EFFECTS OF VIDEO MODELING AND VISUAL SUPPORTS INTERVENTION PACKAGE ON APPROPRIATE COWORKER SOCIAL SKILLS IN THE WORKPLACE FOR YOUNG ADULTS WITH DISABILITIES

by

Janie N. Vicchio

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Approved by:

_____
Dr. Robert Pennington

_____
Dr. Charles Wood

_____
Dr. Leslie A. Bross

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Dr. Lyndon Abrams

_____
Dr. Valerie L. Mazzotti

ABSTRACT

JANIE N. VICCHIO. Effects of Video Modeling and Visual Supports Intervention Package on Appropriate Coworker Social Skills in the Workplace for Young Adults with Disabilities. (Under the direction of DR. ROBERT PENNINGTON)

Reports of 2022 employment rates demonstrate that while 65.4% of adults without disabilities are employed, only 21.3% of adults with disabilities are employed (U.S. Bureau of Labor Statistics, 2023). Researchers have reported that employees with disabilities are unable to maintain employment often due to difficulty fitting in socially at the workplace (Brickey et al., 1985; Butterworth & Strauch, 1994; Chadsey, 2007; Greenspan & Shoultz, 1981; Kochany & Keller, 1981; Wehman et al., 1982). Since 2009, social skills performance has been identified as a predictor of postschool success (Mazzotti et al., 2016, 2021; Test et al., 2009) meaning that students with disabilities who exited high school were more likely to participate in postschool employment (Benz et al., 1997; Roessler et al., 1990; Test et al., 2009). Social skills challenges have been identified as one potential barrier to obtaining and maintaining employment for adults with disabilities (Bury et al., 2020; Kochman et al., 2017; Parker et al., 2018). While there is a strong link between social skills performance and success in the workplace, there are limited data on the interventions to maintain teaching these skills to adults with disabilities.

The purpose of this study was to evaluate the effects of a video modeling and a visual support intervention package on appropriate coworker social skills in the workplace for young adults with intellectual developmental disabilities using a concurrent single-case multiple baselines across participants design. Participants identified as White females ages 21 and 23. I also collected data on participants', coworkers', and the employer's perceptions of this study's goals, procedures, and outcomes. Results of this study indicated a functional relation for one of the two participants. In addition, the participants, employer, and coworkers found the

intervention to be socially valid across most measures. The dissertation includes a review of the literature, methods, discussion of each research question, study limitations, directions or future research, and implications.

DEDICATION

I dedicate my dissertation to Domenica Vicchio and Barbara Mancuso.

To my grandmothers who were both small but mighty, sweet but strong, and most importantly fearless. Thank you for showing me that chasing your dreams will always outweigh others' perceptions of you. To my grandmother, Domenica who came to America alone at 32 in search of a better life for herself and her four young children. Thank you for instilling the importance of education, an opportunity you never got to take advantage of, in your children and grandchildren. Your selfless actions and strive to create the best environment for those around you are why I am here today. To my grandmother, Barbara who could solve any problem thrown her way with creativity and a little bit of elbow grease. Your endless confidence has provided me with the courage to never back down no matter what others think. I am forever grateful for the impact you have both made on my life.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

Beginning in 1975, federal mandates entitled all students with disabilities to a free and appropriate public education (P.L. 94-142). Based initiation of this federal mandate, attention began to be placed on the postschool success of students with disabilities. While postschool success is best defined by the individual, it has commonly been described as a focus on the individuals' access and participation in postschool education, employment, and community integration (Mazzotti et al., 2021). Students with disabilities achieve postschool success at much lower rates than their peers without disabilities in all three of the abovementioned adult outcome areas (National Longitudinal Transition Study; NLTS, 2012; U.S. Department of Labor, 2021). In 2004, the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA) required public schools to provide transition services to students with disabilities ages 16 to 21. While schools are responsible for preparing students for adulthood and postschool success (IDEIA, 2004), their preparation programs must be effective and beneficial to all students. With high levels of unemployment for young adults with disabilities over the past three decades, educators should find ways to help enhance the postschool employment outcomes of students with disabilities (Carter & Bumble, 2018; Haber et al., 2016; Test et al., 1988; Trainor et al., 2020).

For over 30 years, federal initiatives have focused on promoting a more effective transition from school to the community by providing students with education and employment training in high school (Benz & Kochhlar, 1996). However, historically according to data from the NLTS-2, there are still discrepancies between students with and without disabilities

postschool success in employment, education, and independent living within the community (Lipscomb et al., 2017; NLTS-2, 2012; Wagner et al., 2017).

While the lack of employment opportunities and attainment for youth and young adults with disabilities has been a cause for major concern over the years, not much growth has been made. According to the U.S. Bureau of Labor Statistics (2023), there are disparities between employment for adults with and without disabilities. While 65.4% of adults without disabilities are employed, only 21.3% of adults with disabilities are employed (U.S. Bureau of Labor Statistics, 2023). Out of the 21.3% of adults with disabilities who do have jobs, it is estimated that approximately 14% of those adults are working for a competitive wage (e.g., minimum wage or above, provided with benefits; U.S. Bureau of Labor, 2023). In 2022, nearly 30% of people with disabilities who were employed, were working part-time, compared to only 16% of adults without disabilities (U.S. Department of Labor, 2023).

The interconnected nature between employment and postsecondary education/ training is important. People with disabilities are less likely to have obtained a bachelor's degree compared to people without disabilities, which can affect the overall employment rates and jobs to which they are eligible to apply. The U.S. Department of Labor (2023) reported that among all people, with and without disabilities, those who attained higher levels of education were more likely to be employed than those who did not. In the U.S., adults with disabilities are more likely to work in service occupations, production, and material moving, and are less likely to work in higher paying jobs such as management, professional (i.e., doctor, teacher, account), and related occupations (i.e., community and social service occupations). In 2022, eight out of 10 adults with disabilities reported not being in the workforce, compared to three out of 10 adults without disabilities (U.S. Department of Labor, 2023).

With such a discrepancy in unemployment rates for adults with and without disabilities, comparing high school experiences among these students may help determine how we can better prepare students with disabilities for their postschool life. Findings from the NLTS-2 indicated that students with disabilities were less likely to participate in extracurricular activities and acquire paid work experience. Their parents are also less likely to expect that their child will live independently (Newman et al., 2011). With such disparities, special education researchers have determined that the field of secondary special education and transition must discover in school activities that may promote increased postschool education, employment, and community engagement experiences for these youth (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009). Researchers also have investigated the possible barriers to postschool employment for young adults with disabilities to inform best practices (NLTS, 2012).

Secondary Transition Legislation

While students with disabilities have continued to experience less postschool success compared to their same-aged peers without disabilities, federal legislation has put forth mandates to promote in-school success and preparation for postschool life. The following pieces of legislation help build the framework around preparing students with disabilities for postschool life. One of the first pieces of legislation to mandate preparation for postschool life was the Education for All Handicapped [sic] Children Act of 1975 (P.L. 94-142). In 1975, this law ensured that children with disabilities ages 3 to 21 have access to a free and appropriate public education (FAPE). This piece of legislation highlighted the need and mandate for students with disabilities to have in-school experiences geared towards preparing them for postschool employment, requiring parents, teachers, and others to include a minimum of one career education goal in a secondary transition students' Individualized Education Program (IEP).

Nearly 13 years later, the Americans with Disabilities Act (ADA P.L.; 101-336) was passed, providing protections for public and private employees. The ADA guaranteed Americans with disabilities access to all areas of postschool life including postschool education, employment, and independent living. This piece of legislation also banned discrimination for Americans with disabilities in public and private settings (e.g., community living, employment, telecommunications, and transportation). This law allows a person with disabilities protection from discrimination based on a disability in the workplace, educational settings, and housing.

In that same year, the Carl D. Perkins Vocational and Applied Technology Education Act Amendment (2013; P.L. 101-391) was passed. This provided funding for vocational education to prepare young adults and youth to be competitive in the workforce. Students with disabilities, including those receiving 504 and IEP services are provided access to the funded vocational education to support workforce readiness programs.

Then, in 1990, the Education for All Handicapped Children Act was reauthorized and renamed the Individuals with Disabilities Education Act (IDEA; P.L. 101-476). This was the first time that secondary transition for youth with disabilities was directly addressed in federal legislation. The IDEA (1990) required that students with an IEP, aged 16 or older, receive secondary transition services through an outcome-oriented process promoting postschool success in the following three adult outcome areas: postschool education/training, employment, and independent living. Through IDEA, schools were required to conduct functional vocational assessments and provide secondary transition services based on students' strengths, interests, and preferences. The IDEA (1990) defined transition:

As used in this part, "transition services" means a coordinated set of activities for a student, designed within an outcome-oriented process that promotes movement from school to

postschool activities, including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation (Section 300.18[a]).

The Rehabilitation Act Amendments of 1992 (P.L. 102-569) revised and added numerous definitions including employment outcomes, personal assistance services, supported employment, and transition services. These amendments focused on the idea that students with disabilities can obtain meaningful employment. With that in mind, these amendments also focused on career readiness. These amendments defined the responsibilities of the vocational rehabilitation system to (a) assist the individual with a disability on making informed choices about potential employment outcomes, (b) develop an individualized rehabilitation program with the participant with a disability, (c) match the needs and interests documented in the IEP with appropriate services and support, (d) foster collaborative working relationship with other agencies and programs (e.g., education authorities), (e) emphasize the quality of services and the accountability of service representative to honor the needs and interests of the person with disability.

In 1997, the IDEA was reauthorized (P.L. 105-117). This reauthorization of IDEA mandated that transition services begin no later than 14 years old, replacing the previous starting age of 16. This iteration also emphasized the importance of inclusion for students with disabilities in general education settings. The IDEA (1997) also stated that general education teachers must be contributing members of a student's IEP team.

The Ticket to Work and Work Incentives Act (P.L. 106-170) was passed just two years later in 1999, which was a win for many adults with disabilities who wanted to be part of the workforce. Under this federal program, people with disabilities, ages 18 to 64, could work

without the risk of losing Medicare or Medicaid benefits. The Ticket to Work and Work Incentives Act also extended Medicare coverage for an additional 4.5 years. The purpose of this act is to (a) provide health care and employment preparation and placement services to people with disabilities that will enable those individuals to reduce their dependency on cash benefits programs, (b) encourage states to adopt the option of allowing people with disabilities to purchase Medicaid coverage that is necessary for a person to maintain employment, (c) provide people with disabilities that option of maintaining Medicare coverage while working, and (d) establish a return to work ticket program that will allow people with disabilities to seek the services necessary to obtain and maintain employment while reducing their dependency on cash benefit programs.

Then, in 2004, IDEA was reauthorized and renamed, the Individuals with Disabilities Education Improvement Act (IDEIA, P.L. 108-446). IDEIA emphasizes secondary transition services and supports focusing on a student's strengths, interests, and preferences. It ensures that students are involved in their transition planning process beginning at age 16, which was changed from the 1997 law that required the transition planning process to start at age 14. Transition services are defined as:

> (A) Designed to be within a results-oriented process that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to postschool activities including postsecondary education, vocational education, integrated employment (including supported employment) continuing and adult education, adult services, independent living, or community participation; (B) is based on the individual child's needs, taking into account the child's strengths, preferences, and interests; and (C) includes instruction,

> related services, community experiences, the development of employment and other postschool adult living objectives, and, when appropriate acquisition of daily living skills and function vocational evaluation (118 STAT. 2658).

At this point, vocational training replaced vocational education as a possible secondary transition service that can be provided to students with disabilities. Legislation requires that transition planning is based on the student's preferences and interests to determine appropriate services. Transition planning should address the following: students' preferences and interests, instruction, related services, community experiences, employment opportunities and objectives, daily living skills, vocational experiences, and independent living where appropriate (IDEIA, 2004). Schools also were required to create a summary of performance for each student with an IEP that documents the students' academic and functional skills, postschool goals, and any needed secondary transition services or supports.

Nearly 10 years later, the Workforce Innovation and Opportunity Act of 2014 (P.L. 113-128) was passed, amending its first iteration, the Workforce Investment Act of 1998. This piece of legislation provided pre-employment transition services (Pre-ETS) for students with disabilities in preparation for work, providing support for students with disabilities in career decision-making and planning for their future, through federal funding. Pre-ETS includes activities such as (a) job exploration counseling, (b) work-based learning experiences that can be provided in or outside of school or within the community, (c) workplace readiness skills training on independent living and social skills, (d) provisions of counseling when enrolled in comprehensive postsecondary opportunities, and (e) instruction on self-advocacy.

Later, the No Child Left Behind Act (NCLB) of 2001, was reauthorized and renamed the Every Student Succeeds Act of 2015 (P.L. 115-224; ESSA). The ESSA went one step further

than IDEIA (2004) and required that all students be prepared with rigorous academic standards in preparation for college and careers while also mandating that assessments be used to measure college and career readiness. The ESSA also required that evidence-based practices (EBP) were implemented to help prepare all students for future college and careers.

College and Career Readiness (CCR) prepares students for postsecondary work or enrollment in postsecondary education (Morningstar et al., 2017). Based on findings about young adults with disabilities postschool success, CCR is one way in which schools can work toward increasing postschool success. In 2012, NLTS-2 found that youth and their parents discussed transition plans 20% less with school staff compared to the past. It was also noted that paid employment in a job not sponsored by the school for youth with disabilities had declined from 27% to 19%. Recent graduates with disabilities are reported to have poorer employment outcomes than their same-aged peers without disabilities (Lipscomb et al., 2017; Newman et al., 2011).

Throughout the years, educational stakeholders have worked to ensure legislation includes student access to CCR instruction (ESSA, 2015; IDEIA, 2004; Rehabilitation Act, 1973; Strengthening Career and Technical Education Act, 2018). These pieces of legislation mandate that all students, including students with disabilities, are prepared to participate in college activities, career responsibilities, and postschool life (Lombardi et al., 2022; Mishkind, 2014). Typically, school counselors for all students promote CCR through course selection and sequence, college application preparations, admissions exam preparations, college visits, and career development (Goodman-Scott & Grothaus, 2018; Lombardi et al., 2022). However, recent research suggests that students with disabilities are not receiving as many CCR services as their same-aged peers without disabilities (Lombardi et al., 2022). Additionally, no research clearly

defines evidence-based- and research-based practices for CCR, creating inconsistency in CCR instruction.

Finally, the Carl D. Perkins Act of 2018 was reauthorized and renamed the Strengthening Career and Technical Education Act, known as Perkins V (P.L. 115-224). This piece of legislation provided federal funding for students with disabilities to participate in career and technical education (CTE) programs – once called vocational education. Through this initiative, the goals set forth were to develop academic and technical knowledge for students with disabilities while working on enhancing students' employability skills. This act provides nearly $1.3 billion annually in federal support for CTE programs across the 50 states to support integrated career pathway programs. Perkins V provides the resources to expand opportunities for every student, including those with disabilities, to explore, choose, and follow CTE programs of study and career pathways.

Postschool Outcomes

Federal legislation spanning over the last 50 years has allowed for funding to support large research on postschool outcomes. The U.S. Department of Education's National Center on Education Evaluation (NCEE) has also provided funding in support of secondary transition research. This research has focused on how to enhance students with disabilities' education to promote postschool success. Further, studies have been conducted to track students while they were in high school through their postschool years in hopes of discovering what leads to positive postschool outcomes. Federal dollars have supported this research dating back to the early 1990s through NLTS and later through NLTS-2 and NLTS 2012.

The National Longitudinal Transition Study (NLTS)

With federal funding, NLTS was conducted to collect and examine data on students' postschool outcomes, including those with and without disabilities. Blackorby and Wagner (1996) examined NLTS data to better understand employment trends, wages, postsecondary education, and residential independence up to five years after exiting high school. Results determined that between two and three years after high school, there was an 11% growth for students with disabilities in competitive employment. While growth was noted, it was also determined that students with disabilities were still less likely than same-aged peers to work competitively. This examination also revealed that students with high-incidence disabilities had a higher level of employment rates (specific learning disabilities, 59.2%-70.8%, speech-language impairment, 50.1%-65.4%) than students with intellectual disability (25.4%-37%; Blackorby & Wagner, 1996).

The National Longitudinal Transition Study-2 (NLTS-2)

To ensure up-to-date data were collected in comparing students with and without disabilities five years postschool, the NLTS-2 was conducted. From 2000–2010, researchers collected data from students with disabilities and their families who were ages 13 to 16. Researchers highlighted the discrepancy between postschool success for students with and without disabilities. This iteration of the study determined some similar statistics to NLTS and added additional findings. For example, adults with disabilities were more likely to be socioeconomically disadvantaged (58%) compared to their peers without disabilities (46%); and were more likely to face barriers with communication (44%) than their peers without disabilities (8%); and were more likely to face problems when completing tasks independently and to struggle academically than their peers without disabilities (Newman et al., 2011). Adults with disabilities were also more likely to face health problems including chronic physical pain and

mental health conditions than their peers without disabilities. In short, adults with disabilities lag behind their peers in planning and taking the next steps to apply and obtain postsecondary education and employment.

The National Longitudinal Transition Study 2012 (NLTS 2012)

The NLTS 2012 is the third NLTS study funded by the U.S. Department of Education with the goal of examining youth with disabilities receiving special education services under IDEIA. This study focused on youth with and without disabilities ages 13 to 21 during the 2011-2012 school year. This iteration of the study was the first to report direct comparisons of youth with and without disabilities. The sample for this study included 17,476 youth with an IEP, 1,168 youth with a 504 plan, and 3,315 youth with neither a 504 plan nor an IEP. This study determined that youth with an IEP were more likely to live in a household facing economic challenges than they were 10 years ago. Families of youth with IEPs were found to be twice as likely to report receiving federal food benefits. Participation in key transition activities by youth with an IEP and their parents has decreased by 9% (79%, 70%) over the past 10 years. Paid employment not sponsored by the school for youth with an IEP has also decreased from 27% in 2003 to 19% in 2012.

Predictors of Postschool Success

While descriptive data from NLTS, NLTS-2, and NLTS 2012 provided the field of secondary transition with information about postschool outcomes for students and youth with disabilities, there was limited evidence on the predictors of positive postschool outcomes until researchers began examining correlational research in 2009 (Test et al., 2009). Experts in the field of transition have examined and reported predictors of postschool success to help identify experiences in high school that lead to positive postschool outcomes that may minimize the gap

in postschool success between students with and without disabilities (Mazzotti et al., 2016, 2021; Test et al., 2009). Predictors of postschool success are in-school activities, skills, and experiences that can aid in helping students with disabilities become more successful in their postschool life, related to the three adult outcome areas, including education/training, employment, and independent living (Mazzotti et al., 2021). Based on correlational research, it has been noted that if the predictors of postschool success are addressed in school, students with disabilities are more likely to have improved outcomes in one or more of the adult outcome areas.

The 23 identified predictors (Appendix A) can be categorized as the following: (a) student skills, (b) career development, (c) collaborative systems, and (d) policy. Student skill predictors focus on skills that are needed for the future such as community experiences, self-determination/self-advocacy, goal setting, youth autonomy/decision making, social skills, self-care/independent living, travel skills, psychological empowerment, self-realization, and technology skills. The category of career development focuses on participation in specific work-preparation curricula as well as career awareness, CTE, occupational courses, paid employment/ work experiences, and work-study. Collaborative systems focus on interagency collaboration, parental involvement, transition programming, and student support. Policy incorporates legislative mandates surrounding secondary transition such as exit exam requirements/high school diploma status, inclusion in general education, and program of study (PISA, 2021).

Of the 23 predictors of postschool success, six related to career development are the focus of this dissertation. These include (a) paid employment/work experiences, (b) CTE, (c) occupational courses, (d) career awareness, (e) social skills, and (f) work-study. With a rigorous research- and evidence-base, it is important that these predictors are infused within secondary transition education to support positive employment outcomes.

Paid Employment/ Work Experience

Paid employment/work experience is defined as:

> any activity that places the student in an authentic workplace and could include work sampling, job shadowing, internships, apprenticeships, and paid employment. Paid employment can include existing standard jobs in a company or organization or customized work assignments negotiated with the employer, but these activities always feature competitive pay (e.g., minimum wage) paid directly to the student by the employer" (Rowe et al., 2015 p. 118).

Paid employment can be for a pre-existing job within a company or organization or could be customized work. Regardless, these experiences should always have competitive pay (e.g., minimum wage or above) paid directly to the employee (Rowe et al., 2015; Test et al., 2009). Examples of paid employment/work experiences could also include work-based learning and work-study.

CTE

Next, CTE courses combine academics and technical skills to prepare students with employability skills for success in the workplace, which provide students an opportunity to learn workplace competencies through hands-on work-based learning experiences. CTE is defined as a school-wide comprehensive and systematic opportunity to learn about various careers (Rowe et al., 2015). CTE is also a form of educational service that is centered around preparing students, with and without disabilities, for the workforce (P.L. 115-224, 2018). This in turn creates an opportunity for students to earn certifications, licenses, and certificates (Advance CTE, 2022).

While CTE courses focus on a specific career path, occupational courses help expose students to ways to plan and prepare for their desired career path. Rowe and colleagues (2015)

defined occupational courses as, “individual courses that support career awareness, allow or enable students to explore various career pathways, develop occupational specific skills through instruction, and experiences focused on their desired employment goals” (p. 118). An effective occupational course provides hands-on and community-based opportunities to learn.

Career Awareness

Next, career awareness is “learning about opportunities, education, and skills needed in various occupational pathways to choose a career that matches one’s strengths and interests” (Rowe et al., 2015, p. 118). Career awareness education could be promoted schoolwide (e.g., through a career fair) or taught explicitly while identifying student skills and qualifications. Social skills are behaviors and attitudes that facilitate communication and cooperation. These may include but are not limited to social conventions, social problem solving, body language, speaking, listening, responding, verbal, and written communication (Rowe et al., 2015; Test et al., 2009).

Social Skills

Further, social skills can be used in many settings such as when interacting at the grocery store or working with others at the local movie theater. Social skills are defined as, “behaviors and attitudes that facilitate communication and cooperation (i.e., social conventions, social problem solving when engaged in a social interaction, body language, speaking, listening, responding, verbal, and written communication; Rowe et al., 2015, p.122). These skills are used in the community to make meaningful connections, friendships, and relationships.

Work Study

Finally, Rowe et al. (2015) defined work study as, “a specified sequence of work skills instruction and experiences designed to develop students’ work attitudes and general work

behaviors by providing students with mutually supportive and integrated academic and vocational instruction" (p. 119). According to Rowe et al. (2015), work-study programs should provide options for both paid and non-paid work experiences both on and off the high school campus with options for gaining school credit. This dissertation draws on research from the predictors and will focus on teaching young adults with disabilities social communication skills in the workplace in unison with the lessons being learned in career development coursework. This dissertation will help to further students' experience, exposure, and knowledge of appropriate coworker communication skills.

Intervention Research to Teach Workplace Skills

Current research has used both video modeling and visual supports to teach workplace skills to students with disabilities. Video modeling is an EBP that involves recording specific steps of a task to use as a teaching tool (Bross et al., 2019, 2020). For example, a video model may show the discrete steps to cooking a food item (e.g., mac-n-cheese, pizza) for someone to watch and follow along. Visual supports are objects that can be seen or held, to provide information visually to enhance someone's understanding of the physical or social environment surrounding them (e.g., communication, words, actions, rules, and expectations). Visual supports can also be used with more abstract concepts, such as time or sequence of events (Rutherford et al., 2020).

Video Modeling Research

There is a large body of literature supporting video modeling as an effective intervention for students with disabilities. For example, Van Laarhoven and colleagues (2007) conducted a multiple probe across behaviors design study to examine the effectiveness of video modeling and a feedback device. Two participants, ages 14-18, with mild to moderate intellectual disability

were included in this study. One participant was taught rolling silverware, sorting and sanitizing silverware, and clocking in and out. The other participant was taught portioning recipes, cleaning and sanitizing their workspace, and clocking in and out. Each video model started with a photo of the most salient feature of the task (e.g., sliding employee card in a computer) and would be highlighted during the video. Results showed positive outcomes for both participants meeting criterion on all three tasks within three to seven sessions. One limitation of this study was that both participants had ascending trends in baseline before moving into intervention. Researchers stated this was due to a time constraint, but recommendations for future researchers included continuing baseline data collection until a steady trend occurs before moving into intervention. Another limitation of this study was the lack of training time using the handheld device. One participant learned how to operate the device independently by the 15th session, and the other participant never operated the device independently. Future research should build time into the study to ensure participants can operate all devices independently (Van Laarhoven et al., 2007).

Hayes and colleagues (2015) later conducted a randomized experiment with a treatment and control group study on using video modeling to teach interview skills. This study included 15 participants with autism. Video modeling was used to teach appropriate interview behaviors (e.g., not fidgeting, speaking clearly), proper hygiene in preparation for an interview, and presenting ideas logically. Participants showed statistically significant improvements in overall interview performance ratings by employers. Participants also showed a reduction of fidgeting, improvement in presenting ideas logically and succinctly, and improvement in hygiene and personal health. One limitation of this study was the mock employment interviews, instead of true interviews to secure employment. Participants were not provided a choice of the job they were interviewing for, which may have affected the participants' motivation to perform well.

Future researchers may consider using video models to teach interview skills for more than just entry-level positions.

Video modeling also has been used to teach young adults fine motor office tasks. Mechling and Ayers (2012) taught four young adults with autism and mild to moderate intellectual disability how to complete tasks using video modeling. Researchers used an adapted alternating treatment design with baseline, extended baseline, comparison, and final treatment conditions. All participants learned the taught skills including opening envelopes, peeling labels, pulling, tearing, and inserting papers, noting that the use of a larger screen when showing video models resulted in a higher percentage of correct completed steps. Future researchers should focus on replicating this study across different tasks and disability categories (Mechling & Ayers, 2012).

In 2015, Spencer and colleagues (2015) compared the relative effectiveness of three types of video modeling: point-of-view, scene view, or a combination of point-of-view and scene view. The comparisons between the three video perspectives were made using an adapted alternating treatment design across three fundamentally different gift-wrapping tasks. Researchers used the three types of step-by-step video models to teach gift wrapping skills to three young adults with moderate intellectual disability. All participants showed they were able to master the skills being taught and there was little difference between the three types of video modeling (Spencer et al., 2015). One limitation of this study included the selection of gift wrapping tasks. For example, two participants made minimal errors when wrapping a gift bag, which included fewer tasks than other gift-wrapping skills. Future researchers may want to determine critical parts of video models including the importance of the person in the video, use of audio, and equipment type

used in the video models. Determining the critical characteristics that make the most effective video model can then be used to teach important skills (Spencer et al., 2015).

Video modeling also has been used to teach customer service skills (Bross et al., 2019, 2020). In 2019, Bross and colleagues conducted a multiple baseline across behaviors study to determine if video modeling would increase the verbalization of three customer service phrases for an 18-year-old male with autism at his community worksite. The customer service phrases that were taught through video modeling included greetings, service phrases, and a goodbye. This study demonstrated the effectiveness of video modeling as the participants had substantial improvements in customer service skills. One limitation of this study was that due to scheduling generalization data was not collected once video modeling was discontinued. Furthermore, future researchers may consider using unfamiliar data collectors to reduce the possibility of increased response due to a familiar researcher (Bross et al., 2019).

One year later, Bross and colleagues (2020) replicated the above study with five new participants, ages 18-26 with autism. Using a multiple baseline across behaviors design, researchers examined the effects of video modeling for young adults with autism in community employment settings. Three of the participants were competitively employed in the community and two of the participants were participating in work-based learning. Participants showed improvement in their customer service skills as well as their quality of interactions (e.g., tone, language, body language). One limitation of this study was that video modeling was used along with a check for understanding and praise. Another limitation of this study was data collectors also served as intervention agents. In the future, researchers may consider using video recordings to collect data as to not be noticed by the participant (Bross et al., 2020).

Park and colleagues conducted a study in 2020 using video modeling and a system of least prompts to teach social skills for employment to three 19-year-old students with an intellectual disability. Researchers used a multiple probe across behaviors design replicated across participants. Video modeling was used to teach participants how to offer assistance, respond appropriately to feedback, and ask for clarification when instructions are unclear. All three participants showed growth in the targeted skills and maintained performance for up to two weeks after the intervention. Future researchers may consider including hard skills (i.e., cleaning, washing, copying) in the video model and collect data for both skills. One limitation of this study included researchers collecting maintenance data two weeks after the intervention ended. Future researchers may consider collecting this data immediately after the intervention is terminated and once per week in the following few weeks (Park et al., 2020).

Video modeling is considered an EBP (Rowe et al., 2021). Video modeling meets the EBP practice criteria set by the National Professional Development Center on Autism with 31 single-case design studies and one group study (Cox & AFIRM Team, 2018). The practice has been determined to be effective for early intervention through high school aged learners. Video modeling is often used to address social, communication, joint attention, behavior, vocational, and academic outcomes (Cox & AFIRM Team, 2018).

These studies contributed to the evidence-base of the effectiveness of video modeling. The studies' positive outcomes helped in establishing an evidence base for using video modeling to teach interview skills, office tasks and skills, and workplace social skills (Bross et al., 2019, 2020; Hayes et al., 2015; Ivey et al., 2015; Mechling & Ayers et al., 2012; Park et al., 2020; Rowe et al., 2015; Spencer et al., 2015). With positive outcomes for a wide variety of skills

taught through video modeling, researchers should continue to investigate other skills that can be taught through video modeling.

Visual Supports Research

Visual supports (VS) are concrete visible stimuli that provide information about an expectation, routine, or activity that are considered an EBP for teaching new skills and promoting independence for people with developmental disabilities (Van Laarhoven et al., 2018; Wong et al., 2015). Visual supports can be used across settings and adapted to fit the needs of the individual (Murdock & Hobbs, 2011). There are many different types of visual supports such as boundaries, schedules, and cues. Cues can include visual instruction, graphic organizers, choice boards, and labels. In the workplace setting, visual instructions can be used to keep workers on task or provide them with information on how to successfully complete a task.

Carson and colleagues (2008) conducted a withdrawal design study to evaluate the effectiveness of a photo activity schedule book with three high school students (ages 18-20) with mild to moderate intellectual disability. The goal of the study was to increase the number of independent task changes completed by the participants. Participants performed tasks both in school and at the local Walmart. Participants in the school setting were taught to set tables, roll silverware, sort salt and pepper packets, and stamp papers. Participants in the Walmart setting were taught how to hang pants, reshelve socks, fold/stock towels, and hang shirts. All participants showed an increase in independent task changes when the photo activity schedule book was used. One limitation of this study was that data collectors could not count task completion at Walmart as the participant was working, but rather count tasks completed at the end of the shift due to researchers feeling that standing near a student could affect their productivity. In the future, researchers should consider training confederates to collect data.

Another limitation of this study was the error correction procedure used during the baseline condition. Verbal prompts were provided to the participants and two of them memorized the last few steps, once they were given verbal prompts through the first few. Future researchers are encouraged to find a more effective error correction procedure.

In 2005, Riffel and colleagues conducted a multiple baseline across participants design study using picture prompts to increase independence on vocational and independent living tasks to four participants ages 14-22 with mild to severe intellectual disability or autism. The participants were given picture prompts to teach setting a table in the school cafeteria, setting the tables in a restaurant, rolling silverware for a restaurant, and completing laundry. Each task was specific to a student's needs. The participants had a device that would show them the steps for each task in sequential order. Three of the four participants showed a decrease in the number of prompts needed from baseline to maintenance data. One limitation of this study was that teachers who were working alongside students were not trained on effective strategies to provide prompts, cues, or reinforcement for students. Future researchers should consider training all involved so that participants receive the same amount and appropriate types of prompts, cues, and reinforcement (Riffel et al., 2005).

Research Gap

Research shows that individuals with disabilities can be successful and integral parts of the workforce, yet they still exhibit difficulty sustaining work after high school (Lipscomb et al., 2017; Lombardi et al., 2022; Luecking & Fabian, 2000; Newman et al., 2011). Due to the lack of individuals with disabilities sustaining work, researchers have worked to determine strategies that can be used to prepare these individuals for the workforce. While job training is one way to promote young adults with disabilities obtaining and maintaining employment, this is a much

more complex issue that is impacted by many factors. One factor that impacts the ability of youth with disabilities to obtain and maintain employment include employer's expectations and comfort level working with people with disabilities. Other factors include that targeted skills in vocational intervention research have typically focused on skills associated with lower-wage jobs (Tincani et al., 2023). The literature using video modeling to teach social skills in the workplace has mainly focused on interactions with customers (Bross et al., 2018, 2019), but it is also essential that employees learn to successfully interact with coworkers. While visual supports are an EBP, more research is needed to determine its place in supporting students with disabilities in the workplace, especially in communicating with coworkers.

In 2016, Gilson and Carter conducted a multiple-probe, single-case experimental design study to examine the effects of a coaching package on task engagement and social interactions that included audio cuing, social-focused coaching, and reduced job coach proximity. This study had three male participants with an intellectual disability, autism, or attention deficit hyperactivity disorder, ages 20-22. All three participants were enrolled in a postsecondary education program and were required to complete an unpaid internship each semester that aligned with their interests and future vocational goals working four to eight hours per week. One participant worked in an on-campus market where he stocked shelves, the breakfast bar, and the coffee station, and marked items with prices and expiration dates. He worked with one supervisor and approximately three coworkers. Another participant worked at a preschool where he assisted teachers with classroom responsibilities, played with students at recess, helped keep the kitchen clean, and stocked the books in the library. He worked with one supervisor, three assistant supervisors, and two teachers. The third participant worked at the medical center on

campus where he sorted mail, filed paperwork, and delivered medical samples to other offices in the building. He worked with one supervisor and occasionally several coworkers.

All three participants maintained consistent levels of task engagement while increasing their social interactions with coworkers when job coaches reduced proximity and delivered prompts discreetly through audio cuing. While this study used a three-part intervention package with success, future researchers can explore which part of the intervention package was most effective, or other ways to help improve appropriate coworker interactions. With the positive results of this study, researchers can continue to create additional ways to teach social skills needed for the workplace.

Purpose and Research Questions

The purpose of this study is to evaluate the effects of a video modeling and a visual support intervention package on appropriate coworker social skills in the workplace for young adults with disabilities. This study will use a single-case, multiple baseline across behaviors design to address the following research questions:

1. Is there a functional relation between using a video modeling and visual support intervention package and appropriate coworker workplace social interactions for young adults with disabilities?
2. Are participants able to maintain their workplace social interactions when interacting with coworkers at the job setting?
3. What are the participants' and coworkers/employers' perceptions of the goals, procedures, and outcomes of this study?

Limitations/ Delimitations

Some limitations of this study include its research design and sampling method. First, this study design is single-case multiple baseline across behaviors. With a lower number of participants and opportunities to show a demonstration of effect, it is hard to generalize findings. Next, convenience sampling will be used to recruit participants. Therefore, all participants may or may not be at the same workplace, but will be ages 18-25. This also means that some participants may work with others. Third, participants may have already participated in workplace social skills focused on interacting with customers.

Definitions of Terms

College and career readiness: "To be college ready "means being prepared to enter and succeed in any postsecondary education or training experience, including study at two- and four--year institutions leading to a postsecondary credential (i.e., a certificate, license, associate's or bachelor's degree) without the need for remedial coursework," and being career ready means that a high school graduate possesses not only the academic skills that employees need to be successful, but also both the technical skills, that are necessary for a successful career" (New Jersey Department of Education, 2022).

Competitive integrated employment: Full-time or part-time work where a person if compensated at or above minimum wage, at a comparable rate to their coworkers with similar duties without disabilities while also receiving benefits that are provided to all employees. An employment setting where people with and without disabilities are working together and all employees have the opportunity for advancement (Office of Disability Employment Policy, 2022).

Evidence-based practice: Practices that have been shown to consistently, through numerous

rigorous and experimental studies, improve outcome(s) for a population of students (Cook et al., 2019).

Generalization: A change in behavior that can be generalized across environment, behavior, or time (Baer et al., 1968; 1987). Continuing to perform a mastered target behavior when the setting has been altered or changed, with other people, or related behavior changes without being taught (Cooper et al., 2020).

Postschool employment: Working for more than 90 days at a time since leaving high school for at least 20 hours a week (U.S. Department of Education, 2022).

Postschool outcomes: Education, employment, and independent living after high school (NLTS2, 2012).

Predictors of postschool success: In-school predictors of improved postschool outcomes for students with disabilities (Mazzotti et al., 2016, 2021; Test et al., 2009)

Research-based practices: Practices with a sufficient record of success improving outcomes for a population of students through rigorous research. These practices may adhere to indicators of quality research (NTACT:C, 2022)

Secondary transition: "A free appropriate public education (FAPE) that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living" (IDEIA, 2004).

Social skills: "Social skills are a specific class of behaviors that an individual exhibits to successfully complete a social task. Social tasks might include such things as peer group entry, initiating and sustaining a conversation, making friends, playing a game with peers, and so forth. It should be noted that social tasks require several interconnected and discrete forms of social skilled behaviors" (Gresham et al., 2010, p. 158).

Video modeling: An evidence-base practice that involves recording specific steps of a task and used as a teaching model (Bross et al, 2019).

Visual supports: "objects that can be seen and/or held, which are used to provide information visually to enhance an individual's understanding of the physical environment, people and the social environment (communication, words, actions, rules and expectations and spoken or unspoken intentions or expectations) and more abstract concepts, such as the passage time, a sequence of events or socially abstract concepts such as emotions or reasons to do something in a particular way" (Rutherford et al., 2020).

Workplace readiness skills: Personal qualities, social skills skills, and professional traits that are necessary to gain and maintain employment (Center on Transition, 2022).

CHAPTER 2: REVIEW OF THE LITERATURE

Since 1975, when legislation mandated that students with disabilities be provided with a free and appropriate public education, there has been a large discrepancy in postschool success between students with disabilities and their same-aged peers without disabilities (Newman et al., 2011). Over time, legislation has been mandated to support students with disabilities in obtaining the training and support needed to lead a successful life postschool. Legislation, such as the Individuals with Disabilities Education Improvement Act (IDEIA; 2004), was enacted to enhance inclusive education opportunities for students with disabilities. The Every Student Succeeds Act (ESSA; 2015) was mandated to ensure all students were being prepared for postschool education and careers. In addition, Perkins V (2018) aimed to develop academic and technical knowledge alongside employability skills for special populations, including students with disabilities. However, there still appears to be a gap in the postschool success of students with and without disabilities. To help address this gap, researchers have been conducting correlational research to help establish an evidence base for best practices and services that may lead to more postschool success for these youth. Through this research, 23 in-school predictors of postschool success have been identified as evidence-based or research-based and can be used by schools and other service providers to help promote postschool success in the areas of employment, education, and community engagement (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009).

Figure 1 below provides a conceptual framework that guides this chapter's review of the literature and anticipated outcomes of my study. This chapter will review and cover three strands related to supporting students with disabilities in gaining workplace social skills to increase

coworker relationships and promote postsecondary employment including, predictors of postschool success, employment-related social skills, and video modeling.

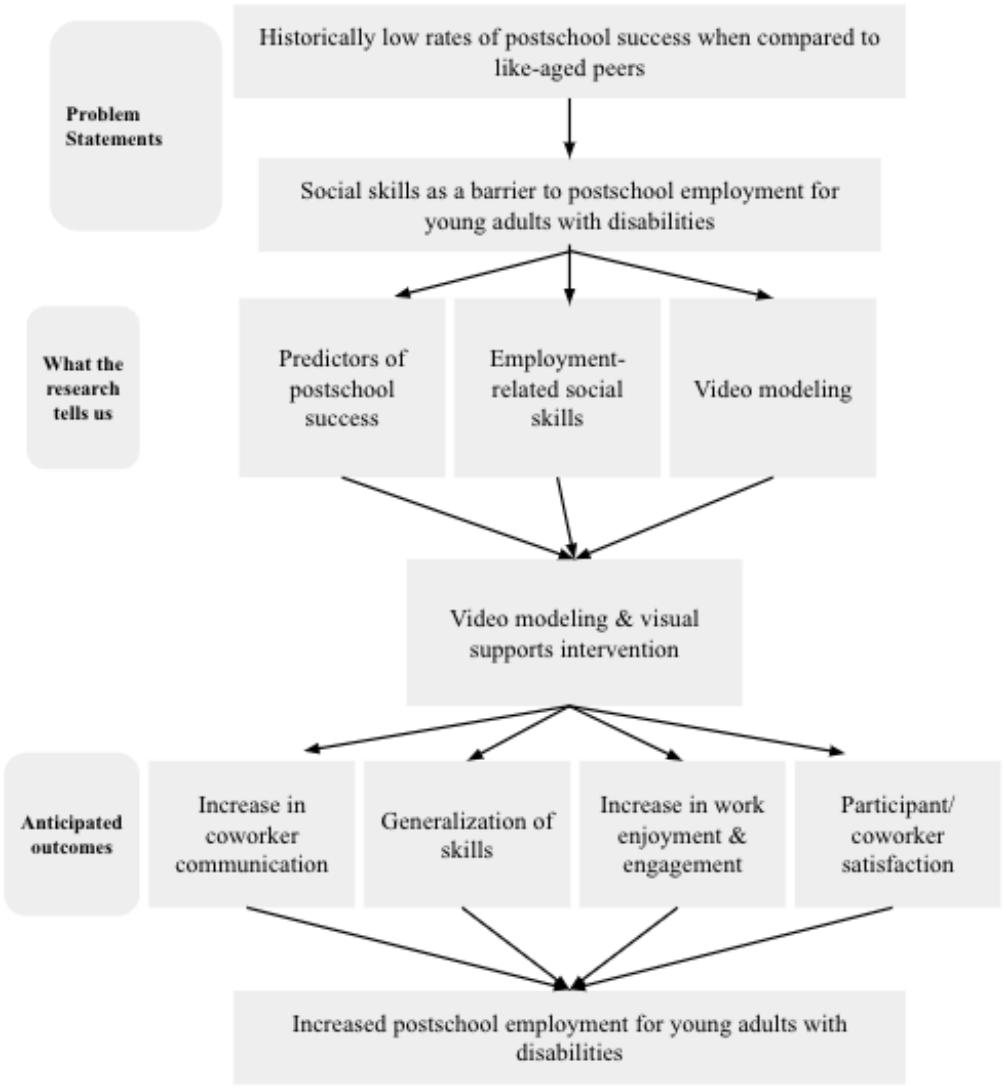


Figure 1

Conceptual Framework

Employment Education in Secondary Transition

Employment is considered a key aspect of adulthood. With employment comes pay, and with pay comes access to resources needed for daily living. Recently, it was reported that only 19.1% of adults with disabilities were employed while 63.7% of adults without disabilities were employed (Bureau of Labor Statistics, 2021). While over 50% of high school students without disabilities reported having paid employment experiences, only 40% of high school students with disabilities had similar experiences (Lipscomb et al., 2012). Additionally, research from the National Longitudinal Transition Study 2 (NLTS 2) identified that only 6% of youth with disabilities who exited high school were competitively employed (Newman et al., 2011).

With a history of low rates of employment for adults with disabilities, special education advocates and researchers have looked towards schools to determine ways to prepare their students with disabilities for employment postschool (U.S. Department of Education). It has been determined that important elements of transition training programs should include (a) increasing parental involvement, (b) increasing functional independence and social competence, (c) providing access to vocational experiences to increase career awareness, (d) teaching self-management and self-determination skills, and (e) using EBPs to increase employment success (Wehman et al., 2009; 2013).

In light of these findings, researchers, teachers, and advocates pushed for employment education, providing students with disabilities opportunities to learn about work and partake in work-related tasks (Blackorby & Wagner, 1996; Halpern et al., 1990; Hasazi et al., 1985; Rabren et al., 2002; Sample, 1998). Employment education in secondary transition has looked different across contexts. For example, some ways schools can prepare students with disabilities for employment include workplace tours/field trips, volunteering, unpaid work experience, paid

work experience, simulated workplace experience, student-led enterprises, service learning, unpaid and paid internships, informational interviews, career-related competition, career mentorship, and job shadowing (NTACT, 2018; Shandra & Hogan, 2008). Other skills such as soft skills, positive views about work for pay and financial independence, financial literacy skills, and community travel skills can help increase the likelihood of postschool employment for students with disabilities (Cmar et al., 2015). Exploring the history of secondary transition programming can provide insight into how transition planning and services have changed over time, including how expectations for preparing students with disabilities for employment have evolved.

History of Secondary Transition and Preparing Students for Employment

Programming in secondary transition emerged as a critical topic within special education when the first cohort of special education students exited public schools and showed poor postschool outcomes. In 1970, Dr. Sidney P. Marland, Jr., who was serving as the U.S. Commissioner of Education declared career education as a top priority providing the first model of federal funding for career education in hopes of lowering the dropout rate and providing students with a meaningful education that could lead to postschool employment. Just three years later, the Vocational Rehabilitation Act of 1973 was mandated with the legislation prohibiting discrimination based on disability in programs conducted by federal agencies, in programs receiving federal financial assistance, in federal employment, and in the employment practices of federal contractors. In 1975, the Education for All Handicapped Children Act (PL 94-142) was passed, and for the first time, a free and appropriate public education was guaranteed to all students with disabilities from ages 3 to 21. Eight years later, the reauthorized Education for All Handicapped Children Act (EAHCA; PL 98-199; 1983) allowed for the creation of the

"Secondary Education and Transitional Services for Handicapped Youth," initiative authorized by the Office of Special Education and Rehabilitation Services (OSERS) to spend $6.6 million annually in grants and contracts intended to strengthen and coordinate education, training, and related services for youth with disabilities, including employment services.

In 1984, Madeline Will, a parent advocate and the Assistant Secretary of the OSERS, released a model of secondary transition. In this model, Will created a way to "bridge" the gap between school and postschool life. She believed that secondary transition was an outcome-oriented process that included a wide array of services and experiences all leading to postschool employment. The goal of Will's Bridges Model was for all students with disabilities leaving high school to obtain jobs. Will stated that the jobs should be obtained either right after high school graduation or after completion of postsecondary education or vocational training. Will suggested that improving classroom instruction, vocational education, opportunities for vocational rehabilitation, on-the-job training, school counseling, and making curriculum more relevant to work provides a foundation for all students to continue to grow their postschool employment skills (Will, 1984).

Following the release of Madeline Will's transition Bridges Model, in 1990, the Education for All Handicapped Children Act was reauthorized and renamed the Individuals with Disabilities Education Act (IDEA; P.L. 101-476; 1990). This was the first time that secondary transition was seen in the law due to the recommendations of OSERS and Will's Bridges Model, as well as recommendations from researchers, policymakers, and practitioners in the field of special education. IDEA (1990) mandated that secondary transition services be provided to students aged 16 or older with a disability through an outcome-oriented process promoting postschool success in education, employment, and independent living. Following Madeline

Will's Bridges Model in 1984 and mandates from IDEA (1990), Andrew Halpern (1992) expanded on the Madeline Will's Bridges Model by including residential environments and social and interpersonal networks as critical considerations as students transition into adult life. Halpern believed that the idea of postschool life included not only employment but also, expectations for community engagement.

In 1997, IDEA was reauthorized (P.L. 105-117). This reauthorization of IDEA mandated that transition services for students with disabilities begin no later than 14 years old, replacing the previous starting age of 16. This iteration also emphasized the importance of inclusion for students with disabilities in general education settings (i.e., least restrictive environment). The IDEA (1997) also stated that general education teachers must be contributing members of a student's IEP team. The Carl D. Perkins Act of 1998 followed the reauthorization of IDEA (1997) and reformed federal employment, adult education, and vocational rehabilitation programs to create an integrated system of workforce investment and education activities for youth and adults using federal funds.

Most recently, the Individuals with Disabilities Education Improvement Act (IDEIA; P.L. 108-446; 2004) required that schools provide transition services, a coordinated set of activities for a student with disabilities that is within a results-oriented process, focused on improving students with disabilities' academic and functional achievement to facilitate movement from school to postschool activities, including education, employment, adult services, independent living, or community participation, for students with disabilities based on the strengths, preferences, and interests of the student and their families. These services/activities include instruction in functional and academic skills, related services, community experiences,

development of employment and postschool activities, and daily living skills (IDEA, 2004; Kim & Morningstar, 2007).

Following IDEIA in 2004, The Workforce Innovation and Opportunity Act of 2014 (P.L. 113-128) was passed, amending its first iteration, the Workforce Investment Act of 1998. This piece of legislation mandated pre-employment transition services (pre-ETS) for students with disabilities in preparation for work. Pre-ETS includes providing vocational training activities focused on (a) job exploration counseling, (b) work-based learning experiences provided in school and/or within the community, (c) workplace readiness skills training on independent living and social skills, (d) instruction on self-advocacy skill development, and (e) counseling on postsecondary education opportunities.

In 2015, Congress passed the Every Student Succeeds Act (ESSA; P.L. 115-224), reauthorizing the No Child Left Behind Act (NCLB) of 2001. The ESSA mandated that all students be prepared with rigorous academic standards in preparation for college and careers. This law mandated that information about statewide assessments be shared with educators, families, and students, to ensure schools are accountable and actions are put in place to increase graduation rates for all students. This law also ensured that states and local education agencies put supports in place to enhance the number of EBPs implemented to help prepare all students for college and careers. This law directly reflects the research in that being college and career ready can result in better job opportunities for youth and young adults with disabilities (Lombardi, Rifenbark, Hicks et al., 2022; Lombardi, Rifenbark, Poppen et al., 2022).

Finally, the Strengthening Career and Technical Education Act, known as Perkins V, (P.L. 115-224) was reauthorized in 2018. Based on mandates from Perkins V, performance data will be disaggregated by Career Technical Education (CTE) program and subpopulation groups

such as gender, migrant status, individuals with disabilities, individuals preparing for nontraditional fields, homeless individuals, and others. This piece of legislation provides federal funding for students with disabilities to participate in CTE programs. Through this legislative action, the goals set forth were to develop academic and technical knowledge for students with disabilities while working on enhancing employability skills for subpopulations of students.

Despite all of the various laws and reauthorizations mandated to support students with disabilities, students with disabilities are continuing to achieve less postschool success, especially in the area of employment, than their peers without disabilities (Holzberg et al., 2018). Due to this discrepancy, researchers have used correlational data to help determine what in-school programs and practices are related to postschool success for students with disabilities (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009).

In-School Predictors of Postschool Employment Success

With a gap between the success of students with and without disabilities in postschool outcomes (Holzberg et al., 2018), researchers have worked to determine the essential components of transition programming that lead to positive outcomes in the areas of employment, education, and community engagement. For example, the NLTS2, starting in 2000 and continuing through 2009, collected data on young adults with disabilities postschool outcomes including school completion, living situation, social involvement, education after high school, employment rates, job characteristics, and community engagement. At the beginning of the study, a representative sample of students with disabilities aged 13 to 16 years old were surveyed (NLTS-2012). This study highlighted the discrepancy between postschool success for students with disabilities when compared to their peers without disabilities and determined what in-school experiences led to their postschool success (Newman et al., 2011). Discrepancies in

postschool success for individuals with disabilities in comparison to individuals without disabilities included socioeconomic disadvantage, communication barriers, reduced employment rates, reduced independent living rates, and less postsecondary education experience (Newman et al., 2011). Descriptive data collected also provided information on how in-school experiences (e.g., activities with friends, academic supports, preparation for postschool life) of youth with disabilities enrolled in secondary transition programs impact their postschool lives (NLTS-2012). These findings have led to additional research on what should be done in school to support students' postschool outcomes (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009).

Research to determine what in-school activities impacted students with disabilities postschool lives was first published in 2009. This research was the first to provide a consistent set of predictors of in-school programs, practices, and experiences that have a positive relationship on postschool outcomes (Mazzotti et al., 2016, 2021; Rowe et al, 2015; Test et al., 2009). Predictors of postschool success are in-school predictors of improved postschool outcomes for students with disabilities focused on the three adult outcome areas, education, employment, and community engagement (Mazzotti, et al., 2016, 2021; Test et al., 2009). To help combat the discrepancy in employment rates for youth and young adults with and without disabilities, it may be helpful for schools to evaluate their transition programs based on the predictors of postschool success. Currently, there are 23 in-school evidence-, research-based, or promising predictors of positive postschool outcomes that indicate a positive correlation between in-school transition program characteristics (e.g., paid employment/work experiences, CTE, occupational courses, career awareness, social skills, and work-study) and positive postschool outcomes for students with disabilities (Mazzotti et al., 2021).

Three systematic literature reviews and one metanalysis (Haber et al., 2016) were conducted to determine the evidence-base for the in-school predictors of postschool success. The first systematic literature review was conducted in 2009 by Test and colleagues. This was the first time researchers looked at secondary transition programs and practices to determine how they were linked to postschool outcomes for students with disabilities. For this study, 22 scholarly articles were reviewed, and 16 in-school predictors were identified were linked to positive postschool outcomes. The 16 identified predictors included career awareness, community experiences, exit exam/ high school diploma status, inclusion in general education, interagency collaboration, occupational courses, paid employment/ work experiences, parental involvement, program of study, self-advocacy/ self-determination, self-care/ independent living skills, social skills, student support, transition program, vocational education, and work-study. Of the 16 predictors, four (inclusion in general education, paid employment/ work experience, self-care/ independent living skills, support) predicted improved outcomes in all three postschool outcome areas, seven (career awareness, interagency collaboration, occupational courses, self-advocacy/self-determination, social skills, transition program, vocational education) predicted improved outcomes for postschool education and employment, and five (community experiences, exit exam requirements/ high school diploma status, parental involvement, program of study, work-study) predicted improved outcomes for employment. Of the 11 predictors of improved outcomes in postschool education, four were research-based (i.e., inclusion in general education, paid employment/ work experience, transition program, vocation education) and seven had potential evidence (i.e., career awareness, interagency collaboration, occupational course, self-advocacy/self-determination, self-care/ independent living, social skills, student support. Of the 16 predictors of improved outcomes in postschool employment, four were

research-based (i.e., inclusion in general education, paid employment/ work experience, vocational education, work-study) and 12 had potential evidence (i.e., career awareness, community experiences, exit exam/ high school diploma status, interagency collaboration, occupational courses, parental involvement, program of study, self-advocacy/ self-determination, self-care/ independent living, social skills, student support, transition program). Of the four predictors of improved postschool independent living, two were research-based (i.e., inclusion in general education, self-care/ independent living) and two had potential levels of evidence (i.e., paid employment/ work experience, student support).

Following this review, Mazzotti and colleagues (2016) conducted a follow-up systematic literature review to confirm previous findings from Test et al. (2009) to determine if there were new evidence-based predictors of postschool success to add to the research base. Through this study, Mazzotti and colleagues found evidence to support nine of the 16 previously identified predictors of postschool success and added four new predictors based on 11 peer-reviewed studies. Parent expectations, youth autonomy/decision making, travel skills, and goal setting were found to be positively correlated with improved postschool employment. These findings revealed consistent levels of evidence for all existing predictors while also adding more predictors to the research base.

In 2021, Mazzotti et al. conducted another systematic literature review to update the research base on predictors of postschool success. Through this review, they added evidence for 14 of the 20 already identified predictors (i.e., CTE, exit exam/high-school diploma status, goal-setting, inclusion in general education, paid employment/ work experience, parent expectations, program of study, self-care/ independent living skills, student support, transition program, work-study, and youth autonomy/ decision-making). Researchers also identified three new predictors

of postschool success, including psychological empowerment, self-realization, and technology skills through this systematic literature review. Among the 23 predictors identified across education, employment, and independent living, predictors focusing on preparing students for postschool employment include CTE, occupational courses, paid employment/work experience, social skills training, and work-study (Test et al., 2009; Mazzotti et al., 2016, 2021). The subsequent sections identify the types of employment opportunities (i.e., CTE) students with disabilities should have in high school with definitions of each of the employment-related predictors considering how schools should implement employment opportunities in schools.

Types of Employment Opportunities

Schools can help prepare students with disabilities for their postsecondary employment through school coursework, programs, and implementation of the predictors of postschool success. Courses and programs should include CTE, occupational courses, paid employment/ work experiences, social skills, and work-study. A CTE course may focus on business and provide students with learning opportunities to further their knowledge and understanding of business and what is needed to be successful in that field. Current studies show positive outcomes for students with disabilities who have been enrolled in a CTE course (Daviso et al., 2016; Dougherty et al., 2018; Rabren et al., 2014). Researchers have demonstrated that students who participate in occupation courses were more likely to engage in full-time postsecondary employment (Harvey, 2002; Heal & Rusch, 1995; Mazzotti et al., 2016, 2021; Test et al., 2009). Students who participated in paid employment/ work experience were more likely to be engaged in postsecondary employment (Benz et al., 1997; Bullis et al., 1995; Newman et al., 2011; Rabren et al., 2002; Test et al., 2009). Paid employment and other work experiences in high school can include any work experience where a student is paid directly by the business.

Students also can increase their opportunities to participate in postsecondary employment by participating in social skills training. Social skills are used daily to interact with others and include communication that is verbal and non-verbal (i.e., body language, eye contact). Work study is another way that students can prepare for postsecondary employment while still in school. Students who participated in work-study were more likely to have a full-time job upon graduation (Baer et al., 2003; Newman et al., 2011; Test et al., 2009). Below I define each of the predictors (i.e., career awareness, CTE, occupational courses, paid employment/ work experience, work-study, social skills) that relate to my dissertation study.

Career Awareness

One predictor of postschool success that focuses on employment is career awareness. Rowe et al. (2015) defined career awareness as, "learning about opportunities, education, and skills needed in various occupational pathways to choose a career that matches one's strengths and interests" (p. 118). Schools may provide comprehensive and systematic opportunities to learn about various careers through job shadowing, internships, guest speakers, industry tours, CTE classes, and/or career fairs. Career awareness should focus on identifying skills and qualifications required for occupations aligned with core content areas where career awareness is embedded in the general curriculum (Rowe et al., 2015). This predictor of postschool success based on systematic literature reviews identified several studies leading to career awareness being a predictor of positive postschool outcomes (Benz et al., 1997; Carter et al., 2012)

In 1997, Benz and colleagues conducted a longitudinal study using data from NLTS to examine instructional components and skill outcomes used in school-to-work programs that predict improved postschool outcomes for all students, including those with disabilities. Study participants included a total of 442 students with disabilities and 131 students without

disabilities. Researchers concluded that students enrolled in school-to-work programs who graduated high school with high job search skills and high career awareness were more likely to be engaged in postschool employment or education.

In 2012, Carter et al. used longitudinal survey data from NLTS2 collected through parent or parent-youth interviews, students' school program study survey, and the school characteristic survey to determine which student, family, and school factors were associated with employment during the 2 years following high school for students with disabilities. Data from 450 students with disabilities were analyzed to determine demographic variables, current work status, and predictor variables. The analysis revealed that having job search instruction, which fits the definition of career awareness, was correlated with postschool employment success. With all of this, students should be taught to obtain jobs that they have explored and researched (Rowe et al., 2015). Teaching career awareness in secondary transition programs increases the likelihood of a student being involved in postschool employment or education (Benz et al., 1997; Carter et al., 2012).

Career Technical Education

Another in-school predictor of postschool success is CTE. CTE is a form of education that focuses on preparing students for the workforce. CTE is the only evidence-based predictor of postschool success as research shows it helps students prepare for employment as they leave the school system (Mazzotti et al., 2016, 2021; Test et al., 2009). In 2021, CTE moved from a research-based to an evidence-based predictor demonstrating a positive relationship to students' postschool outcomes (Mazzotti et al., 2021). CTE, a form of vocational education, is defined as, "Vocational education is a sequence of courses that prepares students for a specific job or career at various levels from trade or craft positions to technical, business, or professional careers"

(Rowe et al., 2015, p. 119). CTE is also a form of educational service that is centered around preparing students with and without disabilities for the workforce (P.L. 115-224, 2018). CTE programs offer students career-focused technical and academic skills as well as fostering problem-solving skills, decision-making skills, job search, skills, and interview skills (Newman et al., 2016). CTE aims to bridge the gap between education and postschool employment by teaching employment skills to students while they are still enrolled in school. Through CTE programs, students can learn job skills, functional life skills, work behaviors, academic skills, and have experience with real-life training. CTE programs allow students to be exposed to different types of jobs and employment opportunities, helping them determine what careers are of interest (Wagner et al., 2015). Within CTE courses, students have the opportunity to develop and express their preferences to help narrow down the type of career they would like to pursue postgraduation by determining what areas of study are of interest and what areas of study are not. Students with disabilities in CTE programs have higher probabilities of graduating from high school on time or earning industry-recognized certificates (Dougherty et al., 2018). The CTE predictor of postschool success systematic literature reviews identified several studies leading to CTE being included as a predictor (Daviso et al., 2016; Dougherty et al., 2018; Rabren et al., 2014).

Studies to Support CTE as a Predictor. In 2014, Rabren and colleagues conducted a survey study to examine program factors (e.g., participation in CTE, high school job status, employment following one-year post-graduation) and postschool outcomes regarding employment. This study included a sample of 500 students with disabilities. Results indicated that participation in CTE is associated with higher rates of postschool employment. It was also

concluded that secondary vocational education (i.e., CTE) provides an advantage when entering the labor market.

In another study, Daviso et al. (2016) conducted a secondary analysis with over 5,000 youth with disabilities to determine if three predictors of postschool competitive employment (i.e., CTE, work-study, school-supervised work experiences) were significant predictors for five subgroups of youth with disabilities (learning disabilities, intellectual disability, multiple disabilities, emotional disabilities, or other health impairments). Results indicated that CTE, work-study, and school-supervised work experiences were predictors of competitive employment. In 2018, Dougherty et al. used Massachusetts longitudinal data for students who were in 9th grade during the 2004/2005 through 2008/2009 school years to determine the relationship between student outcomes and CTE participation. Results indicated that participation in CTE had a positive correlation to student outcomes.

These studies contribute to the established evidence-base related to the importance and need for students with disabilities to be enrolled in a sequence of CTE courses and gain employment-related skills (Mazzotti et al., 2016, 2021; Rowe et al, 2015; Test et al., 2009). The positive outcomes of these studies demonstrate why we need to prepare students for employment while in high school, as it can increase their ability to participate in postschool employment. In addition to CTE, schools can also provide occupational courses that allow students to explore career options.

Occupational Courses

Occupational courses were also identified as a predictor of postschool success (Mazzotti et al., 2016, 2021; Test et al., 2009). Rowe and colleagues (2015) defined occupational courses as, “individual courses that support career awareness, allow or enable students to explore various

career pathways, develop occupational specific skills through instruction, and experiences focused on their desired employment goals" (p. 118). Additionally, occupational courses typically have embedded career awareness activities, career planning, and vocational assessments (e.g., interest inventories, aptitude tests; Rowe et al., 2015). Curricula focused on occupational courses should include technology, 21st-century skills, and employable skills for specific careers or career clusters. These courses should provide students with the opportunity to have hands-on and community-based experiences focused on specific occupational skills. Occupational courses also should have a wide variety of occupational clusters to allow students with and without disabilities to determine their interests, preferences, needs, and strengths (Rowe et al., 2015). The predictor of postschool success systematic literature reviews identified several studies leading to occupation courses being included as a predictor (Halpern et al., 1995; Heal & Rusch, 1995; Wagner et al., 2015).

In 1995, Halpern et al. used phone interviews from a 3-year follow-along longitudinal study to examine predictors of postschool education participation. There were 987 participants in this study and all participants were 17 years or older at the beginning of the study and transitioning from school to their adult community. This study determined that students who passed more than half of their courses, including vocational education courses (i.e., CTE), were more likely to be engaged in postsecondary education.

In the same year, Heal and Rusch (1995) used longitudinal data from NLTS to conduct a hierarchical regression analysis of 35 community, family, student, and school program characteristics (i.e., disability category, age, personal income, household income, number of siblings, education of head of household, number of community visits per year, number of vocational education community placements, students hours in vocational courses, academic

courses, and occupational training) to assess the correlation to postschool employment. The researchers used data collected from parent surveys, school record abstracts, and school program surveys. They found that students who took more academic and occupational courses, as well as spent more time in the general education setting, were more likely to be engaged in postschool employment.

In 2015, Wagner and colleagues examined how high school occupational courses affected a student exiting high school as "college and career ready." A descriptive analysis was conducted using a sample of 480 youth from NLTS2. Results indicated a positive impact on student enrollment in a concentrated, occupationally specific course and postschool employment within two years postschool. In addition to occupational courses, schools can provide opportunities for paid employment/ work experience to help expand students with disabilities work exposure.

Paid Employment/Work Experience

Outside of coursework, one predictor that may help increase the postschool success of young adults with disabilities is providing paid employment/work experiences while students with disabilities are in high school. Through research conducted to determine the predictors of postschool success, it was found that students with disabilities who participated in paid employment or work experiences were more likely to be employed when they left the school system (Mazzotti et al., 2021). Rowe et al. (2015) defined paid employment/work experience as, "any activity that places the student in an authentic workplace and could include work sampling, job shadowing, internships, apprenticeships, and paid employment. Paid employment can include existing standard jobs in a company or organization, or customized work assignments negotiated with the employer, but these activities always feature competitive pay (e.g., minimum wage) paid directly to the student by the employer" (p. 118). Both paid employment and work

experiences include providing instruction in soft skills (e.g., problem-solving, decision-making, communication, teamwork), as well as vocational specific skills. These programs should provide job performance evaluations completed by the student, school staff, and employers (Rowe et al., 2015). This predictor of postschool success based on systematic literature reviews identified several studies leading to paid employment/ work experience (Connors et al., 2014; Simonsen & Neubert, 2013; Wehman et al., 2015).

In 2013, Simonsen and Neubert conducted a survey to gain perspectives of youth with disabilities 18 months after exiting public school. In total, 338 youth with disabilities were surveyed. The majority of participants (57.1%) were engaged in sheltered or nonwork activities, 14.2% were engaged in integrated employment, and 28.7% were engaged in other modeling of community work (e.g., enclaves, crews). Results indicated that paid-work experience during school was correlated with postschool employment.

In 2014, Connors and colleagues conducted a longitudinal study to determine if factors associated with postschool success remained influential 10 years after leaving high school. Researchers analyzed data from five waves of NLTS2 and determined that youth who worked for pay during high school were 3.6 times more likely to be considered successful in postschool education or employment than those who did not work for pay during their high school years within 10 years of leaving high school. Students who completed high school were 3.3 times to be considered successful in postschool education or employment when compared to those who did not complete high school within 10 years of leaving high school.

In 2015, Wehman and colleagues examined factors associated with postschool competitive employment for adults with disabilities. They defined competitive employment as any paid job where the adults were making at least minimum wage and working in a setting with

coworkers without disabilities (Wehman et al., 2015). They used a longitudinal survey design with a sample that included 2,900 adults with disabilities who exited high school in the 2002/2003 school year. Results indicated that the strongest predictor of postschool competitive employment was high school work experiences (e.g., internship placements, job sampling, paid employment). This supports the vast research surrounding the predictors of postschool success for students with disabilities (Mazzotti et al., 2016, 2021; Rowe et al, 2015; Test et al., 2009). In addition to paid employment/ work experience, schools can provide opportunities for work study to help expand students with disabilities work exposure.

Work-Study

Work study was identified as a predictor of postschool success (Mazzotti et al., 2016, 2021; Test et al., 2009). Rowe et al. (2015) defined work study as "a specified sequence of work skills instruction and experiences designed to develop students' work attitudes and general work behaviors by providing students with mutually supportive and integrated academic and vocational instruction" (p. 119). According to Rowe et al. (2015), work-study programs should provide options for both paid and non-paid work experiences both on and off the high school campus with options for gaining school credit. Through these programs, there should be a developed plan for earning academic credit on the job through an integrated curriculum focused on work-related skills with school personnel, the student, and their parents. Work-study programs should provide both supervision and guidance during the development of work behaviors and skills. These programs can help develop business/school partnerships by exposing local businesses to the benefits of hiring people with disabilities as employees. Work-study programs also work towards matching students to experiences that align with their interests both

on and off campus. Off-campus experiences help to provide applied real-work settings supported by instruction (Rowe et al., 2015).

One model of work study includes work-based learning (WBL), an instructional method that uses real work to provide students with the opportunity to connect school experiences to real life work activities and possible future careers (Luecking, 2020; NTACT, 2018). Work-based learning experiences can be completed in collaboration with private, for-profit, public, or nonprofit businesses in the learner's community and may occur in school or out of school (NTACT, 2018). These experiences are diverse and can include job shadowing career mentorship, information interviews, paid internships, non-paid internships, service learning, student-led enterprises, simulated workplace experience, paid work experience, non-paid work experience, volunteering, and workplace tours/ field trips (NTACT, 2018). They can be provided to students within a high school through different courses such as CTE. The predictor of postschool success systematic literature reviews identified several studies leading to work study being included as a predictor (Flexer et al., 2011; Sreckovic et al., 2020).

In 2011, Flexer and colleagues conducted a longitudinal transition study to determine in-school factors related to postschool employment. They analyzed data using logistic regression models that controlled for gender, minority status, and level of disability. Results indicated that students who graduated from CTE and work-study programs were more likely to enter full-time employment after graduation compared to those who did not participate in said programs.

In 2020, Sreckovic and colleagues conducted a single-case, multiple baseline across participants study to examine the effects of work systems to increase task completion. This study was conducted in the participants' homes as the parent served as the interventionist. Data were collected on both steps being initiated independently and steps being completed independently.

Work systems were provided to participants to prepare and pack lunch, clean up, do laundry, make dinner, and clean. Results indicated that such work systems were effective for all three participants at increasing independent task initiation and task completion. In addition to work study, schools can provide social skills training and education to help increase students with disabilities skills.

Social Skills

Another predictor of postschool success identified by the three systematic literature reviews is social skills competence (Test et al., 2009; Mazzotti et al., 2016, 2021). Social skills are defined as, "behaviors and attitudes that facilitate communication and cooperation (i.e., social conventions, social problem solving when engaged in a social interaction, body language, speaking, listening, responding, verbal, and written communication; Rowe et al., 2015, p.122). Social skills should be integrated into instruction across the curriculum in all classrooms and community settings. These skills can be taught via direct instruction, using structured curricula, or evidence-based strategies, with guided practice in school and community-based settings (Rowe et al., 2015). Direct instruction can be used to teach the social expectations required in different environments (e.g., school, work, grocery store). Social skills education should provide opportunities for students to practice problem-solving skills when challenging interpersonal situations arise (Rowe et al., 2015). Augmentative communication devices and assistive technology devices should be used for those using them, to encourage communication for students who use these devices. Students also should be provided the opportunity to practice social skills that foster authentic social interactions for developing friendships (Rowe et al., 2015). When at work, employees are expected to complete their tasks and communicate with both customers and employees. Researchers have indicated that the ability to interact socially at

an employment site (i.e., social skills in the workplace) is key to the success of an individual with a disability (Kochman et al., 2017). This predictor of postschool success based on the systematic literature reviews identified several studies leading to social skills being included as a predictor (Benz et al., 1997; Carter et al., 2012; Chiang et al., 2013; Halpern et al., 1995; McDonnall, 2011; Papay & Bambara, 2014; Shattuck et al., 2012).

In 1997, Benz and colleagues conducted a longitudinal study using data from NLTS to examine which instructional components and skill outcomes used in school-to-work programs predicted improved postschool outcomes for all students, including those with disabilities. Study participants included a total of 442 students with disabilities and 131 students without disabilities. Results determined that students in the school-to-work program who left high school with high social skills were more likely to be engaged in postschool employment.

In 2011, McDonnall used longitudinal data from NLTS2 to identify factors that predict postschool employment for transition-aged youth with visual impairments. He used data from parent-youth interviews, school personnel interviews, and direct assessment of youth and analyzed them using a logistic regression model. Results determined that social skills were a predictor of postschool employment for transition-aged youth with visual impairments.

In 2012, Carter et al. used longitudinal survey data from NLTS2 collected through parent or parent-youth interviews, students' school program study survey, and the school characteristic survey to determine which student, family, and school factors were associated with employment during the 2 years following high school for students with disabilities. Data were used from 450 students with disabilities and analyzed through descriptive statistics. The analysis revealed that having higher social skills was correlated with increased odds of postschool employment.

In the same year, Shattuck and colleagues (2012) used data from NLTS2 to examine the low postschool employment and postsecondary education rates for youth with autism. Researchers analyzed findings from 500 participants through logistic regression. Results indicated that only 34.7% of youth with autism attended collect and 55.1% engaged in paid employment during their first six years out of high school. Over 50% of youth with autism had not held a paid employment position within two years of leaving high school. Researchers determined that parents who perceived their youth with autism as having high (no trouble or little trouble) conversational skills increases increased their chance of participating in postschool education.

In 2013, Chiang and colleagues conducted a secondary data analysis to examine factors associated with postschool employment for high school graduates with autism. Researchers used data from NLTS2 and used a weighted multivariate logistic regression to determine the results. Researchers determined that having high social skills was correlated with participation in postschool employment for youth with autism.

In 2014, Papay and Bambara also used longitudinal data from NLTS-2 to determine the best practices in the transition to adult life for youth with intellectual disabilities. Researchers collected information on youth characteristics, family characteristics, school characteristics, as well as best practices in transition (e.g., youth involvement, family involvement, transition planning, work experiences, life skills instruction including social skills, inclusion in general education, and interagency involvement). Researchers determined that family involvement, work experience, life skills instruction including social skills, and interagency involvement were significant predictors of postschool education, employment, or enjoyment of life. Researchers

used logistic regression to analyze the data and found that social skills were a strong positive predictor of both postschool education and employment when analyzed with life skills.

Summary

Over time legislation has been created and put into place to help ensure the success of individuals with disabilities. With such legislation came research aimed at improving outcomes for youth and young adults with disabilities. Experts in the field of secondary transition have examined predictors of postschool success to help determine in-school experiences that lead to positive postschool outcomes and may close the gap between students with and without disabilities (Mazzotti et al., 2016, 2021; Rowe et al., 2021; Test et al., 2009). Through this research, it has been determined that involving secondary transition students in career awareness, CTE, occupational courses, paid employment/ work experience, work-study, and social skills training helps to increase their postschool success (e.g., postschool education, employment, and independent living).

While the abovementioned predictors of postschool success have great promise and have shown time and time again, that students who are exposed to these predictors may have greater postschool success, more research is still needed. Social skills performance has been determined as a predictor of postschool success (Mazzotti et al., 2016, 2021; Rowe et al., 2021; Test et al., 2009). While social skills training is known to be effective, it is often used in academic or personal settings. Some studies investigated the use of employment-related social skills (Bross et al., 2019, 2020), but few have focused on coworker-to-coworker social skills (Gilson & Carter, 2016).

Social Skills in the Workplace

Obtaining and maintaining employment requires the development and implementation of a wide range of transition-related skills. Some of these transition-related skills are job specific (e.g., filing, completing forms, fixing machinery, placing orders) while others are related to developing and maintaining relationships in the workplace (e.g., communication skills, conversation conventions). Both employers and practitioners have identified three key areas of social skills improvement for people with disabilities in the workplace (Park et al., 2018). One area of improvement is asking for help which can be done in the middle of a task or when the worker is looking for what to do next. Another area of improvement is seeking clear directions which may include asking clarifying questions or asking for a coworker to provide a model. One more area of improvement is responding appropriately to critical feedback (Park et al., 2018).

Current research has concluded that one predictor of postschool success that can improve postschool life for youth and young adults with disabilities is social skills. Rowe et al. (2015) defined social skills as, "behaviors and attitudes that facilitate communication and cooperation (e.g., social conventions, social problem solving when engaged in social interaction, body language, speaking, listening, responding, verbal, written communication)." Researchers determined that social skills instruction should be integrated across the curriculum, including general education settings and the community. Social skills instruction is effective when a direct instruction curriculum is used to teach communication, interpersonal, conversational, negotiation, conflict resolution, and group skills based on context (Rowe et al., 2015).

A well-balanced social skills curriculum allows students opportunities to (a) practice communication, interpersonal, conversational, negotiation, conflict resolution, and group skills in context and (b) teach students the social expectations for different environments (e.g.,

employment, school, community locations; Mazzotti et al., 2016; Test et al., 2009). Social skills were identified as a promising predictor of both postschool education and employment (Mazzotti et al., 2016, 2021; Test et al., 2009). Students who exited high school with high social skills were more likely to participate in postschool employment (Benz et al., 1997; Roessler et al., 1990; Test et al., 2009). Being exposed to social skills education and training is a predictor of postschool success (Mazzotti et al., 2016, 2021; Test et al., 2009). While some social skills and conventions are appropriate for use at home, they may not be appropriate for use at school or work. Social skills in the workplace may look more formal due to the different professional relationships students have with coworkers (Jackson, 2015) when compared to family members or friends. In the workplace, some effective social skills may include maintaining relationships, understanding others feelings, cooperating with others, having a positive attitude, using the appropriate amount of eye contact and personal space, as well as active listening (Brickey et al., 1985; Butterworth & Strauch, 1994; Chadsey, 2007; Greenspan & Shoultz, 1981; Kochany & Keller, 1981; Wehman et al., 1982).

Employment-Related Social Skills

Researchers have investigated factors or characteristics that promote employability to help enhance employment preparation and training for young adults with disabilities (e.g., Agran et al., 1991; Brickey et al., 1985; Butterworth & Strauch, 1994; Chadsey, 2007; Greenspan & Shoultz, 1981; Kochany & Keller, 1981; McConaughy et al., 1989; Salzberg et al., 1986; Wehman et al., 1982). Researchers have reported that employees with disabilities are unable to maintain employment often due to difficulty fitting in socially at the workplace (Brickey et al., 1985; Butterworth & Strauch, 1994; Chadsey, 2007; Greenspan & Shoultz, 1981; Kochany & Keller, 1981; Wehman et al., 1982). Six categories of functional skills have been identified as

needed for effective work performance. Rowe et al. (2021) defined functional skills as telling time, reading and understanding common signs, counting change, looking up phone numbers, the phone, navigating outside of the home, use of public transportation, buying clothes, arranging visits out of town, and social skills. While social skills are noted as being a functional skill, social skills look different depending on the social context or setting. Desired social skills needed for effective work performance include that the teacher supports students in: (a) participating as an effective member of a team; (b) facilitating group learning; (c) teaching others new skills; (d) serving customers; (e) influencing an individual or group; (f) negotiating decision making; (g) working well with all kinds of people; and (h) understanding how the social/ organizational system works (Agran et al., 2016; McConaughy et al., 1989; Salzberg et al., 1986; U.S. Department of Labor, 1991).

Survey data that have been collected in the workplace demonstrate that employers of people with disabilities have social expectations for employees (e.g., interacting with co-workers during break times, asking for help, and responding to constructive feedback; Agran et al., 1991; McConaughy et al., 1989; Salzberg et al., 1986). While employers find social competency to be an imperative trait, employers typically do not teach the expected social skills but assume that all employees with or without disabilities should have already obtained these skills (Butterworth & Strauch, 1994).

Guy and colleagues (2009) conducted a statewide study that shined light on employment training in secondary education programs, determining that the focus remains on teaching technical skills instead of job-related social skills. Studies have been conducted on interventions focusing on career awareness, CTE, occupational courses, paid employment/ work experience, work-study, yet these studies fail to focus on the importance of teaching workplace social skills

(Baer et al., 2011; Cmar, 2015; Connors et al., 2014; Daviso et al., 2016; Flexer et al., 2011; Newman & Madaus, 2015; Park & Bouck, 2018; Rabren et al., 20014; Rojewski et al., 2014; Shattuck et al., 2012; Shogren et al., 2017; Simonsen & Neubert, 2013; Wagner et al., 2015; Wehman et al., 2015; Wei et al., 2015; Zhou et al., 2013). More data were collected on employment training in secondary education programs as well as postschool outcomes for young adults with disabilities through NLTS-2012.

NLTS- 2012 and Social Skills

The most recent NLTS-2012 reflected statistics that demonstrate social challenges for young adults with disabilities. Data show that youth with disabilities are less likely than youth without disabilities to interact with their friends (Lipscomb et al., 2017). Interacting with friends outside of school is considered important for developing connectedness, emotional maturing, and a sense of self for young adults with disabilities (CITE). Friends serve an important role in the life of an individual and can be a key source of support for young adults with disabilities as they transition to adult life. Social connections also can lead to valuable job opportunities (Canha et al., 2016; Correrell, 2013; Kersh et al., 2013). This lack of socialization during the school years may help explain the social challenges and smaller social networks that youth and young adults with disabilities have in the workplace.

Statistics show that while 69% of youth with disabilities attend transition planning meetings at their school, only 59% of youth with disabilities are providing input (Lipscomb et al., 2017). This suggests that while an effort is being made to include youth with disabilities in their future planning, their preferences, interests, and needs may not be met based on their lack of participation. Fewer youth with disabilities participate in extracurricular activities than those without disabilities (Lipscomb et al., 2017). Extracurricular activities such as sports and clubs are

used to help build resumes, social relationships, teamwork, and leadership skills which have been linked to greater academic and employment achievement. Fewer than 40% of all youth with an IEP reported having a job within a year of NLTS-2012 data being collected (Lipscomb et al., 2017). This leaves many youth with disabilities without an authentic setting to practice any workplace social skills.

Based on findings from research, other studies were conducted to address the common challenges in the workplace for youth and young adults with disabilities (Cannella-Malone & Schaefer, 2017; Ellenkamp et al., 2015; Uyanik et al., 2017). Many of the identified challenges are related to social skills including interacting with customers and coworkers. Subsequently, I outline these research findings based on employment-related social skills research.

Challenges Related to Teaching Social Skills in the Workplace

In 2016, Agran and colleagues conducted an online survey to determine what social skills are valued in employment settings and which are being taught in the classroom. Researchers recruited 651 participants including 491 special education teachers, 66 transition coordinators, 21 vocational rehabilitation counselors, and 61 job coaches/ related fields. Researchers adapted a survey from Salzberg et al. (1986) that included 23 employment related social skills and added five more items. Participants scored surveys on a 0 to 5 Likert scale, 0 being least important to 5 being very important. While data showed that some of the most important skills included seeking out instructions needing immediate attention, notifying a supervisor when assistance is needed, responding appropriately to critical feedback, and interacting well with customers, these skills were not being taught most frequently. One limitation of this study was the small sample size when compared to the entire population of special education teachers, transition coordinators, rehabilitation counselors, and job coaches. Another limitation of this study was that data were

collected from professionals who work with people with disabilities and not members of the natural work environment. While participants may perceive certain social skills as important, they may not be as important to people in the workplace. In addition, the survey only listed 27 social skills (e.g., seeking clarification for unclear instructions, responding appropriately to critical feedback, listening without interrupting, using social amenities, using appropriate conversational skills, etc.), implying that some important social skills may have been omitted. One implication of this study included transition assessments that target employment should include assessments on social skills in the workplace.

In 2018, Kocman and colleagues conducted a mixed method study to assess the differences in perceived barriers to employment of people with disabilities, barriers specific to employing people with disabilities, and strategies to overcome these barriers. The researchers used semi-structured interviews to investigate 30 human resource managers' perspectives on the hiring process and barriers to hiring employees with disabilities. Results indicated that employers perceived more barriers to hiring people with an intellectual disability compared to people with physical disabilities. It also was determined that many human resource managers reported to believe that employment for people with disabilities was hindered by a perceived lack of skills (i.e., social skills, vocational skills) and legal issues. Participants reported helpful strategies for hiring and retaining employees with disabilities that included providing training and information about working with others with disabilities, changing organization strategies to fit the needs of all, and legal changes (i.e., laws in certain countries protecting workers with disabilities). While expectations and reservations about hiring employees with disabilities are often based on misinformation or lack of awareness, employers' reservations should be considered in addressing barriers to employment for employees with disabilities (Kochman et al., 2017). One way this

can be done is through social skills training for young adults with disabilities to reduce one of the perceived barriers by employers.

Next, Bury and colleagues (2020) conducted an online survey to assess social challenges for employees with autism in the workplace. The researchers looked at the perspectives of both employees with autism (N = 29) and their supervisors (N = 15) across seven continents. Researchers collected 128 written samples of workplace-based social challenges. Researchers used a content analysis to highlight participants' understanding of their experiences. This analysis was used to determine four subcategories of social challenges (i.e., work task, social event, work standards and culture, built environment). Results indicated that most social challenges were associated with the employees with autism or the work environment; while, resolutions were more frequently targeted towards the employee with autism than the workplace, impeding on the employee's work experience. While this study brought light to social barriers from both employees and supervisors, it did use an online written format with a character limit meaning that participants may not have been able to share as much detail as desired (Bury et al, 2020).

While challenges in the workplace have been outlined, it is important to look at the research on how educators and other dedicated professionals can help reduce these challenges and their efforts to help increase employment for youth and young adults with disabilities. Research has determined that 23 predictors of postschool success are linked to postschool employment (Mazzotti et al., 2016, 2021; Test et al., 2009). Some of these predictors of postschool school success directly relate to career development including (a) paid employment/ work experience, (b) CTE, (c) occupational courses, (d) career awareness, (e) social skills, and (f) work study (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009). The following

section outlines current research on interventions to teach employment-related social skills to support the preparation of students with disabilities for postschool employment.

Literature Reviews focused on Employment-Related Social Skills

In 2015, Ellenkamp and colleagues conducted a systematic literature review spanning over the previous 20 years in an attempt to determine what factors contribute to obtaining or maintaining competitive work for adults with disabilities. The researchers found 26 articles that their inclusion criteria. Of these 26 articles, five were conducted on employers' decisions and opinions, either focused on job content and performance; eight were centered around workplace interaction and culture; and five explored the support of job coaches for individuals with an intellectual disability. This review highlighted the lack of studies focusing on work environment-related factors that can improve competitive work for people with intellectual disabilities. Researchers identified four categories for their included articles, including: (a) supporting the employers by paying specific attention to employer's decisions, (b) job content, (c) integration and work culture, and (d) support of job coaches. This review noted that not all studies could be compared as studies looked at different variables. All of the collected studies fit into one of the following categories; (a) employers' decisions and opinions; (b) job content, requirements, and performance (c) interaction and workplace culture; and (d) support by job coaches. One of the most mentioned factors for adults with disabilities to maintain competitive employment included social interactions with coworkers and employers. This systematic literature review highlighted that more studies need to be conducted that focus on inclusive work settings where employees with an intellectual disability are welcomed and valued. It also determined that the opinions and values of stakeholders should be taken into consideration with specific attention to both inclusive and discriminating factors related to employment (Ellenkamp et al., 2015).

A few years later, Cannella-Malone and Schaefer (2017) conducted a systematic literature review to summarize and analyze pre-existing literature on teaching vocational skills including vocational social skills to individuals with significant disabilities. Researchers identified 62 articles that met their inclusion criteria. Of the 62 studies, seven job task categories were identified; (a) packaging; (b) assembling; (c) clerical work; (d) domestic and janitorial work; (e) restaurant work; (f) miscellaneous community jobs; and (g) job support skills (i.e., requesting assistance). This review highlighted research with positive outcomes for teaching vocational skills and self-monitoring of vocational skills. While research has been conducted on teaching vocational skills, fewer studies have focused on students with significant disabilities. This study highlighted the need to continue focusing research on this much needed area of vocational education as policy initiatives continue to push for changes in postschool outcomes for people with significant disabilities (Cannella-Malone & Schaefer, 2017). While studies like this have been conducted to work on physical skills needed to be successful at work, social skills in the workplace have not been a focus.

In the same year, Uyanik and colleagues (2017) conducted a systematic literature review to examine the literature on positive psychology (exploring what makes life worth living), supported decision-making (SDM), employment, and disability. Researchers examined both interventions and assessments that have been evaluated for assisting individuals with disabilities in decision-making and overall well-being. While the researcher's search yielded 1,425 results, only four studies met inclusion criteria, meaning only four studies focused on both SDM and positive psychology-related constructs in employment and job development for people with disabilities. After an in-depth review of the four included studies, it was determined that there was a small to moderate impact of the assessments and interventions on decision-making and

engagement outcomes. These findings highlight the need for additional research in positive psychology, SDM, and employment for people with disabilities (Uyanik et al., 2017). Again, many studies have been conducted that focus on employment for individuals with disabilities, but leave out any training interventions that focus on social skills in the workplace.

These literature reviews highlight both the results of current research and existing gaps between the extant research literature. It was determined that while these studies focused on social skills in employment for students with disabilities, there is still more work to be done. In the following section, research on interventions to teach employment-related social skills in the workplace challenges for job seekers with disabilities are outlined.

Interventions to Teach Employment-Related Social Skills

Murray and Doren (2013) conducted an experimental study with an intervention and control group using pre-and post-test measures to evaluate students with disabilities and teachers' perceptions of vocational outcome expectations, occupational skills, and social skills. The researchers aimed to evaluate the Working at Gaining Employment Skills (WAGES; Johnson et al., 2004) curriculum on the social and occupational skills of high school students with disabilities. The WAGES curriculum is a job-related social skills curriculum designed to be taught in schools. WAGES has 30 lesson plans that focus on self-regulation, teamwork, communication, and problem solving. Researchers recruited 222 high school students with disabilities and their teachers. The intervention group consisted of 122 students with disabilities, and the control group (business-as-usual) consisted of 100 students with disabilities. The intervention group received WAGES instruction during a course that was devoted to study skills. After comparing pre-and post-test data, researchers determined that students who received WAGES instruction had greater vocational outcome expectations, greater occupational skills,

and greater social skills (i.e., empathy, cooperation, and assertiveness). This study provided preliminary evidence of the effectiveness of WAGES. Limitations of this study included that the sample of students was in classrooms exclusively for students with disabilities. An additional limitation includes data for this study were collected through student and teacher self-reported evaluations. The positive outcomes of this study can be used as a push to teach pre-service teachers about secondary transition curriculum and provide training to help bridge the gap between high school and vocational rehabilitation services (Murray & Doren, 2013).

In 2018, Shogren and colleagues collected data one year after Rhode Island implemented the Self-Determination Learning Module of Instruction (SDLMI). The SDLMI is an EBP to help teach students to self-regulate problem solving to set and attain relevant goals. Approximately 40 Rhode Island special education teachers attended a one-and-a-half-day training on how to use the SDLMI to help students with disabilities set goals leading to employment outcomes. A total of 184 students with mild to severe/profound intellectual disability participated. Special education teachers provided SDLMI instruction at least two times a week and also embedded instruction in other curricular activities. The results indicated that teachers were able to implement the SDLMI with fidelity when trained and coached. Findings also suggest that the promotion of self-determination by teachers can prepare students with disabilities to identify and work to attain their goals for postschool employment. While this study yielded positive results, one limitation is that while it is a longitudinal study, the data collection occurred just one year after implementation. Additional longitudinal data are needed to truly determine if school-based interventions, similar and different from the SDLMI, lead to positive changes in postschool integrated employment outcomes for young adults and adults with disabilities (Shogren et al., 2018). With research supporting the use of the SDLMI, it can be used to teach young adults with

disabilities to become more self-determined which can in turn facilitate social skills in the workplace.

In 2021, Dean and colleagues conducted a quasi-experimental, pre-and post-test study to examine the feasibility of using the Self-Determined Career Development Model (SDCDM) to enhance transition-related outcomes for youth and young adults with autism. Researchers recruited 25 participants, ages 14-24, to participate in the SDCDM, which is a model of instruction that is implemented by trained facilitators to support youth and young adults with disabilities to learn self-regulated problem-solving skills related to the person's career-related goals. The SDCDM emphasizes the development and importance of problem-solving abilities and career adaptability in the workplace. Training sessions occurred over 2 months, with participants receiving an average of 8 sessions. Results showed an increase in both goal attainment and occupational performance when compared to participants pre-test. It should be noted that this study did not have a control group; therefore, data were compared solely on participants' pre-and post-test scores. The positive results of this study indicated that vocational curricula, such as the SDCDM, are beneficial and worthwhile for students with autism (Dean et al., 2021). These newly learned self-determination skills can facilitate social skills in the workplace.

In 2020, Lu and colleagues conducted a pilot pre- and post-test study to test the feasibility of a Direct Skills Teaching (DST) intervention to teach individuals with autism work-related soft skills. The soft skills were taught through the *Conversing with Others* curriculum and facilitators focused on lessons about information conversational skills. Six facilitators worked in small group settings with a total of 37 participants with autism. There were 32 male participants and five female participants, aged 16-55. Facilitators conducted a total of four sessions, ranging from

60 to 90 min each. Results support the feasibility of soft skills, including social skills training, for work-related information conversation skills for individuals with autism. Through the pre-and post-test, participants were able to document their perceived ease with conversational skills in the workplace. While this pilot study shows promise for the feasibility of DST, some limitations of this study include the facilitators not being licensed counselors, instead they were in training for licensure, no fidelity measures were used, and no observational data on participants' informal conversational skills was collected (Lu et al., 2022).

While the above studies show evidence of effective interventions for teaching vocational skills, none of the interventions have used video modeling. Video modeling is an EBP that involves recording specific steps of a task to use as a teaching tool (Bross et al., 2019, 2020; Rowe et al., 2021). Outlined below are three ways video modeling was used to teach social skills in the workplace.

Video Modeling to Teach Workplace Social Skills

In 2019, Bross and colleagues conducted a single-case, multiple baseline across behaviors design to investigate whether a video modeling intervention would increase the verbalization of three customer service phrases. Researchers conducted this study with one, 18-year-old, male participant who worked in a discount retail store. The participant typically worked two days per week, and each shift was between 5 and 6 hrs. The participant's primary work tasks included checking out customers and stocking shelves when no customers were present. He was shown the video models while at work in the break room before starting his shift or task. Data collectors observed the participant at his worksite for less than 1 hr at a time. Results indicated that all three customer service phrases (i.e., greeting phrase, service phrase, and closing phrase) increased after watching the video models. While the results of this study were promising, only

one participant was making it challenging to generalize that video modeling was beneficial for other employees with disabilities in the workplace. This study also did not include any follow-up data once the video modeling intervention was terminated. The success of this study does imply that social skills training should be considered in secondary transition coursework and that the use of EBPs, such as video modeling, can help to achieve desired vocational goals for students with disabilities (Bross et al., 2019).

One year later, Bross and colleagues (2020) replicated their previous single-case, multiple baseline across behaviors design to evaluate the effects of a video modeling intervention on the customer service skills of young adults with autism. This study had five participants ages 18 to 26, two who were competitively employed, and three who were participating in work-based learning. All participants were working in the community, three participants were competitively employed while two participants were still in high school and engaged in work-based learning. Participants were shown a video model of the three customer service phrases while at their job site, and data collectors checked for understanding. Results indicated that video modeling was effective in enhancing the quality of interactions with customers. While all participants made growth throughout this study, it should be noted that mastery criteria had to be adjusted for one participant due to the nature of the job and the small amount of time he spent with the customer. One limitation of this study was that the data collectors were familiar to the participants, and their presence may have contributed to improved work performance. Another limitation is that the customer service phrases (i.e., greeting, service phase, and closing phrase) were nuances and specific to each participant's job task, which may hinder participants' ability to generalize. Positive results of this study suggest that video modeling is one way to teach workplace social skills. Employers may benefit from training on how to film and edit video models as a training

technique for all employees. Researchers noted that transition professionals may work to improve job satisfaction for employees with autism by emphasizing relationships between employees with autism, coworkers, and supervisors (Bross et al., 2020).

To determine the effectiveness in vocational education, Whittenburg and colleagues (2022) conducted a single-case, multiple baseline across participants design to investigate the effectiveness of an intervention package including behavioral skills training, video modeling, and in situ training, to teach workplace conversational skills. Researchers recruited four, 21-year-old students with autism who were participating in a community-based internship. Researchers conducted the intervention at the participants' program site (a midsized military installation that housed Project SEARCH), which is not where the participants were working. The video models used in this intervention package were used to teach how to interact appropriately with coworkers. Data collectors scored the participants' mock conversation accuracy based on a 10-item task analysis. Results indicated an increase in skill accuracy in authentic settings. While the study displayed positive results, one limitation of this study was that two participants only had two intervention sessions with mock conversations, not authentic, natural conversations. Another limitation of this study was that participants were taught to engage in three exchanges per conversation, so even if a conversation went longer, only the first three exchanges were scored. The positive results of this study suggest this intervention package is potentially beneficial for students with autism working in a community-based setting (Whittenburg et al., 2022).

While these video modeling interventions show promise, it should be noted that all video models were used to teach social skills related to work tasks. Each video model was made to fit the needs of the employees and their specific work tasks.

Current Research Impact

While research in the field of employment-related social skills training exists, there is still a need for more research to support the need for workplace social skills training. Researchers have determined that many challenges for prospective employees with disabilities are often associated with the person with a disability (Bury et al., 2020; Kochman et al., 2017). It has also been suggested that educators are not teaching students with disabilities social skills essential in the workplace (e.g., seeking out instructions, needing immediate attention, notifying a supervisor when assistance is needed, responding to critical feedback) (Argan et al., 2016). This provides an opportunity for the development of a line of research that focuses on teaching workplace social skills to students with disabilities as they transition into adult life. While the challenges and barriers of employment for job seekers with disabilities are vast, it was suggested that changes should take place for employers and coworkers without disabilities. Kochman and colleagues (2017) suggest that the next step in research may include workplace, social skills training, and awareness for employees with disabilities so that all employees can work together and support each other.

Researchers have examined different ways to teach these employment-related social skills in the classroom, including self-determination and social skills (Bross et al., 2019, 2020; Dean et al., 2021; Herrick et al., 2022; Murray & Doren, 2013; Shogren et al., 2018; Whittenburg et al., 2022). Research shows that there was a positive impact on methods to teach employment-related social skills, including the use of curriculums and video modeling (Bross et al., 2019, 2020; Whittenburg et al., 2022). This shows the promise and need for continued research to determine the best practices and different ways that students with disabilities can be

prepared for postschool employment and what social skills can be taught in the classroom or school-supported employment settings.

Summary

In conclusion, researchers have highlighted both challenges and barriers to employment for job seekers with disabilities (Argan et al., 2016; Bury et al., 2020; Kochman et al., 2017). While some of the perceived challenges are related to work tasks, many are focused on both social skills of the person with a disability as well as what others perceptions regarding their competency (Agran et al., 2016; Bury et al., 2020; Kochman et al., 2017). More barriers are perceived by supervisors and human resources managers than by those with disabilities (Bury et al., 2020; Kochman et al., 2017). These findings promote the need for additional research into ways to prepare job seekers with disabilities for the workforce. One way that job seekers with disabilities can be prepared for the workforce include being provided with social skills training.

Social skills are behaviors and attitudes that facilitate communication and cooperation. These may include but are not limited to social conventions, social problem solving, body language, speaking, listening, responding, verbal, and written communication (Rowe et al., 2015; Test et al., 2009). While soft skills are used to ask for assistance, request an additional explanation, and other job-related questions, the idea of small talk, and conversation to get to know your coworkers and build relationships seems to be missing from the literature. Small talk in the work setting is often informal and nonserious (Coupland, 2003). The ability to participate in small talk may help to further a person's career (Kyllonen, 2013). Research has determined that soft skills, including the ability to hold conversations with coworkers, promote the ability of someone to fit in and work which is critical to job retention (Kinoshita et al., 2013). Therefore, future research should use successful practices that are determined by the research (i.e., video

modeling, self-determination training, visual supports) to teach skills imperative to employment attainment and retention (i.e., social skills such as small talk). Subsequently, I will discuss video modeling as a critical component of my intervention.

Video Modeling

One way to teach social skills in the workplace is through video modeling. Video modeling is a type of response prompting that involves recording a video of a multi-step task for an individual to watch and from which to learn (Bross et al., 2020; Rowe et al., 2021). Video modeling is a well-established intervention that has been identified as an EBP for individuals with autism (Bross et al., 2019; Rowe et al., 2021). Video modeling incorporates visual-based modeling to teach an array of skills. By modeling desired behaviors on video in a controlled setting, young adults can learn to memorize, imitate, and generalize the behaviors being taught (Kellems & Morningstar, 2012). Video modeling has numerous advantages including feasibility, flexibility, portability, and ability to be used in a variety of settings (Galligan et al., 2020). Video modeling has been used to teach students with disabilities general employment skills to increase production or job-related tasks with success (Kellems & Morningstar, 2012; VanLaarhoven et al., 2017). To date, few studies involving video modeling have t been used to teach students with disabilities employment-related social skills.

Video modeling has been used to teach individuals with disabilities a variety of skills. It has been shown to hold a young adult's attention and offer the control over the audio (i.e., language, tone) and visual stimuli presented to the young adult (Dowrick, 1991; Kellems & Morningstar, 2012). In 2000, Charlop-Christy and colleagues determined that video modeling resulted in faster skills acquisition and generalization when compared to live modeling for students with autism (Charlop-Christy et al., 2000). Video modeling is a more efficient method

for teaching skills as it requires less time and can be used repeatedly once it is created (Ayres & Langone, 2005; Graetz et al., 2006; Kellems & Morningstar, 2012).

History of Video Modeling

Dating back to 1969, Dr. Albert Bandura and Dr. Peter Dowrick published work on social learning theory, the power of modeling to support learning, and video models to increase positive behaviors. In the early 1970s, video modeling was used to improve the learning of people with development disabilities and has since continued to show positive outcomes in learning appropriate behavior, greetings, answering and asking questions, conversation language, and perspective-talking and self-help skills. Drs. Bandura and Dowrick both pointed out that different types of video may present different benefits for different learners, but that learners may benefit most when they see themselves or someone sharing similar attributes in the video (Preock, 2013).

Types of Video Modeling

Three types of video modeling include video-self modeling, peer video modeling, and point-of-view video modeling. Below brief overview of the three types of video modeling is provided.

Video Self-Modeling

In video self-modeling (VSM) the learner demonstrates the skills being taught in the video. One advantage of this type of video modeling includes the learner viewing themselves accurately to complete the tasks which may increase self-efficacy and establish a model with the greatest degree of similarity to the learner (Mechling, 2005). In 2003, Hitchcock and colleagues reported strong results when VSM was used as an intervention tool for communication, behavior, and academic skills for students with disabilities (Hitchcock et al., 2003). Earlier studies have

supported the use of VSM to increase the communication skills of students with disabilities (Buggey et al., 1991; Sherer et al., 2001).

Point of View Video Modeling

For point-of-view video modeling, recordings are made from the participants' point of view as if the learner were completing the task. This type of video modeling allows someone besides the learner to be featured in the model while the learner can watch the video as it will appear as if they are viewing the task being completed through their eyes. One benefit of point-of-view video modeling is that it saves time on editing that is often associated with self-modeling (Mechling, 2005). In 2002, Shipley-Benamou and colleagues used this type of video modeling to teach students functional skills (e.g., making juice, preparing and mailing a letter, pet care, cleaning a fish bowl, setting a table) and found that participants with two participants completed 100% of the tasks correctly and the third participant completed 94% of the tasks correctly (Shipley-Benamou et al., 2002).

Peer Video Modeling

In peer video modeling, a peer of the learner demonstrates the skills being taught in the video (Marcus & Wilder, 2009). One advantage of peer video modeling is that the learner may be familiar with the peer in the video and less editing may be involved as the peer is completing a known task. In 2001, Sherer and colleagues compared VSM to peer video modeling and found that there was no difference between the two types of modeling (Sherer et al., 2001).

Effective Video Modeling

Next, research that demonstrates the effectiveness of video modeling interventions to teach various skills to students and young adults with disabilities are overviewed with a subsequent section focused on using video modeling to teach work-based related skills. In 1995,

Lasater and Brady conducted a single-case multiple-baseline design across tasks to determine the effects of an instructional package including self-assessment and videotape feedback on task fluency. This study included two participants, ages 14 and 15, with disabilities. One participant was taught how to shave and make a peanut butter and jelly sandwich while the other was taught how to shave and put shirts on a hanger and in a closet. Both participants were then given different generalization tasks. The first participants' tasks were fixing school lunch and washing clothes while the second participants' tasks were putting pants on a hanger and in the closet and making the bed. Results indicated that the video instruction package increased task fluency, decreased task interfering behaviors, and led to generalization.

In 2009, Mechling and colleagues used a single-case multiple probe across behaviors replicated across participants design to teach three fire extinguishing behaviors using video modeling. This study included three participants ages 19 to 21 years old with moderate intellectual disability. The three behaviors taught were (a) scooping and releasing flour; (b) placing a lid on a pot or pan; and (c) using a fire extinguisher. For each of these behaviors, researchers used three different stimuli (i.e., double boiler, stove oven, metal fire pit, etc.) and one novel stimulus (i.e., wok, toaster oven, and metal trash can) in their video models. Results suggest that video modeling was effective in teaching fire extinguishing skills with participants maintaining their skills up to 52 days after the intervention ended.

Mechling and Stephens (2009) used a single-case adapted alternating treatments design to compare cooking skills learned through picture-based cookbooks and video recipes. Four young adults with moderate intellectual disability ranging in age from 19 to 22 years old, participated in this study. Participants were taught via picture-based cookbook how to make hot chocolate, broccoli, or tuna, and were taught via video prompting how to make ravioli, chocolate pudding,

or French fries (ranging from 10-19 steps). Results indicated that video prompting was more effective in teaching self-prompting of cooking skills when compared to a picture-based cookbook.

Next, Mechling and Gustafson (2009) conducted a single-case adapted alternating treatment design with baseline and final treatment phases study to compare the effectiveness of static pictures and video prompting on completion of cooking related tasks. Six high school students, ages 18-22 years old, with moderate intellectual disability, participated in this study. Twenty cooking related tasks were used in this study (i.e., grating cheese, greasing loaf plan, peeling carrots, etc.). While both the static picture cookbook and video models were effective in teaching participants cooking related skills, all six participants showed greater growth when using video prompting.

In 2012, Cannella-Malone and colleagues used a single-case adapted alternating treatment design within a multiple probe across participants design to compare the effects of video prompting with and without error correction on skill acquisition for students with intellectual disability. Three 15-year-old high school students participated in this study. Participants watched video prompts with and without error correction to learn how to sweep and wash a table. Results indicated that participants acquired skills quicker when error correction was used with the video prompts.

In 2014, Mechling and colleagues used a single-case multiple probe replicated across participants design to test the effectiveness of continuous video modeling to teach multi-step home living tasks. Participants included three students with moderate intellectual disability, ages 15-17. Participants were taught to clean an exercise bike, area rug, and kitchen counters using continuous video modeling, where the video continues to play on loop. Findings suggest that

continuous video modeling may be an effective instructional strategy, however, further research needs to be conducted to determine the types of tasks best suited for this intervention.

In the same year, Gardner and Wolfe (2014) conducted a single-case multiple baseline across participants design to determine the effectiveness of point-of-view video modeling with video prompting error correction to teach dishwashing skills. Four students with mild to moderate development disabilities, aged 13-14, participated in this study. Participants were taught how to wash dishes through 16 steps. Results demonstrated the effectiveness of video modeling plus video prompting with error correction (i.e., interrupting the participants' error, reshowing video model, least-to-most prompting hierarchy) in teaching all four participants how to wash dishes.

In 2015, Mechling et al., (2015) used a single-case adaptive multiple treatment design combined with a multiple probe across behaviors design with baseline, comparison, and treatment conditions to compare two different video-based procedures (i.e., visual disappearance of time while the video played and a close-up view of the target step while the video played) for teaching passage of time. Four young adults with intellectual disability, ages 20-21, participated in this study. Participants were taught how to make canned soup and canned pasta, soak a swimsuit and a pan, and use rug shampoo and laundry stain remover using both of the above methods. Results indicated that both video-based methods were effective in making growth for the three participants.

One year later, Cannella-Malone and colleagues (2016) used a multiple-probe across behaviors design to teach students with significant disabilities leisure skills through video prompting, where breaks are incorporated after each step, allowing the participant to attempt completion of one step before moving on to the next. Nine students, ages 14-21, with significant

disabilities participated in this study. Participants were taught a variety of tasks including but not limited to, painting nails, origami, playing darts, and playing basketball with anywhere from 7 to 66 steps. Results suggest that video prompting was effective in teaching leisure skills to young adults with disabilities.

In 2018, Kellems and colleagues conducted a single-case study using an alternating treatment design to determine the effectiveness of static pictures vs. video prompting to teach skills such as throwing a ball, walking backward, performing jumping jacks, washing a mirror, cutting a banana, and brushing teeth. The three participants ranged in age from 12-15 years old and had autism. The findings indicated that while both static pictures and video prompting were effective, video prompting was slightly more effective.

In the same year, Cannella-Malone et al., (2018) used a single-case multiple probe across participants design to evaluate the effects of video prompting across different types of tasks. This study included three participants with severe to profound intellectual disability, ages 18-20. Participants were taught how to make lemonade, fold a shirt, and load a dishwasher by following along with the video prompts. Results demonstrated that while video prompting was effective, differences in tasks might have affected participants' speed of acquisition.

Video modeling has been shown to increase skill and task acquisition for students and young adults with disabilities (Rowe et al., 2021). Video modeling interventions have been used to successfully teach independent leisure, cleaning, cooking, and time management skills (Cannella-Malone et al., 2018; Cannella-Malone et al., 2016; Cannella-Malone et al., 2012; Gardner & Wolfe, 2014; Kellems et al., 2018; Lasater & Brady, 1995; Mechling et al., 2014, 2015, 2009; Mechling & Gustafon, 2009; Mechling & Stephens, 2009). In addition, more research has been conducted on using video modeling to teach vocational skills.

Effective Video Modeling to Teach Vocational Skills

With research supporting the use of video modeling, Kellems and Morningstar (2012) used a single-case multiple probe across behaviors design to evaluate the effects of video modeling on the percentage of independent steps of vocational skills (e.g., cleaning restrooms, vacuuming lobby, cleaning sidewalks, filling out vending machine orders, taking inventory, restocking vending machine, emptying garbage, breaking down boxes) completed correctly for four students with autism in a vocational job placement program. During intervention, participants watched video models on how to clean the bathroom, vacuum, clean outside, take inventory, complete order book, fulfill orders, take out garbage, recycle cardboard, clean display cases, and clean wood wall panels. Results showed both immediate and large gains in completing targeted tasks correctly. In addition, all participants complete tasks independently during the maintenance phase. These results show that video modeling can be an effective tool for employers and educators to teach work-based skills.

Similarly, Van Laarhoven et al. (2017) used a pretest/posttest control group design to evaluate the effects of video modeling on maintaining skills used in vocational settings of six high school students with autism spectrum disorder or other developmental disabilities. Each student was assigned two tasks and their independence with each task was measured. During the intervention, two weeks after the task was first introduced, participants watched video models on their computers where their teacher demonstrated portion prep, cleanup, pan cookies, recycle, and load the dishwasher at the student's workplace. Data indicated that all participants increased by an average of 24% after video modeling.

In 2019, Bross and colleagues used a single-case multiple baseline across behaviors design to evaluate the effects of video modeling on the verbalization of customer service phrases

for one 18 year old boy with Asperger's syndrome. During intervention, the participant watched three videos on a laptop where a coworker with similar job responsibilities demonstrated phrases for greeting a customer, providing a service phrase, and saying goodbye to a customer. Data indicated that immediate improvement in performance following the introduction of video modeling. The participant met mastery criteria for the greeting phrase in four sessions, the service phrase was mastered in two sessions, and the goodbye phrase was mastered in four sessions. Researchers calculated the magnitude of effect by using percentage of nonoverlapping data (PND; dividing the number of data points in the intervention that did not overlap with data points in baseline by the total number of points in the intervention phase). PND for all three phrases was 100%, demonstrating no overlap for any of the behaviors. The participant completed a social validity questionnaire at the end of the study and indicated that the video models were engaging, he enjoyed watching them, and they were helpful. He also indicated that he felt supported at work, liked his job more after the intervention, and wanted to continue working. In addition, the participants' supervisor reported that the intervention was useful in improving the participant’s employment-related social skills.

One year later, Bross and colleagues (2020) replicated their previous investigation of five adults with disabilities. Again, they used a single-case multiple baseline across behaviors design to evaluate the effects of video modeling on the verbalization of customer service phrases. Three participants were competitively employed and two were in a work-based learning program. All five participants were taught via video modeling how to use customer service phrases including a welcome, service phrase, and goodbye. Results showed a functional relation between the video modeling intervention and the verbalization of customer service phrases. Two participants generalized their employment-related social skills to a novel coworker. One participant

generalized their employment-related social skills to a novel coworker and a supervisor. Two participants generalized their employment-related socials to their job coach and were able to maintain all three phases with over 90% accuracy during the two-week follow-up. In addition to the increase in the use of taught phrases, all participants also improved their tone, language, and body language towards customers. Once the intervention was completed, the participants, supervisors, and coworkers/ job coaches completed a social validity questionnaire. Overall, the participants (employees) agreed that the intervention helped them improve their job performance, it was easy to use, the videos helped them remember the customer service phrases to say, and they were engaging. Supervisors and coworkers/ job coaches agreed with the participants and believed that overall, the participants were able to enhance their employment-related social skills.

Similarly, Galligan et al. (2020) used a single-case multiple baseline across participants design to evaluate the effects of video modeling in natural settings via computer, cellphone, or iPad, on work appropriate social skills of high school students with autism. The researchers used video modeling with three high school student-teacher dyads to teach skills including shaking hands, interject appropriately, and asking for help. All video modeling training sessions occurred in the students' high school class, one in a general education setting and two in a special education setting. Data were collected on the percentage of opportunities in which the student demonstrated the targeted skill (e.g., shaking hands, interject appropriately, asking for help) correctly. The student participant had a minimum of five opportunities per observation session (1 hour each week). Results showed that there was an increase in the targeted behaviors. In addition, this increase was maintained even after video modeling was terminated. The participant learning how to interject at an appropriate time did so 80% of opportunities in the first video

modeling session. Following intervention, another participant asked for help an average of 87% of opportunities. For all three participants, this video modeling intervention provided an age-appropriate way to teach social skills and communication (e.g., shaking hands, appropriate interjections, asking for help).

Finally, Park and colleagues (2020) used a single-case multiple probe across behaviors replicated across participants design to evaluate the effects of video modeling on social skills acquisition of three 19-year-old students with intellectual disability. This intervention was conducted in a special education program that taught both vocational and independent living skills. During the intervention, the researchers presented video models and used a system of least prompts (SLP) to teach skills such as offering assistance, responding appropriately to feedback, and asking for clarification when directions were unclear. Results showed that a functional relation exists between video modeling with a system of least prompts and social skill acquisition. All three participants responded verbally on a minimum of four out of five trials for three consecutive sessions for all three behaviors after video modeling. In addition, two of the three participants maintained performance up to 2 weeks after intervention. Once the intervention was completed, the participants completed a social validity questionnaire. The three participants responded positively about their experience of learning social skills in a simulated employment setting using video modeling. The participants teacher reported that learning social skills is important for achieving independence and she is considering using video modeling in the future.

Summary

The above synthesis of research describes the effectiveness of video modeling in teaching various skills (e.g., cleaning, taking inventory, filling order forms, restocking items, recycling,

loading dishwasher, customer service phrases, shaking hands, interjecting appropriately, asking for/ offer assistance, respond to feedback appropriately, ask for clarification) to students and young adults with disabilities. Researchers have been working to find interventions that help prepare students with disabilities for life after school and the independence that comes with it. These studies show that students with disabilities can learn through video modeling and have success in acquiring skills needed for adult life (i.e., cooking, cleaning, time management, vocational, etc.). While success has been shown, there is still a need for additional research on teaching other essential skills, including social skills. The literature using video modeling to teach social skills in the workplace has mainly focused on interactions with customers, but it is also essential that employers learn to successfully interact with coworkers. Research has shown that communicating with coworkers can help further a person's career and attain job retention (Kinoshita et al., 2013; Kyllonen, 2013).

Summary of Strands

Dating back to 1975, legislation has been mandated to support students with disabilities in becoming successful adults as they transition out of the public school system. With such legislation came policy, and with policy came additional research. While legislation was created to help ensure the success of students with disabilities, researchers were charged with determining how to ensure that success. Over time researchers such conducted studies to help ensure that students are being taught the skills they need to be successful in high school. Secondary transition experts have examined predictors of postschool success to do just that (Mazzotti et al., 2016, 2021; Rowe et al., 2021; Test et al., 2009). Studies such as these have helped to determine that involving students with disabilities in secondary transition in career awareness, CTE, occupational courses, paid employment/ work experience, work-study, and

social skills training can help to increase their postschool success (e.g., postschool education, employment, and independent living).

While knowing these predictors are helping to enhance the secondary transition programs across the United States, more research is still needed. While one predictor of postschool success, social skills, is deemed important in improving postschool outcomes for students with disabilities, research mainly focuses on social skills in academic or personal settings. Some studies have focused on teaching social skills in an employment setting (employment-related social skills; Bross et al., 2019, 2020) that focus on employee and customer communication and asking for assistance, but none that have focused on coworker social skills.

Research has concluded that there are many challenges a person with disabilities faces when trying to obtain and maintain employment in competitive settings (Argan et al., 2016; Bury et al., 2020; Kochman et al., 2017). Some of these barriers are perceived by people without disabilities and are related to work task completion and the perceived competence of a person with a disability. One barrier highlighted in research is the perceived lack of social skills that people with disabilities may or may not have (Agran et al., 2016; Bury et al., 2020; Kochman et al., 2017). Given the emphasis on perceived lack of social skills, research must be focused on employment-related social skills training to reduce the barriers to competitive integrated employment for people with disabilities.

One reason employment-related social skills may not be at the forefront of educational research is because of the complexity that comes with social skills training. Social skills are behaviors and attitudes that facilitate interactions and cooperation which may include but are not limited to social conventions, social problem solving, body language, speaking, listening, responding, verbal, and written communication (Rowe et al., 2015; Test et al., 2009). While

employment-related social skills trainings have been conducted to teach customer communication, how to interject appropriately, ask for assistance, ask for clarification, and respond to critical feedback (Bross et al., 2019, 2020; Galligan et al., 2020; Park et al., 2020), communication from coworker to coworker to build relationships seems to missing from the literature. Research has determined that soft skills, including the ability to hold conversations with coworkers, promote the ability of someone to fit in and work which is critical to job retention (Kinoshita et al., 2013). With this in mind, research should be conducted on employment-related social skills to enhance coworker to coworker communication.

One area of research in need of further investigation is using video modeling as it is deemed an effective way to teach numerous skills to students and young adults with disabilities. The research described above highlighted the effectiveness of using video models to teach employment-related skills such as employment-related social skills (Bross et al., 2019, 2020; Galligan et al., 2020; Park et al., 2020). With data indicating that communication with coworkers can help people with disability maintain employment, research needs to be done to determine strategies to teach these employment-related social skills (Kinoshita et al., 2013; Kyllonen, 2013). Therefore, the purpose of this study is to evaluate the effects of video modeling to teach proper coworker social skills in the workplace for young adults with disabilities enrolled working competitively in the community. In the present study we attempt to determine if there is a functional relation between the use of the video modeling and appropriate coworker interactions with students with disabilities.

CHAPTER 3: METHOD

In the following chapter, I will describe the details of my dissertation study including the research purpose and questions, design, and procedures. The purpose of this study was to evaluate the effects of a video modeling and a visual support intervention package on appropriate coworker social skills in the workplace for young adults with intellectual and developmental disabilities (IDD). In this study, I used a single-case, concurrent multiple baseline across behaviors design (Baer et al., 1968; Cooper et al., 2020).

Institutional Review Board

Before beginning data collection and intervention, I elicited approval from the University of North Carolina at Charlotte's Institutional Review Board (IRB) to conduct this study (IRB #22-0720). This approval process included a thorough review of my research topic, participants, procedures, materials for intervention, data collection tools, recruitment materials, and consent-related forms. Informed consent was obtained from all participants or their legal guardians before beginning this study. Since this intervention took place at the participants' worksite, consent was also obtained from the business owner. Permission was obtained from each coworker at the participants' worksite. The coworker consent form included a short explanation of the student and asked if the coworker(s) would be willing to be observed alongside the participant during each work session. Consent forms can be found in Appendix B.

Participants

Participants for this study were two young adults with IDD employed in competitive, integrated work settings. Each participant was assigned a pseudonym (i.e., Kendra, Maya) to ensure anonymity. Participants were recruited through convenience sampling via a local coffee

shop. I met with the owner of a local coffee shop, owned by a former special education teacher, and shared recruitment materials to be given to her employees with disabilities and their families.

Inclusion Criteria

Participants included in this study (a) were between the ages of 18 and 26 years old, (b) diagnosed with a disability as confirmed by parent report, (c) were currently working within the community in an integrated work setting, (d) worked a minimum of two shifts per week, (e) demonstrated a need for intervention focused on social/communication skills to improve coworker interactions, and (f) spoke English. Participants were excluded from participation in this study if they (a) were younger than 18 years old or older than 26 years old, (b) not diagnosed with a disability, (c) not working within the community in an integrated work setting, and (d) worked less than two shifts per week, and/or (e) did not speak English. The integrated work settings also needed sufficient number of coworkers for participants to interact. In addition to a sufficient number of coworkers, the integrated work setting also needed opportunities for social interaction. If participants met all inclusion criteria outlined above, but their job placement did not provide the opportunity for them to interact with coworkers and/or supervisors, then participants would not be eligible for this study.

Kendra

Kendra’s employer shared recruitment materials with her and her mother. Kendra's mother contacted me about participation. Both Kendra’s mother and employer confirmed that they saw a need for social skills instruction at the workplace to enhance future career opportunities. Baseline data were collected to confirm Kendra’s need for social skills instruction (remained below mastery criteria for the first three baseline sessions). After confirming eligibility (Kendra met all inclusion criteria) for the study as well as Kendra's interest, she was

enrolled in the study. At the time of the study, Kendra was 21 years old and identified as a White female with a mild intellectual disability. She had been working at the coffee shop for nearly two years when the study began.

Maya

Recruitment materials were shared with the coffee shop owner to share with possible participants. Maya's mother contacted me about participation. Maya's mother, father, and employer agreed that they saw a need for social skills instruction in the workplace to help enhance future career opportunities. Baseline data were collected to confirm Maya's need for social skills instruction (remained below mastery criteria for the first three baseline sessions). After confirming eligibility (Maya met all inclusion criteria) for the study as well as Maya's interest, she was enrolled in the study. Maya was 23 years old and identified as a White female with moderate autism. She had been working at the coffee shop for one and a half years when this study began.

Setting

All data collection sessions were conducted in a locally owned coffee shop located in a town in the Southeastern region of the United States. The number of customers per day fluctuated based on the day of the week, time of year, and weather. There was an average of two coworkers during both participants' shifts, and it was common for coworkers to begin or end their shift while the participants were working. The coffee shop had two rooms: the first room was where the coffee counter and register were located. The counter and register were located on the left side of the room while the front and right side of the room had stools for customers. There was also a small seating area with two benches and a coffee table across from two supply

closets. Behind the counter and register was a back room for employees only. Through the back room, employees were able to access the drive-thru window.

The second room, the dining area, located to the left of the entrance required one step up to enter. The doorway was big to this room so it could be seen from the first room. The second room had various sized tables and chairs for customers. Social interactions between coworkers and participants took place in various locations of the coffee shop including behind the counter, in the back room, in the dining area, and at the entrance and exit of the shop. Due to the layout of the coffee shop, researchers sat on the stools to the right of the entry door. This allowed researchers to hear and see interactions that occurred behind the counter, near the supply closets, in the dining area, and the outdoor patio while staying out of the way of employees and customers.

Materials

The materials for this study included video models, smartphones or laptops, visual supports, and data collection sheets. I created 12 video models using Photobooth and iMovie on my laptop. All video models included two actors (researcher, interventionist) playing the roles of mock coworkers. Video models were filmed at the participants' workplace both inside and outside as the participants completed tasks at various spaces in the workplace. The video models were filmed at the location to increase generalizability and provide the participants with familiarity in the videos. Each video model was approximately 1 min in length. The video models included the six targeted components: one coworker initiating the workplace social interaction skill; responding with three or more words; and using conventions of conversation, such as engaging with a coworker at an appropriate time (when a coworker is free of distractions to talk); facing the coworker they are speaking to, using an appropriate voice volume (inside

voice); and using an appropriate tone of voice. The four greeting video models demonstrate different ways to greet a coworker (e.g., hi, how are you, hi how was your weekend). The four small talk video models demonstrated different ways to engage in small talk with a coworker (e.g., did you catch the football game last night, did you see there is a taco truck around the corner today). The four goodbye video models demonstrated different ways to engage in a goodbye with a coworker (e.g., I just finished my tasks and am heading out for the day, my ride is here, I'll see you tomorrow).

Participants watched the videos on the interventionists' laptop or smartphone. Participants also were also provided a visual support (see Appendix G) attached to a keychain. The visual support included a clipart image as well as written text that could be used as support for the participants. The visual support keychain was created so that it would be small enough to fit in a pocket. Finally, I used a behavior observation recording form (see Appendix D) and pencils/pens.

Researcher

At the time of the study, I was a third-year doctoral student in the Department of Special Education and Child Development at the University of North Carolina at Charlotte. Before entering my doctoral program, I received a Master's of Art in Teaching in Special Education at The College of New Jersey. I previously taught middle school students with disabilities and worked as a job coach to support transition-aged students in the workplace. In my doctoral program, I worked for the National Technical Assistance Center on Transition: The Collaborative (NTACT:C). My job responsibilities included creating secondary transition resources and materials for teachers to close the research-to-practice gap, conducting online trainings, and participating in secondary transition systematic literature reviews to identify

evidence-based and research-based practices and predictors of postschool success. I served as the researcher for this study and the primary data collector. I trained two second-year and two third-year doctoral students to collect data for the dependent variables (i.e., social skills performance) and secondary measures (i.e., maintenance). During the process I (a) obtained UNC Charlotte IRB approval; (b) recruited participants; (c) obtained consent from participants, businesses, and coworkers; (d) created intervention materials; (e) created data collection tools; and (f) communicated plans and progress with my dissertation committee.

Interventionists

As previously described, two second-year and two third-year doctoral students were trained to serve as the interventionists for this dissertation study. The interventionists' primary roles included assisting in creating the video models to be used and supporting data collection, including the collection of interobserver agreement (IOA) and procedural fidelity data. The interventionists collected IOA data for more than 30% of all baseline, intervention, and maintenance sessions. For Kendra, I collected IOA data for 30.8% of baseline, 50% of intervention, and 62.5% of maintenance sessions. Interobserver agreement was 98.6% (range= 96.7%-100%) for baseline, 97.8% intervention (range= 88.9%- 100%), and 99.6% (range= 98.2%- 100%) for maintenance sessions. For Maya, I collected IOA data for 36.4% of baseline, 66.7% of intervention, and 57.1% of maintenance sessions. Interobserver agreement was 97.8% (range= 94.7%-100%) for baseline, 98.5% (range= 90.9%- 100%) intervention, and 97.7% (range= 90.9%- 100%) for maintenance sessions.

Additionally, the interventionists completed a procedural fidelity checklist for all intervention sessions for more than 30% of all training sessions. I collected procedural fidelity data for 50% of Kendra's sessions and 60% of Maya's sessions. For Kendra, I collected

procedural fidelity on 100% of sessions for greetings, 75% of sessions for small talk, and 40% of sessions for goodbye. For Maya, I collected procedural fidelity on 33.3% of sessions for greetings, 50% of sessions for small talk, and 33.3% of sessions for goodbyes. Procedural fidelity for the intervention and maintenance sessions was 100%.

Data Collection Procedures

During the investigation, I collected data on the percentage of appropriate workplace social interaction components performed across three targeted interactions (i.e., greeting, small talk, goodbye). The components were comprised of (a) emitting the target social interaction (b) responding with three or more words; (c) engaging in targeted response at an appropriate time; (d) orienting body towards coworker; (e) using an appropriate voice volume; and (f) using an appropriate tone of voice. I used event recording to score the occurrence or nonoccurrence of six interaction components across five interaction opportunities and then calculated a percentage by dividing the number of components observed by the total number of components (i.e., 5 opportunities x 6 components = 30) and then multiplying by 100 (Cooper et al., 2020).

I collected data on three different target responses during the study. Each response was targeted for intervention during a single intervention condition (i.e., tier in the multiple baseline across behaviors design) and comprised one of the six scored components. A greeting was defined as a phrase used to welcome or acknowledge a coworker (e.g., Good morning, Alex!). Greetings occurred at the beginning of the participants' shifts or when coworkers started working during the participants' shifts. Small talk was defined as a polite conversation that was not work related (e.g., Are you excited for Halloween?). Small talk occurred throughout the shift when both the participant and their coworker did not have a pressing task to complete. A goodbye was defined as a phrase used to acknowledge the participant or their coworker was leaving (e.g., See

you later, Lizzie). Goodbyes occurred when the participants' coworkers were leaving during the participants' shift or when the participant ended their shift. The remaining five components captured the "appropriateness" of the response. Responding with three or more words was defined as a phrase with three or more words. For example, a participant's response, "I had a good weekend" would be scored as correct but a "Fine" as incorrect. Engaging at the appropriate time was defined differently for each targeted interaction response. For greetings, a correct component was scored if the participant engaged in a greeting upon first seeing a coworker who was free to talk. For small talk, a correct component was scored if the participant engaged in small talk when both they and a coworker were free to talk without any pressing tasks to complete. For goodbye, a correct component was scored if the participant engaged in saying goodbye to a coworker as the participant or coworker was leaving at the end of their shift and was free to talk. The last three components focused on body orientation, voice volume, and voice tone. For body orientation, a correct component was scored if the participant was turned facing in the direction of their coworker while engaging. Voice volume was scored as a correct component if the participant was speaking loud enough so that their coworker could hear them without yelling to the best of their ability. Voice tone was scored as a correct component if the participant spoke as clearly as possible and in a friendly tone while engaging with their coworker.

Prior to the investigation, I trained four secondary data collectors. They were trained to collect both primary and IOA data. Secondary data collectors were provided behavior observation recording forms, visual support key chains, and access to video models. Before secondary observers were exposed to a data collection session, I reviewed the behavior observation recording form with them explaining what would be scored correct and incorrect for

each component. This allowed time for the second observers to ask questions about the layout of the recording form as well ask clarifying questions. Next, the second observers joined me at a data collection session where they would practice using the recording form in vivo. This allowed time for both myself and the second observers to clarify any questions and solidify what was counted as correct and incorrect. Secondary observers received training for both baseline and intervention sessions. Myself and the secondary data collectors used the same fidelity checklist to ensure the following eight steps were followed when implementing the intervention.

Interobserver Agreement

Interobserver agreement (IOA) data were collected on the dependent variable for more than 30% of sessions across all phases of the study for both participants. For Kendra, we collected IOA data on 30.8% of baseline sessions, 50% of intervention sessions, and 62.5% of maintenance sessions. For Maya, we collected IOA data on 36.4% of baseline sessions, 66.7% of intervention sessions, and 57.1% of maintenance sessions. IOA data were used to determine the extent to which two observers reported the same results when observing the same behavior to help ensure that the target behaviors were clearly defined and that measures were consistent, reliable, accurate, and replicable (Cooper et al., 2020). The same process for training the interventionists for the dependent variable was also used. The IOA data collectors were trained by (a) reviewing operational definitions of appropriate workplace social interactions and (b) collecting data alongside the interventionist at the workplace. Observers practiced recording appropriate workplace social skills, comparing behavior observation recording form data, and discussing discrepancies until there was 90% agreement during observation periods. An agreement was recorded if both observers scored an individual component as having occurred or not having occurred. A disagreement was recorded if an individual component was not scored

identically. Percentage agreements were calculated by dividing the number of agreements by the number of agreements plus disagreements multiplied by 100 (Cooper et al., 2020).

Social Validity

In this study, I used three different questionnaires to assess the social acceptability of the intervention and outcomes based on participants', employers', and coworkers' perceptions. The participants responded to four questions and were provided the opportunity to share additional feedback on what they liked and/or disliked about the video models and visual supports. The employer responded to five questions and was provided with the opportunity to share other opinions about the intervention that were not covered in the abovementioned questions. The coworkers also responded to five questions and were provided the opportunity to share any remaining thoughts they had on the intervention and their coworkers' performance.

After the study, participants, employer, and coworkers were given a questionnaire to assess their perceptions of the social importance of behavior change of study participants and the social acceptability of the intervention. The employer and coworkers completed the paper and pencil questionnaire independently and folded up their responses to remain anonymous. One participant completed the paper and pencil questionnaire with the assistance of their employer and the other participant asked the interventionist to read the questions to her as she responded. Additionally, participants were given a 5-point Likert-type rating scale (i.e., 1 = strongly disagree; 2 = disagree; 3= neutral 4 = agree; 5 = strongly agree) to assess their perceptions of the social acceptability of the intervention and the effect on behavior change. See Appendix F for all social validity questionnaires.

Experimental Design

I used a single-case, concurrent multiple baseline across behaviors design to evaluate the effects of a video modeling and visual supports intervention package on appropriate coworker social skills in the workplace for young adults with IDD. This design allowed me to determine if a causal relation existed between a researcher driven intervention and a change in a dependent variable (Kratochwill et al., 2010). This research design is used for interventions designed to improve a minimum of three desirable behaviors by staggering the introduction of interventions across time (Kratochwill et al., 2010; Ledford & Gast, 2018). Through this design, multiple participants can enter the intervention at the same time. Other advantages of this design include its ability to; (a) evaluate intra-participant replication, (b) provide a way to evaluate interventions designed to improve social behaviors that are difficult to establish, and (c) allow researchers to provide intervention for irreversible behaviors (Ledford & Gast, 2018).

Both participants entered three intervention phases (one per behavior) and two maintenance phases for each intervention phase, except for Kendra's last behavior (i.e., small talk), in which she only had phase 1 of maintenance due to time constraints. After baseline data were collected for a minimum of four sessions (i.e., four for Kendra, four for Maya), participants entered their first intervention phase. This decision was determined based on which behavior had data that was the lowest scoring and most stable. Participants stayed in an intervention phase until they met mastery criteria meaning they scored 80% or higher for three data collection sessions before moving into their next intervention phase. Once participants met mastery criteria, they would enter maintenance phase 1 where they only had access to the visual support keychain and not the video models. After each participant scored 80% for three sessions, they moved into

their final maintenance phase for that behavior where they were given no supports. Data were collected in this final maintenance phase until the end of the study.

Data Analysis

I used visual analysis to analyze the dependent variable within and across condition patterns of responding. I considered the following data features; level, trend, variability, immediacy of effect, overlapping data, and consistency of effect (Cooper et al., 2020). Using visual analysis allowed the research team the opportunity to analyze data after each data collection session (Ledford & Gast, 2018). For this study, I used the data from each data collection session that was reported in percentages. I then graphed those results along with the number of possible opportunities for each behavior and then visually analyzed the graphed data. In addition, I graphed how often the participant initiated (one component of the dependent variable) each social interaction across all sessions.

Procedures

Baseline

During baseline sessions, the researchers entered the job site and positioned themselves towards the left of the workspace facing the counter. This allowed the researchers to have a view of the participants while they were working behind the counter and in the dining area. Sitting to the left of the workplace also allowed the researchers to hear most interactions that occurred. Researchers were trained to collect data as unobtrusively as possible. Researchers observed the participants engaging in their typical routines and collected data using the measurement system on any social interactions (greetings, small talk, goodbyes). The observations lasted for 1.5 to 2 hrs, depending on the length of the participant's shift. The researchers did not interact with the participants during baseline sessions. When IOA data were being collected during a baseline

session, both researchers would compare the measurement system to check for agreement once the participant had left the workplace.

Intervention

During intervention sessions, the researcher greeted the participants outside of the workplace or at the entrance and told them that they would be shown a video model that could help them interact with their coworkers. The researcher told the participant what behavior video model would be presented (e.g., small talk), and then directed the participant to choose one video model to watch. Each behavior had four video models to choose from. After the video ended, the researchers presented the participants with a visual support keychain to keep with them (e.g., in their pocket, on a belt loop) during the work shift. The researcher explained to the participant that the visual support keychain could be used to help the participant interact with their coworkers and would be collected by the researcher at the end of the shift. When IOA data were being collected during an intervention session, researchers compared the measurement system to check for agreement once the participant had left the workplace.

Maintenance

Once participants performed 80% of the components across three consecutive sessions, I discontinued the use of the video models, but still provided the visual support key chain. Video models were faded first as the visual support key chain provided less instruction, rather a support if needed. If the participant maintained performance at 80% for three additional sessions, I no longer provided the visual support. This was done to fade out supports so that the participant would not become dependent on having both video models and visual supports (Cooper et al., 2020). I then collected maintenance data using procedures identical to those in baseline sessions.

Procedural Fidelity

Procedural fidelity refers to the successful implementation of an intervention or research as intended (Ledford & Gast, 2014). These data were collected using a checklist to record if each step of the video modeling and visual supports intervention package occurred as intended. The checklist included eight steps the researcher needed to complete with 100% accuracy. The eight steps included: (a) greet participant outside of the workplace or at the entrance, (b) tell participant that they will be shown a video model that can help them interact with their coworkers, (c) data collector opens the Google folder, (d) data collector provides participant the opportunity to choose which video they would like to watch (numerous video models were recorded for each behavior), (e) data collector turns volume up on device to an appropriate level, (f) data collector presses play, (g) once the video is over, the data collector provides the participant with the visual support key chain, and (h) data collector tells participant that the key chain has visual support(s) on it for the participant to keep in their apron pocket that can help remind them how to greet, and/or engage in small talk, and/or say goodbye to coworkers. Participants were told they could use the visual support(s) if they would like, and that the data collector would take the keychain back at the end of the shift. The interventionist scored procedural fidelity for more than 30% of all intervention sessions. For Kendra, I collected procedural fidelity on 100% of sessions for greetings, 75% of sessions for small talk, and 40% of sessions for goodbye. For Maya, I collected procedural fidelity on 33.3% of sessions for greetings, 50% of sessions for small talk, and 33.3% of sessions for goodbyes. Procedural fidelity for the intervention and maintenance sessions was 100%. Procedural fidelity IOA was calculated by dividing the number of procedural steps completed correctly by the total number of steps, multiplied by 100 (Cooper et al., 2020).

CHAPTER 4: RESULTS

Results of this study are presented in this chapter. Data collection, interobserver agreement, implementation fidelity, and social validity information can be found below.

Interobserver Agreement

I trained four additional data collectors who also served as secondary observers (i.e., second-year doctoral students, and third-year doctoral students) to collect data on dependent variables, procedural fidelity, and IOA. Observers collected IOA data using the same measurement system as the primary data collector (see Appendix D) and coded independently (Cooper et al., 2020). We collected IOA data for a minimum of 30% of baseline, intervention, and maintenance sessions.

I collected IOA data on 45.79% (range = 30.76%–66.67%) of all sessions. For Kendra, I collected IOA data for 30.77% of baseline, 50% of intervention, and 62.5% of maintenance sessions. Interobserver agreement was 98.39% (range= 96.67%-100%) for baseline, 97.44% intervention (range= 88.89%- 100%), and 99.61% (range= 98.61%- 100%) for maintenance sessions. For Maya, I collected IOA data for 36.36% of baseline, 66.67% of intervention, and 57.14% of maintenance sessions. Interobserver agreement was 97.75% (range= 94.74%-100%) for baseline, 98.61% (range= 91.67%- 100%) intervention, and 97.61% (range= 91.67%- 100%) for maintenance sessions.

Procedural Fidelity

The same observers (second-year doctoral students, third-year doctoral students) also collected procedural fidelity data on a minimum of 30% of intervention and maintenance sessions. The secondary observers used a researcher-developed fidelity checklist for intervention and maintenance sessions (see Appendix E). Procedural fidelity IOA was calculated by dividing

the number of procedural steps completed correctly by the total number of steps and multiplying by 100.

I collected procedural fidelity data for 50% of Kendra's sessions and 60% of Maya's sessions. For Kendra, I collected procedural fidelity on 100% of sessions for greetings, 75% of sessions for small talk, and 40% of sessions for goodbye. For Maya, I collected procedural fidelity on 33.33% of sessions for greetings, 50% of sessions for small talk, and 33.33% of sessions for goodbyes. Procedural fidelity for the intervention and maintenance sessions was 100%.

Results for Research Question 1: Is there a functional relation between using a video modeling and visual support intervention package and appropriate coworker workplace social interactions for young adults with disabilities?

The dependent variable in this study was the participants' social interactions. To measure social interactions, the research team collected data on six components of social interactions (i.e., initiation, response of three or more words, engage at an appropriate time, body oriented towards coworker, appropriate voice volume, and appropriate tone of voice). Figures 2 and 3 depict the participants' overall social skills performance. The participants' performance was calculated by taking the total number of targeted components emitted and dividing it by the total possible number of target components and then multiplying by 100. Figures 4 and 5 depict the percentage of interactions the participants initiated. This was calculated by dividing the number of times the participants initiated one of the three behaviors divided by the total number of opportunities they had, multiplied by 100.

Overall, Kendra and Maya both continued to increase their social skills throughout the study with an increase after the introduction of the intervention. Both participants demonstrated

an immediacy of effect during their first intervention phase (i.e., goodbyes). Participants also showed continued growth towards the desired outcome during maintenance phases.

Kendra

Goodbye. During baseline sessions, Kendra's performance was relatively stable. She emitted between seven and 14 components per session, averaging 61.81% (range= 58.33%-66.67%) of targeted components during her first four sessions. Following the introduction of intervention, her performance immediately increased to 75% of components during sessions five, six, and seven, and then rose to 83.33% during sessions eight, nine, and ten, demonstrating an immediacy of effect. During baseline sessions, Kendra initiated goodbyes an average of 54.54% (range= 0%-66.67%) during sessions one through four of presented opportunities. Following the introduction of intervention at session five, her performance increased, and she initiated goodbyes an average of 75% (range= 0%-100%) of the time, initiating goodbyes 100% of presented opportunities during sessions six, eight, and nine.

Greeting. During baseline sessions, Kendra's performance was relatively stable with a gradually increasing trend, emitting between five and 13 components per session, averaging 73.06% (range= 50%-83.33%) of desired components during sessions one through 10. Following the introduction of intervention, during sessions 11-13 her performance increased to an average of 92.59% (range= 83.33%-100%) of desired components for three consecutive sessions. During baseline sessions, Kendra initiated greetings 48.33% (range=0%-100%) of the time, following the introduction of intervention, and she initiated greetings 83.33% (range= 50%-100%) of the time.

Small talk. During baseline sessions, Kendra's performance gradually increased emitting between eleven and twenty-nine components per session, averaging 79.71% (range= 63.33 %-

96.67%) over 13 data sessions of desired components. Following the introduction of intervention, her performance increased to an average of 90.21% (75%-96.67%) during sessions 13-17. During baseline sessions, Kendra initiated small talk 59.48% (0%-100%) of the time, following the introduction of intervention, her performance increased on average, but remained unstable, as she initiated small talk 71.25% (range 50%-80%) of the time.

Maya

Goodbye. During baseline sessions, Maya's performance was consistent at 66.67% of desired components during sessions one through four. Following the introduction of intervention, her performance immediately increased during session eight to 88.33%, averaging 91.67% (range= 83.33%-100%) during sessions eight, nine, and ten, demonstrating an immediacy of effect. During baseline sessions, Maya initiated goodbyes 25% (range= 0%-50%) of the time, following the introduction of intervention, her performance again immediately increased, and she initiated goodbyes 80% (range= 50%-100%) of the time.

Small talk. During baseline sessions, Maya's performance was stable, emitting between five and twenty-two components per session, averaging 72.14% (range= 66.67%-75%) of desired components during sessions one through seven. Following the introduction of intervention, her performance increased to an average of 89.58% (range= 75%-100%) during sessions eight through 11. During baseline sessions, Maya initiated small talk 50% (0%- 66.67%) of the time, following the introduction of intervention, her performance at first decreased during sessions eight and nine to 0% but then increased to 100% during sessions 10 and 11, as she initiated small talk 50% (range= 0%-100%) of the time.

Greeting. During baseline sessions, Maya's performance was relatively stable with a gradually increasing trend that leveled out after six sessions, emitting between five and 15

components per session, averaging 71.67% (58.33%- 83.33%) of desired components during sessions one through 11. Following the introduction of intervention, her performance increased immediately to 91.67% during session 12 and remained at an average of 91.67% during sessions 12-14. During baseline sessions, Maya initiated greetings 55% (range= 0%-100%) of the time, following the introduction of intervention during sessions, her performance stayed at 100% during session 12 but dropped to 0% during sessions 13 and 14.

Results for Research Question 2: Are participants able to maintain their workplace social interactions when interacting with coworkers at the job site?

Two phases of maintenance were used to determine if participants were able to maintain their workplace social interactions as supports were faded. This process was individualized for each participant and based on their performance. Once participants met mastery during intervention for one behavior (80% or higher for three sessions), they entered the first phase of maintenance. During this phase, the participants were provided access to visual supports but no longer had access to the video model for this behavior. Once participants maintained their skills at 80% or higher for three sessions (using the same measurement system from baseline and intervention), they moved into the second maintenance phase. During this phase, participants were no longer provided any supports (i.e., visual supports, video models) and data were collected until the study concluded.

Kendra

Goodbye. During phase 1 of maintenance, Kendra's performance was relatively stable averaging 88.87% (range= 83.33%-100%) of desired behaviors during sessions 11, 12, and 13. Following withdrawal of the visual support during session 14, her performance during phase 2 decreased but remained relatively stable averaging 82.85% (range= 72.22%-91.67%) for sessions

14-19. Kendra initiated goodbyes for 100% of phase 1 of maintenance during sessions 11, 12, and 13. She initiated goodbyes for 100% of phase 2 of maintenance apart from session 16 where she only initiated one out of three (33.33%) of goodbyes.

Greeting. During phase 1 of maintenance, Kendra's performance was relatively stable averaging 100% of desired behaviors during sessions 14, 15, and 16. Following withdrawal of the visual support during session 17, her phase 2 performance remained stable at 100% but decreased over the next two data sessions, averaging 92.59% (range= 83.33%- 100%). Kendra initiated 100% of greetings during phase 1 of maintenance during sessions 14, 15, and 16. During phase 2 of maintenance, her performance varied starting at 100% during session 17, decreasing to 66.67% during session 18, and later increasing to 100% during session 19 with an overall average of 88.89% (range= 66.67%- 100%).

Small talk. During phase 1 of maintenance, Kendra's performance was relatively stable with a slightly increasing trend, averaging 98.4% (range= 96.7%- 100%) of desired behaviors during sessions 18 and 19. Kendra initiated 100% of small talk during phase 1 of maintenance during sessions 18 and 19. The study had concluded before Kendra had the opportunity to move into phase 2 of maintenance.

Maya

Goodbye. During phase 1 of maintenance Maya's performance immediately decreased to 88.33% during session eight, then increased to 91.67% during session nine, and 100% during session ten, averaging 91.67% (range= 83.33%-100%) of desired behaviors. Following withdrawal of the visual support during session 11, her phase 2 performance was variable averaging 89.58% (range= 75%- 100%) for eight sessions. Maya initiated 83.33% (range= 50%-100%) during phase 1 of maintenance. While during session eight, she only initiated 50% of

goodbyes, she increased to initiating 100% of goodbyes for sessions nine and ten. She initiated goodbyes for 81.33% (range= 0%- 100%) of phase 2 of maintenance during sessions 11-18. During sessions 11 and 12, the first of phase 2, she initiated goodbyes 100% of the time, but her performance decreased to 0% during session 13 but then increased back to 100% for sessions 14, 15, 16, and 17.

Small talk. During phase 1 of maintenance, Maya's performance increased to 100% during session 12 but then decreased to 83.33% during sessions 13 and 14. Overall, she averaged 88.89% (range= 83.33%- 100%) for three consecutive sessions. Following withdrawal of the visual support, her phase 2 performance had a slightly decreasing trend averaging 94.31% (range= 88.89%- 100%) during sessions 15, 16, 17, and 18. Maya initiated 100% of small talk during phase 1 of maintenance for sessions 12, 13, and 14. Her phase 2 of maintenance performance was more variable as she initiated small talk for 79.17% (range=50%- 100%). During her first session in phase 2 of maintenance, she initiated 100% of greetings but her performance dropped to 50% and 66.67% during sessions 16 and 17, it later increased to 100% during session 18.

Greeting. During phase 1 of maintenance, Maya's performance was relatively stable averaging 97.22% (range= 91.67%- 100%) of desired behaviors for three consecutive sessions. Following withdrawal of the visual support, her phase 2 performance was 100% during session 18, her only phase 2 session. Maya initiated greetings 93.33% (range= 80%-100%) during phase 1 of maintenance. While she initiated 80% of greetings during session 15, her performance increased, and she initiated 100% of greetings during sessions 16 and 17, averaging 93.33% of initiations. She initiated greetings 100% of phase 2 of maintenance during session 18.

Results for Research Question 3: What are the participants, coworkers/employers' perceptions of the goals, procedures, and outcomes of this study?

At the conclusion of the study, participants, coworkers, and employer were asked to complete a four to five-question Likert-scale survey about their perceptions of the goals, procedures, and outcomes of this study. The survey respondents also were invited to share other feedback they found important about their experience with the study. All surveys were anonymous and conducted via pencil and paper. Survey respondents folded their papers upon completion to conceal their responses and maintain anonymity.

Participants were asked four questions using a five-point Likert-scale rating system (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree). These questions focused on their perceptions related to the helpfulness of the video models, visual supports, and comfortability work. Participants also were provided the opportunity to share additional feedback including what they did and did not like about viewing the video models and using the visual supports keychain while at work. Table 1 reflects the responses of both participants. In addition to these responses, participants also shared what they liked and disliked about both the video models and visual supports.

Kendra

Kendra's responses to the survey indicated that she agreed that the video models were helpful and that she liked watching the video models on a laptop or smartphone. She strongly agreed that the visual supports helped her remember to talk to her coworkers. Kendra also agreed that she felt more comfortable talking to her coworkers after viewing video models and being provided with visual supports. She also shared that she liked the short length of the video models and what they demonstrated. When given the opportunity to share what she specifically liked

about the video models Kendra explained that she liked that the video models provided examples of how to talk to her coworkers.

Maya

Maya's responses to the survey indicated that she strongly agreed that the video models were helpful to watch, and she liked watching the video models on a laptop or smartphone. Maya agreed that the visual supports helped her remember to talk to her coworkers and that she felt more comfortable talking to her coworkers after viewing video models and being provided with visual supports. She also shared that she liked that she could keep the visual supports in her apron during her shift.

Employer

The participant's employer also was asked to complete a survey. These questions focused on the perceived effectiveness of the video models and visual supports, employee confidence, and the use of newly learned skills. Table 2 reflects the employer's response. The employer also was provided the opportunity to share additional feedback about their opinions surrounding the study and if they would be willing to conduct this intervention with other employees with disabilities. The employer felt neutral about the video models being helpful for her employees. She agreed that Kendra and Maya benefited from watching video models on two different formats, that Kendra and Maya learned new workplace social skills, and that they used their new skills during their shift. She also agreed that both Kendra and Maya appeared more confident when talking to coworkers.

The employer stated that she found this intervention useful and would be willing to conduct this intervention with other employees with disabilities. She included that she would be interested in using video models to teach other skills such as stocking baked goods and drink preparation (i.e., stocking fridge with milk options, stocking syrups). When asked why she would

conduct this intervention she stated, “Generalization practice of skills is helpful across the board in reference to skill shaping.”

Coworkers

The participants’ coworkers were asked five questions that they had to rank on a five-point Likert-scale. These questions focused on their perceptions of the participants’ social skills, ability to build relationships, comfortability, if parts of the intervention were distracting, and if they thought the intervention would be helpful for other/ future employees with disabilities. Table 3 reflects the coworkers’ responses. All four coworkers who completed the social validity survey agreed they had observed improvements in Kendra and Maya’s social skills and that both participants seemed more comfortable at work after this study. While three coworkers stated that they agreed it is now easier to build relationships with their coworkers, one coworker disagreed. All four coworkers strongly agreed that the visual support keychain was not distracting to the participants. Two coworkers agreed, and two coworkers strongly agreed that using video models to teach appropriate coworker social skills would be helpful for other employees with disabilities.

Coworkers also were provided the opportunity to share additional feedback on the intervention. One coworker stated that she enjoyed having the research team at work because it helped the participants and it was nice to see other ways they could support their coworkers. Another coworker stated that she thought it was cool that all video models were filmed at the business. A third coworker suggested video modeling and visual supports could help the participants and others learn skills they have not maintained yet. A fourth coworker stated that her coworker was able to use what she learned in the video models and through the visual

supports to benefit everyone working, she elaborated, “I also loved the keychain idea because everyone needs a little reminder sometimes.”

Table 1

Results of Participant Social Validity Questionnaire

Questions	Kendra Rating	Maya Rating	Average Rating
Young Adult Social Validity (N=2)			
The video models were helpful to watch.	4	5	4.5
I liked getting to watch the videos on a laptop or smart phone	4	5	4.5
The visual support keychain helped me remember to talk to my coworkers.	5	4	4.5
I feel more comfortable talking to my coworkers at my job.	4	4	4

Note. Based on a 5-point Likert scale. 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

Table 2

Results of Employer Social Validity Questionnaire

Questions	Rating
Employer (N=1)	
The video models were helpful for my employees.	3
My employees benefited from being able to watch video models on different formats (i.e., smart phone, laptop).	4
My employees learned new workplace social skills from using the video models.	4
My employees have been using newly learned social skills with coworkers.	4
My employees appear more confident about attending/ talking to coworkers at work.	4

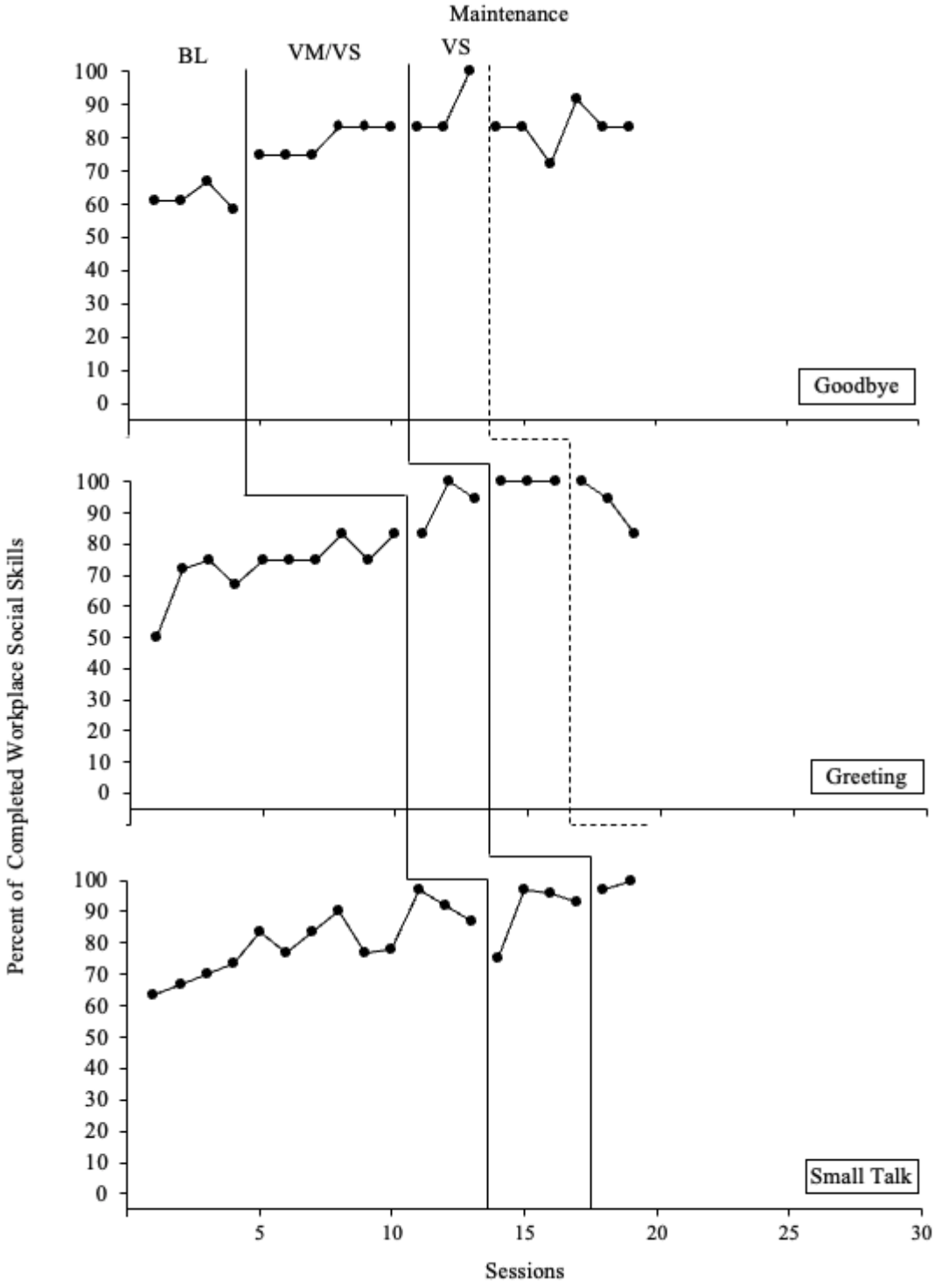
Note. Based on a 5-point Likert scale. 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

Table 3

Results of Coworker Social Validity Questionnaire

Questions	Range of Ratings	Average Rating
Coworkers (N=3)		
I have seen an improvement in my coworker's (the participant's) social skills.	4	4
It is easier for me to build a coworker relationship with my coworkers (the participants) after this study.	2-4	3.5
My coworkers seem more comfortable at work after this study	4-5	4.8
The visual support keychain was not distracting during data collection.	5	5
I think video modeling to teach appropriate coworker social skills would be helpful for other young adults with disabilities who are employed.	4-5	4.5

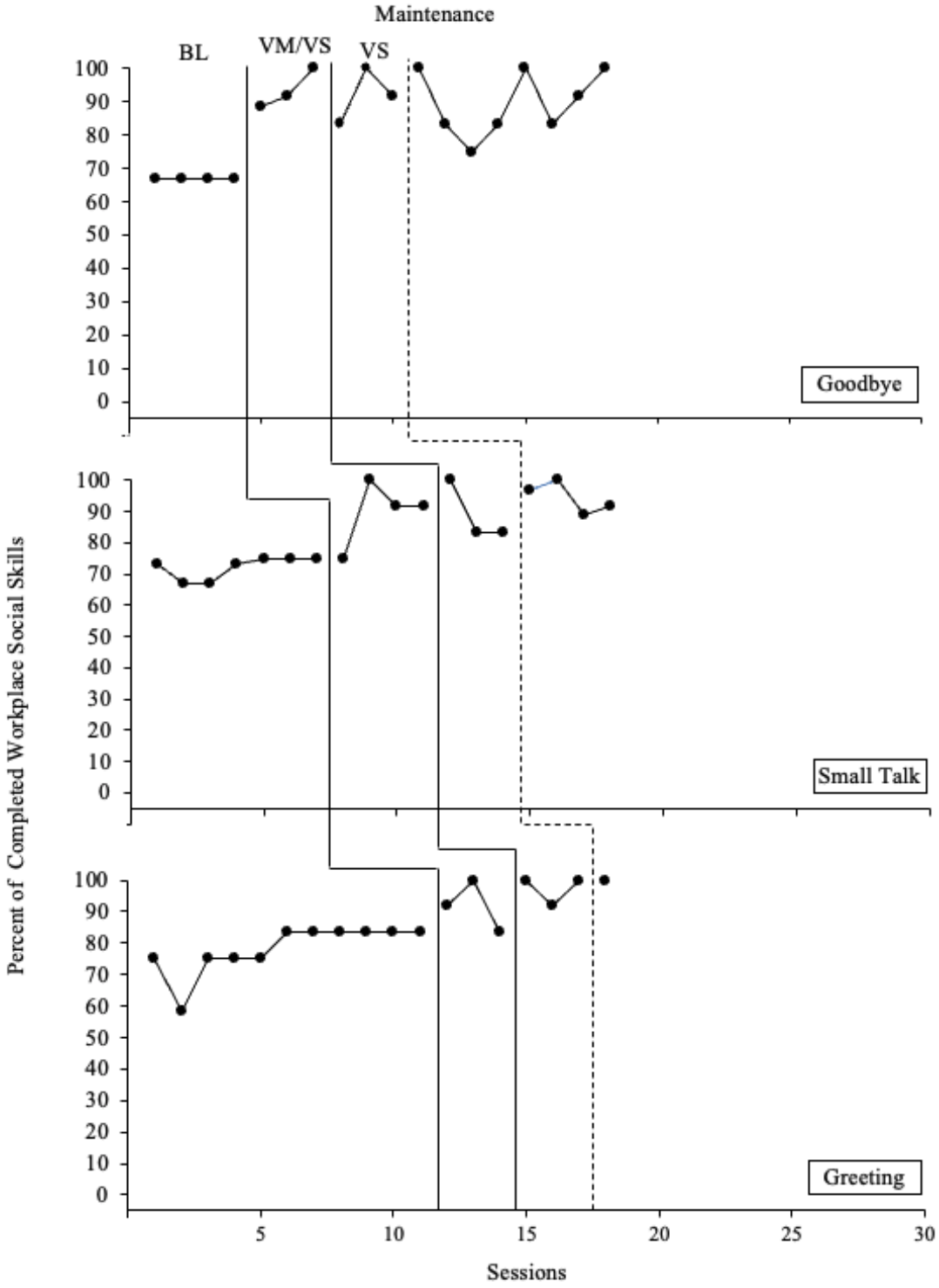
Note. Based on a 5-point Likert scale. 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.



Note. BL = baseline; VM = video modeling; VS = visual supports.

Figure 2

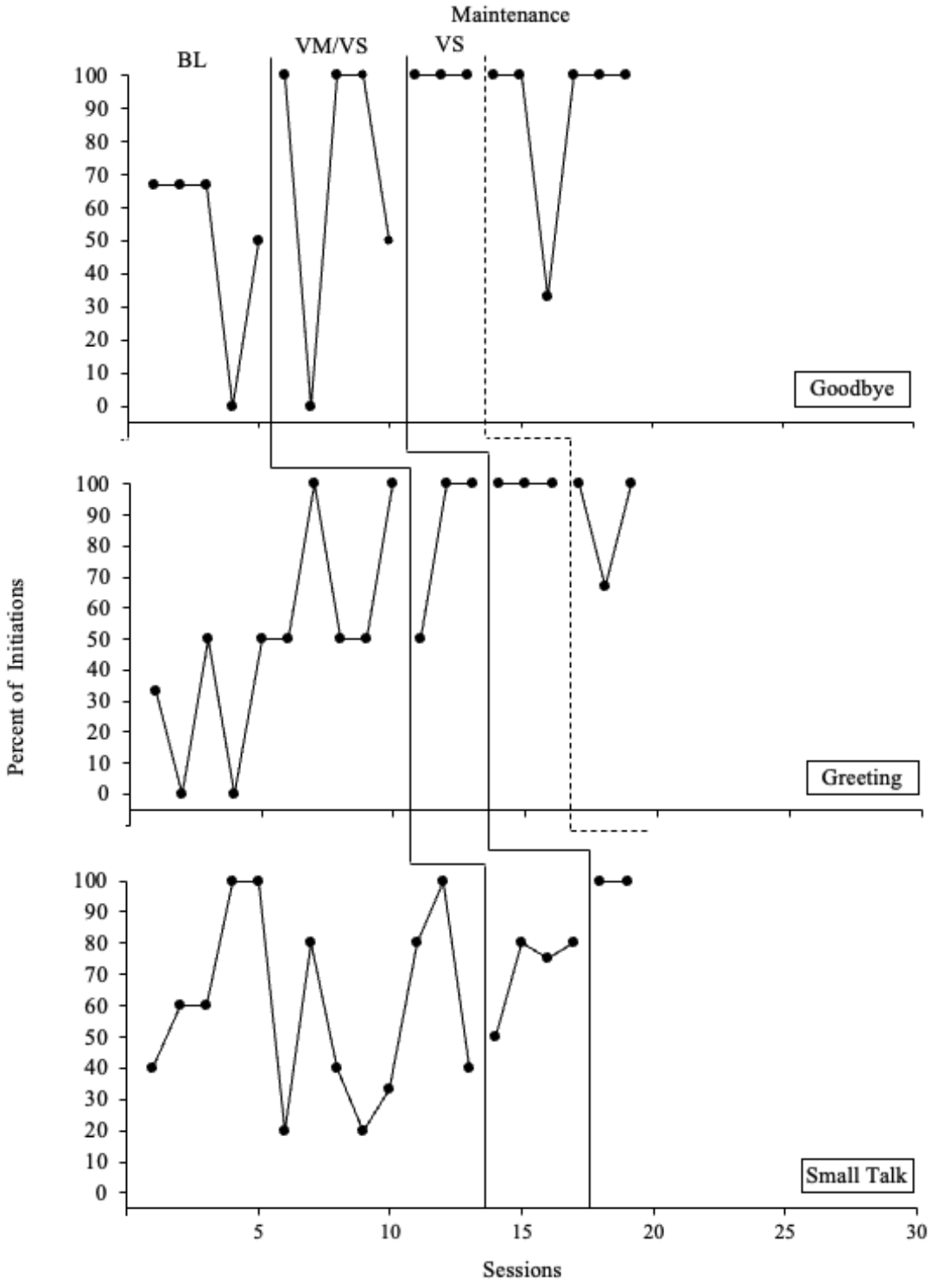
Kendra's Social Skills Performance



Note. BL = baseline; VM = video modeling; VS = visual supports.

Figure 3

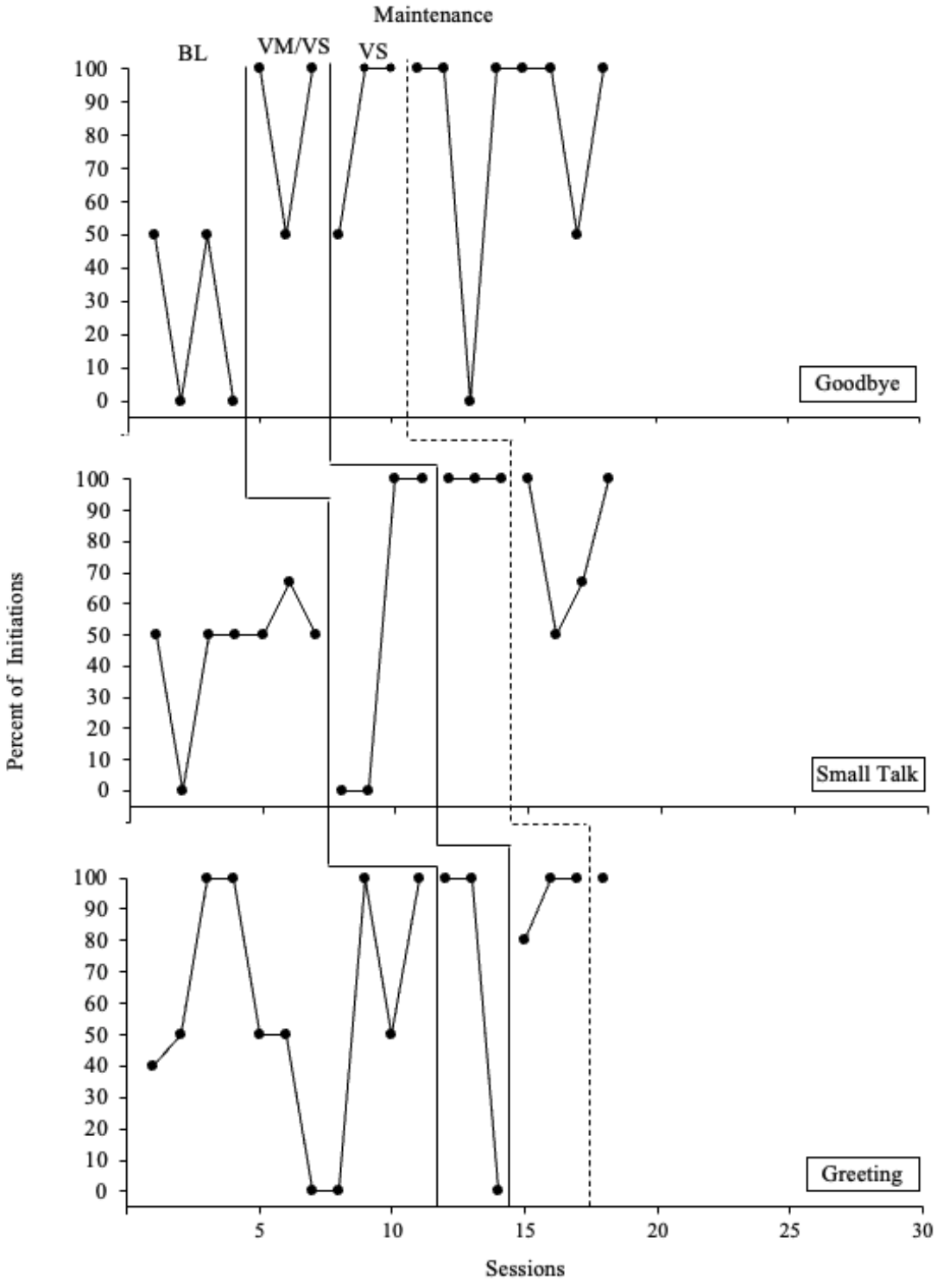
Maya's Social Skills Performance



Note. BL = baseline; VM = video modeling; VS = visual supports.

Figure 4

Kendra's Social Skills Initiations



Note. BL = baseline; VM = video modeling; VS = visual supports.

Figure 5

Maya's Social Skills Initiations

CHAPTER 5: DISCUSSION

Challenges in the effective use of social skills has been identified as a potential barrier to obtaining and maintaining employment (Bury et al., 2020; Kochman et al., 2017; Parker et al., 2018). Unfortunately, they are still often not taught in the classroom (Agran et al., 2016). The purpose of this study was to examine the effects of an intervention package comprised of video modeling and visual supports on increasing appropriate workplace social skills for young adults with disabilities. Overall, data indicated that participants made improvements in their targeted social interactions, but that these improvements could not be solely contributed to the intervention. Further, data indicated that participants found the video models helpful and felt more comfortable talking to coworkers. Below, I will discuss detailed outcomes for each research question, overarching themes, limitations, and suggestions for future research.

Discussion for Research Question 1: Is there a functional relation between using a video modeling and visual support intervention package and appropriate coworker workplace social interactions for young adults with disabilities?

Results of visual analysis indicated a clear, functional relation for Maya as there was an increase in overall performance when intervention data was compared to baseline. Once Maya entered intervention for her first and third behavior (i.e., goodbye, greeting) there was an immediate effect with no overlapping data. While Maya's first session of intervention was the same as her final phase of baseline, her performance increased during the following three intervention sessions.

I could not claim a functional relation for Kendra. Visual analysis results indicated an immediacy of effect when introducing intervention to her first behavior (goodbye). Her performance continued to increase and become stable during her six intervention sessions.

During Kendra's baseline conditions for the second and third behaviors (i.e., greeting, small talk), there was a gradually increasing trend prior to the introduction of intervention. This may have occurred due to the shared components of the measurement tool. With each behavior sharing four out of six components, it was likely that growth in one behavior could influence and lead to an increased performance in another behavior. Other factors may have led to the increasing trend during baseline including Kendra's increased comfort with her coworkers as reported in her social validity questionnaire and varied opportunities for social interactions. Based on the positive results of this study and information gathered through social validity surveys, it appears that continuing to teach some predictors of postschool success, such as social skills, can benefit young adults with disabilities coworker social skills.

Since many of the target behavior components were similar across tiers, I examined changes in the initiations of target behaviors (greeting, small talk, goodbye). I found that both Kendra and Maya, on average, increased the number of initiations across all three behaviors. Initiations of behaviors stayed relatively stable and consistent through phase 1 of maintenance.

Predictors of Postschool Success

In the current study, I demonstrated the potential efficacy of a video modeling package in improving social skills for young adults with disabilities in the workplace. Social skills performance has been shown to be related to postschool success and has been deemed as one of the 23 predictors of postschool success through a systematic review of the NLTS-2 secondary data set (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009). In this study, I demonstrated the effectiveness of one instructional strategy (i.e., video modeling and visual support intervention package delivered at the workplace) for teaching essential social skills who have exited high school. While data were not collected over the following two years, this is a

start to looking at the effectiveness of the predictors for young adults with disabilities who are no longer enrolled in school. This intervention was implemented during the participants' typical work shifts, in the natural work setting. Using a video modeling and visual supports intervention package may be one way to continue providing instruction and support on predictors of postschool success outside of the classroom that can aid in closing the gap of postschool success in employment for young adults with disabilities and their like-aged peers.

Social Skills Instruction

This study focused on increasing coworker social interactions and improving relationships between employees with and without disabilities. In this study, social skills were taught at the workplace through video modeling and a visual support intervention package for Kendra and Maya. A strength of this was that I taught participants to emit varied responses instead of single scripts by using a variety of video exemplars. In addition, I also targeted small talk for which there is often not a visual cue (a customer approaching store, counter, etc.) or a requirement (e.g., responding to customer) to evoke engagement. As the participants improved their social skills performance, they learned how to navigate when and how to socially engage without a prompt.

Employment-related Social Skills

In the current study, I demonstrated the potential efficacy of video modeling in improving employment-related social skills. Social skills in the workplace may look different than social skills at school or in a social setting due to the different professional relationships that are present (Jackson, 2005). Therefore, educators should focus on teaching their students to emit workplace social skills under conditions that resemble a work setting. The participants watched video models that provided examples of workplace social skills such as, "Will your schedule change

once you start school again?". Previous studies (e.g., Gilson & Carter, 2016) have focused on prompting social interactions with coworkers (e.g., asking for help, other job-related interactions). This study solely focused on social skills that were not task-specific, as the targeted skills could be transferred to other settings. For example, if one of the participants asked for help, that did not count as a social interaction as this study focused on breaking down barriers to building relationships in the workplace. This study may demonstrate a successful way to bridge the gap between what is learned in school and what is expected of employees when they enter the workplace.

Discussion for Research Question 2: Are participants able to maintain their workplace social interactions when interacting with coworkers at the job site?

Results of visual analysis indicate that both participants maintained their workplace social interactions when interacting with coworkers at the job site. In the current study, I gradually faded intervention components in two intervention phases. Fading supports is beneficial to the learner as they do not become overly dependent on the provided support (Cooper et al., 2020). In the first maintenance phase, the participants still had access to visual supports while they no longer had access to the video models, in the second maintenance phase, the participants did not have access to any supports. Due to time constraints, both phases of maintenance session data were collected for all three behaviors for Maya, but only for two behaviors for Kendra (i.e., greetings and goodbyes), only phase 1 maintenance data were collected for small talk. Both participants maintained their social skills performance at an average of 80% across all three behaviors.

Not all previous studies collected maintenance data (Bross et al., 2019; Galligan et al., 2020; Van Laarhoven et al., 2017). Those that did (Bross et al., 2020; Kellems & Morningstar,

2012; Park et al., 2020) collected maintenance data for one to five sessions and did not fade supports, rather they removed the intervention altogether. In the current study, maintenance data were collected for Kendra on six sessions for greetings (three in phase 1, three in phase 2), two sessions for small talk (phase 1), and nine sessions for goodbyes (three in phase 1, six in phase 2). Maintenance data were collected for Maya on four sessions for greetings (three in phase 1, one, in phase 2), seven sessions for small talk (three in phase 1, four in phase 2), and 11 sessions for goodbye (three in phase 1, 8 in phase 2). Both Kendra and Maya maintained performance at mastery levels (80% or above) for three consecutive sessions during phase 1 of maintenance (not including small talk for Kendra, as the study was discontinued) and then had all supports removed for phase 2 of maintenance. Due to their performance, a two-stage withdrawal of intervention components may not have been necessary. Removing the additional layer of fading supports may make this intervention more practical for practitioners who are working with young adults with disabilities to improve workplace social skills.

Discussion for Research Question 3: What are the participants, coworkers/employers' perceptions of the goals, procedures, and outcomes of this study?

Participants

At the conclusion of this study, both Kendra and Maya completed a social validity questionnaire. Using a five-point Likert-scale, both participants rated how they felt about watching the video models, using the visual support keychains, and their level of comfort with coworkers. The participants agreed (4.5, range= 4-5) that the video models were helpful to watch, they enjoyed watching them on laptops or smartphones, and that the visual support was helpful, similar to previous studies (Bross et al., 2019, 2020; Kellems & Morningstar, 2012; Park

et al., 2020). Both participants agreed (4) that they felt more comfortable talking to their coworkers while at work.

Employer

At the conclusion of this study, the employer completed a social validity questionnaire. Using a five-point Likert-scale, the employer rated their perceived effectiveness of the video model and visual supports as well as their employees' new skills and confidence level. The employer reported feeling neutral (3) that the video models were helpful but agreed (4) that her employees benefited from watching the video models on laptops or smartphones, learned new workplace social skills from using the video models, used newly learned social skills with coworkers, and appeared to feel more confident talking to coworkers while at work. She also stated that she would be willing to conduct this intervention with others in the future.

Coworkers

At the conclusion of this study, four coworkers completed a social validity questionnaire. Using a five-point Likert-scale, the coworkers rated their perceived effectiveness of the video model and visual supports as well as their ability to build relationships, and if they thought this intervention would benefit others in their workplace. The coworkers agreed (4) to have observed an improvement in the participants' social skills. Coworkers' responses ranged from disagree to agree (3.5, range= 2-4) that it was easier to build a relationship with the participants after the study. All coworkers agreed or strongly agreed (4.8, range= 4-5) that the participants seemed more comfortable at work after this study. They all strongly agreed (5) that the visual supports keychain was not distracting. Coworkers' responses ranged (4.5, range= 4-5) from agree to strongly agree that they believed these video models would be helpful to other young adults with disabilities who are employed.

Promoting Postschool Success

In the current study, I provided participants with an intervention package, video models, and visual supports. The video models were shown to the participant at the beginning of their work shift so as to not interfere with other tasks or coworkers. The visual supports were created to be placed on a keychain that would not be cumbersome, but rather small enough to fit in an apron pocket or on a belt loop. As reported by coworkers, these materials did not distract the participant during their shift. This intervention can be viewed as a nonintrusive way to continue social skills training for participants as they enter the workforce, combating one of the barriers adults with disabilities often face when obtaining and maintaining employment (Agran et al., 2016; Bury et al., 2020; Kochman et al., 2017).

Contributions to Lit:

This study adds five contributions to the literature. First, this study addressed the instruction of social skills in a competitive integrated employment setting, where young adults with disabilities were employed. While research shows that social skills interventions are often successful (Rao et al., 2008), many business owners, hiring staff, managers, and human resource employees are reporting that one barrier for employment seeking adults with disabilities is their perceived lack of social skills in the workplace (Agran et al., 2016; Bury et al., 2020; Kochman et al., 2017; Parker et al., 2018). While previous studies have focused on customer social skills (Bross et al., 2019, 2020), social interactions including those related to work (Gilson & Carter, 2016), cooperation and assertiveness (Murray & Doren, 2013), goal attainment, and occupational performance (Dean et al., 2021), and work-related conversations (Lu et al., 2020), this study solely focused on teaching social skills not related to work tasks. This study is important as it

demonstrates one way that employees with disabilities can be taught new skills on-the-job which may help employees with disabilities maintain their postschool employment.

Third, this study adds to the extensive literature on video modeling and more specifically video modeling to teach employment skills focused on coworker communication. While many studies have focused on using video models to teach work tasks (Hayes et al., 2015; Ivey et al., 2015; Mechling & Ayers et al., 2012; Rowe et al., 2015; Spencer et al., 2015), and social interactions with customers (Bross et al., 2018, 2019), this study demonstrates that video modeling also can be used to teach and enhance social interactions with coworkers.

A fourth contribution to the literature is that this study supports video modeling as a feasible workplace intervention (Bross et al., 2019, 2020; Whittenburg et al., 2022). This study further demonstrated that video models can be a low-cost and low-time commitment intervention. These video models were made at the job site in under one hour, filmed on a laptop, edited using free software (iMovie), and then shared with other researchers and participants through Google Drive. This is especially important for teachers, administrators, and other personnel who work with young adults with disabilities as video models are feasible on all budgets and provide the opportunity for customization.

A final contribution to the literature is that this study answers calls for increased intervention research for older learners with autism (Steinbrenner et al., 2020). In 2020, Steinbrenner and colleagues identified several EBPs for students with autism, but noted there were few studies involving older students with ASD. This study adds to the literature by providing additional support for an established EBP for students with autism by extending the literature to young adults with IDD.

Limitations

Despite findings that the intervention resulted in participants' improved performance, they should be viewed with caution and in the context of several limitations. First, my recruitment efforts yielded only two participants. The specificity of my inclusion criteria and the need for employer consent presented challenges to recruitment. Though my research design permitted demonstration of a functional relation across behaviors, additional participants would have provided more intersubject replication and increased the generality of my findings.

A second limitation of this study is related to the generality of my findings. Due to using convenience sampling and the small number of participants, there was a lack of diversity. Both participants identified as the same race and gender and were from the same town. Both participants have been working at this location for one and a half to two years making them familiar with the layout, their coworkers, and tasks. The participants used the same task analysis every day when they got into work that listed their required nine tasks to complete. These tasks included wiping tables, sweeping floors, washing dishes, washing windows, cleaning the bathroom, watering plants, stocking cups, lips, sugar, and napkins, sweeping the patio, and stamping sleeves and bags. Due to the repetition of tasks, both participants were likely comfortable and confident in the performance of daily routines.

A third limitation of this study included participants knowing they were being observed. The Hawthorne Effect, a change in the participants' behavior because they know they are being observed, may have been present as researchers were not employees of the coffee shop (Gast & Ledford, 2018). Participants would start their work shift by watching video models of the researchers at their workplace, associating the researchers with the study. This may have impacted participants' performance.

Additional limitations include the effects of external variables on the participants' acquisition of the skills. The first variable concerns the coworkers' comfort in engaging in conversations with the participants. Naturally, some coworkers may have been more comfortable and/or eager to engage in conversation with participants than others. This could have affected the number of opportunities for the participant to engage in certain behaviors such as small talk. The second variable includes the effects of the changes in customer flow at the location day by day. For example, if the business was busy, this could allow little time for the participants and their coworker to interact socially. Likewise, if the business had few customers and therefore, fewer demands were placed on the employees, this could allow for more time for the participants and coworkers to interact socially.

A final limitation of this study was the measurement system used. While the measurement system accounted for important conventions of conversation, four components were the same across behaviors and some targeted skills were not equal. For example, the measurement system counted a social opportunity whether the participant initiated or responded to a coworker. Those two targeted skills are functionally different and therefore it is difficult to discern from the data which skills were emitted. With four similar components across all three behaviors, it was likely that covariation would occur due to the transferable and generalizable skills being recorded (Ledford & Gast, 2018). Covariation can occur when behaviors are not functionally independent, therefore, tiers that are not yet exposed to the independent variable (video modeling and visual supports), result in a demonstration of effect and can explain why there was growth in performance in baseline before intervention began.

During baseline sessions, participants performed at high levels. Again, data reflected several performance features in addition to the skills targeted in the videos. The scoring of these

additional features across multiple opportunities inflated participants' percentages. Collecting data based on rate or frequency count in addition to removing skills that were acquired before the study began, or only counting an occurrence if those components were present, could aid in reducing inflated scores.

Directions for Future Research

The findings of the current study, highlight several areas in need of future research. In this study, both participants had similar demographics, worked in the same business, and lived in the same town. In the future, researchers should seek out more diverse participants, through multiple recruitment methods, expanding the area in which the study will take place in, expanding age requirements, and broadening disability categories to include. Having more diverse participants can help to increase the opportunity for generalizability. In the current study, the researchers served as video models in the videos, conducted the intervention, and collected data; which may have impacted the study by having the participants know that they were being observed (Hawthorne Effect; Gast & Ledford, 2018). Future researchers should evaluate ways to use natural change agents including coworkers and employers to reduce the possibility of the Hawthorne Effect.

In this study, I used video modeling to improve the social skills of employees with disabilities, but more research is needed on the strategies to teach employees without disabilities to promote social interactions with their coworkers with disabilities. Researchers have indicated that the ability for an employee with a disability to interact socially at work is essential in obtaining and maintaining employment (Kochman et al., 2017). Employers often assume that all prospective employees have already obtained those skills and therefore, do not provide training on expected social skills in the workplace (Butterworth & Strauch, 1994). Therefore, adults with

disabilities can benefit from additional interventions and practices that promote increased social interactions between coworkers with and without disabilities. Previous research has determined that teaching social skills to students with disabilities while in high school increased their postschool outcomes (Mazzotti et al., 2016, 2021; Rowe et al., 2015; Test et al., 2009). This study taught social skills outside of the school setting, implying that social skills intervention could be taught in different settings and created to fit the need in various contexts (i.e., school, work, community). In addition, this study highlighted that young adults with disabilities could improve their social skills repertoire while working alongside natural change agents (ie., coworkers, employer).

Additionally, I coded for initiation, length of response, and conventions of conversation, but future researchers might identify and code other critical social skills to determine where the gaps are in social skills performance for young adults with disabilities. Some critical components that future researchers can code for include social problem solving and body language (Rowe et al., 2015), as well as number of exchanges and length of social interactions.

In this study, I investigated the effects of video modeling and visual supports on social interactions with coworkers but did not assess generalization to others within the workplace. Future researchers may explore whether using video models for coworker social skills provides the participants with the skills to engage socially with customers as well. In addition, future researchers could track participants employment status up to three years after the conclusion of the study to determine employment status and determine the effects of social skills training postschool.

A six-point checklist to collect data on the participants' social interactions was used for this study, while previous research coded whether an interaction occurred (Gilson & Carter,

2016). In addition, Bross and colleagues (2020) used an eight-point checklist collecting data on service phrase, greeting phrase, closing phrase, initiation, and exchange (tone of voice, timing, body language, and verbal language). Future researchers should investigate a different measurement system that would highlight the more challenging social components to master (i.e., number of exchanges, length of interaction, etc.), which may differ based on participant and business.

A final direction for future research includes using video models to teach employers and coworkers how to socially interact with employees or coworkers with disabilities. While the onus is often placed on the individual with a disability to learn new skills, others in the community and workplace should learn how to accommodate others as well. Future researchers should investigate ways to teach and promote inclusion in the workplace to assist in providing workplace settings where all workers are welcomed.

Implications

The findings of this study present several implications for stakeholders. First, while on-the-job social skills training is possible, researchers should carefully consider the social climate at each prospective business. The coffee shop in this study was owned by a former special education teacher who hires young adults with disabilities as employees but also works with the local school district to provide work study opportunities for students with disabilities. The employer works with all employees and students with disabilities to create job tasks analysis and teach skills. Other employees are also taught by their employer how to use the tools (i.e., task analysis, timer, etc.) needed to support all employees and students. Therefore, the level of comfortability and engagement between employees with and without disabilities may be more robust than other settings.

Second, it is important for researchers to carefully consider who will serve as interventionists in social skills training. I served as an interventionist in this study alongside four fellow doctoral students who were part of the research team while other studies utilized natural change agents (Bross et al., 2019, 2020) for video models, reducing the opportunity for the Hawthorne Effect. It may be advantageous to use natural change agents (e.g., employer, coworker) to determine whether the effects of this study could be generalized across implementers.

Finally, researchers, employers, and other stakeholders should consider the number of opportunities provided for employees with disabilities to demonstrate their social skills. In the current study, participants had a range of opportunities (one-five) to engage socially with their coworkers. Results indicate that there was an increase in the participants social skills with such few opportunities, therefore, this intervention might be effective in a range of work environments with varying amounts of opportunities to socially interact.

Summary

In the current study, I examined the effects of an intervention package comprised of video modeling and visual supports on increasing appropriate workplace social skills for young adults with disabilities. Furthermore, I measured social validity of both participants, their employer, and coworkers using surveys. Results showed that the intervention package did have a positive effect on young adults' workplace social skills. While the other participant had gradually increased data in her second and third tier of baseline data, this could have been due to the similarity in target components across all three behaviors. Social validity results were overall positive across participants, coworkers, and the employer. Future research should seek diverse

participants, use natural change agents as part of the intervention, code for a variety of critical social skills, assess generalization, and refine the current measurement system.

REFERENCES

Agran, M., Hughes, C., Thoma, C., & Scott, L. (2016). Employment social skills: What skills are really valued? *Career Development and Transition for Exceptional Individuals*, *39*(2), 111–120. https://doi.org/10.1177/2165143414546741

Agran, M., Salzberg, C. L., & Martella, R. C. (1991). Expectancy effects in social validation methodology: Are there differential expectations for employees with mental retardation? *Research in Developmental Disabilities*, *12*(4), 425–434. https://doi.org/10.1016/0891-4222(91)90036-R

Baer, R. M., Daviso III, A. W., Flexer, R. W., McMahan, R. Q., & Meindl, R. S. (2011). Students with intellectual disabilities predictors of transition outcomes. *Career Development for Exceptional Individuals*, *34*(3), 132–141. https://doi.org/10.1177/0885728811399090

Benz, M. R., Yovanoff, P., & Doren, B. (1997). School-to-Work Components That Predict Postschool Success for Students with and without Disabilities. *Exceptional Children*, *63*(2), 151–165. https://doi.org/10.1177/001440299706300201

Brickey, M. P., Campbell, K. M., & Browning, L. J. (1985). A five year follow-up of sheltered work-shop employees placed in competitive jobs. *Mental Retardation (Washington)*, *23*(2), 67–73.

Bross, L. A., Travers, J. C., Munandar, V. D., & Morningstar, M. (2019). Video modeling to improve customer service skills of an employed young adult with autism. *Focus on Autism and Other Developmental Disabilities*, *34*(4), 226–235. https://doi.org/10.1177/1088357618805990

Bross, L. A., Travers, J. C., Wills, H. P., Huffman, J. M., Watson, E. K., Morningstar, M. E., & Boyd, B. A. (2020). Effects of video modeling for young adults with autism in community employment settings. *Career Development and Transition for Exceptional Individuals*, *43*(4), 209–225. https://doi.org/10.1177/2165143420941488

Buggey, T., Toombs, K., Gardener, P., & Cervetti, M. (1999). Training responding behaviors in students with autism: Using videotaped self-modeling. *Journal of Positive Behavior Interventions*, *1*(4), 205–214. https://doi.org/10.1177/109830079900100403

Bury, S. M., Flower, R. L., Zulla, R., Nicholas, D. B., & Hedley, D. (2021). Workplace Social Challenges Experienced by Employees on the Autism Spectrum: An International Exploratory Study Examining Employee and Supervisor Perspectives. *Journal of Autism and Developmental Disorders*, *51*(5), 1614–1627. https://doi.org/10.1007/s10803-020-04662-6

Butterworth Jr, J., & Strauch, J. D. (1994). The relationship between social competence and success in the competitive work place for persons with mental retardation. *Education and Training in Mental Retardation and Developmental Disabilities*, 118-133.

Cannella-Malone, H. I., & Schaefer, J. M. (2017). A review of research on teaching people with significant disabilities vocational skills. *Career Development and Transition for Exceptional Individuals, 40*(2), 67-78. https://doi.org/10.1177/2165143415583498

Chadsey, J. (2007). Adult social relationships. *Handbook of developmental disabilities*, 449-466.

Cmar, J. L. (2015). Orientation and mobility skills and outcome expectations as predictors of employment for young adults with visual impairments. *Journal of Visual Impairment & Blindness*, *109*(2), 95–106. https://doi.org/10.1177/0145482X1510900205

Connors, E., Curtis, A., Emerson, R. W., & Dormitorio, B. (2014). Longitudinal analysis of factors associated with successful outcomes for transition-age youths with visual impairments. *Journal of Visual Impairment & Blindness*, *108*(2), 95–106. https://doi.org/10.1177/0145482X1410800202

Cooper, J. O., Heron, T. E., & Heward, W. L. (2020). *Applied behavior analysis* (3rd ed.). Pearson.

Council for Exceptional Children's Division of Career Development and Transition Publications Committee (DCDT, June 2013). *Fast facts: Paid employment and work experience*.

Coupland, J. (2003). Small Talk: Social Functions. *Research on Language and Social Interaction*, *36*(1), 1–6. https://doi.org/10.1207/S15327973RLSI3601_1

Daviso, A. W., Baer, R. M., Flexer, R. W., & Meindl, R. (2016). Career and technical education, work study, & school supervised work: How do they impact employment/or students with disabilities? *Journal of Applied Rehabilitation Counseling*, *47*(2), 10–19. https://doi.org/10.1891/0047-2220.47.2.10

Dean, E. E., Hagiwara, M., Shogren, K. A., Wehmeyer, M. L., & Shrum, J. (2022). Promoting Career Design in Youth and Young Adults with ASD: A Feasibility Study. *Journal of Autism and Developmental Disorders*, *52*(6), 2689–2700. https://doi.org/10.1007/s10803-021-05146-x

Dougherty, S. M., Grindal, T., & Hehir, T. (2018). The impact of career and technical education on students with disabilities. *Journal of Disability Policy Studies*, *29*(2), 108–118. https://doi.org/10.1177/1044207318771673

Ellenkamp, J. ., Brouwers, E. P. ., Embregts, P. J. C. ., Joosen, M. C. ., & van Weeghel, J. (2016). Work environment-related factors in obtaining and maintaining work in a

competitive employment setting for employees with intellectual disabilities: A systematic review. *Journal of Occupational Rehabilitation*, *26*(1), 56–69. https://doi.org/10.1007/s10926-015-9586-1

Falco, L. D., & Steen, S. (2018). Using school-based career development to support college and career readiness: An integrative review. *Journal of School-Based Counseling Policy and Evaluation*, *1*(1), 51-67. https://files.eric.ed.gov/fulltext/EJ1264250.pdf

Flexer, R. W., Daviso, A. W., Baer, R. M., McMahan Queen, R., & Meindl, R. S. (2011). An epidemiological model of transition and postschool outcomes. *Career Development for Exceptional Individuals*, *34*(2), 83–94. https://doi.org/10.1177/0885728810387922

Galligan, M. R. L., Suhrheinrich, J., & Kraemer, B. R. (2022). Video modeling for high school students with autism spectrum disorder. *Journal of Special Education Technology*, *37*(1), 126–134. https://doi.org/10.1177/0162643420945594

Gardner, S. J., & Wolfe, P. S. (2015). Teaching students with developmental disabilities daily living skills using point-of-view modeling plus video prompting with error correction. *Focus on Autism and Other Developmental Disabilities*, *30*(4), 195–207. https://doi.org/10.1177/1088357614547810

Gilson, C. B., & Carter, E. W. (2016). Promoting social interactions and job independence for college students with autism or intellectual disability: A pilot study. *Journal of Autism and Developmental Disorders*, *46*(11), 3583–3596. https://doi.org/10.1007/s10803-016-2894-2

Greenspan, S., & Shoultz, B. (1981). Why mentally retarded adults lose their jobs: Social competence as a factor in work adjustment. *Applied Research in Mental Retardation*, *2*(1), 23–38. https://doi.org/10.1016/0270-3092(81)90004-7

Haber, M. G., Mazzotti, V. L., Mustian, A. L., Rowe, D. A., Bartholomew, A. L., Test, D. W., & Fowler, C. H. (2016). What works, when, for whom, and with whom: A meta-analytic review of predictors of postsecondary success for students with disabilities. *Review of Educational Research*, *86*(1), 123–162. https://doi.org/10.3102/0034654315583135

Hitchcock, C. H., Dowrick, P. W., & Prater, M. A. (2003). Video self-modeling intervention in school-based settings: A review. *Remedial and Special Education*, *24*(1), 36–45. https://doi.org/10.1177/074193250302400104

Holzberg, D. G., Clark, K. A., & Morningstar, M. E. (2018). Transition-focused professional development: An annotated bibliography of essential elements and features of professional development. *Career Development and Transition for Exceptional Individuals*, *41*(1), 50-55. https://doi.org/10.1177/2165143417742362

Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education (Dorchester-on-Thames)*, *40*(2), 350–367. https://doi.org/10.1080/03075079.2013.842221

Kellems, R. O., & Morningstar, M. E. (2012). Using video modeling delivered through iPods to teach vocational tasks to young adults with autism spectrum disorders. *Career Development and Transition for Exceptional Individuals*, *35*(3), 155–167. https://doi.org/10.1177/0885728812443082

Kellems, R. O., Rickard, T. H., Okray, D. A., Sauer-Sagiv, L., & Washburn, B. (2018). iPad® video prompting to teach young adults with disabilities independent living skills: A maintenance study. *Career Development and Transition for Exceptional Individuals*, *41*(3), 175–184. https://doi.org/10.1177/2165143417719078

Kochany, L., & Keller, J. (1981). An analysis and evaluation of the failures of severely disabled

individuals in competitive employment. *Competitive employment: New horizons for severely disabiled individuals,* 181-198.

Kinoshita, Y., Furukawa, T. A., Kinoshita, K., Honyashiki, M., Omori, I. M., Marshall, M., Bond, G. R., Huxley, P., Amano, N., Kingdon, D., & Kinoshita, Y. (2013). Supported employment for adults with severe mental illness. *Cochrane Database of Systematic Reviews*, *2013*(9), CD008297–CD008297. https://doi.org/10.1002/14651858.CD008297.pub2

Kocman, A., Fischer, L., & Weber, G. (2018). The Employers' perspective on barriers and facilitators to employment of people with intellectual disability: A differential mixed-method approach. *Journal of Applied Research in Intellectual Disabilities*, *31*(1), 120–131. https://doi.org/10.1111/jar.12375

Kyllonen, P. C. (2013). Soft skills for the workplace. *Change: The magazine of higher learning*, *45*(6), 16-23. https://doi.org/10.1080/00091383.2013.841516

Lasater, M. W., & Brady, M. P. (1995). Effects of video self modeling and feedback on task fluency: A home-based intervention. Education and Treatment of Children, 18(4), 389–407.

Lenz, A. S. (2013). Calculating effect size in single-case research: A comparison of nonoverlap methods. *Measurement and Evaluation in Counseling and Development*, *46*(1), 64–73. https://doi.org/10.1177/0748175612456401

Lipscomb, S., Lacoe, J., Liu, A. Y., & Haimson, J. (2017). Preparing for life after high school: the characteristics and experiences of youth in special education. A Summary of Key Findings from the National Longitudinal Transition Study 2012. In *Policy File*. Mathematica Policy Research.

Lombardi, A. R., Rifenbark, G. G., Hicks, T., Taconet, A., & Challenger, C. (2022). College and career readiness support for youth with and without disabilities based on the national longitudinal transition study 2012. *Exceptional Children*, *89*(1), 5–22. https://doi.org/10.1177/00144029221088940

Lombardi, A. R., Rifenbark, G. G., Poppen, M., Reardon, K., Mazzotti, V. L., Morningstar, M. E., Rowe, D., & Raley, S. K. (2022). Development and validation of the secondary transition fidelity assessment. *Assessment for Effective Intervention*, *47*(3), 147–156. https://doi.org/10.1177/15345084211014942

Lu, W., Oursler, J. D., Herrick, S. J., Durante, A. C., Socha, C. V., & Crisafulli, G. M. (2020). Direct Skills Teaching of Work-Related Conversational Skills for Individuals With Disabilities. *Rehabilitation Counseling Bulletin*, *63*(4), 235–244. https://doi.org/10.1177/0034355219878501

Marcus, A., & Wilder, D. A. (2009). A comparison of peer video modeling and self video modeling to teach textual responses in children with autism. *Journal of Applied Behavior Analysis*, *42*(2), 335–341. https://doi.org/10.1901/jaba.2009.42-335

Mazzotti, V. L., & Plotner, A. J. (2016). Implementing secondary transition evidence-based practices: A multi-state survey of transition service providers. *Career Development and Transition for Exceptional Individuals*, *39*(1), 12-22. https://doi.org/10.1177/2165143414544360

Mazzotti, V. L., Rowe, D. A., Cameto, R., Test, D. W., & Morningstar, M. E. (2013). Identifying and promoting transition evidence-based practices and predictors of success: A position paper of the Division on Career Development and Transition. *Career Development and Transition for Exceptional Individuals*, *36*(3), 140-151.

https://doi.org/10.1177/2165143413503365

Mazzotti, V. L., Rowe, D., Kwiatek, S., Voggt, A., Chang, W., Fowler, C. H., Poppen, M., Sinclair, J., & Test, D. W. (2021). Secondary transition predictors of postschool success: An update for the field. *Career Development and Transition for Exceptional Individuals, 44*(1), 47-64. https://doi.org/10.1177/2165143420959793

Mazzotti, V. L., Rowe, D. A., Sinclair, J., Poppen, M., Woods, W. E., & Shearer, M. L. (2016). Predictors of postschool success: A systematic review of NLTS2 secondary analyses. *Career Development and Transition for Exceptional Individuals, 39*(4), 196-215. https://doi.org/10.1177/2165143415588047

McConaughy, E. K., Stowitschek, J. J., Salzberg, C. L., & Peatross, D. K. (1989). Work supervisors' ratings of social behaviors related to employment success. *Rehabilitation Psychology*, *34*(1), 3–15. https://doi.org/10.1037/h0091703

Mechling, L. (2005). The effect of instructor-created video programs to teach students with disabilities: A Literature Review. *Journal of Special Education Technology, 20*(2), 25–36. https://doi.org/10.1177/016264340502000203

Mechling, L. C., Ayres, K. M., Bryant, K. J., & Foster, A. L. (2014). Continuous video modeling to assist with completion of multi-step home living tasks by young adults with moderate intellectual disability. *Education and Training in Autism and Developmental Disabilities*, *49*(3), 368–380. https://doi.org/10.1007/s10882-012-9284-2

Mechling, L. C., Bryant, K. J., Spencer, G. P., & Ayres, K. M. (2015). Comparison of Methods for Demonstrating Passage of Time when Using Computer-Based Video Prompting. *Education and Training in Autism and Developmental Disabilities*, *50*(1), 56–70.

Mechling, L. C., Gast, D. L., & Gustafson, M. R. (2009). Use of video modeling to teach extinguishing of cooking related fires to individuals with moderate intellectual disabilities. *Education and Training in Developmental Disabilities*, 67-79.

Mechling, L. C., & Gustafson, M. (2009). Comparison of the effects of static picture and video prompting on completion of cooking related tasks by students with moderate intellectual disabilities. *Exceptionality : the Official Journal of the Division for Research of the Council for Exceptional Children*, *17*(2), 103–116. https://doi.org/10.1080/09362830902805889

Mechling, L. C., & Stephens, E. (2009). Comparison of self-prompting of cooking skills via picture-based cookbooks and video recipes. *Education and Training in Developmental Disabilities*, 218-236.

Morningstar, M. E., Bassett, D. S., Kochhar-Bryant, C., Cashman, J., & Wehmeyer, M. L. (2012). Aligning transition services with secondary education reform: A position statement of the Division on Career Development and Transition. *Career Development and Transition for Exceptional Individuals*, *35*(3), 132-142. https://doi.org/10.1177/2165143412454915

Murray, C., & Doren, B. (2012). The effects of working at gaining employment skills on the social and vocational skills of adolescents with disabilities: A school-based intervention. *Rehabilitation Counseling Bulletin*, *56*(2), 96–107. https://doi.org/10.1177/0034355212452614

Newman, L. A., & Madaus, J. W. (2015). An analysis of factors related to receipt of accommodations and services by postsecondary students with disabilities. *Remedial and Special Education*, *36*(4), 208–219. https://doi.org/10.1177/0741932515572912

Newman, L. A., Marschark, M., Shaver, D. M., & Javitz, H. (2017). Course-taking effect on postsecondary snrollment of deaf and hard of hearing students. *Exceptionality : the Official Journal of the Division for Research of the Council for Exceptional Children*, *25*(3), 170–185. https://doi.org/10.1080/09362835.2016.1196445

Orthner, D. K., Jones-Sanpei, H., Akos, P., & Rose, R. A. (2013). Improving middle school student engagement through career-relevant instruction in the core curriculum. *The Journal of Educational Research*, *106*(1), 27–38. https://doi.org/10.1080/00220671.2012.658454

Park, J., & Bouck, E. (2018). In-school service predictors of employment for individuals with intellectual disability. *Research in Developmental Disabilities*, *77*, 68–75. https://doi.org/10.1016/j.ridd.2018.03.014

Park, J., Bouck, E., & Duenas, A. (2020). Using video modeling to teach social skills for employment to youth with intellectual disability. *Career Development and Transition for Exceptional Individuals*, *43*(1), 40–52. https://doi.org/10.1177/2165143418810671

Prelock, P. (2013). Video modeling/Video self-modeling. In: Volkmar, F.R. (eds) Encyclopedia of Autism Spectrum Disorders. Springer, New York, NY. https://doi.org/10.1007/978-1-4419-1698-3_809

Rabren, K., Carpenter, J., Dunn, C., & Carney, J. S. (2014). Actions against poverty: The impact of career technical education. *Career Development and Transition for Exceptional Individuals*, *37*(1), 29–39. https://doi.org/10.1177/2165143414522091

Rao, P. A., Beidel, D. C., & Murray, M. J. (2008). Social skills interventions for children with Asperger's syndrome or high-functioning autism: A review and recommendations.

Journal of autism and developmental disorders, *38*(2), 353-361. https://doi.org/10.1007/s10803-007-0402-4

Roessler, R. T., Brolin, D. E., & Johnson, J. M. (1990). Factors affecting employment success and quality of life: A one year follow-up of students in special education. *Career Development for Exceptional Individuals*, *13*(2), 95-107. https://doi.org/10.1177/088572889001300201

Rojewski, J. W., Lee, I. H., & Gregg, N. (2014). Intermediate work outcomes for adolescents with high-incidence disabilities. *Career Development and Transition for Exceptional Individuals*, *37*(2), 106–118. https://doi.org/10.1177/2165143412473352

Rowe, D. A., Alverson, C. Y., Unruh, D. K., Fowler, C. H., Kellems, R., & Test, D. W. (2015). A Delphi study to operationalize evidence-based predictors in secondary transition. *Career Development and Transition for Exceptional Individuals*, *38*(2), 113–126. https://doi.org/10.1177/2165143414526429

Rowe, D. A., Mazzotti, V. L., Fowler, C. H., Test, D. W., Mitchell, V. J., Clark, K. A., Holzberg, D., Owens, T. L., Rusher, D., Seaman-Tullis, R. L., Gushanas, C. M., Castle, H. Chang, W., Voggt, A., Kwiatek, S., & Dean, J. C. (2021). Updating the secondary transition research base: Evidence- and research-based practices in functional skills. *Career Development and Transition for Exceptional Individuals, 44*(1), 28-46. https://doi.org/10.1177/2165143420958674

Salzberg, C. L., Agran, M., & Lignugaris/Kraft, B. (1986). Behaviors that contribute to entry-level employment a profile of five jobs. *Applied Research in Mental Retardation*, *7*(3), 299–314. https://doi.org/10.1016/S0270-3092(86)80003-0

Shattuck P. T., Narendorf S. C., Cooper B., Sterzing P. R., Wagner M., Lounds J. (2012).

Postsecondary education and employment among youth with an autism spectrum disorder. *Pediatrics*, 129(6), 1042–1049. https://doi.org/10.1542/peds.2011-2864

Sherer, M., Pierce, K. L., Paredes, S., & Kisacky, K. L. (2001). Enhancing conversation skills in children with autism via video technology. *Behavior Modification*, *25*(1), 140–158. https://doi.org/10.1177/0145445501251008

Shipley-Benamou, R., Lutzker, J. R., & Taubman, M. (2002). Teaching daily living skills to children with autism through instructional video modeling. *Journal of Positive Behavior Interventions*, *4*(3), 166–177. https://doi.org/10.1177/10983007020040030501

Shogren K. A., Lee J., Panko P. (2017). An examination of the relationship between postschool outcomes and autonomy, psychological empowerment, and self-realization. *The Journal of Special Education*, 51(2), 115–124. https://doi.org/10.1177/0022466916683171

Simonsen M. L., Neubert D. A. (2013). Transitioning youth with intellectual and other developmental disabilities: Predicting community employment outcomes. *Career Development and Transition for Exceptional Individuals*, 36(3), 188–198. https://doi.org/10.1177/2165143412469399

Sreckovic, M. A., Hume, K. A., & Regan, T. E. (2020). Use of work systems to increase the independence of adolescents with autism spectrum disorder. *Career Development and Transition for Exceptional Individuals*, *43*(4), 240–256. https://doi.org/10.1177/2165143420948766

Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yucesoy-Ozkan, S., Savage, M. N. (2020). Evidence-based practices for children, youth, and young adults with autism. *FPG child development institute*.

Tarlow, K. R., & Penland, A. (2016). *Percentage of Nonoverlapping Data (PND) Calculator*. http://www.ktarlow.com/stats/pnd

Test, D. W., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career Development for Exceptional Individuals*, *32*(3), 160-181. https://doi.org/10.1177/0885728809346960

Tincani, M.**,** Ji, H., Upthegrove, M., Garrison, E., West, M., Hantula, D., Vucetic, S., & Dragut, E. (2023). Vocational Interventions for Individuals with ASD: Umbrella Review. *Review Journal of Autism and Developmental Disorders.* Springer Science and Business Media LLC.https://doi.org/10.1007/s40489-023-00368-4

Trainor, A., Carter, E. W., Karpur, A., Martin, J. E., Mazzotti, V. L., Morningstar, M. E., Newman, L., & Rojewski, J. W. (2020). A framework for research in transition: Identifying important areas and intersections for future study. *Career Development and Transition for Exceptional Individuals*, *43*(1), 5-17. https://doi.org/10.1177/2165143419864551

Uyanik, H., Shogren, K. A., & Blanck, P. (2017). Supported Decision-Making: Implications from Positive Psychology for Assessment and Intervention in Rehabilitation and Employment. *Journal of Occupational Rehabilitation*, *27*(4), 498–506. https://doi.org/10.1007/s10926-017-9740-z

Van Laarhoven, T., Winiarski, L., Blood, E., & Chan, J. M., (2012). Maintaining vocational skills of individuals with autism and developmental disabilities through video modeling. *Education and Training in Autism and Developmental Disabilities*, *47*(4), 447–461. https://doi.org/10.1007/s10803-018-3512-2

Wagner, M. M., Newman, L. A., & Javitz, H. S. (2015). The benefits of high school career and technical education (CTE) for youth with learning disabilities. *Journal of Learning Disabilities, 49*(6), 658–670. https://doi. org/10.1177/0022219415574774

Wehman, P., Hill, M., Goodall, P., Cleveland, P., Brooke, V., & Pentecost Jr, J. H. (1982). Job placement and follow-up of moderately and severely handicapped individuals after three years. *Journal of the Association for the Severely Handicapped, 7*(2), 5-16. https://doi.org/10.1177/154079698200700201

Wehman, P., Schall, C., McDonough, J., Molinelli, A., Riehle, E., Ham, W., & Thiss, W. R. (2013). Project SEARCH for youth with autism spectrum disorders: Increasing competitive employment on transition from high school. *Journal of Positive Behavior Interventions*, *15*(3), 144–155. https://doi.org/10.1177/1098300712459760

Wei X., Wagner M., Hudson L., Yu J. W., Shattuck P. (2015). Transition to adulthood: Employment, education, and disengagement in individuals with autism spectrum disorders. *Emerging Adulthood*, 3(1), 37–45. https://doi.org/10.1177/2167696814534417

Whittenburg, H. N., Xu, Y., Thoma, C. A., Schall, C., & Ham, W. (2022). Effects of behavioral skills training with video modeling and in situ training on workplace conversational skills of students with autism. *Focus on Autism and Other Developmental Disabilities*, 108835762211279–. https://doi.org/10.1177/10883576221127971

Winsor, J., Timmons, J., Butterworth, J., Migliore, A., Domin, D., Zalewska, A., & Shepard, J. (2018). *State data: The national report on employment services and outcomes*. University of Massachusetts Boston, Institute for Community Inclusion.

Wong, C., Odom, S. L., Hume, K. A., Cox, A. W., Fettig, A., Kucharczyk, S., Brock, M. E., Plavnick, J. B., Fleury, V. P., & Schultz, T. R. (2015). Evidence-based practices for

children, youth, and young adults with autism spectrum disorder: A comprehensive review. *Journal of Autism and Developmental Disorders*, *45*(7), 1951–1966. https://doi.org/10.1007/s10803-014-2351-z

Zhou L., Smith D. W., Parker A. T., Griffin-Shirley N. (2013). The relationship between perceived computer competence and the employment outcomes of transition-aged youths with visual impairments. *Journal of Visual Impairment & Blindness*, 107(1), 43–53. https://doi.org/10.1177/0145482X1310700104

APPENDIX A: PREDICTORS BY OUTCOME AREA

Predictors/Outcomes	Education	Employment	Independent Living
• Career Awareness	Promising	Promising	
• Career Technical Education (was Vocational Education)	Research-based	Evidence-based	
• Community Experiences		Promising	
• Exit Exam Requirements/High School Diploma Status		Promising	
• Goal-Setting	Research-based	Research-based	Research-based
• Inclusion in General Education	Research-based	Research-based	Research-based
• Interagency Collaboration	Promising	Promising	
• Occupational Courses	Promising	Promising	
• Paid Employment/Work Experience	Research-based	Research-based	Promising
• Parent Expectations	Promising	Research-based	
• Parental Involvement		Promising	
• Program of Study	Research-based	Research-based	
• Psychological Empowerment (new)	Promising	Promising	Promising
• Self-Advocacy/Self-Determination	Research-based	Research-based	Promising
• Self-Care/Independent Living	Promising	Promising	Research-based
• Self-Realization (new)		Promising	Promising
• Social Skills	Promising	Promising	
• Student Support	Promising	Research-based	Promising
• Technology Skills (new)		Promising	
• Transition Program	Research-based	Promising	
• Travel Skills		Promising	
• Work Study		Research-based	
• Youth Autonomy/Decision-Making	Research-based	Research-based	Promising

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APPENDIX B: CONSENT FORMS

Department of Special Education and Child Development
9201 University City Boulevard, Charlotte, NC 28223-0001

Consent to be Part of a Research Study
Young Adult (18+)

Title of the Project: *Video Modeling to Teach Young Adults with Disabilities Appropriate Workplace Social Skills*
Principal Investigator: Janie Vicchio, M.A.T.
Faculty Advisor: Robert Pennington, PhD
Co-investigators: Leslie Bross, PhD, Valerie L. Mazzotti, PhD, Jessica G. Rousey, M.A.T., and Charlie Wood, PhD Department of Special Education and Child Development, UNC Charlotte

You are invited to participate in a research study. Participation in this research study is voluntary. The information provided is to help you decide whether or not to participate. If you have any questions, please ask the principal investigator.

Important Information You Need to Know:

- The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills (I.e., talking or conversing at a time that does not interfere with work or customers, talking or conversing about appropriate topics, ensuring that work is still being completed, ensuring that the coworker is engaged and actively participating).
- If you choose to participate, you will be asked to participate in video modeling training sessions and then be observed at your worksite.
- Benefits may include learning how to use appropriate workplace social skills and building coworker relationships.
- If you choose not to participate, you may still participate in regular employment programs and activities through your program or organization.

Please read this form and ask any questions you may have before you decide whether to participate in this research study.

Why are we doing this study?

The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills.

Why are you being asked to be in this research study.
You are being asked to be in this study because you are a transition-age youth between the ages of 18-26 with a documented disability who participates in community-based employment.

What will happen if I take part in this study?
If you choose to participate in this study, you will be asked to participate in video modeling training on appropriate coworker social skills. The study requires approximately 20 behavioral observations. These observations will occur after you partake in approximately 15 video modeling sessions where you are taught coworker social skills. We will collect information on your use of the taught appropriate coworker social skills during your shift and use that data.

Observations will be conducted by the principal investigator and/or a co-investigator. During the observations, the investigators will be marking if you, the participant, demonstrated a newly learned social skill with your coworkers. These observations will take place during part of your shift.

The study will take place over three months. At the end of the three months you, your employer, your job coach, and coworkers will complete surveys/questionnaires on the study.

What benefits might I experience?
Benefits may include learning how to use appropriate workplace social skills and building coworker relationships.

What risks might I experience?
Potential risks or discomforts from this research include experiencing challenges using social skills in the workplace. These risks or discomforts will be alleviated by support provided by research staff. Specifically, you will be supervised by research staff when at work.

How will my information be protected?
We plan to publish the results of this study. To protect your privacy, we will not include any information that could identify you. We will protect the confidentiality of the research data by only using names on consent forms and some data forms. These forms will be stored in a locked file cabinet within Janie Vicchio's campus office. While forms may have your name on them, pseudonyms will be used when sharing out information. For data that is collected and stored electronically, it will be place in a secure Dropbox where only the research team has access. All names and identifying information will be removed before uploading document to the secure Dropbox folder.

Other people may need to see the information we collect about you. These people may include members of the research team, other people who work for UNC Charlotte, the partnering program/organization, or other agencies as required by law or allowed by federal regulations.

How will my information be used after the study is over?
After this study is complete, identifiers will be removed from the data and the data could be used for future research studies or distributed to another investigator for future research studies without additional informed consent.

What are my rights if I take part in this study?
It is up to you to decide to be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my rights as a participant?
For questions about this research, you may contact Janie Vicchio at jvicchio@uncc.edu or Dr. Robert Pennington at robert.pennington@uncc.edu

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

Consent to Participate
I understand what the study is about and my questions so far have been answered. I agree to take part in this study. By signing below, I affirm I am a minimum of 18 years old and my own legal decision maker.

_____
Name (PRINT)

_____
Signature Date

_____
Name and Signature of person obtaining consent Date

Department of Special Education and Child Development
9201 University City Boulevard, Charlotte, NC 28223-0001

Consent for your Young Adult to be Part of a Research Study
Parental Consent for Legal Guardians

Title of the Project: *Video Modeling to Teach Young Adults with Disabilities Appropriate Workplace Social Skills*
Principal Investigator: Janie Vicchio, M.A.T.
Faculty Advisor: Robert Pennington, PhD
Co-investigators: Leslie Bross, PhD, Valerie L. Mazzotti, PhD, Jessica G. Rousey, M.A.T., and Charlie Wood, PhD Department of Special Education and Child Development, UNC Charlotte

Your child is invited to participate in a research study. Participation in this research study is voluntary. The information provided is to help you decide whether or not your child will participate. If you have any questions, please ask the principal investigator.

Important Information You Need to Know:

- The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills (I.e., talking or conversing at a time that does not interfere with work or customers, talking or conversing about appropriate topics, ensuring that work is still being completed, ensuring that the coworker is engaged and actively participating).
- If you choose to let your child participate, they will be asked to participate in video modeling training sessions and then be observed at their worksite.
- Benefits may include learning how to use appropriate workplace social skills and building coworker relationships.
- If your child chooses not to participate, you may still participate in regular employment programs and activities through your program or organization.

Please read this form and ask any questions you may have before you decide whether your child will participate in this research study.

Why are we doing this study?
The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills.

Why is your young adult being asked to be in this research study.

Your young adult is being asked to be in this study because they are a transition-age youth between the ages of 18-26 with a documented disability who participates in community-based employment.

What will happen if my young adult takes part in this study?

If you choose for your young adult to participate in this study, they will be asked to participate in video modeling training on appropriate coworker social skills. The study requires approximately 20 behavioral observations. These observations will occur before and after your young adult partakes in video modeling sessions where your young adult is taught coworker social skills.

We will collect information on your young adults' use of the taught appropriate coworker social skills during your shift and use that data. The study will take place over three months. At the end of the three months your young adult, their employer, their job coach, and their coworkers will complete surveys/questionnaires on the study.

What benefits might my young adult experience?

Benefits may include learning how to use appropriate workplace social skills and building coworker relationships.

What risks might my young adult experience?

Potential risks or discomforts from this research include experiencing challenges using social skills in the workplace. These risks or discomforts will be alleviated by support provided by research staff. Specifically, the participant be supervised by research staff when at work.

How will my young adult's information be protected?

We plan to publish the results of this study. To protect your privacy, we will not include any information that could identify you. We will protect the confidentiality of the research data by only using names on consent forms and some data forms. These forms will be stored in a locked file cabinet within Janie Vicchio's campus office. While forms may have your child's name on them, pseudonyms will be used when sharing out information. For data that is collected and stored electronically, it will be place in a secure Dropbox where only the research team has access. All names and identifying information will be removed before uploading document to the secure Dropbox folder.

Other people may need to see the information we collect about you. These people may include members of the research team, other people who work for UNC Charlotte, the partnering program/organization, or other agencies as required by law or allowed by federal regulations.

How will my young adult's information be used after the study is over?

After this study is complete, identifiers will be removed from the data and the data could be used for future research studies or distributed to another investigator for future research studies without additional informed consent.

What are my young adult's rights if they take part in this study?

Participating in this study is voluntary. Even if you decide your child will be part of the study now, you may change your mind and stop at any time. Your child does not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my young adult's rights as a participant?

For questions about this research, you may contact Janie Vicchio at jvicchio@uncc.edu or Dr. Robert Pennington at robert.pennington@uncc.edu

If you have questions about your child's rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

By signing this document, you are agreeing for your child to be in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

Parent or Legally Authorized Representative Consent

By signing this document, you are agreeing to [your your young adult's **OR** the person's named below] participation in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree for [my young adult OR the person named below] to take part in this study.

_____

Participant Name (PRINT)

_____

Parent/Legally Authorized Representative Name and Relationship to Participant (PRINT)

_____

Signature Date

_____

Name and Signature of person obtaining consent Date

Department of Special Education and Child Development
9201 University City Boulevard, Charlotte, NC 28223-0001

Consent for Job Coaches

Title of the Project: *Video Modeling to Teach Young Adults with Disabilities Appropriate Workplace Social Skills*
Principal Investigator: Janie Vicchio, M.A.T.
Faculty Advisor: Robert Pennington, PhD
Co-investigators: Leslie Bross, PhD, Valerie L. Mazzotti, PhD, Jessica G. Rousey, M.A.T., and Charlie Wood, PhD Department of Special Education and Child Development, UNC Charlotte

The young adult you work with and you are invited to participate in a research study. Participation in this research study is voluntary. The information provided is to help you decide whether or not you will participate. If you have any questions, please ask the principal investigator.

Important Information You Need to Know:

- The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills (I.e., talking or conversing at a time that does not interfere with work or customers, talking or conversing about appropriate topics, ensuring that work is still being completed, ensuring that the coworker is engaged and actively participating).
- If you choose to participate, you may be asked to assist in showing participants video models about appropriate coworker social skills.
- Benefits may include learning how to use appropriate workplace social skills and building coworker relationships.

Please read this form and ask any questions you may have before you decide whether your child will participate in this research study.

Why are we doing this study?
The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills.

Why are you being asked to be in this research study.
The young adult you work with is being asked to be in this study because they are a transition-age youth between the ages of 18-26 with a documented disability who participates in

community-based employment. You as the job coach are being asked to facilitate video modeling and complete surveys on the performance of the young adult you work with.

What will happen if I partake in this study?

You are being asked to assist in showing the young adult video models of appropriate coworker social skills approximately 15 times.

The study requires approximately 20 behavioral observations that will be conducted by the research team at the young adults' worksite after you or a member of the research team have shown them video models of using appropriate coworker social skills.

We will collect information on the young adults use of the taught appropriate coworker social skills during the shift. The data will be shared with you so you can see the young adults' progress. At the end of the study, you will be asked to complete a survey answering questions about your experience with the study.

What benefits might the young adult experience?

Young adult's benefits may include learning how to use appropriate workplace social skills and building coworker relationships.

What risks might the young adult experience?

Potential risks or discomforts from this research include experiencing challenges using social skills in the workplace. These risks or discomforts will be alleviated by support provided by research staff. Specifically, the participant/coworker will be supervised by research staff when at work.

How will my information be protected?

We plan to publish the results of this study. To protect your privacy, we will not include any information that could identify you. We will protect the confidentiality of the research data by only having your name on your consent materials, in all other cases, a pseudonym will be provided. Consent materials will be stored in a locked file cabinet within Janie Vicchio's campus office.

Survey/ questionnaire data will be stored electronically, it will be placed in a secure Dropbox where only the research team has access. All names and identifying information will be removed before uploading document to the secure Dropbox folder.

Other people may need to see the information we collect about you. These people may include members of the research team, other people who work for UNC Charlotte, the partnering program/organization, or other agencies as required by law or allowed by federal regulations.

How will my information be used after the study is over?

After this study is complete, identifiers will be removed from the data and the data could be used for future research studies or distributed to another investigator for future research studies without additional informed consent.

What are my rights to take part in this study?
Participating in this study is voluntary. Even if you decide you will be part of the study now, you may change your mind and stop at any time.

Who can answer my questions about this study and my rights as a participant?
For questions about this research, you may contact Janie Vicchio at jvicchio@uncc.edu or Dr. Robert Pennington at robert.pennington@uncc.edu

If you have questions about you or the participants rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

_____
Participant Name (PRINT)

_____
Parent/Legally Authorized Representative Name and Relationship to Participant (PRINT)

_____
Signature Date

_____
Name and Signature of person obtaining consent Date

Assent Form

"I am interested in helping you create connections with your coworkers at your worksite. My goal is to work with young adults with disabilities to create and maintain appropriate coworker relationships at their worksite. I am conducting a research study to do this. If you choose to participate in this research study, you will watch video models on greeting coworkers, using small talk during downtime at work, and saying goodbye to coworkers at the end of your shift and then use what you have learned at your worksite.

Someone from our research team will come to your worksite to observe your greetings, small talk, and goodbyes about 12-15 times. We will observe you after you have watched the video models on social skills.. We will collect information on your use of the taught appropriate coworker social skills during your shift and use that data. At the end of the study you will be asked to complete a survey to share your experiences. Your coworkers, employers, and job coaches (if applicable) will be asked to complete a survey about their experience with this study.

This study is separate from your school program and no matter the results, this will not change the relationship between you, your teacher, and your coworkers.

We plan to publish the results of this study. To protect your privacy, we will not include any information that could identify you. We will protect the confidentiality of the research data by only using names on consent forms and some data forms. These forms will be stored in a locked file cabinet within Janie Vicchio's campus office. While forms may have participants names on them, pseudonyms will be used when sharing out information.

Other people may need to see the information we collect about you. These people may include members of the research team, other people who work for UNC Charlotte, the partnering program/organization, or other agencies as required by law or allowed by federal regulations.

This is a voluntary research study, so you can choose to participate or not. You can also decide to stop participating at any time. I am happy to answer any questions you may have now or anytime we are working together. Do you have any questions about the research study?

Do you want to take part in this research study?"

Assent to Participate

I understand what the study is about and my questions so far have been answered. I agree to take part in this study. By signing below, I affirm that I have participated in the assent process.

_____

Participant Name (PRINT)

_____

Signature Date

_____

Name and Signature of person obtaining assent Date

Department of Special Education and Child Development
9201 University City Boulevard, Charlotte, NC 28223-0001

Permission to Conduct Behavioral Observations in a Worksite Location: Workplace Leadership
Adult (18+)

Title of the Project: *Video Modeling to Teach Young Adults with Disabilities Appropriate Workplace Social Skills*
Principal Investigator: Janie Vicchio, M.A.T.
Faculty Advisor: Robert Pennington, PhD
Co-investigators: Leslie Bross, PhD, Valerie L. Mazzotti, PhD, Jessica G. Rousey, M.A.T., and Charlie Wood, PhD Department of Special Education and Child Development, UNC Charlotte

You are invited to participate in a research study. Participation in this research study is voluntary. The information provided is to help you decide whether or not to participate. If you have any questions, please ask the principal investigator.

Important Information You Need to Know:

- The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills
- If you choose to participate, you and your employees will be observed alongside the participant at your worksite to determine if the worker is using appropriate coworker communication skills
- We will not be collecting observation data on you or your individual employees; observation data will only be collected on the participants use of appropriate coworker communication skills

Who can answer my questions about this study and my rights as a participant?

For questions about this research, you may contact Janie Vicchio at jvicchio@uncc.edu and her faculty advisor, Robert Pennington at robert.pennington@uncc.edu

If you have questions about your this research, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

Consent to Conduct Behavioral Observations

I understand what the study is about and my questions so far have been answered.

I give permission for the researcher to conduct behavioral observations in _____ (name of setting).

_____
Name (PRINT)

_____
Role or Title in Setting (PRINT)

_____
Signature Date

_____

Department of Special Education and Child Development
9201 University City Boulevard, Charlotte, NC 28223-0001

Permission to Conduct Behavioral Observations in a Worksite Location
Coworker Consent Form (18+)

Title of the Project: *Video Modeling to Teach Young Adults with Disabilities Appropriate Workplace Social Skills*
Principal Investigator: Janie Vicchio, M.A.T.
Faculty Advisor: Robert Pennington, PhD
Co-investigators: Leslie Bross, PhD, Valerie L. Mazzotti, PhD, Jessica G. Rousey, M.A.T., and Charlie Wood, PhD Department of Special Education and Child Development, UNC Charlotte

You are invited to participate in a research study. Participation in this research study is voluntary. The information provided is to help you decide whether or not to participate. If you have any questions, please ask the principal investigator.

Important Information You Need to Know:

- The purpose of this study is to teach transition-age youth with disabilities appropriate coworker social skills.
- If you choose to participate, you will be observed alongside the participant at your worksite to determine if the worker is using appropriate coworker communication skills.
- If a job coach does not choose to participate in the study, you will not conduct any observations of the participant engaging with a job coach.

Who can answer my questions about this study and my rights as a participant?

For questions about this research, you may contact Janie Vicchio at jvicchio@uncc.edu or Dr. Robert Pennington at robert.pennington@uncc.edu

If you have questions about your this research, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

Consent to Conduct Behavioral Observations

I understand what the study is about and my questions so far have been answered.

I give permission for the researcher to conduct behavioral observations in _____ (name of setting).

_____
Name (PRINT)

_____
Role or Title in Setting (PRINT)

_____
Signature Date

_____
Name and Signature of person obtaining consent Date

APPENDIX C RECRUITMENT MATERIAL

Recruitment Material for Parents

Dear Parents,

I am interested in helping young adults with disabilities create and maintain appropriate coworker relationships at their worksite. I am conducting a research study to do this. If you choose to have your young adult participate in this research study, activities will include using video models for training and then interacting with coworkers at the worksite. I or other research staff will conduct a minimum of 20 behavioral observations in which we observe your young adult at their worksite. Some things your young adult will be asked to do include: 1) greet a coworker, 2) have small talk with a coworker, 3) say goodbye to a coworker at the end of the shift, and 4) complete a questionnaire to share about their experiences.

If you choose to let your young adult participate in this study, your young adult will be asked to participate in video modeling training on appropriate coworker social skills. The study requires approximately 20 behavioral observations. These observations will occur before and after your young adult partakes in video modeling sessions where they are taught coworker social skills. Then, during your young adults' work shift they will have a MotivAider device in their pocket that will vibrate when it is time to use one of your learned social skills. We will collect information on your young adults' use of the taught appropriate coworker social skills during your shift and use that data.

This study will not change the relationship between your young adult, their employer, their job coach, and their coworkers.

We plan to publish the results of this study. To protect the privacy of your young adult, we will not include any information that could identify them. We will protect the confidentiality of the research data by only using names on consent forms and some data forms. These forms will be stored in a locked file cabinet within Dr. Valerie Mazzotti's campus office. While forms may have your child's name on them, pseudonyms will be used when sharing out information. For data that is collected and stored electronically, it will be place in a secure Dropbox where only the research team has access. All names and identifying information will be removed before uploading document to the secure Dropbox folder.

Other people may need to see the information we collect about your child. These people may include members of the research team, other people who work for UNC Charlotte, the partnering program/organization, or other agencies as required by law or allowed by federal regulations.

This is a voluntary research study, so you can choose for your young adult to participate or not. You can also decide that your young adult will stop participating at any time. I am happy to answer any questions you may have now or anytime we are working together. If you have questions about this study and how to be involved please reach out to Janie Vicchio at jvicchio@uncc.edu or (201) 248-2774.

Best,

Janie Vicchio
jvicchio@uncc.edu
201-248-2774

Faculty Advisor: Valerie L. Mazzotti
vlmazzot@uncc.edu
704-687-8179

Recruitment Material to Be Read to Participants

Dear Participant,

I am interested in helping you create connections with your coworkers at your worksite. My goal is to work with young adults with disabilities to create and maintain appropriate coworker relationships at their worksite. I am conducting a research study to do this. If you choose to participate in this research study, you will watch video models on greeting coworkers, using small talk during downtime at work, and saying goodbye to coworkers at the end of your shift and then use what you have learned at your worksite.

Someone from our research team will come to your worksite to observe your greetings, small talk, and goodbyes about 20 times. We will observe you before and after you have watched the video models on social skills. Then, during your work shift you will have a MotivAider device in your pocket that will vibrate when it is time to use one of your learned social skills with a picture prompt on the back reminding you what to do. We will collect information on your use of the taught appropriate coworker social skills during your shift and use that data. At the end of the study you will be asked to complete a survey to share your experiences.

This study will not change the relationship between you, your employer, your job coach, and your coworkers.

We plan to publish the results of this study. To protect your privacy, we will not include any information that could identify you. We will protect the confidentiality of the research data by only using names on consent forms and some data forms. These forms will be stored in a locked file cabinet within Dr. Valerie Mazzotti's campus office. While forms may have your child's name on them, pseudonyms will be used when sharing out information. For data that is collected and stored electronically, it will be place in a secure Dropbox where only the research team has access. All names and identifying information will be removed before uploading document to the secure Dropbox folder.

Other people may need to see the information we collect about you. These people may include members of the research team, other people who work for UNC Charlotte, the partnering program/organization, or other agencies as required by law or allowed by federal regulations.

This is a voluntary research study, so you can choose to participate or not. You can also decide to stop participating at any time. I am happy to answer any questions you may have now or anytime we are working together. Do you have any questions about the research study?

Do you want to take part in this research study? If you have questions about this study and how to be involved please reach out to Janie Vicchio at jvicchio@uncc.edu or (201) 248-2774.

Best,
Janie Vicchio
jvicchio@uncc.edu
201-248-2774

Faculty Advisor: Valerie L. Mazzotti
vlmazzot@uncc.edu
704-687-8179

APPENDIX D: DATA COLLECTION FORMS FOR DEPENDENT VARIABLE

Greeting Rubric

Date:_____ Participant Name: _____Data Collection #: _____

Location:_____

Opportunities	1	2	3	4	5
Initiates Greeting	+ -	+ -	+ -	+ -	+ -
Responds with 3+ words	+ -	+ -	+ -	+ -	+ -
Engages in greeting at Appropriate time	+ -	+ -	+ -	+ -	+ -
Body oriented towards coworker	+ -	+ -	+ -	+ -	+ -
Appropriate voice volume	+ -	+ -	+ -	+ -	+ -
Appropriate tone of voice	+ -	+ -	+ -	+ -	+ -

Notes					

Scoring: (number of + / total number of opportunities) x 100 = _____%

Engages in greeting at an appropriate time

+ Participant engages in a greeting upon first seeing a coworker and is free to talk

-Participant engages in greeting when coworker is busy with a customer, in the middle of a conversation, on the phone, etc.

Body oriented towards coworker when engaging in greeting with a coworker

+ Participant is turned facing the coworker when engaging in a greeting with a coworker

-Participant is facing away from coworker (i.e., looking at home, looking for another coworker, etc.) when attempting to engage in greeting with a coworker

Appropriate voice volume used when engaging in a greeting with a coworker

+ Participant is speaking loud enough so that their coworker can hear them (i.e., using an inside voice)

-Participant is speaking too quietly for their coworker to hear OR too loudly

Appropriate tone of voice

+ Participant speaks clearly (as possible) and in a friendly tone when engaging in a greeting with a coworker

-Participant mumbles or uses a rude tone of voice when engaging in a greeting with a coworker

Small Talk Rubric

Date:_____ Participant Name: _____ Data Collection #:___

Location:_____

Opportunities	1	2	3	4	5
Initiates small talk	+ -	+ -	+ -	+ -	+ -
Responds with 3+ words	+ -	+ -	+ -	+ -	+ -
Engages in small talk at appropriate time	+ -	+ -	+ -	+ -	+ -
Body oriented towards coworker	+ -	+ -	+ -	+ -	+ -
Appropriate voice volume	+ -	+ -	+ -	+ -	+ -
Appropriate tone of voice	+ -	+ -	+ -	+ -	+ -
Notes					

Scoring: (number of + / total number of opportunities) x 100 = _____%

Engages in small talk at appropriate time

+ Participant engages in a small talk when a coworker is free to talk (no task to complete)

-Participant engages in small talk when coworker is busy with a customer, in the middle of a conversation, on the phone, etc.

Body oriented towards coworker when engaging in small talk with a coworker

+ Participant is turned facing the coworker when in engaging in small talk with coworker

-Participant is facing away from coworker (i.e., looking at home, looking for another coworker, etc.) when attempting to engage in small talk with a coworker

Appropriate voice volume used when engaging in small talk with a coworker

+ Participant is speaking loud enough so that their coworker can hear them (i.e., using an inside voice)

-Participant is speaking too quietly for their coworker to hear OR too loudly

Appropriate tone of voice

+ Participant speaks clearly (as possible) and in a friendly tone when engaging in small talk with a coworker

-Participant mumbles or uses a rude tone of voice when engaging in small talk with a coworker

Goodbye Rubric

Date:_____Participant Name: _____Data Collection #:_____

Location:_____

Opportunities	1	2	3	4	5
Initiates goodbye	+ -	+ -	+ -	+ -	+ -
Responds with 3+ words	+ -	+ -	+ -	+ -	+ -
Engages in goodbye at appropriate time	+ -	+ -	+ -	+ -	+ -
Body oriented towards coworker	+ -	+ -	+ -	+ -	+ -
Appropriate voice volume	+ -	+ -	+ -	+ -	+ -
Appropriate tone of voice	+ -	+ -	+ -	+ -	+ -
Notes					

Scoring: (number of + / total number of opportunities) x 100 = _____%

Engages in goodbye at appropriate time

+ Participant engages in saying goodbye when a coworker is free to talk (no task to complete)

-Participant engages in saying goodbye when coworker is busy with a customer, in the middle of a conversation, on the phone, etc.

Body oriented towards coworker when engaging in goodbye with a coworker

+ Participant is turned facing the coworker when in engaging in goodbye with coworker

-Participant is facing away from coworker (i.e., looking at home, looking for another coworker, etc.) when attempting to engage in goodbye with a coworker

Appropriate voice volume used when engaging in goodbye with a coworker

+ Participant is speaking loud enough so that their coworker can hear them (i.e., using an inside voice)

-Participant is speaking too quietly for their coworker to hear OR too loudly

Appropriate tone of voice

+ Participant speaks clearly (as possible) and in a friendly tone when engaging in goodbye with a coworker

-Participant mumbles or uses a rude tone of voice when engaging in goodbye with a coworker

APPENDIX E: PROCEDURAL FIDELITY

Procedural Fidelity Checklist

Data Collector: **Date:**

Step		
Greet participant outside or at entrance of coffee shop	+	-
"Hi, today before you start I am going to show you a video model that can help you interact with your coworkers"	+	-
Open google folder and show participant video options	+	-
"You can choose one of the videos to watch"	+	-
Turn volume up	+	-
Press play	+	-
When video is over hand participant visual supports keychain	+	-
"You can keep this in the pocket of your apron or pants. While you are working, if you need a reminder on ways to interact with your coworkers you can look at this keychain. It is not required that you use this keychain, but you can if you would like to"	+	-

Score (percentage):

Notes:

APPENDIX F: SOCIAL VALIDITY MEASURES

Example Social Validity Survey for Young Adult Participants

1. The video models were helpful to watch.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

2. I liked getting to watch the videos on a laptop or smart phone.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

3. The visual support keychain helped me remember to talk to my coworkers.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

4. I feel more comfortable now talking to coworkers at my job.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

Example Social Validity Survey for Employers

1. The video models were helpful for my employee.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

2. My employeed benefited from being able to watch video models on different formats (i.e., smart phone or laptop).

   Strongly Disagree Disagree Neutral Agree Strongly Agree

3. My employee learned new workplace social skills from using these video models.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

4. My employee learned new workplace social skills from using these video models.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

5. My employee appears more confident about attending/ talking to coworkers at work.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

Example Social Validity Survey for Coworkers

1. I have seen an improvement in my coworker's (the participant's) social skills.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

2. It is easier for me to build a coworker relationship with my coworker (the participant) after this study.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

3. My coworker seems more comfortable at work after this study.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

4. The visual supports keychain was not distracting during data collection.

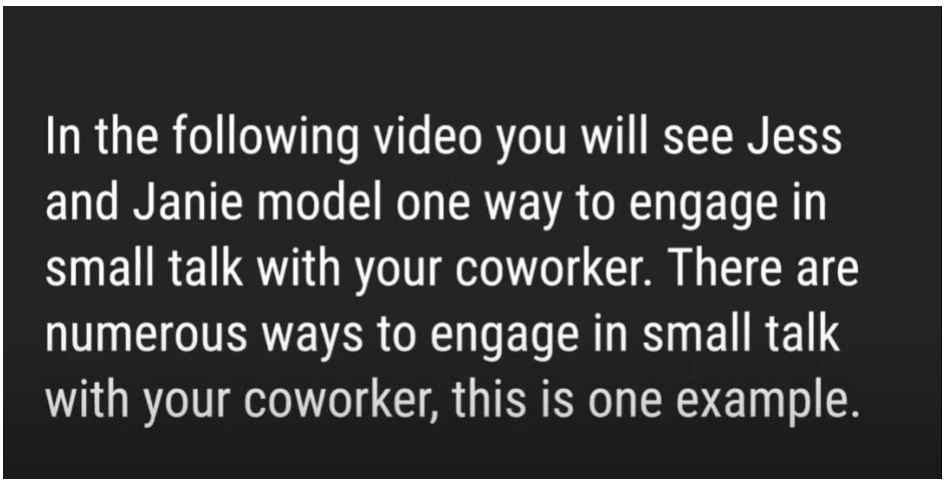
   Strongly Disagree Disagree Neutral Agree Strongly Agree

5. I think video modeling to teach appropriate coworker social skills would be helpful for others with disabilities who are employed.

   Strongly Disagree Disagree Neutral Agree Strongly Agree

APPENDIX G: EXAMPLES OF INSTRUCTIONAL MATERIALS

Sample Video Models



Sample visual cues to be attached to visual support keychain (one per phase)