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# Transitioning Students with Autism Spectrum Disorders from High School to the Workforce: A Literature Review

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**Transitioning Students with Autism Spectrum Disorders from  
High School to the Workforce: A Literature Review**

by

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## Chapter 1: Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that manifests during developmental periods. ASD is an umbrella term that now encompasses various degrees of the disorder. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; 2013), “Autism spectrum disorder encompasses disorders previously referred to as early infantile autism, childhood autism, Kanner’s autism, high-functioning autism, atypical autism, pervasive developmental disorder not otherwise specified, childhood disintegrative disorder, and Asperger’s disorder.” DSM-5 states: there has been a rise in ASD. Autism spectrum disorder has reached 1% of the population across the United States and other countries. Possible reasons for an increase in ASD could be the wider range of subcategories, better understanding of autism spectrum disorder, and simply an increase in ASD.

According to the DSM-5 (2013), there are five areas examined in order to determine if someone may qualify for ASD services. The criteria include:

Criteria A: having continuous deficits in social communication and interaction;

Criteria B: repetitive behaviors, interests, or activities;

Criteria C: symptoms are present in early development;

Criteria D: symptoms cause a huge impairment in social or occupational functions;

Criteria E: and the delays cannot be explained by intellectual disability.

One also needs to examine the severity of the signs of ASD, whether or not there are communication issues, and whether or not intellectual disabilities occur with the ASD diagnosis.

In severe cases of autism spectrum disorder, signs can be seen before a child turns 12 months old; however, most signs start to appear between 12 to 24 months of age (DSM-5, 2013).

Early signs of ASD include limited communication and no interest in social interactions. For example, a child with ASD may pull someone by the hand to get an item instead of using words to ask for an item.

### **History of Autism Spectrum Disorder**

The first documented use of the word autism was in 1908 to describe schizophrenic patients that were withdrawn (Sole-Smith, 2014). Sole-Smith stated that in 1943 Leo Kanner, a child psychologist, wrote a paper about 11 children who showed a severe desire to be alone. Kanner described the term as early infantile autism. Furthermore, in 1944 Asperger's was posed by Hans Asperger as a milder form of autism where subjects were very intelligent, however, lacked in social skills (Sole-Smith, 2014).

As time went on, others tried to determine what the signs and causes of autism spectrum disorder were. In the 1950s and 1960s autism spectrum disorder was looked at as childhood schizophrenia. Mothers were blamed for the cause of ASD due to being "cold" to their children and not providing them with enough love (Autism at 70-from Kanner to DSM-5, 2013). As technology advanced, so did the understanding of what causes autism spectrum disorder. In the 1970s views were switched from cold mothering as a cause of ASD to examining brain development of a person with autism spectrum disorder (Autism at 70-from Kanner to DSM-5, 2013). Eventually, DSM-III stated the difference between autism and childhood schizophrenia. In 1980 the DSM-III created the category infantile autism. With the revision of DSM-III in 1994, the term Asperger's Syndrome became a category in the DSM-IV (Sole-Smith, 2014). With the latest revision of the DSM-5 in 2013, all subcategories are discontinued and students are labeled under the umbrella term of autism spectrum disorder (Sole-Smith, 2014).

Continued research is helping to determine what is considered autism spectrum disorder and how to diagnose it. People with autism spectrum disorder hold similar characteristics such as difficulty communicating, having repetitive behaviors, and uncertainty about how to act in social situations. However, repetitive behaviors may look different from one person with autism spectrum disorder to the next. Although there are similar symptoms for autism spectrum disorder, no two people with ASD are the same. Stephen Shore (2016) stated it best, “If you’ve met one person with autism, you’ve met one person with autism” (*The Art of Autism: 66 Favorite Quotes about Autism and Aspergers*, 2016).

### **Historical Background of Special Education**

People with autism spectrum disorder are required by law to receive special education services. Before laws were in place, people with disabilities were placed in mental institutions. According to the U.S. Department of Education in 1967, there were 200,000 people with mental disabilities living in state institutions. Conditions in these institutions were below standards and did not offer adequate amounts of food and clothing. In addition, many schools did not include students with special needs in their regular school setting.

Parents and advocates for students with special needs started to become frustrated with the care that people with special needs were receiving. Groups started forming in the 1950s and 1960s to advocate for students with special needs. In 1965, the Elementary and Secondary Education Act helped states get money to educate students with special needs (U.S. Department of Education, 2010). Changes for students with special needs started with Public Law 94-142. Public Law 94-142 was signed by President Ford in April, 1973 (Yell, 2011). The law ensured that students with disabilities were offered a free and appropriate education. In 1990, Public Law 94-

142 was revised and changed to Individuals with Disabilities Act (IDEA). IDEA focused on providing free and appropriate education for students with disabilities to make sure parents and students have and know their educational rights, and to assist states in providing these special education services (U.S. Department of Education, 2010).

Furthermore, during the revision of Individuals with Disabilities Act in 1990, autism became a new qualifying factor for special education services. In addition, the amendment of IDEA in 1997 required schools to include transition services and goals in a student's Individual Education Plan (IEP) (U.S. Department of Education, 2010). Including transition goals and programs for students with autism spectrum disorder was not always the case and was added to better prepare students for life after high school.

By the time a student is 14 years old or starting ninth grade, a transition plan must be part of the IEP. The new transition requirements include looking at each student's preferences, interests, and strengths. In addition, transition plans must look at daily living skills, employment after high school, and post-school community activities (U.S. Department of Education, 2010). Each student's transition goals should focus on what the student wants to do after high school. For instance, if a student wants to go to college, pre-college classes should be part of the student's curriculum.

Most students look forward to leaving high school and exploring the world. For students with ASD, leaving high school can be a stressful time in their life. The student's daily routine, environment, and peers will be different. Szidon, Ruppard, and Smith (2015) stated that students with ASD have a large discrepancy in communication skills and repetitive behaviors and interests that affect their social acceptance. Furthermore, Szidon et al. (2015) discussed that

students with ASD may be advanced intellectually; however, not knowing how to communicate effectively will affect their rate of success after high school.

Furthermore, people with autism spectrum disorder are unsure of how to respond to their surroundings. They have to learn new ways to cope in a society that will not always change for them. The DSM-5 states: “Only a minority of individuals with autism spectrum disorder live and work independently in adulthood; those who do, tend to have superior language and intellectual abilities and are able to find a niche that matches their special interests and skills” (p. 114). In addition, DSM-5 states that many people with ASD suffer from anxiety and depression. When entering adulthood, the pressure of fitting in and daily life demands causes stress and worry for those with ASD.

*What is Autism? What is Autism Spectrum Disorder?* (2016) stated that one in 68 children are diagnosed with autism spectrum disorder. With the thousands of people with ASD, questions arise. How do we help these students and their families transition from high school? What services can we use to prepare them? Wong (2016) stated: “For autistic individuals to succeed in this world, they need to find their strengths and the people that will help them get to their hopes and dreams. In order to do so, ability to make and keep friends is a must. Amongst those friends, there must be mentors to show them the way. A supportive environment where they can learn from their mistakes is what we, as a society, need to create for them” (*The Art of Autism: 66 Favorite Quotes about Autism and Aspergers*, 2016).

### **Research Question**

This paper examines one research question: What resources are beneficial for students with autism spectrum disorder as they transition to the work force?

## **Importance of Topic**

Lee and Carter (2012) discussed the odds for successful transition for students with autism spectrum disorder after graduation. The results are as follows: 8 years after graduation only 63.2% of students with autism had worked at some point; at the time of the survey only 37.2% were currently employed. Lee and Carter continued to state that those who were employed worked on average 24.1 hours each week and earned a mere \$9.20 an hour. Lee and Carter stated that having a job that is enjoyable and beneficial increases all of life's outcomes. With money and a successful job, one establishes confidence, independence, new friendships, and a connection to the community. Once students leave high school, their support system is not always available. Lee and Carter discussed how students with ASD will suffer from social challenges in the workforce resulting in them not knowing how to communicate effectively with the supervisor and peers.

I currently work in a Level 3 setting transition program at Mora High School in Mora, Minnesota. My classroom is composed of developmentally delayed students and students with autism spectrum disorder. Being from a rural area, the options for students are not as plentiful as they would be in larger cities. Investigating the tools that would help prepare my students for the workforce is a desire of mine so they can succeed.

## **Chapter 2: Review of Literature**

During the review of literature, a common theme arose as to what was effective in transitioning students from high school to the workforce. Carter, Austin, and Trainor (2012) researched items that affect students with ASD transitioning from high school to the workforce. Items that were priority were work experience, self-advocacy skills, and family participation. These three items continued to be a top priority with relation to success of transitions throughout my research.

### **Work Experience**

Students with autism spectrum disorder need to be immersed in real life situations in order for generalization to happen. Teaching a student with ASD to work in the classroom or around the school building is a start; however, once they leave that setting, generalization of the skills does not necessarily occur. The best option for students with ASD is to get them in the workforce to participate in real life situations.

Molina and Demchak (2016) focused on increasing work skills in a rural setting. The article stated how vocational rehabilitation training is available for students with severe disabilities in most communities. The problem, however, is that students are not placed based on strengths and interests. Molina and Demchak stated that employment needs to be customized for each student. One special education teacher was determined to increase the customization of jobs for her students. The special education teacher was awarded a grant to create a camp for 18 students, ages 14- to 22-years-old, to receive specific hands-on training. The goal was to connect students with community members and businesses and set up potential career paths for the students involved. The students involved were identified with either autism, intellectual disabilities, multiple

disabilities, multiple sensory impairments, or orthopedic disabilities. The camp was a week long, after school, and introduced students to various agencies, job coaching, and the job application process. The table below summarizes the schedule of the camp.

**Table 1**

**Rural Employment Training**

TARGETED SKILLS	AGENCY & TOPIC
Honesty on the job	Vocational Rehabilitation
Applying for jobs, resumes, and what to wear to an interview.	Interest inventory state website, mock job interviews
Importance of job attendance, when it is okay to miss work	Local community college and how to get special education services
Following job directions and expectations	State funded employment training
Interacting with coworkers and customers	Private job coaching, self-advocacy

Overall, the camp did help students make connections with the community. Of the 18 students involved, four were able to maintain paid employment and four were connected with Vocational Rehabilitation services to help them on their way to a career of choice.

Wittig, Holland, and Dalton (2014) conducted a case study on two students with intellectual disabilities. Participant 1 was a 20-year-old male from a rural community. His first job was stocking shelves, however, Participant 1 was laid off due to needing too much training. Participant 1 worked at a tanning salon which ended up closing, resulting in another job loss. Eventually, Participant 1 was referred to Project SEARCH working at a hospital. Project SEARCH gives students with disabilities an opportunity to work within a larger company.

Companies usually include banks or hospitals. Once connected with a company, students rotated within three different areas of that company. Students are taught work skills based on their needs.

Before beginning Project SEARCH, an interest survey was given to the participant. It was determined that the Participant enjoyed jobs that kept him busy and around people. The first area Participant 1 was in was in financial records which Participant 1 scored 100% on evaluation. The participant then worked in the oncology radiation department greeting patients, serving snacks, and sanitizing equipment. High marks were given after rotation was complete. The last rotation was in the engineering department where high marks were earned again. Once Project Search was completed, the participant received a job at local discount store in which the participant wanted to work.

Participant 2, also from a rural area, was implemented into Project SEARCH as well. This participant had a chance to participate in a transition program on a college campus. Once college was over, the participant entered Project SEARCH. His Project SEARCH was at a hospital as well; rotating between a sterilization unit, printing department, and environmental department. While working in the sterilization unit the participant struggled because he refused to ask for help. Rotation 2 was in the printing department. This rotation is where he met his mentor who increased his success with Project SEARCH. This rotation allowed the participant opportunities to succeed which increase his confidence. The last rotation was the environment in which his confidence and work determination increased. Participant 2 increased confidence and improved his work experience. As a result, Participant 2 obtained a competitively paid job through the hospital. At first the participant was hired on part-time, however, it turned into full-time.

Wehman et al. (2013) focused on the fact that vocational rehabilitation programs had trouble responding to employment needs of special education students with autism spectrum disorder. Wehman et al. decided to implement Project SEARCH with a few modifications for students with ASD. ASD additions included: talking with a behavior analyst to regulate behaviors, specialized structure and routine, explicit definitions of expected behaviors, use of visual supports, use of self-monitoring, social skill lessons, and the use of applied behavior techniques.

This study had a discrete treatment and a control group. The participants had applied to be part of Project SEARCH their senior year of high school. In order to be part of the research project, participants had to be over the age of 18, be diagnosed with ASD, be independent, be able to provide consent, and be eligible to continue to receive special education services. Once students were accepted into the research, they were randomly placed in groups. A total of 40 students, ages 18 to 21, with ASD diagnosis participated in the research. The two groups consisted of those entering Project SEARCH with ASD supports and those continuing with regular Individual Education Plan (IEP) services. All subjects were evaluated three times throughout the study. The three times were as follows: for a baseline, once they were completed either school year or Project SEARCH, and 3 months post-intervention.

The 40 students were randomly placed in the control group and the treatment group. Sixteen students were in the control group; 24 were in the treatment group. Table 2 summarizes the participants.

**Table 2****Project SEARCH Vocational Rehabilitation**

<b>VARIABLE</b>	<b>CONTROL GROUP</b>	<b>TREATMENT GROUP</b>
Mean Age	19.18 years old	19.96 years old
Gender	68% male	75% male
Race	46.7% African American 46.6% White 6.7% Asian	41.7% African American 58.3% White Asperger's 12.5%
Medical Diagnosis	Autism 81% Pervasive Developmental Disorder- Not Otherwise Specified (PDD- NOS) 12.5% Asperger's 6.3%	Autism 62.5% PDD-NOS 25% Asperger's 12.5%

Those in the treatment group were placed at a hospital for a 9-month internship. Students were at the site for 1 hour, 45 minutes and rotated during three different rotations. The control group continued receiving special education services according to their IEPs. When examining the baseline, there were no significant differences in skill levels. Once the study was done, 87.5% of the students who were in the treatment group obtained employment after completing Project SEARCH with ASD supports. Only 6.25% of the control group gained employment after high school. After 3 months of intervention, the same percentages were reported.

Muller and VanGilder (2014) examined the effectiveness of Project SEARCH as well. The goal of their research was to determine how many participants were offered employment options and if participants were more prepared by the end of Project SEARCH. The study included 10 young adults with disabilities with ages ranging from 17 to 24 years old.

Participants were in their internships for 5 hours per day, 5 days per week. Each student had a job coach and received on-the-job training. Each participant took a Job Readiness Assessment Tool (JRAT) that obtained a baseline as to where the students were at before entering Project SEARCH. Once participants finished Project SEARCH, the JRAT was filled out again. For overall job skills the JRAT scores increased from 2.49 at baseline to 3.51 (out of 4) after intervention. Sixty-two point five percent of interns increased in specific work-based behaviors. Furthermore, five out of 10 interns received job offers by the end of the program Project SEARCH. One more received one shortly after the completion of Project SEARCH, making it a total of six out of 10 that obtained employment at the hospital.

### **Summary**

After examining research, the results are clear. It is crucial to make sure students with autism spectrum disorder are placed in jobs that are of interest to them because this will help increase motivation. In addition, placing students in real world job employments immensely increase their job employment chances after high school. Project SEARCH is a proven method to prepare students with autism spectrum disorder for the workforce. Students with autism spectrum disorder that participated in Project SEARCH had higher chances of obtaining and keeping employment once they graduated high school. Table 3 summarizes the results reviewed on work experience.

**Table 3****Work Experience**

<b>AUTHORS</b>	<b>DESIGN</b>	<b>PARTICIPANTS</b>	<b>PROCEDURE</b>	<b>RESULTS</b>
Wehman et al. (2013)	Quantitative	A total of 40 students aged 18-22; 16 were in the control group and 24 were in the treatment group. Groups had equal numbers of gender, race, medical diagnoses, and IEP services	Control group received IEP services as usual. Treatment group received a full year of exposure to Project Search with Supports for students with ASD.	There were no differences for baseline between the control group and treatment group. The treatment group had an 87.5% employment rate after finishing Project SEARCH with ASD support, whereas the control group was 6.25%.
Miller & VanGilder (2014)	Quantitative	Ten young adults with disabilities aged 17-24 years old; six were high school students and four were at an adult service program.	Ten-month internship that had 10 weeks of three different job rotations at various worksites. Participants worked for 6 hours per day, 5 days per week; one hour of the day onsite learning job readiness skills and the remaining 5 hours working with job coaches.	Skill levels increased from a mean of 2.49 to a mean of 3.51 out of a possible 4.0. Specific job level skills was 69.2% and 62.5 % of specific workplace behaviors.
Wittig et al. (2014)	Case Study	Darren, a 20-year-old student with multiple disabilities, and Mark, a student with intellectual disabilities.	Darren completed job interest surveys and then was placed at a hospital and rotated three positions. Mark was placed in a hospital setting and rotated three positions.	Darren completed Project SEARCH with high marks and obtained a job at a local supermarket. Mark learned self-advocacy skills and work ethic through Project SEARCH. Mark ended up getting hired at the hospital where he interned.

Table 3 (continued)

AUTHORS	DESIGN	PARTICIPANTS	PROCEDURE	RESULTS
Molina & Demchak (2016)	Case Study	Eighteen students, aged 14-22 years, with moderate to severe disabilities.	Attended a week-long after-school work camp.	Greater connections with community and students; 4/18 registered for classes to expand knowledge on job internship.

### Self-Advocacy

Self-advocacy is teaching students how to speak up for what they want and what they need in order to succeed. Expressing what one wants is difficult for the ASD population. As you will see, research has indicated that students with autism spectrum disorder have an increased chance of doing well after high school when they know how to advocate for themselves. Students with autism spectrum disorder need to know how to tell others what they want for goals after high school and how they plan to achieve these goals.

Holwerda, van der Klink, de Boer, Groothoff, and Brouwer (2013) examined 563 developmentally delayed individuals who also have been either diagnosed with autism spectrum disorder or attention deficit hyperactivity disorder (ADHD). Ages ranged from 15-27 years old.

Table 4 summarizes the participants.

**Table 4****“Young Disabled At Work” Study**

<b>VARIABLE</b>	<b>PERCENTS</b>
Gender	71.2% male
Age	Mean age of 19.4 years of age
Diagnosis	ASD 49.4% ADHD 30.9% ASD and ADHD 19.7%
Self-Knowledge	Poor self-knowledge 62.7%
Motivation Level	81.1% had high motivation

The study was called ‘Young Disabled at Work,’ and focused on what factors increase achievement after high school. A questionnaire was developed to learn personal and social factors of the participants involved. The questions included: education level, self-esteem, self-knowledge, motivation, expectations of young disabled regarding work, living situation, perceived support from parents, perceived support in general, attitude of parents regarding work, and attitude of social environment regarding work.

Holwerda et al. (2013) included 563 individuals in the study. The average age was 19.4 and 49.4% had autism spectrum disorder. The top three indicators for job employment after high school for all participants was gender, living situation, and expectations regarding future work level. Students with ASD had different factors that resulted in a successful transition compared to those with ADHD. Holwerda et al.’s research concluded that 90% of students with ASD saw

positive attitude toward working and motivation toward working were influences for them in order to gain employment.

Fullerton and Coyne (1999) implemented a curriculum “Putting Feet on My Dreams.” This curriculum consists of three units. The units are as follows: Self-Knowledge about the Impact of Autism, Communication, and Life Planning and Goal Setting. The curriculum focused on teaching students how to define what goals they wanted in life, how to get there, and how to communicate them. Fullerton and Coyne implemented this goal with 23 adolescents and young adults with autism and/or Asperger syndrome. The students were placed in one of the three classes. Pre-surveys were given 8 weeks before the class began, 1 to 2 weeks before the class began to determine what it was that students thought they needed to learn about self-advocacy skills. The program was then implemented for 8 to 10 weeks and then a post-survey was given to determine if there was an increase in awareness of self-advocacy skills.

Parents of the participants were given interviews as well. Parent interviews were given 1 to 2 weeks before the class began, 1 to 2 weeks after the class was over, and 8 to 10 weeks after the class was completed. Overall, all students that participated had an increase of self-advocacy and self-awareness. They were more aware of what they wanted and how to get there. Skills the students found beneficial were: talking about communication skills after watching videos of people communicating, learning about autism, and figuring out how to plan future goals. Sixty-nine percent of the participants stated that the self-knowledge unit was the best unit. In addition, 87% of the participants said they would like the class to continue.

Wehmeyer and Bolding (2001) looked at 31 adults with intellectual disabilities ranging in ages from 24 to 62 years old. Each participant took The Arc’s Self Determination Scale: Adult

Version (SDS) and the Autonomous Functioning Checklist (AFC). Data were taken to determine how self-determination would increase the odds of a student with intellectual disabilities going to a high restrictive work environment to a least restrictive work environment. Table 5 summarizes the participants' transitions.

**Table 5**

**Self-Determination Factors on Post High School Employment**

PARTICIPANTS	ENVIRONMENT
8 participants	Moved from more restrictive living situation to less restrictive (e.g., nursing home to group home)
21 participants	Moved from a more restrictive work setting to less restrictive (day program to sheltered workshop)
2 participants	Moved from a more restrictive work and living setting to a less restrictive

Work situations included: community-based, community-based congregate, and non community-based, congregate. The Arc's Self Determination Scale: Adult Version (SDS) is a measure of individual performance in: independence, self-regulation, understanding of control of self and environment, and self-realization. The Autonomous Functioning Checklist (AFC) is a self-report that measures adults: self and family, management, recreational activity, and social and vocational activity; it is a 72-question report that examines one's self-determination. Results indicate that those that scored higher on the SDS and AFC were more likely to work in the least restrictive environment. Results are presented in Table 6.

**Table 6****Intervention Results**

	<b>SDS</b>	<b>AFC</b>
Pre-test mean (before move)	101.06	146.52
Post-test mean	109.71	160.19

McGlashing-Johnson, Agran, Sitlington, and Cavin (2003) implemented a curriculum known as “The Self-Determined Learning Model of Instruction (SDLMI).” SDLMI teaches students how to lead their IEP meetings, setting students’ own goals, and how to problem-solve to accomplish these goals. McGlashing-Johnson et al. followed four students in the study. Students were in high school and ranged from severe to profound intellectual disabilities to students with intellectual disabilities that did not need as much support.

The students were surveyed what they would like to become better at; following directions on the job and completing tasks were priorities to the students. Students were taught how to self-monitor their work production while using the SDLMI. All students met their goal of increased on-task time and work completion. The results are: Student 1 up 43%, Student 2 up 41%, Student 3 up 65%, and Student 4 up 40%.

**Summary**

As research indicates, students with self-determination and self-advocacy skills have an increased chance of wanting to work after high school. In addition, students should be taught how to determine what goals they want to achieve after high school and the steps to get there. Table 7 summarizes the studies related to self-advocacy.

**Table 7****Self-Advocacy**

<b>AUTHORS</b>	<b>DESIGN</b>	<b>PARTICIPANTS</b>	<b>PROCEDURE</b>	<b>RESULTS</b>
Holwerda et al. (2013)	Qualitative	This study focused on developmentally delayed individuals who had also been diagnosed with either ASD and/or ADHD, or all of the above. There were 563 participants; 401 men and 162 women with a mean age of 19.4 years of which 49.4% were ASD and 30.9% ADHD, 19.7% had both diagnoses.	This study was called Young Disabled at Work. It worked on predicting work participation for students aged 15-17 applying for a disability benefit. Questionnaires were given to all participants in the study. The questionnaires focused on educational level, self-esteem, self-knowledge, motivation, and future work expectations.	Influences for all participants obtaining employment were gender (males 1.62 more likely), living situations (2.43 times more likely), and future job expectations. Self-motivation played a key role in the ASD population.
Fullerton & Coyne (1999).	Quantitative	Total of 23 adolescents and young adults with autism and/or Asperger's syndrome; 10 women and 13 men aged 16-28 years.	Students received a pre-survey to establish baseline about self-knowledge about autism, communication, and life-mapping and goals.  Students were given specific instruction on these areas and then given a post-survey. Students were given specific instruction on these areas and then given a post-survey.	87% of the students said they would like the class to continue. 69% enjoyed the self-knowledge unit best, 23% enjoyed the communication unit, and 13% enjoyed the self-mapping and goal-planning unit.

Table 7 (continued)

AUTHORS	DESIGN	PARTICIPANTS	PROCEDURE	RESULTS
Wehmeyer & Bolding (2001)	Quantitative	Thirty-one adults with intellectual disabilities; mean age was 40.8 years.	Data were collected on self-determination levels on adults moving from a restrictive environment to a least restrictive environment 6 months prior to moving.	Adults in a least restrictive environmental had higher self-determination levels; 25 scored higher on the survey assessment once they moved to a lower restrictive environment.
McGlashing-Johnson (2003)	Quantitative	Four students at the secondary level: two males and two females.	Students were placed in a job setting. Each student chose what job skill they wanted to work on; used SDLMI curriculum to teach self-regulated skills.	Three out of the four students met the performance objective they had chosen.

### Family Involvement

Students with autism spectrum disorder are often given lower expectations from peers, teachers, and families. Not seeing one's potential harms the success of the individual with ASD. Some parents do not realize the complexity of the transition process from high school into adulthood. Furthermore, family members need to be made aware of how to connect with resources once a child leaves high school. Federal funding, agencies, transportation, and living situations are a new area for both the family and child with ASD.

Hagner, Kurtz, Cloutier, Arakelian, Brucker, and May (2012) looked at the effect of educating families on the transition process. During the study, Hagner et al. examined 47 youth with autism spectrum disorder ranging in age from 16 to 19 years old. Table 8 summarizes the participants.

**Table 8****Participants of Transition Intervention**

	<b>YEAR 1</b>	<b>YEAR 2</b>
Gender	23 males; 1 female	22 males; 1 female
Age	16 years old – 2 17 years old – 10 18 years old- 6 19 years old – 6	16 years old – 5 17 years old – 8 18 years old- 6 19 years old – 4

In addition, students were broken into two groups: Year 1 and Year 2. Year 1 group's family were presented with training and connections to people helping with the transition process. Family members were trained using the curriculum, Specific Planning Encourages Creative Solutions, on how to figure out services they are eligible, how to pay for services, and tools for planning. Once family members were trained, the family member and student with ASD were given instructions on how to write transition goals and given follow-up assistance. Year 2 group did not receive this special training. Results were, Year 1 participants had an increase in expectations and a plan of what and how to get to post-secondary outcomes. Year 2 participants did not have an increase.

Carter et al. (2012) researched youth, aged 13-16, who were receiving special education services. Carter et al. wanted to examine if family financial situation and expectations of the child made a difference in the child's post-employment success. Various resources were used to collect data. The researchers used a Parent Interview, Parent-Youth Interview, Student's School Program Survey, and the School Characteristics Survey to collect data. Results indicated that students with autism spectrum disorder that had high expectations from parents were five times more likely to be employed. Students that had household chore responsibilities were also at an increase of employment rating.

Anderson, Shattuck, Cooper, Roux, and Wagner (2014) questioned parents of students with autism spectrum disorder, students with emotional behavior disorder (EBD), students with specific learning disorder (SLD), and students with intellectual disabilities (ID). The study examined the success of independent living after high school; whether the student lived with parents, independently, or under supervision. Students with ASD had a significant different living condition post high school compared to peers with SLD, EBD, or ID. Eighty-seven point one percent of students with autism spectrum disorder lived with parents after high school. In addition, ASD students that were employed or participating in a post-secondary education was much lower than peers. Two years after leaving high school, 79.1% of the ASD population were still living with parents. If students have not been connected with resources while in high school, the first years after leaving high school are crucial times to get students with ASD connected to living and employment opportunities to ensure their success in life.

## Summary

Students with autism spectrum disorder deserve to have high expectations from family and for themselves. One must know what the plan is after high school and how the student is going to get there. In addition, research has stated training needs to be provided for the family and the student as to what resources are available once high school is over in order to achieve success. Table nine summarizes the study relevant to family involvement.

**Table 9**

### Family Involvement

<b>AUTHORS</b>	<b>DESIGN</b>	<b>PARTICIPANTS</b>	<b>PROCEDURE</b>	<b>RESULTS</b>
Hagner et al. (2012)	Qualitative	Forty-seven youth with ASD, aged 16-19 years old	Divided into Year 1 and Year 2 groups. Year 1 group received family support in transition, follow-up assistance, and person-centered planning. Year 2 group received services later.	Year 1 significant increases; Year 2, no significant changes.
Anderson et al. (2014)	Quantitative	Young adults with ASD	This study looked at three living arrangements with a parent or guardian, independently, or with a roommate or in a supervised setting.	The higher income the family had, the more apt the student was to live independently.

Table 9 (continued)

AUTHORS	DESIGN	PARTICIPANTS	PROCEDURE	RESULTS
Carter et al. (2012)	Quantitative	Youth who were aged 13-16 years and received special education services.	Various resources were used: Parent Interview (PI) or Parent-Youth Interview (PYI), Student's School Program Survey (SPS), and the School Characteristics Survey (SCS).	The higher parents' expectations, the better the child did after high school.

### **Chapter 3: Conclusions and Recommendations**

Transitioning from high school to the workforce is a difficult task for students with autism spectrum disorder. New social situations, job expectations, and college standards are introduced. Not knowing what to expect causes students with autism spectrum disorder to have a decreased chance of success. Not knowing how to talk to a boss versus a co-worker can cause anxiety and confusion. McGlashing-Johnson et al. (2003) discussed how lack of social skills, not having support, or not knowing how to set goals for yourself affects a student's outcomes.

The purpose of this starred paper was to look at what factors would help increase the success of transitioning from high school to the workforce for students with autism spectrum disorder. Chapter 1 focused on the historical aspects of special education and how one qualifies for ASD. Chapter 2 reviewed 11 articles that discussed what factors increase the likelihood of a successful transition from high school to the workforce. Factors that were important included: work experience, self-advocacy skills, and family involvement. In this chapter, I focus on the summary of my findings, future study recommendations, and implications for current practice.

#### **Conclusion**

When reviewing the research articles, three characteristics for a successful transition program continued to be prominent. The three factors included experience in the workforce, teaching students self-advocacy skills, and getting families involved.

Three out of the four work experience articles used a program known as Project SEARCH to teach work skills. Project SEARCH is an on-the-job training where students with disabilities finish their final year of school at a vocational location, rotating between three different placements within the vocational setting. The research articles that were reviewed placed special

education students in a job experience ranging from 10 months to 1 year and rotating between three different job positions. Common job placements were hospitals or banks. One hundred percent of the participants from all three articles reviewed increased in job knowledge and job skills. One of the three articles about Project SEARCH, written by Wehman et al. (2013), included an adaption for students with autism spectrum disorder. Students in this particular study had individual behavioral goals throughout their Project SEARCH experience.

Furthermore, Molina and Demchak (2016), the fourth article reviewed, introduced students to various transition resources around the area. The article stated that a week-long camp was held to work on interviewing skills and connecting with community resources. The overall results helped four of the students enroll in college classes and helped 18 participants become aware of what workforce resources were available after high school.

The next focus was self-advocacy skills. McGlashing-Johnson et al. (2003) implemented a curriculum known as the Self-Determined Learning Model of Instruction (SDLMI). Each student chose the job that they wanted to do and were taught self-determination skills through the SDLMI curriculum. Three out of the four students involved in the study obtained jobs in their chosen area.

The remaining three self-advocacy articles focused used questionnaires to gather data. Holwerda et al. (2013) looked at over 500 participants. For students with autism spectrum disorder, self-advocacy skills played an important factor. All three of the articles reviewed determined that an increase of self-advocacy skills for students with autism spectrum disorder correlated with an increase of success after high school in the workforce.

Family involvement was the last factor that was focused on in my review. Hagner et al. (2012) examined if whether or not a families' knowledge about what was required for

transitioning from high school to the workforce correlated with the success of students with ASD in the workforce. Family members were trained using the Specific Planning Encourages Creative Solutions curriculum. The families were taught what services were available for their child, how to obtain those services, and other tools for life after high school. Families who were trained on what to expect after high school for their children did better overall in the transition from high school to the workforce.

Two of the articles reviewed were based on parent questionnaires and interviews. The first article reviewed was by Carter et al. (2012). Carter et al. surveyed parents of students with autism spectrum disorder. The survey focused on whether or not parent expectation and financial stability helped towards a successful transition. Parent Interview, Parent-Youth Interview, Student's School Program Survey, and the School Characteristics Survey were used to collect the data. Results indicated that students with autism spectrum disorder that had high expectations from family members were five times more likely to gain employment after high school.

The second article that used questionnaires and interviews was Anderson et al. (2014). Anderson et al. looked at whether or not living situations affected employment rates after high school for students with autism spectrum disorder. Living situations included living with parents, living independently, or living with supervision. Anderson et al. reported that 87.1% of students with autism spectrum disorder were living with parents and the employment rate was much lower than peers.

## **Limitations**

Transition from high school into the workforce can be difficult. Introducing students with autism spectrum disorder to work expectations prior to transitioning to the workforce would be an effective method to increase success. Carter et al. (2016) stated that transition experience has improved over the past 25 years for students with disabilities.

The Individuals with Disabilities Education Act (IDEA) of 2004 states that special education is supposed to prepare students for employment, further education, and independent living. Preparing students with special needs for life after high school will help them have an equal chance at success.

More research for what factors lead to a successful transition for students with autism spectrum disorder need to be completed. When beginning the review of literature, I was able to find articles stating what helped students with emotional behavior disorder and specific learning disorder be successful in the transition process. Finding articles that were specific to students with autism spectrum disorder were sparse. Most articles reviewed were case studies or questionnaires. In addition, articles that were reviewed had a primary focus on SLD and EBD. Students with autism spectrum disorder were a sub-group and not the primary focus. Molina and Demchak (2016) stated, “Experts agree that data are lacking when it comes to examining the practice, implementation, and generalization of employment related choice-making for people with significant intellectual disabilities.”

## **Recommendations of Future Research**

Future research should be done focusing solely on students with autism spectrum disorder and how they can increase self-advocacy skills in the workforce. McGlashing-Johnson et al. (2003) stated, "...the employment outcomes of a sample of youth with cognitive disabilities 1 year after graduation were significantly higher for students who had higher self-determination scores, as measured by The Arc's Self-Determination Scale." For the individuals in the study, self-determination skills increased employment standards for individuals and independent living arrangements. Researching what curricula and what other factors are effective for teaching students with autism spectrum disorder to advocate for themselves in the workforce is a crucial step to increase the rate of employment post high school. In addition, knowing what factors to use in developing self-advocacy skills in students with autism spectrum disorder would help determine the specific individual education plan goals.

Furthermore, future research should be done in rural areas. Not much is documented on transition programs and job opportunities in less populated regions for students with autism spectrum disorder after high school. Most studies reviewed were conducted in larger cities.

Molina and Demchak (2016) discussed how most students with disabilities go to a Community Training Center (CTC) after high school. This becomes an issue for students who live in rural areas due to funding issues to provide a Community Training Center. In smaller communities, students with disabilities tend to continue living at home and do not work. Molina and Demchak stated, "Most CTCs offer those with severe disabilities little in the way of job selection, with employees at CTCs typically paid for piece-work or at a flat rate, which is considerably lower than minimum wage. In some rural areas, CTCs are not available as an

employment option; students with significant disabilities end up staying home, rather than entering the workforce.”

Researching what small towns currently have for community programs and how they got funding would be beneficial for expanding programs in other rural towns. Furthermore, focusing on what other jobs students with autism spectrum disorder do throughout the community (other than CTC’s) would help. Looking into how rural communities modify job expectations or job assignments to fit the need of an employee with autism spectrum disorder could assist other smaller populated cities in expanding job options for those with ASD. In addition, knowing the future job opportunities for students will help with developing appropriate goals, teaching the student what to advocate for, and informing families as to what is available.

### **Implications for Current Practices**

Students with autism spectrum disorder need real life experience in the workforce in order to be successful in the transition process. Furthermore, students with autism spectrum disorder need to understand what goals they want to achieve after high school and how to advocate for them. In addition, students with autism spectrum disorder need families that will hold them to high standards and support the choices the student may make for self.

When examining my ASD transition program, changes have already been implemented. However, further work needs to be done in order for my students with autism spectrum disorder to be successful. Currently, my co-teacher and I have split our autism spectrum disorder and development cognitive delayed (DCD) program. Our program used to be split by severity of ASD or DCD; in March of 2017 we split our program by age level. Our seventh- through tenth-

graders are continuing to work on academic skills; while our 11<sup>th</sup> through 21-year-old students are strictly working on transition skills.

We have implemented a program called “*What’s Next.*” This program is teaching students how to balance a checkbook, track the amount of money they make for all the jobs we do around the school and community, and deducting bills and emergencies from their checkbooks. Seven out of the nine students in our transition-age program are able to fill out their check registry independently. Our two more severe students are able to take out materials and track jobs, but need assistance managing account details and balance.

To help us move forward in the transition of our transition program, our goals on students Individual Learning Plan’s (IEP) are changing as well. Implementation of self-advocacy skills is a new concept for our students, especially ones with the more severe disabilities. Self-advocacy skills can be worked on throughout the day. For instance, our students can advocate for themselves in the general education classroom setting, at home, and when working on job skills throughout the high school. Our Individual Learning Plan goals are focusing on students asking for help when needed, asking staff or peers to quit something that is bothering them, and stating what they want to do after high school. We are focusing on what our students want to do after high school and heading them in that path. One student is interested in continuing her job at the high school kitchen. Steps have been taken to make sure the student knows how to fill out a job application, how to complete a job interview, and different job positions in the kitchen.

Furthermore, our goals are requiring our transition-aged students to go out in the community. We are teaching students how to ride the local transportation independently, how to order at local restaurants, how to fill out forms at the local doctor's office, and how to purchase

items independently at the local grocery store. Our goal is to have all of our transition students be active participants in their communities.

In addition, we are increasing our connections between our transition program and our community. Currently our students do various jobs around our high school. Jobs include breaking down boxes, working in the kitchen, helping with washing lunchroom tables, shredding, cleaning the weight room, cleaning the media center, and sorting and disposing of recyclable paper, cans, and bottles. In the community we deliver books to the hospital and clinics, dentists, and seven other locations throughout the city. Furthermore, in November of 2016, we started cleaning the local gym. My co-teacher and I have reached out to the local ice rink and are trying to connect with the local grocery store. Our goal is to have all of our transition-age students connected with a job of their choice by their last year.

### **Summary**

In closing, students with autism spectrum disorder will have challenges after high school. It is our job as educators to ensure that they are as successful as their peers once they enter the workforce. Requiring Individual Education Plans to require transition planning is a step in the right direction. The more resources and experiences we introduce to our students with autism spectrum disorder, the greater the employment rate after high school.

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