomes to behaviors (Shogren & Shaw, 2016, p. 55, Wehmeyer, 1996, pp. 24-27). The accepted definition of self-determination has become increasingly focused on "agency" as opposed to "determinism", where others, or other forces, act upon the individual (Shogren et al., 2018, pp. 252-253).[1]

[1] As an aside, while recognizing self-determination as a psychological construct useful for the field of special education, it must be noted that this concept is rooted in a secular world-view, inherent in positive psychology and humanism, that is restricted to the natural world alone, leaving no room for the existence of a deity who rules over and governs this world and everything in it. Thus, the fundamental understanding behind self-determination is that man is autonomous, left alone to create his own meaning and destiny, to act or be acted upon by other individuals or natural forces in this world. Erich Fromm-psychoanalyst, philosopher and social humanist-stated: "Man is the only

In light of the research reviewed, including the need for students with disabilities to develop the component skills of self-determination for their successful transition to adult living, and the desire of teachers to best serve the needs of their students while also meeting the many demands that face them, the SDLMI provides an evidence-based means of transferring necessary self-determination skills to students with disabilities. What makes this program unique is that it is not a separate curriculum or class on self-determination, but rather a means by which teachers deliver instruction such that students learn and practice the components of self-determination through current courses (Shogren et al., 2018, p. 167). The SDLMI is a three phase self-reflective process, applicable across all classes, including both general and special education, where students engage in systematic planning asking the following three questions in succession: What is my goal? What is my plan? What have I learned? In fact, when this method of instruction was combined with a transition curriculum, *Whose Future Is It?*, researchers found that those who received the SDLMI, plus the transition curriculum, did not demonstrate the same growth in self-determination skills as those who were in the SDLMI only group (Shogren et al., 2018, p. 175).

Limitations of Research

The goal of this study was to research the evidence-based predictors for successful post-school transition to adult living for students with disabilities including documented post-secondary outcomes for this population. I wanted originally to understand what research says about students with autism and their transition indicators and outcomes in particular, but found that most studies addressed students with multiple disability types and so broadened my research to include any study that addressed predictors and outcomes for students with

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animal for whom his own existence is a problem which he has to solve and from which he cannot escape…If [man] faces the truth without panic, he will recognize that there is no meaning in life except the meaning man gives his life by the unfolding of his powers by living productively (Waterman, 2013, p.126)."

disabilities in general rather than autism specifically. I also narrowed my research to include only those studies conducted in the United States.

I searched for studies that targeted in-school predictors of post-secondary success for students with disabilities and any studies that addressed documented outcomes for this population. As articles were reviewed which highlighted research into in-school predictors of post-school success, it became apparent that numerous studies cited Test's 16 predictors (2007) and the Kohler taxonomy (1996). For this reason, I narrowed my focus to articles which focused on these previous studies as they have become foundational to the study of transition readiness and students with disabilities.

A number of studies talked about the lack of transition programming in high-schools, and the fact that many are not addressing, or not addressing sufficiently, these research based predictors and areas of transition readiness for students. In relation to this, and with the thought of the resulting need to add more transition curriculum to address present deficits in student outcomes, I began thinking about the fact that many in special education are leaving the field because they already feel overwhelmed with responsibilities that leave them stressed and burned out, which research has documented and I have included in this literature review. Many special education teachers feel that they are constantly weighing what they can accomplish successfully and therefore make choices continually as to what they are able to actually successfully complete in their classes and for their students. Because of this, my aim then became understanding not only the transition skills students need to transition successfully to high school, and not simply how these skills can be transferred in context of the high school environment, but further how both of these things can be accomplished without further burdening special education teachers, many of whom are already stressed and overwhelmed without adding another transition

curriculum to their schedule of responsibilities. For this reason, and with the discovery of the evidence based Self-Determined Learning Model of Instruction (SDLMI), which is not another curriculum teachers must implement, but rather a method of teaching which helps teachers transfer these needed skills organically in any class within the high school setting, I narrowed my research of transition curriculum to learn more about the SDLMI and added just one other research based curriculum, *Whose Future Is It? (WF)*, as a basis for comparison.

The study was further limited in that I zeroed in on self-determination as a researched based predictor for post-secondary success since this predictor, evidence suggests, is lacking and needed in students across all disability types and is necessary to their post-school success regardless of their goals and aspirations. Other predictors, as stated in this study, may have inverse impacts, such as employment readiness skills to post-secondary education outcomes and vice versa. Research indicates that for this reason, it is imperative that the IEP team recognize and target transition readiness interventions to the post-secondary goals of students. With some students, this is an easy task, yet for many, their futures are not so clear, so it is important to target skills that apply to a range of students, regardless of future goals, and which will further prepare them for the challenges of life after high school. Self-determination is a predictor that is needed by all students, can be taught using the SDLMI in any classroom since it is not another curriculum but a means of teaching which trains students to engage organically in self-directed learning, and should therefore help teachers work smarter by addressing deficits in transition readiness skills in course of their day-to-day classes and responsibilities.

Implications for Future Research

The study by Haber (2016) noted that there is an inverse relationship between certain transition readiness indicators and post-school outcomes, such as employment readiness to

post-secondary educational outcomes and the like. For this reason, research should investigate which transition readiness skills may negatively impact future outcomes for students with disabilities, such as employment or post-secondary educational goals, for those students who have specific post-secondary goals so that high school programming does not conflict with the attainment of future aspirations. Research should further understand which transition readiness skills are most critical for students, regardless of post-school goals, since there are many students with disabilities who graduate from high school still uncertain as to what they would like to pursue once they graduate. Certainly there are those who have specific goals and objectives once they graduate. For those, it is easier to align transition readiness skills acquisition to their post-secondary goals. But, for the many who are uncertain as to their post-secondary goals, future research should seek to understand with more certainty those transition readiness skills that are broad in their application and most critical to post-secondary success regardless of students' goals following high school so that all students, whether those with or without specific post-secondary goals, leave high school best equipped to enter adult life.

Implications for Professional Practice

The purpose of this study was to help secondary special education teachers understand the transition skills research indicates students with various disabilities often lack yet need in order to move successfully into their lives following high school. Further, this study sought to understand how teachers can transfer needed skills to their students while they are in the confines and limitations of the high school setting. What became clear in this study is that there is a lot of research to support the skills students with disabilities need yet often lack, leading to ongoing disparities in post-school outcomes for this population. What also became evident, in the process of this study, is that teachers are leaving the field due to stress and a sense of inability to keep up

with the demands placed upon them by any of the stakeholders in special education including their districts, administrators, state and federal agencies, let alone the students and families they serve. It was noted from the research that in relation to addressing deficits in transition related skills, teachers in special education are constantly weighing out where they need to focus attention and their ability to do so in an "individualized" manner consistent with each IEP, while also managing all of the other expectations placed upon them on any given day as student needs vary widely, behaviors abound, and due process timelines must be met. What became evident is that it is not sufficient to know the skills students need and lack, or even how these skills can be transferred, but what must be further considered is how both of these can happen while not adding further burdens to special education teachers, many of whom are already at the brink of quitting due to stress and a feeling of inability to keep up with so many demands. While it is critical to know the post-secondary aspirations of each student and where possible to target transition goals–and skill acquisition–to those goals, there is also a need to recognize what skills are needed by all students, across all disability types, no matter the post-secondary aspirations of the student. Knowing those particular transition skills will help teachers address student post-secondary readiness needs, confident the skills they are targeting are applicable and needed across the breadth of their caseloads, regardless of disability type or differences in future aspirations.

Conclusion

The purpose of this study was to determine what research indicates are the skills students with disabilities need, yet often lack, to transition successfully to life beyond high school and how teachers can best transfer these skills within the context of the high school setting. Research indicates that despite the passage of IDEA in 2004, there remain gaps in post-secondary

outcomes across all areas of transition for students with disabilities when compared with their neurotypical peers. Studies further indicate that teachers are leaving the field of special education due to stress and the heavy expectations placed upon them from multiple stakeholders. For this reason, it is imperative that teachers not only understand what skills students need, but further how they can address deficits in a way that meets the needs of all students, regardless of disability or post-secondary goals. While some transition related skills apply directly to particular post-secondary goals, such as work experience to employment readiness, other skills, such as self-determination, can be transferred using methods which help teachers meet student needs regardless of post-secondary aspirations and do so in a way that is not burdensome by transferring these skills organically, helping students engage in a process of self-directed vs teacher-directed goal setting, self-management and self-reflection in order to attain their goals.

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Appendix

Kohler's Taxonomy for Transition Programming

Student Development	Family Involvement	Program Structures and Attributes	Interagency Collaboration	Student-focused Planning
Life skills instruction Employment instruction Career and vocational curricula Structured work experience Vocational assessment Accommodations & support	Family training Family involvement Family empowerment strategies	Program philosophy Program policy Strategic planning Program evaluation Resource allocation Human resource development	Individual level planning Interorganizational framework Collaborative service delivery Organization level planning Human resource development	IEP development Student participation Accommodations & planning strategies