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Effects of a Video Based Intervention on Job Interview Skills of Youth with Autism

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EFFECTS OF A VIDEO BASED INTERVENTION ON JOB INTERVIEW SKILLS OF YOUTH WITH AUTISM

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

by

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By Kelsey Catherine Turner

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

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Director(s): Yaoying Xu, Ph.D. and Jason Chow, Ph.D.

In this dissertation, I conducted a multiple-probe-across-participants design to examine the impact of a video-based intervention on interview skills of youth with autism. First, I conducted a systematic literature review of interview interventions. Results were used to guide the development of this study's measure and procedures. Finding that previous literature relied on rubric measures to rate interview skill behaviors, I developed and piloted a primary measure for examining direct speech production. Using transcripts and video analysis, this study captures the construct of interview skills using both quantity (frequency of relevant/irrelevant c-units) and quality (interview skills rubric score). The intervention consisted of direct instruction, video modeling, self-video modeling, self-reflection, and role play. I recruited four youths with autism and incorporated their career aspirations to individualize the intervention and provide greater incentive. Additionally, I recruited two local business owners in the participants chosen field (i.e., the food industry) to interview participants during the generalization session. Results demonstrate a functional relation between the introduction of the intervention package and

increases in interview skills. The three participants who agreed to participate in the generalization interview maintained interview skills with local business owners. Results from this study add scientific knowledge on systematically scoring direct speech production and highlight the importance of individualizing interview interventions. I conclude by discussing future research and the implications of these findings for practice and policy.

Chapter I

INTRODUCTION

Over the next 10 years, approximately 800,000 youth with autism will exit high school and begin the process of transitioning into adult roles (e.g., labor force; Maenner et al., 2020; United States Census Bureau, 2019). Unfortunately, many students do not experience a smooth transition from school-based special education systems to the less-funded adult services world (Certo et al., 2003). Employment rates for individuals with autism, regardless of intellectual ability, range from 4.1% to 11.8% (Taylor & Seltzer, 2011). Shattuck and colleagues (2012) secondary analysis of the National Longitudinal Transition Study 2 (NLTS2) revealed that over 50% of youth with autism remained completely disengaged from any kind of postsecondary education or employment for the first two years after high school. Additionally, individuals with autism have the highest risk of unemployment compared to youth with speech language impairment, learning disability, or intellectual disability (Shattuck et al., 2012). Compared to typically developing students, few individuals with disabilities participate in paid employment (Shattuck et al., 2012; Hendricks, 2010), and even fewer are competitively employed (McDonough & Revell, 2010).

For the past three years, a pandemic caused by COVID-19, a novel coronavirus (i.e., a respiratory illness that can spread from person to person; Centers for Disease Control and Prevention, 2022), has impacted employment rates worldwide. Among the general population, mitigation strategies such as social distancing and mask mandates have resulted in substantial unemployment and job changes (such as moving to virtual work or reduced hours).

Historically, even prior to COVID-19 employment support services for individuals with disabilities have been bleak. The following chapter will provide a background on employment supports from sheltered workshops that still exist today to the most ideal work situation, competitive employment. Foremost among employment skills needed for the competitive work environment is social skills. This chapter will provide an overview of social skills deficits common for individuals with autism and the impact on employment. Leading to a discussion about the job interview, the first interaction between applicant and employer, as a high need area for intervention.

Background on Supports for Employment

Supports for employment include day habilitation settings, sheltered workshops, supported employment programs, competitive employment without support, state-funded programs including vocational rehabilitation, and developmental disability agencies (Gerhardt et al., 2014). Adolescents transitioning into the adult vocational world will need to choose from a variety of public and private programs. Unfortunately, many individuals with autism do not meet the eligibility requirements for long-term support, because they do not have an accompanying intellectual impairment (defined as an IQ less than 70; American Psychiatric Association, 2013). Data suggests that between 45% and 68% of those with autism do not have accompanying intellectual impairment (Baird et al., 2006; Christensen et al., 2016). This is a substantial number of individuals, many without employment, that do not qualify for long-term services and support. We also know that the number of adults with autism without intellectual impairment is steadily increasing due to changing practices, awareness, and diagnosis of autism (Lorenc et al., 2018). In 2017-18 the Department of Education reported 436,000 individuals with intellectual disabilities and 710,000 with autism. These are school age children and adolescents that will eventually

graduate or age out of school and seek employment. Many will require employment services and unfortunately the present system is failing earlier generations which is evident by the employment gap.

Currently, many services for adults with disabilities are targeted towards individuals with intellectual disabilities, and these services are often provided in isolated settings. Many argue this approach does not provide adequate services for adults with intellectual disabilities and undermines those without an intellectual impairment. Only 26% of young adults with significant disabilities, including autism, are working two years post-high school; nearly half (43%) of those employed work in segregated settings, such as sheltered workshops (Carter et al., 2012). Although theoretically designed to lead toward less restrictive vocational settings, segregated programs are often incompatible with goals of independence and community inclusion.

In contrast to segregated settings, the recent increase in supported employment programs has enabled individuals with disabilities to obtain paid, community-based employment with the necessary support provided directly on the job site (Hendricks & Wehman, 2009). To illustrate, Cimera and colleagues (2011) conducted a secondary data analysis using the Rehabilitation Services Administration's (RSA) 911-database to examine the outcomes of supported employees who participated in a sheltered workshop and supported employees who did not participate in a sheltered workshop (RSA, 2004). The authors reported that individuals who participated in sheltered workshops earned significantly less (US $6,745 versus US $9,980 yearly) and cost significantly more to serve (US $6,065.08 versus US $2,440.60) than their non-sheltered workshop peers (Cimera et al., 2011). While supported employment programs pay more than sheltered workshops, neither are likely to lead to financial independence and fall well below the

poverty threshold in the United States ($12,760; Department of Health and Human Services Poverty Guidelines, 2020)

To combat unemployment and obtain competitive positions, many individuals with disabilities are placed in vocational and employment settings that are funded through state-run vocational rehabilitation (VR) agencies. However, the level of individualized support and services varies greatly between VR programs and state-level policies and practices (McDonough & Revell, 2010; Roux et al., 2018).

The most ideal work situation is competitive employment, meaning employees are paid at least minimum wage and equal to workers without a disability (Rosales & Whitlow, 2019). Most individuals with disabilities and their families prefer competitive integrated employment (CIE) to segregated employment or day services (Gilson et al., 2018; Siperstein et al., 2014). However, only 6-10% of adults with autism are in competitive employment, and they tend to work fewer hours and get paid less than their neurotypical peers (Wilczynski et al., 2013).

According to the Roux and colleagues (2013) analysis of the NLTS-2 data, the mean wage of a young adult with autism at a full-time job is $8.10 U.S. dollars per hour, which was significantly lower ($p < .01$) than members of the ED ($11.90), LD ($11.20), or SLI ($12.00) groups. The only group without a significant difference in wage is autism and "mental retardation" (MR, $9.20; Roux et al.). A common barrier for both obtaining and retaining a competitive/higher paying job is social awareness and quality interactions—how workers interact with supervisors, co-workers, or consumers (Agran et al., 2014).

Competitive employment is a relatively new concept for individuals with disabilities, and rigorous research is only just beginning to emerge on practices that teach competitive skills such as interpersonal skills. With prior research primarily focusing on younger populations, effective

transition practices for adults such as intervention and assessment have been slow to emerge (Hendricks & Wehman, 2009). This paucity of research for transition age individuals leaves many stakeholders such as parents and practitioners unsure of how to support skills necessary for employment including social skills.

Social Skills and Employment

Social skills deficits are a defining characteristic of autism. The most common deficits include the ability to initiate or sustain conversations, understand implied social rules, respond to nonverbal cues, or take the perspective of others (American Psychiatric Association, 2013). These skills are often associated with greater quality of life outcomes (Howlin et al. 2005; Marriage et al. 2009) and place individuals with autism at-risk for unemployment (Hendricks & Wehman, 2009). Using the NLTS-2, Chiang et al. (2013) examined factors associated with participation in employment for 830 high school students who had a primary diagnosis of autism. The authors reported that, after controlling for student and family characteristics (e.g., gender, ethnicity, parental education), individuals with high social skills were 5.4 times more likely to participate in employment compared to those with low social skills. This research highlights the importance of social communication for improving employment outcomes but as previously mentioned empirically supported interventions on employment are lacking.

The National Technical Assistance Center for Transition (NTACT, 2020) identified 67 evidence- and research-based practices for transition, and only 14 are geared toward employment skills (20.9%). According to NTACT, only four research-based, employment-focused instructional practices are computer-assisted (i.e., video modeling, video prompting, simulations, CAI-delivered constant time delay). In order to move the field forward and provide evidence-

based employment services, research is needed on skills that lead to comprehensive hours and wages, such as the social skills necessary to obtain a competitive job.

Gilson and colleagues (2017) conducted a systematic review of 56 studies involving 766 participants that evaluated instructional methods used to teach employment skills to secondary students with intellectual and developmental disabilities (IDD). Only 42.8% of the studies included a social component (i.e., opportunity to interact with others) as a dependent measure (Gilson et al., 2017). This gap in the literature is alarming given the heavy reliance on social skills for obtaining a job (Hayes et al., 2015).

Existing empirical research on employment for adults with disabilities tends to be job task related (e.g., cleaning tables) and not on finding or obtaining a job (Smith et al., 1999). Overwhelmingly, the process for securing employment begins with and is contingent on the job interview. For traditional jobs, interviewing is necessary and stronger interviewing skills lead to greater independence in future job searches (Toomey et al., 2009). Levinson and Palmer (2009) found that teaching specific employment skills such as interviewing skills (e.g., role-playing job interviews and providing feedback to students about their performance) leads to better employment outcomes. Interviews are both a gateway for acquiring employment and a chance to meet the manager, see the work site, and get a sense of the job tasks before accepting. Interviews are high stakes and require social skills often difficult for individuals with autism that are not provided adequate employment support (Hayes et al., 2015). In the past two years, COVID-19 has added further limitations to the types of employment support available for adults with autism and perhaps a greater impact on transition age youth with autism still in school.

COVID-19 and Special Education Services

Due to COVID-19, many families have had limited access to in-person educational services. A nationwide stay-at-home order early in the pandemic led to considerable and unique challenges for school systems to provide special education services. Many educators were forced to take instruction online for the first time in their teaching careers. Special educators have the added challenge of tailoring instruction and providing individual accommodations to meet the varying needs of students with disabilities. In addition, secondary special educators must continue to address students' postsecondary goals. Without consistent vocational instruction, many students with disabilities may not develop the necessary skills to secure employment after graduation. Over the past year, schools and employment services have slowly returned to in-person with mitigation strategies such as personal protective equipment in place.

COVID-19 and Employment

People more than ever can appreciate the importance of getting out of the house to physically be at work, interact with co-workers and friends throughout the day, and feel like a valuable member of society. Many individuals with disabilities face the social isolation we just now experienced from COVID-19 for most of their lives.

Taylor and colleagues (2021) conducted a survey to examine the rates of employment due to COVID-19 and the relationship between employment changes and depressive symptoms among young adults with autism. Online surveys of 144 participants with autism ages ranging between 18 and 35 years old ($\bar{x}$ = 27) were collected at two times; just before widespread social distancing measures were adopted in the United States (March 11-20th, 2020) and again ten weeks later (May 18-27th, 2020). Over one-third (37.5%) of the sample experienced a change in their employment in just a 10-week period. Controlling for depressive symptoms prior to the

change in employment status, young adults who experienced "job loss/deduction" had significantly higher depressive symptoms than those without an employment change.

Perhaps the most salient but not surprising finding is that only roughly 50% of adults with autism were working prior to COVID-19. Thus, for many participants "getting into the workforce in the first place was a significant challenge and regaining losses due to COVID-19 will almost certainly be more difficult than for adults in the general population" (Taylor et al., 2021). It is important that services and supports are targeted toward adults with autism who experience significant employment changes (especially job loss or reduction) to combat the already significant unemployment rates of this population. Better supporting adults with autism in the workplace may not only decrease the likelihood of job loss, but the high rates of depression in this group.

Exploratory Survey Study

In August 2021, I conducted an exploratory survey to inform this dissertation and estimate the impact of COVID-19 on employment for individuals with autism that are 18 years and older. Specifically, this survey sought to document (1) employment status before and after COVID-19 (2) reported impact on employment and (3) ratings of preparedness to fill out an application, create a resume, or interview with a potential employer. In an effort to increase the opportunities for responses, this survey sampled both individuals and/or relatives with a disability over the age of 18 years old. Unlike Taylor et al., (2021), this survey included relatives of adults with autism to gather information on participants that are non-verbal and/or lack independence to use technology. A small sample of 32 participants included 10 individuals with autism (32%); two partners/spouses (6%), 16 mothers (50%), two fathers (6%), and two siblings (6%) reported on behalf of their relatives with autism. Results revealed that nearly half (48%) of

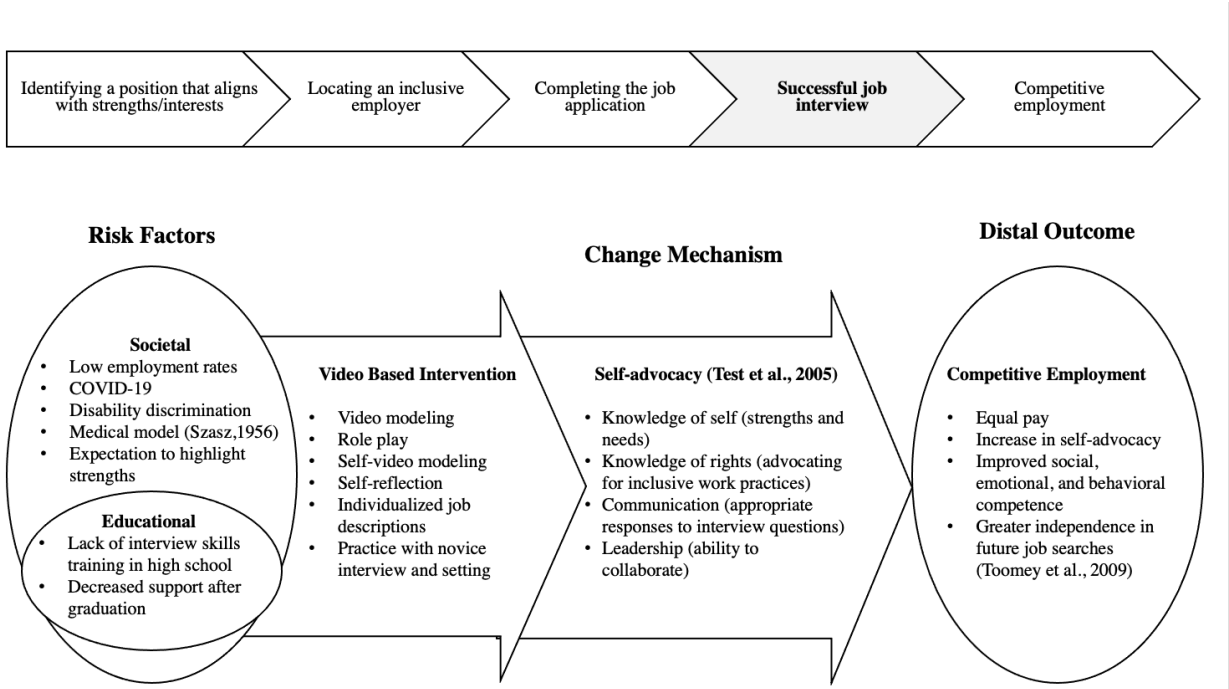
adults with autism did not have employment prior to COVID-19. A year and a half from the onset of COVID-19, most participants indicated a negative impact on employment. Out of 11 individuals with employment, 9 reported an impact (82%) and 2 with no impact (18%). These results align with the aforementioned literature on unemployment of individuals with autism.

This survey was conducted to inform the development of an employment acquisition skill intervention. Participants with autism were asked to rank how prepared they feel to create a resume, fill out an application, and interview with a potential employer, Both relatives and individuals with autism ranked interview skills as the most difficult of the three job acquisition skills. Out of 22 relatives and individuals with autism, 16 reported being "somewhat prepared" for an interview with a potential employer (73%). Majority of participants reported that they feel "very prepared" to create a resume (43%) and fill out a job application (57%). In response to this need, the following theoretical lens was used to conduct a systematic literature review and develop, pilot, and conduct a multiple probe across participants study examining the efficacy of an interview skills intervention.

Theoretical Foundation

Preparing youth with autism to join the workforce is a dynamic process that involves self-advocacy components (Williams & Shoultz, 1982). We know that interview skills may not be explicitly taught in the public-school setting, and for many individuals, these skills do not come naturally (particularly for those with autism). Figure 1 displays societal and environmental barriers to employment for youth with autism along with a theory of change for increasing interview skills using a video-based intervention to improve self-advocacy skills.

Figure 1



Theory of Change

One of the challenges that individuals with autism face during job interviews is the expectation to highlight strengths and weaknesses. Framing weaknesses positively is a difficult skill that takes strong self-advocacy. This study focuses on the four subcomponents of self-advocacy theory: knowledge of self, knowledge of rights, communication, and leadership (Test et al, 2005). Knowledge of self, the first step for self-advocacy, is knowing one's own interests, preferences, strengths, needs, and attributes of their disability. It is pivotal for the individual to have knowledge of their rights as a citizen and member of the disability community. An example of knowledge of rights includes the Americans with Disabilities Act (ADA) protecting discrimination against employees or applicants on the basis of having a disability. This federal mandate requires employers to provide reasonable accommodations that the employee requests.

This leads us to the subcomponents of communication and leadership. Strengths in communication are shown when the individual can articulate needs whether vocally or through

assistive technology, listen, and compromise or negotiate. The leadership subcomponent is shown when the individual takes action by advocating and collaborating with others. During an interview, applicants should know their rights (knowledge of rights) and communicate strengths (knowledge of self) to present as a confident and capable applicant. They may also need to negotiate hours (communication) and show their ability to collaborate with others (leadership). These self-advocacy skills are essential to identifying the value a prospective employee can add to the workplace and articulating why they are the ideal applicant. These principles were used to develop, implement, and examine findings of a systematic literature review and single-subject design study on interview skills for youth with autism.

Method

I conducted a multiple probe across four participants that investigated the effects of a video-based intervention package on youth with autism. To capture the construct of interview skills, I examined the quantity of interview responses (primary DV) and quality of responses (secondary DV). I developed and piloted an observational coding manual to systematically score communication units (c-units) of interview transcripts. This is the first known study to examine interview skills using direct speech production as the primary outcome. Participants responses to interview questions were transcribed, segmented into c-units, and coded dichotomously for relevant or irrelevant c-units. The purpose of the primary measure was to capture the frequency of on-topic responses. However, frequency of relevant interview responses does not necessarily equate to high quality responses. For this reason, I developed a secondary measure to capture quality of responses for each interview question using Strickland et al. (2012) interview rating instrument as a foundation. The rubric includes rating of non-verbal responses such as handshake and approximation of eye contact.

Research Question

The following research question guided this research study; what is the effect of the packaged video-based intervention on interview skills of youth with autism?

The aim of this study was to improve participants interview responses and generalize interview skills with local business owners. Findings of this study demonstrate a functional relation between the introduction of the intervention package and increases in interview skills. The three participants that conducted a generalization interview maintained interview skills with a local business owner in their target work field (i.e., food industry). This study draws connections between the importance of individualizing interview skill interventions to match participant's employment goals and improving self-advocacy skills. The following chapter will outline the existing literature base on interview skills that guided the development of an observational coding procedure and rubric to examine both the quantity and quality of participant responses.

Conclusion

To gather a more comprehensive understanding of employment for individuals with autism, this chapter began with an overview of employment supports and social skills deficits that impact workplace readiness. This chapter examined the current strain on in-school transition services and exceedingly high rates of unemployment due to COVID-19. I have contextualized the need for an interview skills intervention using an exploratory survey study. Finally, this chapter provided the theoretical framework that guided this study.

Chapter II

Chapter one offered an introduction to the problem, that individuals with disabilities, in particular people with autism are unemployed. I've identified social skills as a common deficit impacting employability, particularly focusing on job interview skills. Chapter two presents a systematic literature review of interview skills research targeting individuals in any disability category. To create an effective interview skills intervention, it is important to consider the historical background, theoretical, and methodological approaches of previous work. Considering the limited literature on transition skills, and specifically interview skills, this review did not further restrict the results by narrowing by disability category. This chapter examines the literature on interview skills for individuals with any disability in order to guide future research and practice for the population most at risk for unemployment, individuals with autism. Overwhelmingly, the process for securing employment begins with and is contingent on the job interview. For traditional jobs, interviewing is necessary and stronger interviewing skills lead to greater independence in future job searches (Toomey et al., 2009). Findings from this review identify gaps in interview skills literature that inform the methodology of this study.

Policy Supporting Employment

Individuals with Disabilities Education Act

Individuals with Disabilities Education Act (IDEA) is a federal special education law that ensures all students with disabilities have access to free and appropriate education. Students eligible for special education services and have an Individualized Education Program (IEP) must begin receiving transition services by the age of 16. Transition planning is designed to improve the outcomes of youth after high school, including postsecondary education, vocational education, employment, independent living, and/or community participation (IDEA, Section

300.43). Federal law requires that the transition planning is individualized based on students' strengths, needs, preferences, and interests. Annual IEP's must have measurable post-secondary goals and services/supports in place to make progress towards these goals.

Workforce Innovation and Opportunity Act

The Workforce Innovation and Opportunity Act (WIOA) is a federal law that seeks to improve access to competitive employment for youth with disabilities. WIOA requires state vocational rehabilitation agencies to provide pre-employment transition services including; career exploration and guidance, workplace readiness training, pre-apprenticeships/internships, and/or self-advocacy instruction (Workforce Innovation Technical Assistance Center [WINTAC], 2016a). The most salient of these regulations for interview skills is funding for workplace readiness training and self-advocacy instruction. WIOA recognizes youth with autism often experience deficits in social skills required for employment. To overcome those deficits in authentic work settings, WIOA mandates that 15% of all federal VR granny monies go to transition-aged students with disabilities. Additionally, as of 2016, WIOA prohibits schools from contracting with sub-minimum wage contractors.

WIOA and IDEA legally requires transition collaboration between school systems and vocational rehabilitation agencies. Together these mandates seek to improve competitive employment opportunities to youth with autism by providing supports and services beginning at the age of 16.

Systematic Literature Review Purpose

Given the employment gap and societal views of hiring individuals with disabilities, applicants must have strong social skills to advocate for themselves during interviews.

As such, the purpose of this review was to systematically search the literature to identify interview skill interventions for individuals with disabilities. Job interviews serve as a gatekeeper for gaining a job and many individuals with social deficits, such as autism, require interventions. This review identified existing intervention research focused on improving job interview skills of individuals with disabilities. Using broad terminology that includes any disability category produced a greater number of studies to inform this study's methodology. The focus of this systematic literature review was to; (a) identify existing interventions that target interview skills for individuals with disabilities and (b) examine the overall findings to inform this dissertation and future research.

Method of Systematic Review

Literature Search

I used PsycINFO, Education Research Information Center (ERIC), and Academic Search Complete to conduct a systematic review of published articles through April 2022 that empirically evaluated job interventions aimed at increasing the interview skills of individuals with disabilities. I did not set a date limit in terms of the beginning point of the search as the literature is already limited. I used the following string of terms in each database:

> (autis* OR "childhood with disintegrative disorder*" OR "pervasive developmental disorder*" OR "spectrum disorder" OR "intellectual disabilit*" OR "developmental disabilit*" OR autism OR Asperger* OR Rett*) AND (adolescen* OR "school age*" OR "high school*" OR "highschool" OR adult OR postsecondary OR "post-secondary" OR youth OR student*) AND (intervention* OR model* OR program* OR practice* OR instruction* OR training* OR service* OR "school to work*" OR "school-to-work" OR "professional development" OR transition*) AND (interview*) AND (experiment* OR

control OR comparison OR “business-as-usual” OR “business as usual” OR “BAU” OR “single-case” OR “single-subject” OR quasi*)

In addition to these terms, I supplemented the search by hand-searching reference lists of identified empirical and review articles to locate any articles not identified by the database search. This hand searching method produced one article (Bobroof & Sax, 2010) not identified by the search likely due to the terminology of “special needs” to describe participants. This search does not include grey literature such as unpublished manuscripts, dissertations and theses, or government reports. After the removal of duplicates, the search of peer-reviewed literature resulted in the identification of 2,754 articles (Figure 2).

Inclusion Criteria

I reviewed abstracts and titles of the 2,754 articles to determine eligibility for full-text screening. I included studies for full-text review if the study met the following criteria. First, the majority of study participants were individuals 14 years or older, with any disability. Participants that do not meet the minimum working age of 14 according to the Fair Labor Standards Act (FLSA) were excluded. I did not include a limitation on disability labels because of the limited research on the area of transition from school to work. Secondly, I included studies if the author(s) specified that the intervention, program, instruction, or training would target the skill of interviewing for a job. For the purposes of this review, I used intentionally broad language to capture all possible intervention studies.

After title and abstract review, 15 articles remained, and I reviewed the full text of each study. In order to be included in the review and analysis, studies had to use an experimental or randomized controlled trial design, quasi-experimental design (QED), or single-subject experimental design (SSED) to estimate the effects of the intervention. Lastly, the review had to

collect outcome measures directly tied to interview skills. This was operationally defined as the author(s) explicitly stating the intervention targeted interview skills and the outcome measures collected either qualitative or quantitative data on interview performance. For example, Chezan and colleagues (2020) created an intervention package to target workplace conversation skills of adults with IDD. This intervention may or may not be applicable to interview skills but the outcome measures examined self-initiated interactions with coworkers rather than during an interview, so this study was not included. During full-text review, I excluded four studies based on the criteria of interview skills intervention.

Coding Procedure

I coded studies for (1) participants, (2) design, and (3) intervention technique. Participant characteristics included (a) age, (b) disability (e.g., diagnosis, IQ), (c) prior work experience, and (d) participant demographic information. Study design categories included (a) sample size, (b) methodology, (c) results, and (d) limitations. Finally, the intervention technique was coded for (a) type of intervention, (b) measure, and (c) intervention format.

Participants.

For each study, I coded for the participants age, race/ethnicity, and disability category (i.e., IQ, diagnosis, and any specific characteristics mentioned). I also coded for any mention of previous education, work, or interview experience.

Design.

Study design was coded sample size and design type for (1) RCT, (2) Quasi design and (3) SSED. For each study, I summarized the interview skill results and limitations of the study that the author mentioned or that I noticed while reading the study.

Intervention Technique.

I used the following categories to code for type of intervention; (1) video modeling, (2) self-video modeling, (3) virtual reality, (4) role play. Each study was coded for inclusion or exclusion of each type of intervention. I also summarized the material covered, who provided the intervention, and phases of the intervention (e.g., phase one was video modeling of handshakes and then role playing). Lastly, I coded for both indirect and direct measures and the associated time point of collection.

Table 1

Codes and Definitions

Study code	Description
Participant Demographic	**Gender** (Female or Male) **Age** **Diagnosis:** autism, ID, both autism and ID, or other
Method	**Design:** single subject, RCT **Duration:** total number of weeks **Setting:** University, VR, group home, special education school
Intervention Format	**Video Modeling**: participant views an example video of interview **Video self-modeling:** participant records themselves and reviews **Role Play:** acting out interview skills with peer or researcher
Outcome Measure	**Pre/Post Interview Assessment** **Social Responsiveness Scale (SRS)** **Vineland Adaptive Behavior Scales (VABS)** **Social Skills Improvement System Rating Scale (SSiS-RS)** **ACCESS Placement Test** **Self-confidence Questionnaire**

Table 1. Codes and definitions

Figure 2

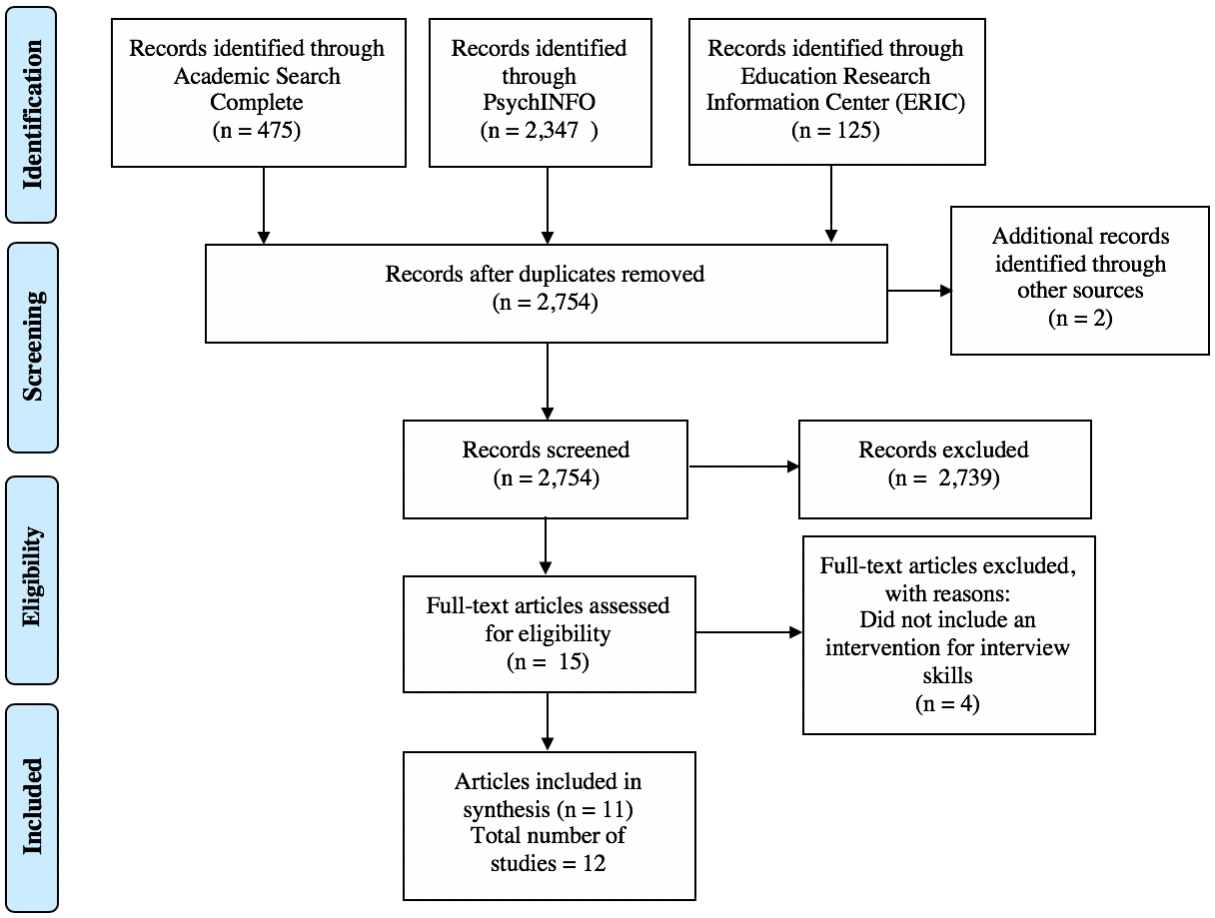


Figure 2. Inclusion and exclusion decisions

Results of Systematic Review

The systematic search procedure described above resulted in 15 peer-reviewed articles describing 16 studies (Matherick et al., 2017 included two studies). The studies include six randomized control trials, five SSEDs, and five one-group pretest-posttest designs. All studies included a measure of interview skills and described intervention effects as either change (a) within individuals from a baseline condition or a pretest assessment, or (b) between individuals in an intervention group compared to a control group. Given that the purpose of this review was to inform my study's methodology, my findings focus on participant characteristics, intervention components, and procedures used across relevant studies.

Setting

13 of the 16 studies took place in the United States, two in the United Kingdom, and one in Ireland. Studies were conducted in a variety of research settings. For example, 10 studies took place at a university in either a laboratory or conference room (Hayes et al., 2015; Morgan et al., 2014; Rosales & Whitlow, 2019; Schloss et al., 1988; Smith et al., 2014; Strickland et al., 2013; Ward & Esposito, 2019; Burke et al., 2020; Smith et al., 2021; Torres et al., 2020). One study, which is the first-known study on interviewing skills for individuals with disabilities, was conducted at an industrial facility (Grinnell & Lieberman, 1977). Hall and colleagues (1980) conducted an interview skills curriculum (ISC) at a group home. A more recent study examined ISC at a vocational rehabilitation training center in Ireland (Walsh et al., 2017). The remaining studies took place in special education schools (Bobroof & Sax, 2010; Mathrick et al., 2017a, b).

Participants

A total of 427 participants participated in the 16 included studies. Across all studies, participant age ranged from 16-41 years old with an average of 20.5 years old. In total, 64% of participants had a diagnosis of autism (n=273), 18% with ID (n=75), and 0.7% with both autism and ID (n=28), and 17% with other disabilities (n=71; e.g., "multiple handicap"; Bobroff et al., 2010 and Mathrick et al., 2017). More specifically, 38% of studies included participants with ID (Grinnell & Lieberman, 1977; Hall et al., 1980; Mathrick et al., 2017a; Schloss et al., 1988; Ward & Esposio, 2019; Torres et al., 2020; Smith et al., 2021). 63% of the studies included in this review included participants with autism (including PDD-NOS) that did not have a diagnosis of ID (Hayes et al., 2015; Morgan et al., 2014; Rosales & Whitlow, 2019; Smith et al., 2014; Strickland et al., 2013; Burke et al., 2020; Smith et al., 2021). Only 25% included individuals with both autism and ID (Walsh et al., 2017). 42% of the articles included heterogeneous groups with a wide range of clinical diagnoses and communication abilities (Bobroof et al., 2010; Mathrick et al., 2017).

The 16 studies had a wide variety of participant descriptions and the amount of detail included in the published article. Four of the nine studies that included individuals with ID did not include participant intelligence quotient scores (IQ, 44%). For example, Hall and colleagues (1980) provided that the IQ range was low 50's to mid 70's. That is a considerable range of intelligence, knowing that some benchmarks identify a score of 75 as borderline not intellectually impaired. Similarly, Bobroof and Sax (2010) described the behavioral characteristics of participants (e.g., multiple handicaps, below grade level) but did not report on academic achievement or IQ. Mathrick and colleagues (2017a) reported that "two had a genetic syndrome that were associated with both developmental language disorder (LD) and general

intellectual impairment". This lack of information made it difficult to sort the participants into groups based on disability labels (see Other in Table 2).

Intervention Format

A theme throughout ten of the 16 studies was use of technology. Eight of the 16 studies required that participants be capable of reading and using technology proficiently to participate (Hayes et al., 2015; Rosales & Whitlow, 2019; Smith et al., 2015; Strickland et al., 2013; Ward & Esposito, 2019; Burke et al., 2020; Torres et al., 2020; Smith et al., 2021). These studies had participants use technology independently to engage in the intervention. Two studies did not include any form of technology during the intervention procedures (Hall et al., 1980; Schloss et al., 1988). Throughout the studies, three intervention components emerged: the use of role playing, video modeling and self-video modeling.

Role Playing

The most common intervention format was role playing which was used by 10 of the included studies. Role playing is a technique that allows the participant to practice behaviors with an individual to master the target behavior. Five of the studies paired participants with peers in the study to practice interview skills with (Bobroof & Sax, 2010; Mathrick et al., 2017a, b; Schloss et al., 1988; Walsh et al., 2017). Bobroof and Sax (2010) used a one group pretest-posttest design to examine peer tutors with a disability to train interview skills to tutee with disabilities. The tutees made significant gains on the frequency of interview questions answered correctly when compared to their baseline data. Schloss and colleagues (1988) took a different approach using two participants with ID to provide peer directed instruction for each other instead of one tutor one tutee. The study used a multiple baseline across types of interview questions with random alternating treatments embedded to compare peer and teacher-directed

training. Results indicated substantial increase in accuracy of responses to personal, work, and educational simulated questions. The alternating treatments contrasted between teacher-directed and peer-directed instruction showed no difference in the efficacy of the two procedures.

The remaining studies used researchers to conduct role play (Grinnell & Lieberman, 1977; Hall et al., 1980; Morgan et al., 2014; Smith et al., 2015; Torres et al., 2021). For example, Hall and colleagues (1980) used a research assistant to role play both positive and non-example scenarios with participants in two groups of three. When each participant was able to perform the entire sequence of behaviors correctly in the group-learning situation, they began practicing independently. Once all individuals in a group could individually perform an entire sequence, they were given a probe (i.e., office skills, application skills, or interview skills). Results of the study found dramatic increases in office and application skills compared to baseline. Less dramatic but still positive results were obtained in the interview skills area.

Video Modeling

Nine studies included video modeling where the participant watched videos of either cartoon characters (Grinnell & Lieberman, 1977) or a recording of other individuals demonstrating ideal interview behaviors (Hayes et al., 2015; Rosales & Whitlow, 2019; Strickland et al., 2013; Smith et al., 2015; Walsh et al., 2017; Burke et al., 2020; Torres et al., 2020; Smith et al., 2021). Grinnell and Lieberman (1977) randomly assigned participants to one of three experimental groups or control group. Group one received both role play and cartoon video modeling instruction. The participants were paired together to practice interview skills during a videotaped trial. The trails were then played back to review the skill and the facilitator used micro counseling by pausing the tape each time the target behavior occurred and providing social and momentary (a nickel) reinforcer before resuming. Group two received the same

instruction but the videotaped trials were played back without interruption or commentary and reinforcers were given retrospectively. Group three also received the same training, but the group never saw their videotaped performances and reinforcement was given after each trial. Grinnell and Lieberman found that video feedback with immediate social and monetary reinforcement was the most effective in increasing interview behaviors.

Self-Video Modeling

Nine of the included studies used video self-modeling. This is when the participant is video recording during an interview to review afterwards either independently or with the intervener. Hayes and colleagues (2015) designed and used an iOS5 application called VidCoach which allowed the participants to watch the interviewer side of the video and self-record their responses with the forward-facing camera. The participants practiced and recorded interviews at home with the ability to watch the video back. This allowed participants to simultaneously monitor their progress through the program and growth in interviewing skills. During the social validity interview the participants reported that self-video modeling was helpful and that the video retake option made it easier to practice answers to questions. Participant six said "It was like a movie... and it was frustrating forgetting your lines. Just like 32 or 20 retakes" (Hayes et al., 2015). Using the VidCoach application, participants viewed their videos and provided feedback independently. Walsh (2018) took a similar approach with a computer application called InterviewStream. This self-video modeling took place within the university laboratory and the experimenter was present to prompt recording and self-evaluation. Walsh created a self-evaluation form for the participant to use during the InterviewStream phase of the study. During the InterviewStream and verbal feedback phase participants watched the interview recording with the experimenter who provided feedback, pausing after each question. Across the nine

studies that used self-video modeling, the intervention ranged from more independent reflection (Hayes et al., 2015) to guided reflections (Walsh, 2018).

Curriculum

None of the 16 studies used the same curriculum. Presumably, the curricula are similar in content but vary in amount of detail which is likely due to time and finances necessary for high quality protocols. Two of the 16 studies use a curriculum that was created prior to the intervention (Morgan et al., 2014; Walsh et al., 2017). Walsh and colleagues (2017) used the ACCESS social skills curriculum created by Walter and colleagues in 1988. The curriculum targets 31 social skills that are distributed across three domains; (1) peer-related social skills (2) adult-related social skills, and (3) self-related social skills. The ACCESS program was created for adolescents with mild to moderate learning disabilities and consists of a teacher manual, student study guide, and role-play cards. While useful, it is worth noting that this curriculum was almost 30 years old at the time of the intervention. Morgan and colleagues (2014) took a different approach by developing an interview skills curriculum in 2007-2008 under a service grant from the Able Trust project. The interview skills curriculum contains 12 weeks of protocol for low-intensity group delivered instruction on small talk, non-verbal communication, interview questions, and self-advocacy. The protocol details how to lead the discussions, role play, and video feedback. The level of detail in curriculum and whether the intervention used role play, video modeling, self-video modeling, or a combination of these are important considerations for interpreting results.

Outcome Measures

The results of all 16 studies reported an increase in interview skills when compared with baseline conditions, pretest, or control group. Over half of the studies (n = 9) used a rating scale

to score interview behaviors (Bobroof & Sax, 2010; Grinnell & Lieberman, 1977; Hayes et al., 2015; Morgan et al., 2014; Strickland et al., 2013; Smith et al., 2015; Burke et al., 2020; Torres et al., 2020; Smith et al., 2021). It does not appear that any two studies used the same rating scale. All used a 4-point Likert scale except for Bobroof and Sax (2010) which used a five point scale. The remaining 50%'s (n=6) primary dependent variable was the occurrence or non-occurrence of interview behaviors. These researchers operationally defined target behaviors and used a checklist to score whether the behavior occurred. It does not appear that any two studies used the same checklist. Torres and colleagues (2020) developed a task analysis of 17 steps to interview. Participants were scored dichotomously for correct or incorrect responses and researchers reported percentage of steps completed accurately. The only similarities in measures are that three studies use the Social Responsiveness Scale (SRS, Constantino and Gruber, 2005) as a secondary dependent variable (Strickland et al., 2013; Walsh et al., 2017; Smith et al., 2021). Additionally, Rosales & Whitlow (2019) uses the self-confidence rating scale developed and used by Walsh et al. (2017).

Five of the studies used a randomized control trial (RCT) design to examine the efficacy of the intervention. For example, Morgan et al. (2014) found that participants who received an interview skills curriculum showed significant improvement (M=.87, SD=1.99) in comparison to IQ-matched control participants (M=-.87, SD=1.99) conditions; $t(23) = 2.14$, $p < .05$. In contrast, Ginnell and Lieberman (1977) used an RCT to test the efficacy of micro counseling, and although the treatment group had a significant increase, no comparisons on IQ were drawn as scores were not collected. Both Smith et al. (2015) and Strickland et al. (2013) found that participants that received virtual reality interventions improved and found the programs easy to use and enjoyable. Hayes and colleagues (2015) took a similar approach using technology,

however the Vidcoach application was used for displaying video models and recording video self-modeling. The participants received no instruction from either the online application or researchers. These findings suggest that a minimal intervention can be implemented directly before an interview and still increase the participants' interview skills. Specifically, Hayes et al. reported an increase in the treatment groups ability to present ideas logically and succinctly, as well as a decrease in fidgeting behaviors.

Results of the multiple baseline and multiple probe studies also presented promising findings of increasing interview skills. For example, Schloss and colleagues (1988) used a multiple baseline across types of interview questions (i.e., education, work, personal) with alternating treatments embedded to compare peer-directed and teacher-directed training. The results showed great improvement in interview skills but no significant difference in the efficacy of teacher verse peer-directed interventions. Mathrick et al., (2017) conducted two studies using repeated measure designs on speech therapy sessions, finding improvements in both positive verbal and non-verbal social communication. While these findings are encouraging, they must be examined with regard to the population in which results may be generalized.

Maintenance

Four studies included follow up data to determine if the interview skills were maintained over a prolonged period of time (Schloss et al., 1988; Smith et al., 2014; Rosales & Whitlow, 2019; Walsh et al., 2017; Torres et al., 2021). For example, Walsh and colleagues (2017) examined the ACCESS curriculum using a multiple probe design and found an increase on social communication skills that maintained at the 3-month follow-up. Smith and colleagues (2015) published an article regarding the 6-month follow-up survey that is not included in this review because it did not contain an intervention component. The findings of this follow up survey

suggest that participants that received virtual reality training were 7.82 more likely to accept an offer for a competitive position after controlling for differences in self-confidence and prior paid employment. It is important to note that the authors defined competitive position as "employment or competitive volunteer position." The authors do not offer further description of what delineates a competitive volunteer position. Torres and colleagues (2021) conduced a follow-up between 15-21 days after intervention and all three participants maintained 100% accuracy on a 17 step task analysis. Smith and colleagues (2021) asked participants to complete a brief survey on vocational outcomes 6-months prior to intervention and found the treatment group (Pre-ETS and VIT-TAY) had a higher proportion of competitive employment (25%) when compared to compared to the control group (Pre-ETS only, 0%).

Individualized Interviews

Interview interventions were conducted using one sample job scenario in 69% of studies. For example, Boofroof and Sax (2010) used a stock clerk position for all six participants. Hayes and colleagues (2015) randomly assigned participants to potential employers with differing interview questions based on the position. This is a significant limitation considering the participant may not have wanted the job they were interviewing for. In contrast, Smith et al. (2014 and 2012) accounted for job preference by allowing participants to choose between eight different employment options (i.e., cashier, inventory worker, food service worker, grounds worker, stock clerk, janitor, customer service representative, and security). Torres and colleagues (2021) do not detail what job the participants practiced interviewing for. Additionally, the task analysis has exact answers that participants must provide. For example, when asked "what are your professional skills" participants must respond "I am always on time" to have the answer scored as correct. Participants may have benefited from aligning personal qualities with

responses rather than memorizing a script. Applying for a job and actively participating in the interview process requires personal buy-in that may be missing if there is a lack of interest or individualization.

Incentives

Four of the studies provided monetary incentives for participation (Grinnell & Lieberman, 1977; Hall et al., 1980; Morgan et al., 2014; Walsh et al., 2017). This could be seen as a limitation as there is literature suggesting a crowding-out effect that monetary incentives creates (Zutlevics, 2016). An example of this would be that providing monetary incentives could backfire by reducing intrinsic motivation. For interview skills, monetary incentives could interfere with the participants intrinsic motivation to obtain a job. The monetary values had a wide range of a nickel (Grinnell & Lieberman, 1977) to a $200 gift card (Morgan et al., 2014). While it is difficult to distinguish if these monetary incentives have a significant impact on outcomes, it's important for participants to develop intrinsic motivations to interview for a job. In real life interview scenarios, unless the job is secured there will be no monetary reward. Thus, generalization of both the incentive and the learned skill is of importance.

Generalization

Ten of the 16 (63%) studies included a generalization probe (e.g., Whitlow, 2017; Smith et al., 2015). The probes varied from a new interviewer, questions, setting, or a combination of all three. Ideally, interviewing skills should transfer to a new location, slightly adjusted questions, and new interviewer (Hall et al., 1980). Three studies used the generalization probe as an opportunity to include local business owners and volunteer professionals (Mathrick et al., 2017a,b; Morgan et al., 2014). Mathrick and colleagues used speech language therapy graduate students to conduct pre-therapy interviews and people from local businesses for post-therapy

interviews. This change in interviewer is important to note because the local business interviewers may have been perceived as more authoritative and intimidating experience than graduate students would have. Additionally, the graduate students would have a greater awareness of speech, language, and communication needs resulting in different interactions someone unfamiliar of these needs may have had. Whitlow (2018) and Torres (2021) used a confederate researcher, individuals that unbeknownst to the participant are part of the research team, to conduct generalization mock interviews.

Table 2

Participant and Intervention Characteristics

Authors (Year)	Design	Participants						Intervention Format
		N	Mean Age	Autism	ID	Autism and ID	Other	
Grinnell & Lieberman (1977)	RCT	24	22.9	-	24	-	-	Video modeling
Hall et al., (1980)	Multiple baseline across behaviors	6	-	-	6	-	-	ISC
Schloss et al., (1988)	Multiple baseline across types of interview questions	2	23	-	2	-	-	Peer-directed vs. teacher-directed training
Bobroof & Sax (2010)	One-group pretest–posttest design	6	19.3	1	-	-	5	Peer tutoring
Strickland et al., (2013)	RCT	22	17.9	22	-	-	-	JobTIPS: Virtual reality training
Morgan et al., (2014)	RCT	28	24.5	28	-	-	-	ISC
Smith et al., (2014)	RCT	26	24	26	-	-	-	Virtual Reality (VR-JIT)
Hayes at al., (2015)	Single-blinded RCT	15	17.9	15	-	-	-	Video modeling on mobile phone-VidCoach
Mathrick et al., (2017)	One-group pretest–posttest design	12	17.7	4	2	-	6	Speech Therapy
Mathrick et al., (2017b)	One-group pretest–posttest design	34	17.5	-	-	-	34	Speech Therapy

Walsh et al., (2017)	Multiple probe design	7	20.4	-	-	7	-	ACCESS Curriculum
Whitlow (2017)	Multiple baseline across participants	6	20.3	6	-	-	-	InterviewStream
Ward & Esposito (2018)	One-group pretest–posttest design	12	19.8	1	-	11	-	Virtual Reality (VR-JIT)
Burke et al., (2020)	One-group pretest–posttest design	153	21.73	99	40	-	71	Virtual Reality (ViTA)
Torres et al., (2020)	Non-concurrent Multiple probe across participants	3	21.33	-	1	1	-	Literacy-based Behavioral Intervention
Smith et al., (2021)	RCT	71	19.8	71	-	9	20	Virtual Reality (VIT-TAY)

Table 2. Participant and Intervention Characteristics

Discussion of Systematic Review

In this systematic review, I investigated the peer reviewed literature on job interview interventions for individuals with disabilities. A search of four databases up to April 2022 resulted in the identification of 2,756 articles and was systematically reduced to 16 articles based on inclusion and exclusion criteria. Overall, the outcomes reported suggest that brief intensive interventions can greatly improve job interview skills for individuals with disabilities.

The 16 included studies were conducted on heterogeneous samples of participants, with varying descriptions of characteristics and individualization taken into account. 64% of the participants in the studies were individuals with autism and no accompanying intellectual impairment. These are participants that would not qualify for long-term services and support therefore employability skills are particularly important for this population (Lorenc et al., 2018).

Individuals with autism are unique and broad terms such as “multiple handicap” (Bobroof et al., 2010) without any other descriptors discount the unique individual behind the label as well as the skills they bring to the workplace. The participants are further limited in their ability to express preferences in 69% of studies that used one sample job scenario. The use of standardized positions may in part be related to the limited scope of employment available for individuals with disabilities. Future research should harness the individual’s strengths and preferences by using positions selected by the individual to individualize the intervention. Using preferred positions would also create a more meaningful experience, with greater incentives, and the potential to generalize to a real job interview. Generalization probes could be extended by using local business owners as mock interviewers. This both provides data on generalization of the skill and allows for disability awareness within the community, potentially creating job opportunities.

Throughout the studies, three core types of intervention emerged including video modeling, video self-modeling, and role playing. These techniques resulted in an increase in the participants ability to answer questions present, and advocate for themselves appropriately. To my knowledge, this is the first systematic review to specifically focus on interventions aimed at improving interview skills of individuals with disabilities. Therefore, despite the limitations of both the individual studies and the methods used to review the literature, this review is unique in its findings. Practical implications for future research and practice are drawn from the results of this review.

Study Quality

Horner et al. (2005) provide quality indicators as a guideline for quantifying and assessing the methodological rigor of single-subject designs. None of the four studies met the criteria for a high-quality design. Walsh and colleagues (2017) and Whitlow (2017) meet all criteria except for having only one baseline data collection point. This does not meet the criteria of a baseline phase with repeated measurement of a dependent variable which is a vital component of the single-subject design (Kratochwill et al., (2013). The baseline phase is essential in single subject research designs because it establishes a pattern of behavior that is used to compare the performance under intervention conditions. Without multiple data points the ability to interpret the level, trend, and variability of performance across conditions is compromised. Outcomes of studies that fail to meet minimum standards, such as baseline phase, cannot be evaluated because the authors failed to indicate the study was internally valid (Ledford et al., 2018). Schloss et al., (1988) and Torres et al., (2021) met all of the indicators except for a social validity measure of either a survey or interview to determine if the dependent variable was important for the participants. Overall, no high-quality single subject research has been conducted on interview skills for individuals with disabilities. The results discussed in this review are limited by the absence of high quality of designs which has created a great need for future single subject research.

Gersten et al. (2005) provide quality indicators for RCT and quasi-experimental studies for the remaining 11 studies to identify high-quality standards for participants and sampling, implementation of intervention, outcome measures, and data analysis. Only 36% (4/11) of the studies met all four quality indicators. All four high-quality studies are RCT and included participants with a diagnosis of autism. Five of the studies used a one group pretest-postest

design (Bobroof & Sax, 2010; Matherick et al., 2017,b; Ward & Esposio, 2019; Burke et al., 2020) which is a weak design with major threats to internal and external validity. Limitations such as the absence of a control group, randomization, history, maturation, instrumentation, and regression toward the mean need to be considered when interpreting results (Knapp, 2016). Not surprisingly, all five single group pretest-posttest designs did not meet quality standards. Future research should investigate both the high- and low-quality research for guidance on future directions.

Authors	Participants	Setting	Dependent Variable	Independent Variable	Procedures	Design/Graph	Social Validity
Hall et al., 1980	No	No	Yes	No	No	Yes	No
Schloss et al., 1988	Yes	Yes	Yes	Yes	Yes	Yes	No
Walsh et al., 2017	Yes	Yes	Yes	Yes	No	Yes	Yes
Whitlow, 2017	Yes	Yes	Yes	Yes	No	Yes	Yes
Torres et al., 2020	Yes	Yes	Yes	Yes	Yes	Yes	No

Table 3

Table 3. Methodological Rigor for Single-Subject Design

Table 4

Methodological Rigor for RCT and Quasi Design

Authors	Participants and Sampling	Implementation of Intervention	Outcome Measures	Data Analysis
Grinnell & Lieberman, 1977	No	No	No	No
Bobroof & Sax, 2010	No	No	No	No
Strickland et al., 2013	Yes	Yes	Yes	Yes
Morgan et al., 2014	Yes	Yes	Yes	Yes
Smith et al., 2014	Yes	Yes	Yes	Yes
Hayes et al., 2015	No	Yes	Yes	No
Matherick et al., 2017	No	No	No	No
Matherick et al., 2017b	No	No	No	No
Ward & Esposio (2019)	No	No	No	No
Burke et al., (2020)	No	No	No	No
Smith et al., (2021)	Yes	Yes	Yes	Yes

Table 4. Methodological Rigor for RCT and Quasi Design

Implications for Research and Practice

The findings from this review have important implications for the field. Limited peer-reviewed literature exists in the area of interview skills for individuals with disabilities. There is much to be learned about these interventions, including whether these interventions can generalize to take place within the home. Only one of the 16 articles included an intervention component that operated outside of a research setting. This intervention consisted of using the JobTips application on a tablet independently in the home (Strickland et al., 2013). Early in the

literature on interview skills Hall and colleagues (1980) identify that interview skills should transfer to a new location, slightly adjusted questions, and new interviewer. Thirty years later, no high quality SSED interventions have been done and none of the four high-quality RCT's examine different locations or novel interviewers. The lack of high quality SSED may be attributed to the development of widely accepted rigor standards in 2005 by Horner and colleagues. What Works Clearinghouse didn't publish standards for SSED until 2010 to identify research-based practices (Shepley et al., 2020). The lack of high-quality research can also be attributed to the small body of interview skills research but with steadily increasing numbers of individuals identified with autism graduating the need for evidence-based job skill interventions is on the rise.

None of the articles use parents as interventionists which is alarming considering the majority of adults with IDD reside with their families and only 25% are reported to access long-term services and support through the state (Braddock et al., 2015; Larson et al., 2015. This highlights both the importance of including parents and how crucial it is to begin these interventions before the individual ages out of schooling. Parent involvement continues to be a hallmark of best practices in disability services (Keen, 2007; Reynolds et al., 2015) and is one of the most salient predictors of students' successful transition (Grigal & Neubert, 2004). Parents are often the primary advocates for their child's future employment and research is needed to support the efficacy of parents as interveners.

Limitations

Several limitations of the current review should be kept in mind while reviewing the results. First, it is possible that the search strategy or databases did not capture eligible studies using only three databases. I attempted to reduce this risk by hand searching the references of

included studies. Second, this review only contains peer reviewed and published articles, and I did not review the grey literature. Therefore, by excluding all theses and dissertations, this review has an increased risk of publication bias by having systematically different results of unpublished studies (Easterbrook et al., 1991). Third, the studies in this review represent a limited scope of intervention studies that focus on job interview skills. For example, articles that targeted employment-related skills without directly measuring interview skills were not included in this review (e.g., Project SEARCH). Articles that may have contained an interview intervention but did not specify the components were not included in this review (e.g., Project SEARCH, Wehman et al., 2014). Fourth, limited analysis can be conducted on interview skill outcomes as there is currently no standardized measure. Many different data collection methods were used including raw counts of behavior, checklists, task analysis, and questionnaires. Finally, I conducted this review alone and did not calculate inter-rater reliability or agreement at the screening or coding stages.

Conclusion

Interview skills are a vital initial step or obtaining employment and with the estimated 40.7% employment gap between individuals with a disability (35.9%) and people without disabilities (76.6%), the use of evidence-based interventions is imperative to closing that gap (Kraus et al., 2008). Understanding the current literature base and associated intervention formats will allow parents and practitioners to implement similar interventions and establish a trajectory for future research. However, the results of review suggest that of the 16 published studies, there are inconsistent measures and limited information on participant characteristics thus hindering the interpretation and generalizability of findings. Future research is needed to develop an systematic and observable measure to gauge the effectiveness outcomes of video

modeling, self-video modeling, and role play. Further, future research should be individualized to pinpoint future employment opportunities and contain generalization probes to strengthen findings. Though limited by size and depth, the existing literature supports the positive effects of employment interventions targeting interview skills on individuals with disabilities. Gaps found in this systematic literature review were used to develop, pilot, and conduct a multiple probe across participant study.

Chapter III

Methodology

Chapter two established the need for the current research through conducting a systematic literature review of interview skill interventions for individuals with any disability. Results indicated that individuals with autism are in high need of interview skills interventions and that previous studies lack a systematic observational measure, individualized approach, and generalization probes. Chapter three is a description of the methodology I used to inform these gaps in the literature base. I conducted a video-based intervention (VBI) of video modeling, role play, and self-reflection to improve the job interview skills of youth with autism. After piloting the study and receiving Institutional Review Board (IRB) approval, I used a multiple-probe-across-participants design to address the research question; what is the effect of a packaged video-based intervention on interview skills of youth with autism?

Interview Skills

Results of the systematic literature review found a range of definitions for interview skills with no two studies using the same measure or rubric. Interview skills consist of a variety of verbal and non-verbal responses to situations including participant verbal response to interview questions and professional presentation (e.g., attire, handshake, eye contact). Potential employers examine both verbal and nonverbal behaviors of interviewees to gauge employability. Prior to this study, as a practitioner, I had anecdotal evidence that many youths with autism have minimal verbal responses. For example, when asked "why do you think Petco should hire you?" a typical response might be "because I like dogs". Knowing participants often have short responses this intervention sought to increase both the quantity and the quality of the participants' response. The systematic literature review identified a lack of direct observation outcome measures. To

address this gap, I developed a primary measure to capture direct speech production. This study examined the construct of interview skills using two measures; frequency recording to measure relevant/irrelevant conversational units (c-units) and a rubric to examine the quality of verbal and non-verbal responses.

Experimental Design

The current study used a single-case, concurrent multiple-probe-across-participants design (Ledford & Gast, 2018, Chapter 10) to examine the effects of a video-based intervention on the interview skills of youth with autism. To determine the effectiveness of the intervention, I used visual analysis of level, trend, and variability of interview skills data across baseline, intervention, and generalization conditions for each participant and supplemented the visual analysis with corresponding effect size calculations. Specifically, I calculated the between-case effect using between-case standardized mean difference (BCSMD, Pustejovsky et al., 2014).

According to Horner and Baer (1978), the multiple probe technique "provides a procedure for collecting data that will permit a thorough functional analysis of the variables related to the acquisition of behavior across the components of a chain or successive approximation sequence" (p. 196). The current study examined the acquisition of interview skills using 10 common interview questions. Specifically, data assessed whether youth with autism have increased quantity and quality of responses after each video intervention. Successive approximations were used to determine if participants had higher scores after each intervention session. Using this data collection technique, each interview response was examined as a component to a successful interview.

I selected a multiple probe design because of the feasibility and validity of data collection during the baseline condition. Unlike the multiple baseline design, a probe condition does not occur for the entire duration of the pre-intervention condition for each participant. The multiple probe design enables intermittent measurement in the baseline condition until participants achieve relative stability, rather than continuous measurement used in the traditional multiple baseline design (Gast & Ledford, 2018, Chapter 10). The continuous measurement of a multiple baseline design would increase the likelihood that repeated assessment would result in behavior change (threat to internal validity). During the pre-intervention session participants answered 10 interview questions with non-contingent, fixed-interval reinforcement. Continuous measurement was not used because it may have led to a facilitative effect or improvement in interview performance because of the repetitiveness of the 10 interview questions. Lastly, I hypothesized that continuous measurement could have an inhibitive effect or decline in interview skills due to the effort required to answer questions and lack of contingent reinforcement or feedback. Using multiple probe design, these threats to validity were minimized with intermittent baseline probes.

Experimental control was demonstrated when interviewing behaviors changed exclusively when the intervention was introduced to each participant (Horner et al., 2005; Kratochwill et al., 2010). The staggered introduction of the video-based intervention helped reduce threats to validity, such as history and maturation. The multiple probe methodology also allowed for the intervention to take place over a shorter period. This study was conducted over 40 days in the summer, minimizing the chance that another interview skills intervention would be occurring at the same time (e.g., in school programming). The relatively short duration and

intermittent data collection during pre-intervention minimized the chance of session fatigue. Further considerations for internal validity threats will be discussed throughout this chapter.

Participants

I recruited four participants between 16 and 18 years old, with autism, that demonstrated a social skills deficit that would impair interviewing skills. A screening assessment, Social Responsiveness Scale II, was used to identify participants with similar social skills deficits to increase the odds that participants would emit similar interview skill abilities prior to intervention.

According to the Individuals with Disabilities Education Act (IDEA, 2004) beginning at age 16, students with an individualized education program must include annual measurable postsecondary goals and transition services needed to assist the child in reaching those goals (Section 300.43). Another consideration for the age demographic was that in the state of Virginia, labor laws allow minors age 16 and 17 to work in establishments that are not determined to be hazardous or detrimental to the minors health (Code of Virginia Title 40.1). Minors under the age of 16 are required to have an employment certificate, are limited in the hours they can work, and have greater limitations on the types of jobs they can pursue. I hypothesized that an interview skills intervention would have greater social validity for participants, age 16 or older, who are able to apply for a job without hindrance. Prior to participation, I obtained consent from the participant and from guardians (for one participant that was under the age of 18) including consent to record assessment probes.

Recruitment and Consent Process

I recruited participants by emailing local special education teachers, transition specialists, and nonprofits. Individuals interested in participating in the study were instructed to call or email

me, the lead researcher, to learn more about the study and discuss eligibility criteria. One parent/guardian expressed interest on the phone but acknowledged her son did not have the expressive language requirements for this study. They were emailed the materials to provide the intervention at home. Six participants were emailed consent forms one week prior to the pre-baseline session to ensure that participants fully understood the purpose of the study and their responsibilities as a participant (National Institutes of Health, 2009). Participants and/or parents/guardians signed the consent forms at the pre-baseline meeting detailed further in this chapter. Prior to beginning intervention procedures, two participants withdrew from the study due to scheduling conflicts. These participants were also offered the intervention PowerPoint and video models via email.

Inclusion Criterion

I selected participants based on whether they met the following inclusion criteria;

a. participants must be enrolled in public school;

b. participants must be between the ages of 16-18 years old;

c. participants must have a diagnosis of autism (with or without ID);

d. participants must not have previously received an interview skills intervention outside of school curriculum (e.g., an in-person pre-employment transition service or vocational education training program such as Next Move or Project Search) to control for internal validity;

e. participants must be able to attend pre-scheduled lessons coordinated with the participants to confirm appropriate dates/times that align with the intervention schedule. Attending all scheduled sessions was critical because of the treatment components and procedure;

f. participants must have a demonstrated social skills deficit that would substantially impair interviewing skills. I administered the Social Responsiveness Scale-2nd edition (SRS-2; Constantino and Gruber, 2005) and operationalized a social skills deficit as a score below 60. Participants that score a 60 or higher will not qualify for the study;

g. participants must verbally articulate 50 words or more on a preliminary expressive language interview.

Demographic Information

Demographic information (e.g., disability status, race/ethnicity, gender) was collected on participants during pre-baseline procedures and is reported below with identifiers removed (e.g., pseudonyms replace students' names to ensure confidentiality). This information was collected using the Demographic Information sheet provided in Appendix D.

Lila

The first participant, pseudonym Lila, was an 18-year-old White female with a diagnosis of autism, anxiety, Charcot-Marie-Tooth disease, and legal blindness. Lila's preferred pronouns were she/her. Her preferred disability description was a blind person or individual with autism. Lila had hopes of getting her first job and/or attending community college. Prior to intervention, Lila had never interviewed for a job before or received any interview skills training outside of school. During the pre-baseline session, Lila's grandmother helped brainstorm possible target jobs based off identified strengths and weaknesses. Lila had experience helping family members package items from their business for it to be shipped to customers. She decided that a target job to practice interviewing for would be a packaging clerk position in a local business. Lila's SRS-2 t-score was a 60, indicating a mild social skill deficit with the greatest weaknesses in social

communication and motivation. Lila self-reported that her anxiety has a large impact on her ability to communicate.

Charlie

The second participant, pseudonym Charlie, was an 18-year-old White transgender male with a diagnosis of autism and anxiety. Charlies preferred pronouns were he/him. His preferred disability description was a person or individual with autism. Charlie was in the process of enrolling in a culinary arts program through his local high school and was on summer break at the time of this study. Charlie was living with a foster family in the same household as participant four, Keith, described below. All study procedures for Charlie and Keith were conducted separately. Charlie's foster figure was present during pre-baseline to help brainstorm strengths, weaknesses, and previous experiences that relate to his target job of becoming a baker. Charlie had never interviewed for a job or received interview specific instruction outside of school. His SRS-2 t-score was a 67, indicating a moderate social skill deficit. On the SRS-2 survey, Charlies foster figure identified social communication and motivation as his greatest weaknesses. Charlie self-reported that his anxiety caused him to be soft spoken and have a high-pitched voice.

Nancy

The third participant, pseudonym Nancy, was an 18-year-old Asian female with a diagnosis of autism. Nancy's preferred pronouns were she/her. Her preferred disability description was a person with high-functioning autism. Nancy was also in the process of enrolling in a culinary arts program through her public high school. During pre-baseline, Nancy's mother helped identify strengths, weaknesses, and previous experiences that relate to her target job of becoming a baker. While Nancy had many volunteer experiences, she had never

interviewed for a job before. Nancy's SRS t-score was an 87, indicating a severe social skills deficit. Subscale scores revealed deficits in all five areas: social awareness, social cognition, social communication, social motivation, and restricted interests/repetitive behavior.

Keith

The fourth participant, pseudonym Keith, was a 17-year-old White male with a diagnosis of autism and attention deficit hyperactive disorder (ADHD). Keith's preferred pronouns were he/his and preferred disability description was a person with autism. Keith was enrolled in public high school and had an interest in working at a fast-food restaurant. He had never interviewed for a job before or received interview skills instruction outside of school. Keith's mom was the foster adult for Charlie, the second participant. She filled out the SRS-2 survey and helped brainstorm strengths, weaknesses, and experience relative to their job descriptions. Keith's SRS-2 t-score was 73, indicating a moderate social skills deficit with the greatest weaknesses in social communication and motivation.

Other Involved Individuals

In addition to the participants, a research assistant and two local business owners were involved in the study. The research assistant was responsible for interobserver agreement (IOA) and fidelity data collection. Two local business owners were responsible for generalization probes and a social validity survey.

Brenda

Brenda oversees the daily on-site and administrative operations of six restaurants and 1 full-service catering operation in the Greater Richmond area. Brenda is a White female and prefers she/her pronouns. I met Brenda while working for Next Move, a non-profit that provides

job training. Brenda has expressed interest in supported employment. She has some prior experience working with youth with autism. Brenda completed a 15-min training with me on how to identify major signs of anxiety/aggression and end the interview session if needed. Brenda interviewed Keith and Charlie in a conference room at a commissary kitchen.

Lorene

Lorene is the owner and operator of a multi-million-dollar dessert company. Lorene is a Black female and prefers she/her pronouns. I met Lorene while working for Next Move. She has volunteered to work with my students with autism. Lorene has expressed interest in supported employment. She also completed a 15-min training on signs of anxiety and how to end the interview if needed. Local business owner trainings were conducted using the General Information for the Interviewer Form, located in Appendix C. Lorene interviewed Nancy in a conference room at a commissary kitchen.

Setting

Pre-baseline, baseline, and intervention research procedures were conducted in a conference room at a local non-profit, The Next Move Program. The offices and conference room for Next Move are located above Tablespoons, a Bakery operated by the non-profit. The three generalization interviews were conducted separately in a private setting within a commissary kitchen. A commissary kitchen is a rentable industrial kitchen where food service operators can prepare and store their products. Interviews took place in quiet conference rooms at the commissary kitchen.

Materials and Equipment

All scheduled sessions were video recorded and transcribed to accurately collect observational and interobserver agreement data. The following equipment was used in this study; (a) an iPhone for video recording (b) an Apple-Laptop computer screen to display video models; (c) a VCU password-protected server for data storage; (d) Microsoft Excel Spreadsheets for data entry and graphing; (e) interview skills modeling videos; (f) the PowerPoint training session; (g) self-reflection form (Appendix F), and (h) General Information Form for local business owners (Appendix C).

Measures

I used the following measures to screen participants and determine the effectiveness of the intervention;

a) demographic information was collected on any additional disabilities, race/ethnicity, gender, age, any previous work or volunteer experience.
b) SRS-2 forms and manual was be used to screen participants for inclusion;
c) I developed a systematic coding method for scoring transcripts of interview probes for relevant/irrelevant c-units (Appendix G);
d) an interview skills rating measure adapted from Strickland et al. (2012, see Appendix H);
e) an IOA form;
f) procedural fidelity checklists for baseline, intervention, and generalization (Appendix K);
g) social validity survey was be administered after the generalization condition (see Appendix I for participant survey and Appendix J for local business owner survey);

The following sections provide greater insight to the development of measures and data collection procedures supported by research informed decisions.

Screening Measures

Social Skills Responsiveness Scale Second Edition

Parents/guardians of all participants completed the SRS-2 (Constantino & Gruber, 2005) to document the social and communication characteristics of participants. This 65-item questionnaire provided the quantification of symptomatology associated with autism and characterized the severity of participant's social deficits. It yields the following standard scores: SRS-2 total score and sub scores for social awareness, social cognition, social communication, social motivation, and autistic mannerisms. The SRS-2 total score range categorizes participants as: normal, mild to moderately, and severely socially impaired. The average T-score for youth without disabilities is a mean of 50 with a standard deviation of 10. Scores in the 60–75 range indicate mild to moderate impairment in social reciprocity; T-scores of 76 or higher indicate severe impairment associated with autism. The current study included participants with mild to severe impairment in social reciprocity with a score of 60 or higher.

Preliminary Expressive Language Interview

While the parent/guardian was completing the SRS-2 form in another room, I sampled the participants expressive language ability. First, I asked the parent/guardian for two areas of interest that the participant likes to talk about. Next, without the parent present, I asked the participant 10 questions, five questions for each area of interest (see Appendix E). During the expressive language interview, I used a laptop to informally transcribe responses to determine if inclusion criteria of 50 or more relevant words was met. Rather than breaking transcripts into c-units, word count was used to quickly determine eligibility. All four participants scored over 100

words, meeting the eligibility requirements, and transcriptions were not used for further analysis. After confirming eligibility using the expressive interview and autoscored SRS-2, participants were provided a "What to Expect" form to take home. This form overviewed the intervention procedures, what the participant would be doing, where, what they should wear (casual, not formal interview practices) and general guidelines for interpersonal communications. This safeguard was thought to help anxiety of participants by setting clear expectations, similar to the research information form but with greater detail and pictures (see Appendix B for the "What to Expect" Form)

Dependent Variable (DV)

Primary Measure

Quantity of Response: Relevant or Irrelevant C-Units

Single-case design research is commonly assessed using direct, systematic observation and recording. However, previous research on interview skills has used a rubric as a primary measure. This study sought to fill this research gap by using frequency recording to quantify the occurrence of communication units (c-units) verbal interview responses. Specifically, I measured the c-unit of verbal responses to 10 interview questions. Knowing that youth with autism often have short, incomplete responses to interview questions, this primary measure of interview skills sought to capture frequency of relevant responses. First, I used the video recorded interviews to transcribe verbal responses. Next, I segmented participants responses into communication units (c-units). As defined by the Systematic Analysis of Language Transcripts (SALT) a "c-unit is an independent clause with its modifiers. It includes one main clause with all subordinate clauses attached to it. It cannot be further divided without the disappearance of its essential meaning (C-Unit Segmentation Rules, 2016). For example, "Since I have an interview, I'm going to practice

common interview questions" would be coded as one c-unit. "Since I have an interview" (subordinate clause) plus "I'm going to practice common interview questions" (main clause) is one c-unit.

After transcripts were segmented into c-units, they were dichotomously coded as relevant or irrelevant. Relevant c-units were defined as on-topic responses that connect to the job description and/or question and portray the participant in a positive light. Irrelevant c-units were scored when participants' responses were; off-topic, highly personal/inappropriate, negative, or self-deprecating comments, or non-answers such as "I don't know" or "I can't think of anything."

During development of this measure, I was focused on expanding participants answers to interview questions by adding length (greater frequency of c-units) and depth (giving examples for a quality answer). My goal was to teach participants to "sell" or pitch themselves as ideal candidates. During development of both the primary and secondary measure, I was forced to make decisions about what a high-quality interview response is and when are participants responses "not favorable." While making these decisions, I turned to literature on best interview practices. A reoccurring theme in interview literature was the last question of each interview "do you have any questions for me?" According to Work Chron, a career-advice periodical, "asking insightful questions during a job interview can put you ahead of other applicants and lead to an offer" (Burks, 2021). Overwhelmingly, interview experts' advise applicants to ask questions to show they are interested, demonstrate their fit/knowledge of the company, and assess their potential employer. While not having a question is not off-topic, it is a missed opportunity and does not portray the applicant as interested and engaged. For this reason "no, I don't have any questions" was coded as a irrelevant c-unit. Further descriptions, examples, and non-examples

can be found in the observational coding manual, Appendix G. The frequency of participant relevant and irrelevant c-units across the 10 interview questions was graphed for visual analysis.

Secondary Measure

Quality of Response: Interview Skills Rubric

"Almost all single case research data are collected via researcher-developed measures, in part due to the lack of appropriate standardized measures for repeated use but also because researcher-developed measures can be designed to be sensitive to small but meaningful changes in participant behavior" (Ledford and Gast, 2018, p. 114). Construct validity was a large concern while creating a measure of interview skills in observable and measurable terms. I leaned on previous research and human relation experts to create definitions of appropriate verbal answers to 10 interview questions and non-verbal interviewing behaviors. I argue the construct of answering interview skills could not be measured solely using frequency recording because the quantity of an interview response does not singlehandedly magnify the odds of obtaining employment. To fully capture the construct of interview skills, this study also examined the quality of interview responses using a rubric.

The rubric for this study was created using Strickland et al. (2012) interview rating instrument as a foundation. Strickland and colleagues created an interview skills rating instrument for "high functioning" youth with autism ages 16-19 years old. The instrument was created in collaboration with human resources experts and included two subscales: Response Content: a 10-item scale that measured the content of the participants responses to 10 interview questions; and Response Delivery: 20 items that measure non-verbal communication (e.g., handshake, eye contact, facial expressions). Each response was scored on a Likert-type scale with rating options ranging between 1(Poor) and 4 (Excellent).

In order to align the outcome measure with a broader population of individuals with autism (not specifically high-functioning) and account for the possibility of greater social skill deficits the following changes were made; two patterned behavior description interview (PBDI) questions were simplified and operational definitions were further developed using the training session PowerPoint.

PBDI questions involve participants telling a story from their personal or professional lives to demonstrate their skills and abilities (Munandar et al., 2021). An example of a PBDI question used by Strickland and colleagues is “some people are not easy to get along with. Tell me about a time where you had to work with someone in school or on the job who was difficult to get along with?” PBDI questions are among the most difficult interview questions to answer because they require storytelling abilities. To simplify the question for the current study's target population the participants were asked “give some examples of how you are a team player”. The 10 interview questions will contain one PBDI question, “tell me about a problem and how you solved it.” This question is commonly asked in interviews and allowed participants to practice using storytelling to answer a question. The Interview Skills Rating Instrument is located in Appendix H.

Interobserver Agreement (IOA) Measure

To enhance the reliability of results, a secondary coder independently coded a random sample of 25% of participants’ (video recorded and transcribed) responses to the 10 interview questions. To randomize coding, I labeled probes in sequential numbers and used a random number generator to select a random sample of 25% of each phase for each participant. This is above the minimum standard for IOA, which is obtaining greater than or equal to 80% agreement of the primary and secondary observer on at least 20% of the overall data for each phase and

each participant to ensure accurate implementation of instruction (CEC, 2014; Kratochwill et al., 2010).

The research assistant attended an in-person training on the primary and secondary measure. The research assistant and I independently viewed and scored video recordings of pilot sessions until 80% agreement was reached on at least three occasions. IOA data for the independent variable (IV) was collected using the procedural fidelity checklists for the baseline, intervention, and generalization condition.

Procedural Fidelity Measure

Since this single-subject design research involved implementation of the IV over time, there was a possible threat of implementation fidelity (Horner et al., 2005). To control for the threat of "continuous measurement of the independent variable", a procedural fidelity checklist was completed using video of probes (Gresham et al., 1993; Horner et al., 2005, p. 168). A random number generator was used to randomly select 25% of the overall data, for each phase and participant, to examine the extent to which instruction was administered accurately. The procedural fidelity checklist for intervention covered; (1) playing the video model, (2) asking comprehension questions about video model, (3) self-video model, (4) pausing and using self-reflection form, (5) role playing, (6) recording interview probe, (7) providing low-quality praise on a fixed interval schedule of every one minute. See Appendix K for procedural fidelity checklists.

Social Validity Measure

Participants and two local business owners were asked about their overall satisfaction with the video-based intervention's ability to improve job interviewing skills via a survey. To speak to improvement, local business owners watched the initial baseline video after their

generalization interview with the participant. Many studies that involve participants with disabilities have parents or guardians complete social validity questionnaires. However, I believe the main stakeholders in a job interview are the employer and potential employee. Obtaining a job is a demonstration of independence from parental aid and parents may have varying levels of support preparing for a job interview. Participants were asked to complete the questionnaire immediately following the generalization probe. Lila, who did not participate in the generalization interview was emailed the survey and completed it with help from her parents. Local business owners filled out the survey after viewing the pre-intervention video, when they had the pre and post data necessary to rate the effectiveness of the VBI.

General Procedures

Pre-Baseline

At the beginning of the pre-baseline session the potential participant, parent/guardian reviewed the assent and consent documentation. Parents/guardians were asked if they would like to provide consent, if they would like one week to consider consent, or if they were not interested in participating in the study. At the same time, the youth participant was asked if they would like to provide assent to be involved in the study, if they would like to take the form home and consider, or if they were not interested in participating in the study. All four parent/guardians and participants provided consent and/or assent during the pre-baseline session thus continuing the session to eligibility data collection.

First, the parent/guardian completed the demographic information form, and the SRS-2. The demographic information form was printed, and parents used a pen to fill in the information (see attachment). The parent or guardian then used the researcher's laptop to fill out the online

SRS-2 school-age form. The online SRS-2 form took roughly 15-20 min to complete and the score was automatically generated. All participants had an eligible score of 60 or higher indicating a mild-severe impairment in social reciprocity.

Once in a separate room from the participant, where the SRS-2 form was completed, I asked the parent/guardian for two areas of interest that the participant likes to talk about. Next, while the parent/guardian was completing the SRS-2 form, I sampled the participants expressive language ability. Without the parent present, I asked the participant 10 questions, five questions for each area of interest (see Appendix E for narrative). During the expressive language interview, I used a second laptop to transcribe responses. The transcription was used to determine if inclusion criteria of 50 or more relevant words. Word count was used instead of c-units to provide a quick eligibility decision.

Once the SRS-2 and expressive language measure had been completed and inclusion criteria was met I reviewed intervention procedures and asked about availability. Lastly, I used the pre-baseline session to discuss each participants employment goals, strengths, and weaknesses. A gap in previous literature, this study sought to individualize the job interview process based on participants' employment goals. Together, the participant, parent, and researcher used strengths and interests to identify a job position for the participant to be interviewing for during the intervention. I used the individualized job discussion to create and share a job description prior to beginning baseline probes. The job description was used during the training session to align strengths and experiences with the target job. I took notes during the pre-baseline session on each participants previous experiences, strengths, and weaknesses to inform training procedures.

The last step of the pre-baseline session was providing the "what to expect" form. This form overviewed the intervention procedures, what the participant would be doing, where, what they should wear (casual, not formal interview practices) and general guidelines for interpersonal communications. The “What to Expect” form was much like the general information form but with greater detail and pictures. This safeguard was thought to help anxiety of participants by setting clear expectations.

Baseline Probe

Baseline data collection was used to demonstrate a functional relation between VBI and interview skill by comparing baseline to intervention trends in data. Baseline probes were used to examine the interview skills of participants prior to training and intervention conditions.

Baseline and intervention data collection probes were short mock interviews. I asked each participant a series of 10 interview questions. To control for threats to internal validity, I varied wording of questions slightly across probes and presented select questions in random order. To ensure no instructional feedback is given during assessment probes, interviewers will provide noncontingent, low-quality praise (e.g., “good to hear,” “sounds good”) on a fixed interval schedule of every one minute after the participant finished answering the question.

A minimum of three data points were collected in baseline to document a predictable pattern, showing that interview skills were not increasing overtime without training or intervention. Three data points without a trend in the direction towards or away from the predicted intervention pattern was used to demonstrate relative stability.

I originally planned to decide participant order by need for intervention. However, two participants had limited availability for intervention due to existing plans (i.e., travel and camp). Participant order was established by availability rather than need for intervention.

Once at least three stable baseline probes were established for the primary measure of relevant and irrelevant c-units, the first participant completed an interview skills training before moving onto intervention. The next participant then initiated their second and sequential baseline probes once the first participant meets stability requirements for training procedures. This delay in intervention increased the overlap of participant baseline and training/intervention probes. Overlap of data between-conditions demonstrated that interview skills were functionally independent. The functional relation was exhibited when participant behavior maintained relative stability until the training and intervention conditions began. If the behaviors had changed prior to being exposed to the video-based intervention then behavioral covariation would have been present. To demonstrate experimental control of participant interview skills and VBI, all the remaining participants remained in baseline condition until training began for the former participant. Multiple probe methodology allowed for participants to stay in baseline condition without being probed until criteria has been met for the former, reducing testing error as previously mentioned.

Training

The training session included a PowerPoint presentation and facilitated discussion on the 10 interview questions. Training was an hour and a half long and discussion was individualized based on the participants target job. For example, during the pre-baseline session Keith identified fast food worker as his target job and interview responses for a fast food position were discussed. I created the training PowerPoint presentation based on my professional experience and in conjunction with the interview skills rating instrument (revised from Strickland et al., 2012). The PowerPoint broke down successful interview response components. For example, a successful response to the question “tell me about yourself” has three components; present role, relevant

experience, and why are you interested in the job. An example response may be "I'm a senior in high school. I've never had a job before, but I cook at lot at home, and I like fast-paced environments." We brainstormed responses using notes from the pre-baseline session with the parent/guardian's input on previous experience, strengths, and weaknesses. During the training session, I typed notes of brainstormed interview responses for the participant to take home. Participants were encouraged to review the training notes at home and before each intervention session.

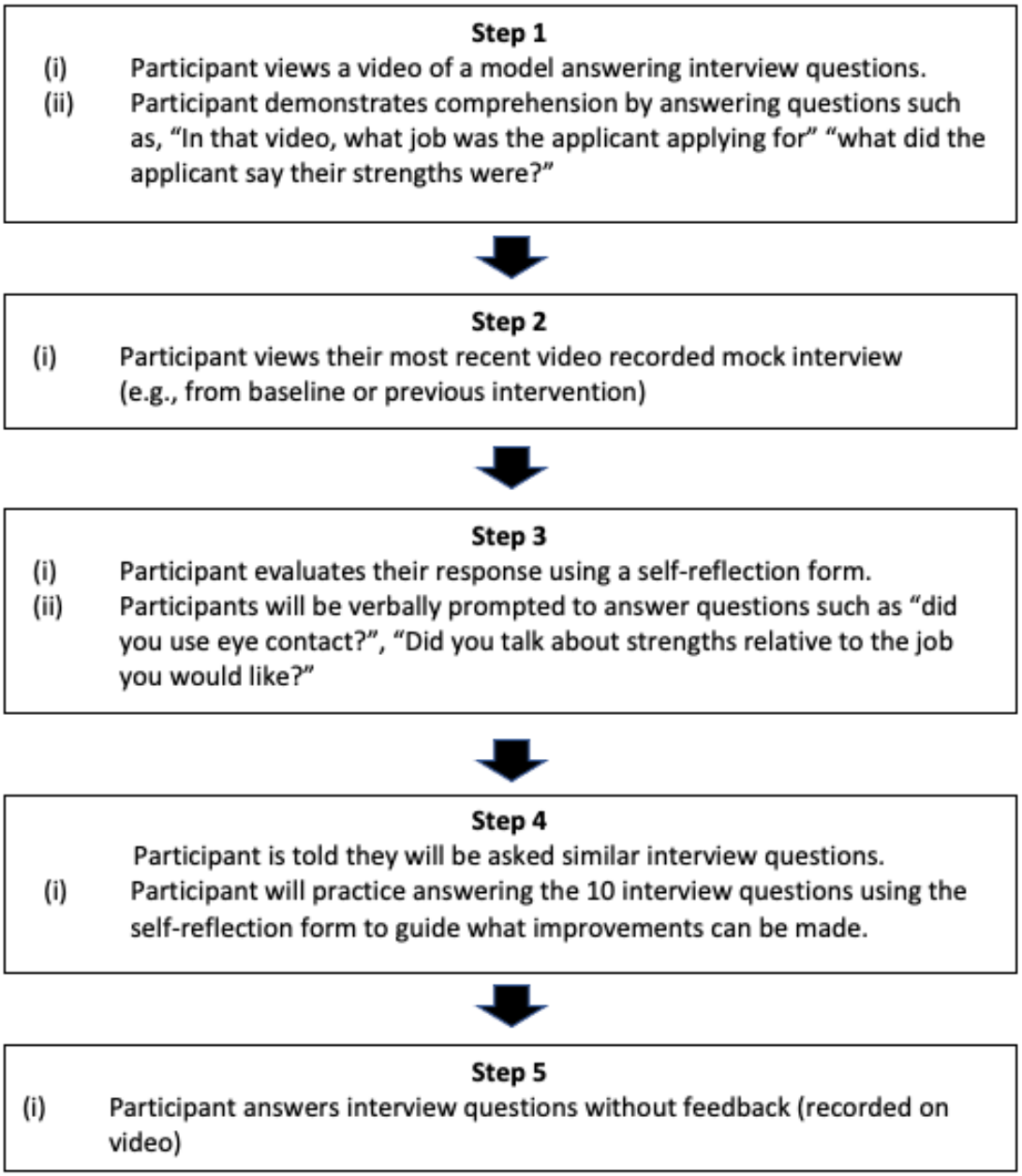
Intervention

The intervention consisted of one and a half hour sessions, two to three times a week, for 40 days. The intervention included direct instruction, video modeling, self-video modeling, self-reflection, and role play. I created six video models of examples and nonexamples of interviewing behaviors for each intervention session. These video models were created in collaboration with two experts in the field of human relations. These experts were chosen because they make hiring decisions at two local Fortune 500 companies. After implementing feedback on the interview scripts, all six video models were approved as "great examples of an interview for a 16–18-year-old" by the experts in the field.

During the intervention session, participants watched one of the video models and discussed examples and non-examples with prompting. For example, "What do you think Mary did wrong in that interview?" Next, participants viewed their most recent mock interview (e.g., training or previous intervention session). After viewing their previous video probe, the participant completed a self-evaluation with verbal prompts. Using the self-reflection form as a guide, the participant role played answering the 10 interview questions. During role play, I provided feedback on areas for improvement. Lastly, participants were video recorded answering

the 10 interview questions without feedback. This video recorded mock interview was then transcribed and scored for data collection.

Figure 3



Generalization

Once participants demonstrated a stable positive trend of three consecutive data points in interview skills indicated by a visual analysis, they became eligible for the generalization condition. Generalization of interview skills will be examined in a novice setting and interviewer. Prior to the generalization session, the business owners participated in a 15- to 20-min training on the characteristics of autism. I used the General Information for Interviewer (See Appendix C) to guide the training. Local business owners were trained specifically on how to identify major signs of anxiety/aggression and end the interview session. Local business owners were provided the participants target job description. The three participants that participated in the generalization session were matched with business owners in their target field (i.e., food industry). During the generalization probe, local business owners read an interview script that closely resembles the baseline and interview probes. I transcribed and analyzed generalization videos for quantity and quality of responses using the same protocol as baseline and intervention conditions.

Immediately following the interview, the lead researcher and participant met privately in another room to complete a social validity survey on the acceptability, feasibility, and effectiveness of the intervention (see Appendix I).

Once the participant has left the local business, I met with the local business owner to discuss the participant's interview. Using my laptop, I showed the business owner the initial baseline probe of the participant to provide contextual information on participant growth after VBI. Lastly, the local business owner was asked to complete the social validity survey, Appendix J.

Sample Intervention Schedule

Table 5

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Pre-baseline (P1-P5) Baseline (P1-P5)	Baseline (P1)		Baseline (P1)	
Week 2		Baseline (P1)		Training (P1)	
Week 3	Baseline (P2)	Intervention(P1)	Baseline (P2)	Intervention(P1)	
Week 4	Baseline (P2)	Intervention(P1)	Training (P2)	Generalization (P1) Baseline (P3)	
Week 5	Intervention(P2)	Baseline (P3)	Intervention(P2)	Baseline (P3)	
Week 6	Intervention(P2)	(Training P3)	Generalization (P2) Baseline (P4)	Intervention(P3)	Baseline (P4)
Week 7		Intervention(P3)	Baseline(P4)	Intervention(P3)	Training (P4)
Week 8	Baseline (P5)	Generalization (P3)	Intervention(P4) Baseline (P5)		Intervention(P4)
Week 9	Baseline (P5)		Intervention(P4) Training (P5)		Generalization (P4)
Week 10	Intervention(P5)		Intervention(P5)		
Week 11	Intervention(P5)		Generalization (P5)		

Data Analysis

Visual analysis was used to show experimental effect through identifying levels, trends, percentage of overlap, and variability/stability of the data on a graphic display for each participant (Horner et al., 2005). Two line graphs were used to display the treatment effectiveness (manipulation of the IV on the DV), examining the quantity and quality of interview responses in relation to the VBI condition. After each probe session, the quantity and quality scores were graphed using Microsoft Excel. Line graphs display baseline, intervention and generalization data points for both measures of interview skills. Specifically, the quantity of the response graph will have two lines for frequency of relevant and irrelevant c-units (y axis) and days on the abscissa (x axis). The quality of response graph has the interview skills rubric score as the ordinate value (y axis) and probe sessions on the abscissa (x axis). Conditions for both graphs are separated with solid lines. Data analysis was ongoing and used to evaluate the stability of baseline and effect of intervention. The formative evaluation of data points was used to make decisions on maintaining or modifying the intervention based on participant response. Formative evaluation was used to modify intervention materials based on participant need. Modifications were documented and will be discussed in the following results and discussion chapters.

A summative visual analysis was be used to determine that a functional relation exists between the VBI and participant interview skills. Both the quantity and quality graphs of were used to demonstrate the functional relation since both measures were used to capture the construct of interview skills.

Effect Size Analysis

Descriptive statistics (e.g., mean, median social validity data analysis) will be computed and displayed in tables in the results chapter. I originally planned to use log response ratio (LRR) to examine the magnitude of change of interview skills, using the mean of pre-intervention phase behavior and the mean of intervention phase for each participant. However, LRR was not an appropriate metric for this study because the mean of irrelevant c-units was zero during intervention. To get a measure of the overall effect across participants, I calculated the between-case effect using between-case standardized mean difference (BCSMD) estimates developed by Pustejovsky et al. (2014).

The BC-SMD uses a two-level model with a within-case regression model at the first level and a between-case variation at the second level (Valentine et al., 2016). The standard applies a design comparable effect size using the same benchmarks as Cohen's (1988) d, i.e. small effect = 0.10, medium effect =. 30 and large effect = .50. The calculator requires a specification of both the fixed and random levels in the baseline phase and a fixed level in the intervention phase. I used the criteria suggested by Wolfe et al. (2019): if the treatment effect across three participants varied by more than 10%, I considered this an inconsistent treatment effect and specified a random level in the intervention phase.

Pilot Study

A pilot study was be used to ensure the definitions and measurement procedures are accurate and appropriate for accessing interview skills of individuals with autism. Specifically, I examined whether the definitions and measurement procedures were accurate and appropriate for accessing interview skills of individuals with autism. This pilot study allowed me to practice data

collection procedures prior to receiving IRB approval. The pilot data was also used to train my research assistant on data collection procedures for IOA.

Pilot Participant: Andre

The pilot participant, pseudonym Andre, is a 26-year-old white male with a diagnosis of autism and apraxia. Andre's preferred disability description is person or individual with autism. Andre had one paid employment opportunity where he worked as a teacher's assistant before moving to Virginia. He did not interview for this position; it was offered to him upon graduation from high school by a former teacher. Without any interview experience, Andre's mom expressed concern that he would not be able to get a job without the confidence to interview. Upon introduction to the intervention, Andre showed an immediate increase in interview skills. Pilot data was used to adapt the observational coding manual to better capture the frequency of relevant vs. irrelevant interview responses.

Results

The purpose of this study was to investigate the effects of a newly developed video-based intervention (VBI) package to improve job interview skills of youth with autism. I used a multiple probe across participant design to address the following research question Does the packaged video-based intervention improve interviewing skills of youth with autism?

I collected probes for each participant using ten common interview questions, standardized across participants. The intervention included one training session and three packaged intervention sessions of video modeling, self-video modeling, self-reflection, and role playing. At the end of each session, I recorded each participant's answering the 10 interview questions without feedback for transcription, scoring, and analysis. I selected frequency recording of communication units (c-units) to quantify the occurrence of relevant/irrelevant verbal interview responses and examined the quality of interview responses using an interview skills rubric (adapted from Strickland et al., 2012).

Visual and statistical analysis demonstrated a functional relation between the implementation of the intervention and an increase in relevant interview responses across all four participants. I observed increases in the frequency of relevant c-units and elimination of irrelevant c-units for all participants. Three out of the four participants maintained skills at mastery levels during generalization sessions with local business owners in a novel setting.

Primary Measure: Frequency of Relevant/Irrelevant C-units

Figure 4 shows the frequency of relevant and irrelevant communication units (c-units) across the four participants. Visual analysis of relevant and irrelevant c-units indicated that all four participants improved in their ability to answer interview questions. Specifically, each

participant demonstrated an increase in the frequency of relevant responses and decrease in the frequency of irrelevant responses.

Lila demonstrated a stable baseline of irrelevant c-units, (range = 3-4) with a flat trend. During the training session, Lila's irrelevant c-unit had a downward trend of 1 irrelevant c-unit (baseline m = 3.33) and relevant c-units of 21 (baseline m = 27.33). Lila attempted to answer questions after the training that she had non-responses for during baseline. For example, Lila would respond "I don't know" when asked "tell me about yourself?", "Give me an example of a problem or a situation where something went wrong and how you solved it", and "what do you do when you feel frustrated or stressed?". Once I introduced the packaged VBI, there was an immediate increase in the level of relevant c-units with 0% overlapping data points between the baseline and intervention phases and an upward trend during the intervention. Lila had an 86.8% increase in relevant c-units from baseline (M = 27.3) to intervention (M = 51) and a 100% decrease in irrelevant c-units from baseline (M = 3.33) to intervention (M = 0). She had three stable data points of zero irrelevant c-units during the intervention condition and did not participate in the generalization condition due to reported anxiety of interviewing in a different location with a new interviewer.

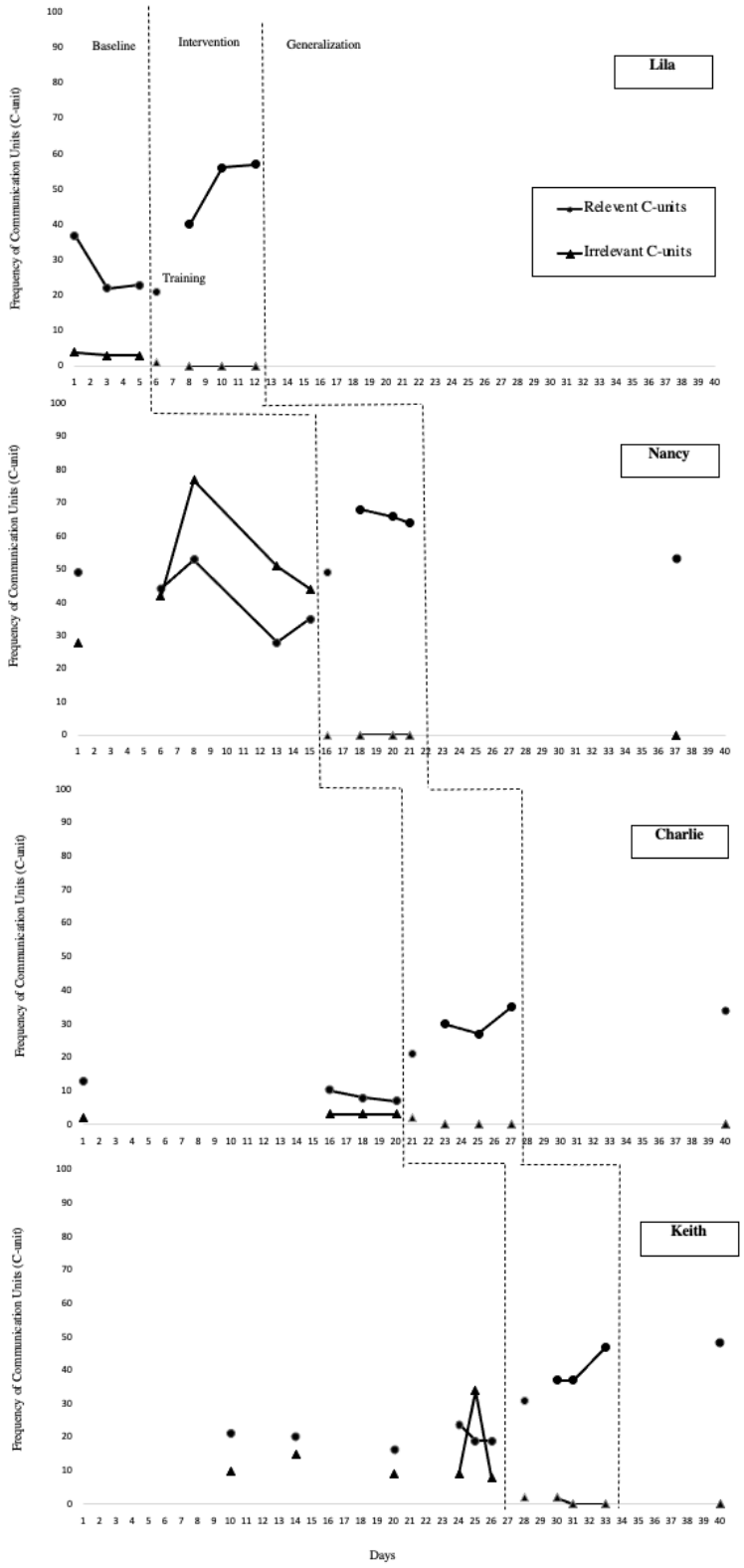
Nancy had the greatest variation during baseline for both relevant (range = 28-53) and irrelevant (range = 28-77). She also had overlapping data points for relevant c-units during training session and generalization, data was at the same level as baseline. A need for intervention was demonstrated by the accelerating trend of irrelevant c-units and a decelerating trend of relevant c-units during the baseline condition. Nancy's intervention data had an immediate extinction of irrelevant c-units with zero irrelevant responses during intervention and generalization. Apart from the training session, Nancy's relevant c-units improved when the

intervention package was introduced and stabilized (range = 49-68). Data showed a 57.9% increase in relevant c-units from baseline (M = 41.8) to intervention (M = 66) and a 100% decrease in irrelevant c-units from baseline (M = 48.4) to intervention (M = 0). Nancy maintained zero irrelevant c-units during the generalization probe but had a lower level of relevant c-units (53) compared to intervention (M= 66).

Charlie demonstrated a stable baseline of irrelevant c-units (range = 2-3) and relevant c-units (range = 7-13) with a flat stable trend. During the training session, Charlie's irrelevant c-unit decreased to 1 and there was an immediate increase in level of relevant c-units (21) with no overlap between conditions. Data showed Charlie more than tripled his relevant c-units from baseline (M = 9.5) to intervention (M = 30.66) and reduced irrelevant c-units from baseline (M = 2.8) to intervention (M = 0). Three stable data points of zero irrelevant c-units were demonstrated during the intervention condition. Charlie maintained a high level of relevant c-units (n = 34) and zero irrelevant c-units during generalization.

Like Nancy, the last participant, Keith, had a baseline probe with high levels of irrelevant c-units (range = 8-34). Keith's relevant c-units were relatively stable and at a low level (range = 16-24) with a slightly decelerating trend. During the training session, Keith's irrelevant c-unit frequency decreased by two and there was an immediate increase in level of relevant c-units (31) with no overlap between conditions. Charlie doubled his relevant c-units from baseline (M = 19.83) to intervention (M = 40.33) and had a 95.34% decrease in irrelevant c-units from baseline (M = 14.17) to intervention (M = 0.66). Keith maintained a high level of relevant c-units (48) and zero irrelevant c-units during generalization.

Figure 4


Baseline
Intervention
Generalization
Lila
Relevent C-units
Irrelevant C-units
Training
Nancy
Charlie
Keith
Frequency of Communication Units (C-unit)
Days

Secondary Measure: Quality of Interview Skills

I used the Interview Skills Rubric (adapted from Strickland et al., 2012) to examine the quality of responses for each question using a 4-point Likert-type scale on 24 items. While the primary measure aimed to capture frequency of relevant/irrelevant verbal expressions, this measure aimed to capture the components of a high-quality interview answer (varying by question) and nonverbal behaviors throughout. An increase in the interview skills rubric scores demonstrates higher quality responses and appropriate non-verbal behaviors. Figure 5 displays a clear, consistent increase in rubric scores during the intervention condition across all four participants.

Lila's visual analysis of the Interview Skills Rubric demonstrates a stable baseline (range = 50-52 points or 69-72%). When the intervention was introduced, an immediate accelerating trend of quality interview responses with high stability was observed with no overlapping data points with the baseline condition. Lila had a 22% increase from baseline (M = 71%) to intervention (M = 93%) and did not participate in the generalization probe due to anxiety.

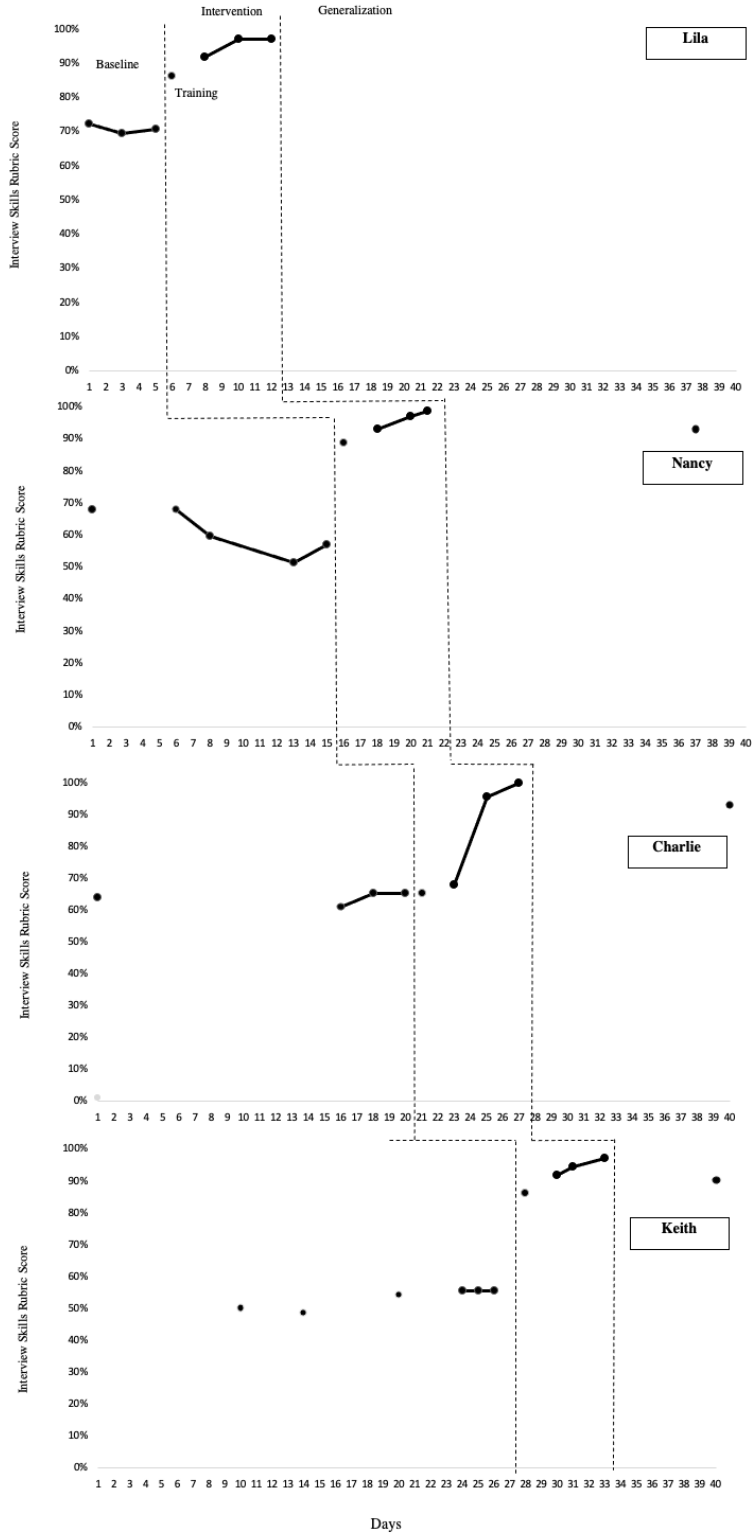
Nancy had a greater variation in baseline scores (range = 51-68%) on the interview skills rubric. Baseline scores showed a decelerating trend until intervention was introduced and there was an immediate increase in trend and level, with no overlapping data points. According to the rubric, Nancy mastered interview skills with a 34% increase from baseline (M = 61%) to intervention (M = 95%) and maintained mastery during the generalization probe at 93%.

Charlie had a stable baseline (range = 61-65%) with one overlapping data point during the training probe (65%). After the first intervention probe, Charlie demonstrated an accelerating trend with 100% mastery by the third intervention. Charlie had an 18% increase from baseline

(M = 64%) to intervention (M = 82%) and maintained a high level of mastery of 93% on the generalization probe.

The final participant, Keith, had the most stable baseline (range = 49-56%) with a flat trend. Once the intervention was introduced Keith had an immediate increase in level with an accelerating trend. Keith mastered interview skills with a 39% increase from baseline (M = 53%) to intervention (M = 92%) and maintained high quality responses with 90% on the generalization probe.

Figure 5


Intervention
Generalization
Baseline
Training
Lila
Nancy
Charlie
Keith
Interview Skills Rubric Score
Days

Effect Size Analysis

I calculated the between-case effect using between-case standardized mean difference (BCSMD) estimates to get a measure of the overall effect across participants (Pustejovsky et al., 2014). I used the criteria suggested by Wolfe et al. (2019): if the treatment effect across three participants varied by more than 10%, I considered this an inconsistent treatment effect and specified a random level in the intervention phase. The outcome measures of relevant c-units and the quality rubric had a clear variance of treatment across cases and were specified as random effect at the treatment level. I did not specify a random effect for irrelevant c-units at the treatment level because there was a consistent level of 0-2 c-units across all participants. For all models, I choose the restricted maximum likelihood (RML) estimation method. The BC-SMD estimate was significant for all outcome measures indicating the presence of a statistically significant relationship between the VBI and interview skills.

Table 6

Between Case Effects

Outcome Measure	BC-SMD	S.E.	CI	Baseline Model	Intervention Model
Relevant C-units	1.89**	1.14	-1.35-5.15	Level: fixed + random	Level: fixed + random
Irrelevant C-units	-1.45**	0.55	-2.73- -0.17	Level: fixed + random	Level: fixed
Quality Rubric	4.59**	1.74	0.46-8.71	Level: fixed + random	Level: fixed + random

Note:

BC-SMD = between case-standard mean difference

SE = standard error

CI = confidence interval

** = $p < .005$

Procedural Fidelity

Minimum standards specify that agreement needs to be greater than or equal to 80% for at least 20% of overall data within each phase for each participant (Ledford & Gast, 2018, p. 134). A research assistant and I calculated procedural fidelity for at least 25% of each phase for each participant. The procedural fidelity checklist for intervention covered; (1) playing the video model, (2) asking comprehension questions about video model, (3) self-video model, (4) pausing and using self-reflection form, (5) role playing, (6) recording interview probe, (7) providing low-quality praise on a fixed interval schedule of every one minute. See Appendix K for procedural fidelity checklists.

Lila was the only participant with procedural variation due to high levels of anxiety during the intervention phase. I purposefully varied intervention procedures to account for anxiety during the self-video modeling and self-evaluation component to the intervention. Lila's sessions had 100% procedural fidelity during baseline, 100% treatment fidelity during the first

intervention session, 85.7% treatment fidelity for the second session (no self-evaluation) and 71.4% treatment fidelity for the third session (no self-video modeling or self-evaluation), Nancy, Charlie, and Keith had 100% procedural fidelity for each phase (i.e., baseline, intervention, and generalization). These results indicate accurate implementation of the intervention package for three out of four participants.

Interobserver Agreement (IOA)

Using a similar criterion as procedural fidelity, I collected IOA data using the same formula as above, for at least 25% of each phase for each participant and for both the primary and secondary measures of the DV. This is above the minimum standard for IOA, which is obtaining greater than or equal to 80% agreement of the primary and secondary observer on at least 20% of the overall data for each phase and each participant to ensure accurate implementation of instruction (CEC, 2014; Kratochwill et al., 2010). IOA for the primary measure of the DV was coded for both relevant and irrelevant c-units. The primary measure of c-units uses frequency data that is not time-based so IOA was calculated using point-by-point agreement, by dividing the number of agreements into the number of agreements and disagreements (total number of c-units) and multiplying by 100. Nancy's third baseline session had the lowest agreement (77% for relevant c-units and 75% for irrelevant). After discussing discrepancies and consensus coding the IOA remained above 80% for all remaining videos.

The relevant c-unit agreement ranged from 77% to 99%, with a mean of 92.66% in the baseline condition; 95% to 100%, with a mean of 96.5% in the intervention condition; and 100% in the generalization session for Nancy, Charlie, and Keith.

The irrelevant c-unit agreement ranged from 75% to 100%, with a mean of 92.66% in the baseline condition; 95% to 100%, with a mean of 98.75% in the intervention condition; and

100% in the generalization session for Nancy, Charlie, and Keith. The secondary measure for the DV, the Interview Skills Rating Scale, was scored point-by-point for each question in the rubric and calculated 100% IOA for each participant across all conditions.

Social Validity

Self-Evaluation Data During Intervention

I asked participants to fill out a self-evaluation form with a 4-point Likert-type scale for each of the 10 interview questions, as part of the intervention package. Participants ranked their responses by Poor (0), Fair (1), Good (2) and Excellent (3) while watching the self-video model, pausing between questions. I asked how they could improve their responses if they didn't score themselves as Excellent and encouraged participants to write abbreviated notes on the self-reflection form.

During the first intervention session, the self-evaluation form appeared to cause Lila anxiety and frustration. Lila verbally expressed that she "did not know" and ranked the majority of responses as Poor (0) scoring a 13.33% (M = .4) Lila was not asked to complete a self-evaluation for the following intervention sessions, which is discussed further in the procedural fidelity section below. The remaining participants did not exhibit anxiety or frustration over the self-evaluation component of the intervention procedures. Results demonstrate participant reported growth in interview skills.

Table 7

Youth with Autism Self-Evaluation

	Participants			
Phase	Lila	Nancy	Charlie	Keith
Intervention 1	13.33%	71.67%	35%	66.67%
Mean (*M*)	0.4	2.15	1	2
Intervention 2		81.66%	70%	73.33%
Mean (*M*)		2.45	2	2.2
Intervention 3		100%	80%	80%
Mean (*M*)		3	2.4	2.4

Note. 0 = Poor; 1 = Fair; 2 = Good; 3 = Excellent;

Social Validity Survey After Generalization

I collected social validity data from all four participants and the two local business owners (Lorene and Brenda). Student participants responded to nine questions, using a 3-point Likert-type scale. Table 8 shows the participants' individual and mean responses. Two participants opted to write notes next to their answers, without prompting. Next to Charlie's response that he agrees role playing/practicing answering the interview questions helped improve his answers he wrote "scary." Keith wrote two notes on his survey. Next to his response that he's not sure if watching videos of himself answering interview questions helped him improve answers he wrote "it might have hurt because I cringed watching myself." Keith also answered that he's not sure if role playing/practicing answering the interview questions helped him improve his answers. Next to his circled response of not sure he wrote, "sometimes I knew what I wanted to say but couldn't think".

Table 8

Participant Social Validity Survey Responses

Survey Questions	**Participants**			
	Lila	Nancy	Charlie	Keith
My interview skills improved from being in this study	3	3	3	3
Interview skills are important for me to get a job	3	3	3	3
Being in this study will help me get a job	3	3	3	2
Watching video models of other people helped me improve my answers to interview questions	3	3	3	3
Watching videos of myself answer interview questions helped me improved my answers to interview questions	3	3	3	2
The self-reflection forms helped me improve my answers to interview questions	3	3	3	3
Role playing/practicing answering the interview questions helped me improve my answers to interview questions	3	3	3	2
Giving me feedback on my interviews helped me learn it	3	3	3	3
I would recommend this training to my friends	3	3	3	3
Total				
Mean (*M*)	3	3	3	2.67
Median (*Mdn*)	3	3	3	3

Note. 1 = Disagree; 2 = Not Sure; 3 = Agree

Table 9 shows the local business owner's individual and mean responses for seven 3-point Likert-type survey items. Lorene, the owner of a local bakery, interviewed Nancy and reported (3) that she agreed with each item on the survey (M = 3; Mdn = 3). Lorene also wrote a note, unprompted, on the bottom of the survey "she was confident and poised. Directly to the point. Very engaged. Different person from the first original interview video, great job!" Brenda, a general manager of six local restaurants and full-service catering operation, interviewed Charlie and Keith.

Table 9

Local Business Owner Social Validity Survey Responses

	Local Business Owner		
	Lorene	Brenda	
	Participant(s) Interviewed		
Survey Questions	Nancy	Charlie	Keith
The participant's interview skills improved from being in this study	3	3	3
This intervention improved the participant's ability to access employment	3	2	3
The opportunity to practice and receive feedback on interview skills within a business setting helped the participant improve their interview skills	3	3	3
Teaching youth with autism interview skills is important and necessary	3	3	3
Teaching youth with autism how to answer interview questions enhances their ability to access employment	3	3	3
I would hire this participant or recommend them for employment (in the target job description)	3	2	2
I would recommend this interview intervention to friends/families with youth with autism	3	3	3
Total			
Mean (*M*)	3	2.71	2.86
Median (*Mdn*)	3	3	3

Note. 1 = Disagree; 2 = Not Sure; 3 = Agree;

Discussion

Key Findings

The purpose of this study was to examine the effects of a video-based intervention (VBI) package on the interview skills of youth with autism. Previous literature on interview skills have primarily relied on rubrics to score interview responses (Hayes et al., 2015; Morgan et al., 2014; Strickland et al., 2013; Smith et al., 2015). This study extends to the literature by introducing an observational coding system that examines interview responses as communication units. Taken together, visual and statistical analysis converge to provide strong evidence of a functional relation between intervention and participants' ability to appropriately answer interview questions. This chapter provides further description and interpretation of the visual analysis, aligns this study's findings to the conceptual framework, and presents implications for practice, policy, and research.

Effectiveness of VBI on Interview Skills

Direct Measure of Interview Skills

This is the first known study to examine interview skills using direct speech production as a primary measure. This study contributes to scientific knowledge on measurement of interview skills by offering a direct, systematic, and observational method. Frequency recording of c-units should be replicated to generalize findings and further evaluate the effectiveness of interview skills interventions. The use of direct speech production targets increasing participants relevant and decreasing irrelevant responses to interview questions. Transcript analysis may allow researchers a more objective approach to evaluating participants interview skills. The interview skill improvements captured by this measure align with the quality measure, which has been used in previous literature.

Individualized Intervention Components

The VBI included five components; a Powerpoint training on interview skills, video modeling, self-video modeling, self-reflection, and role play. Previous studies did not differentiate intervention components based on participants' interests and instead focused on one sample job (e.g., stock clerk, Bobroof & Sax, 2010). The present study directly incorporated participants' career aspirations and sought to tap into natural incentives of practicing for a job that interests them. The training session included a Powerpoint presentation and facilitated discussion on 10 common interview questions. During the discussion, the participant and I brainstormed responses to the interview questions based on the participant's job aspirations (e.g., Nancy wanted to be a Baker). Investing in youths' job aspirations in the development and training phase may create a more meaningful experience, with greater incentives, and the potential to generalize to a real job interview. According to self-determination theory, intrinsic motivation is the highest form of autonomous motivation and plays a significant role in increasing engagement and learning (Froiland & Worrell, 2016).

During the pre-baseline session where the parent/guardian was present, participants were asked about their hopes for employment and strengths/experience in relation to that job. Nancy (Baker), Keith (Fast Food Employee), and Charlie (Baker) had already chosen their desired first job prior to the beginning of the study. Lila decided during the pre-baseline session that a packaging clerk position aligned with her strengths and volunteer experience. Before baseline probes began, I created and emailed each participant a job description of their target position. Previous literature on interview skills does not mention use of a job description.

When participants were unsure of how to respond to an interview question during the training session, we used notes from parents/guardians to generate ideas. These notes were useful when all four participants struggled to think of strengths and give details about volunteer experience. Prior research on interview skills did not detail parent support even though parent involvement is a hallmark of best practices in disability services (Reynolds et al., 2015) and is one of the most salient predictors of students' successful transition (Grigal & Neubert, 2004). Participants were provided with notes from the training session (printed PowerPoint slides and brainstormed interview responses) and encouraged to review their notes prior to each intervention session.

Three prior studies used the generalization probe as an opportunity to include local business owners and volunteer professionals (Mathrick et al., 2017a,b; Morgan et al., 2014). Unlike previous studies, this study further tailored the intervention to each individual by matching participants with local business owners in their chosen field (i.e., the food industry) that was preidentified to ensure a match. Three out of the four participants maintained their interview skills growth compared to baseline with a new interviewer in a new setting. Although the generalization session was not a real interview that offered a job as a result, all three participants reported a positive experience. Nancy interviewed and successfully achieved a job as a line cook one week prior to her generalization session. She emailed me immediately following her interview to say that she used some of the responses we practiced and that she felt confident. Nancy's experience highlights the importance of individualizing interview skill interventions to align with job aspirations. Prior research suggests that stronger interviewing skills lead to greater independence in future job searches (Toomey et al., 2009). It is possible that improved interview

skills demonstrated in this study may have contributed to Nancy's ability to gain meaningful employment.

Further Description of Visual Analysis

Interview probes were coded for relevant, irrelevant, and excluded by examining transcript responses. Specifically, participants' interview responses were segmented into communication units (c-units). As defined by the Systematic Analysis of Language Transcripts (SALT) a "c-unit is an independent clause with its modifiers. It includes one main clause with all subordinate clauses attached to it. It cannot be further divided without the disappearance of its essential meaning (C-Unit Segmentation Rules, 2016). After transcripts were segmented into c-units, they were dichotomously coded as relevant or irrelevant. Relevant c-units were defined as on-topic responses that connect to the job description and/or question and portray the participant in a positive light. Irrelevant c-units were scored when participants' responses were; off-topic, highly personal/inappropriate, negative or self-deprecating comments, or non-answers such as "I don't know" or "I can't think of anything". The last question of each interview was "do you have any questions for me?" and for the purpose of this study participants' response "no, I don't have any questions" was coded as a irrelevant c-unit. I argue that not asking the interviewer a question portrays the participant in a negative light and is a missed opportunity to demonstrate interest. Asking the interviewer question(s) indicates enthusiasm and is an opportunity for the participant to learn about their potential employer. Further description can be found in the observational coding manual, Appendix G.

During baseline, Lila and Charlie had stable low levels of irrelevant c-units compared to Nancy and Keith. This can be attributed to Lila and Charlie's ability to stay on-topic. All of Lila's irrelevant c-units were due to non-answers. She answered "I don't know" to 3/10 (30%) of

interview questions (i.e., “tell me about yourself,” “can you give me an example of a problem or a situation where something went wrong and how you solved it?” and “do you have any questions for me?”). I hypothesize that Lila’s severe anxiety and reserved nature/personality played a role in her non-responses. Lila displayed the most observable signs of anxiety including trembling, shortness of breath, dry mouth, and increased rate of speech. These physical characteristics of anxiety would occur at the onset of data collection probes when I asked if she was ready to record and dwindle at the end of the interview. I modified Lila’s second and third intervention sessions by removing the self-reflection component which seemed to cause the most discomfort. After the second intervention session, these physical characteristics were still present but not as pronounced. Lila did not participate in the generalization session due to reported anxiety of interviewing with a local business owner. The interview skills rubric only partially captured Lila’s anxiety behaviors under limited motor activity; limitations of measures will be discussed further at the end of this chapter. Lila was able to eliminate irrelevant c-units for three consecutive intervention sessions with high quality responses to the aforementioned questions.

Charlie also exhibited anxiety, had a low level of irrelevant c-units, and did not have any off-topic responses. Unlike Lila, Charlie’s anxiety did not appear to increase or decrease during different intervention components. He self-reported during the first baseline session that his anxiety and fear of saying the wrong thing caused him to have a squeaky and quiet voice. He was often difficult to hear but his volume improved throughout the intervention. Although not originally part of the social validity measure, the local business owner was asked if they had a difficult time hearing or understanding Charlie and they did not. Charlie’s irrelevant c-units were due to non-responses of having no volunteer or work experience and no questions for the interviewer. Charlie had multiple previous experience examples that he was able to express

during the second and third intervention session with zero irrelevant c-units. Compared to other participants, Charlie had a low level of relevant c-units due to short responses. For example, when asked about weaknesses Charlie responded with one word "math" for the first three baseline probes and "I'm not very good at math" on the fourth. All were coded as one relevant c-unit and a fair (1 out of 3) on the interview skills rubric.

The stable baseline across Charlie and Lila's responses suggests that even when presented with the same ten interview questions, interview skills did not improve without intervention. Across three to four baseline sessions neither participant attempted to answer a question they originally had a non-response for. Without intervention, participants may not have been aware of how their interview skills could improve, suggesting a lack of knowledge of self, the first component of Test and colleagues' self-determination theory. It is also possible that Lila and Charlie's lack of behavior change reflects a lack of extrinsic motivation. Ryan and Deci (2020) posit that "introjected regulation occurs when a behavior is regulated by the internal rewards of self-esteem for success and by avoidance of anxiety, shame, or guilt for failure. p. 2)". It is possible that Lila and Charlie did not change their interview responses during baseline out of fear their responses would be worse than before.

Nancy and Keith had higher levels of irrelevant c-units due to off-topic stories or lists that are not relevant to the job. For example, on Nancy's third baseline probe she shared a long list of things she likes/does not like to do for fun when answering "tell me about yourself". Here is an excerpt from Nancy's coded transcript.

Interviewer: It's so nice to meet you. Why don't you tell me a little about yourself

Nancy: So I'm 18 years old. R

I graduated XXX high school of this summer. R

I have my younger brother who is five years younger than me. IR

I have a mom and a dad and a cat IR

I love animals. IR

I love Disney. IR

I love universal. IR

I never know a lot about Marvel, so not a diehard Marvel fan. IR

Um, I also love Pixar. IR

I love to watch Dr. Pull vet stuff. IR

Nancy continued listing things she did and did not like until she stopped speaking for five seconds and I tried to ask the next interview question. Nancy interrupted me and said "Oops, I'm not finished." and continued for 30 irrelevant c-units for that question. Although these responses answered the question "tell me about yourself" they are not relevant in the context of a job interview. She totaled 77 irrelevant and 53 relevant c-units by the end of the interview. Compared to other participants, Nancy had the highest level of relevant c-units because she always answered the question before becoming off-topic. During intervention, Nancy practiced having concise answers and pausing before answering to plan her response.

Like Nancy, the last participant, Keith, had a baseline probe with high levels of irrelevant c-units. Keith told an off topic story about his weekend plans in response to "tell me about a problem or a situation where something went wrong and how you solved it". This resulted in a greater variation of irrelevant c-units in baseline (range = 8-34). Keith's irrelevant c-units spanned from non-responses, off-topic, or self-deprecating responses. For example, when asked about strengths Keith would often mention weaknesses like: "if I don't have directions I'm kind

of a train wreck and I'm not good at talking to people." The question about strengths was always asked before the question about weaknesses so it may have been perceived that he was jumping ahead. Keith's disparaging comments were also present for other questions like telling the interviewer, "my mom wants me out of the house more often," when asked why they are interested in a fast food position.

Alignment with the Conceptual Framework

This study postulated that a successful job interview is contingent upon participants' self-advocacy skills and that in order to access meaningful employment opportunities, participants would need to demonstrate the four self-advocacy components defined by Test et al. (2005a). Applicants should know their rights (knowledge of rights) and communicate strengths (knowledge of self) in order to present as a confident and capable applicant. They may also need to negotiate hours (communication) and show their ability to collaborate with others (leadership). Test and colleagues hypothesized knowledge of self and rights are the foundations of self-advocacy, because it is necessary for individuals to understand and know themselves before they can tell others what they want.

Knowledge of self is defined as knowing one's interests, preferences, strengths, needs, and attributes of their disability (Test et al. 2005). This study extends the traditional definition to include differentiation of interests that do not pertain to employment (e.g., I'm a big fan of Disney movies during a Bakery interview). Not surprisingly, knowledge of self seemed to be the biggest barrier when participants were brainstorming interview responses. All four participants could think of multiple weaknesses but struggled to give examples of their strengths.

The second component, knowledge of rights includes the Americans with Disabilities Act (ADA, 1990) protecting discrimination against employees or applicants on the basis of having a

disability. This study did not focus on the decision of when/whether to disclose disability nor did I go into detail about asking for reasonable workplace accommodations. During the training session participants were informed of their right to disclose their disability whether on the application, during the interview, or afterwards. We discussed that legally they cannot be discriminated against because of their disability and that broadly employers are not allowed to ask questions about their disability. However, an employer may ask about their need for reasonable accommodation in order to perform a job task. Lila is legally blind and chose to disclose being blind at the beginning of the interview because she felt that it would be obvious to the employer. At the end of the interview, when asked if she had questions for the interviewer she chose to ask "have you ever employed anyone who is visually impaired before? If so, what types of accommodations were you able to provide them? This not only displays a knowledge of self and rights but also strengths in communication.

Strengths in communication are shown when the individual can articulate needs, listen, negotiate, and problem solve. Often more challenging than answering questions about strengths and weaknesses are questions that require storytelling. This study included one problem solving question, "tell me about a problem or a situation where something went wrong and how you solved it." Across all four participants, this appeared to be the most difficult question to answer during baseline. Lila answered with a non-response "I don't know" across the baseline. Charlie used a variation of the same response "I couldn't reach the top shelf. So I ask a taller person to help me" (coded as one relevant c-unit). The interview skills rubric measure captured that, while relevant and satisfied a portion of the question, it was not an Excellent response. Nancy had lengthier responses detailing problems she had faced in the kitchen but failed to describe her role in the solution (e.g., forgetting to oil a pan and everything sticking). Keith's responses to problem

solving varied from off-topic to non-responses “I can’t think of anything right now.” During training, each participant brainstormed relevant problems, how they overcame the challenge, and the result. Lila and Charlie memorized and used the same stories for each intervention probe. Nancy and Keith showed a more advanced strength in communication by changing their answers each session while maintaining a score of Excellent (3) on the rubric.

The leadership subcomponent is shown when the individual takes political action by advocating and collaborating with others. Prior literature that focuses on the leadership component of self-advocacy targets student involvement in IEP meetings (Held et al., 2004; Test et al., 2004). This study focuses on leadership by knowing and articulating the way participants have collaborated with others. Specifically, “give me examples of how you’re a team player.” During baseline, participants were able to identify qualities of a team player but struggled to give examples or real-life experience. Similar to the problem-solving question, the team player question required a lengthier response. Participants' ability to articulate the leadership component relied heavily on knowledge of self, and their strengths and value as a member of the team.

Implications for Policy

As discussed in Chapter II, the Individuals with Disabilities Education Act (IDEA) federally mandates that students with an individualized Education Program (IEP) must begin receiving transition services by the age of 16. However, the federal government has yet to fully-fund IDEA and relies on states, local school districts, and taxpayers to support youth with disabilities in public schools. Policymakers should support fully-funding IDEA in order to provide vital transition services such as interview skill interventions that increase the likelihood of competitive and integrated employment.

The Workforce Innovation and Opportunity Act (WIOA) is a federal law that seeks to improve access to competitive employment for youth with disabilities. WIOA requires state vocational rehabilitation agencies to provide pre-employment transition services (Pre-ETS) including workplace readiness training and self-advocacy instruction. (Workforce Innovation Technical Assistance Center [WINTAC], 2016a). It is important to determine how this intervention package can be used within the Pre-ETS structure when providing job training to youth with autism.

While the Civil Rights Act of 1964 did not protect employment of people with disabilities, Section 504 (passed in 1973) and Americans with Disabilities Act (passed in 1990) have sought to improve working conditions. Over the last fifty years, employment for individuals with disabilities have improved. People with disabilities, families, and teachers, are working together to insure meaningful employment. While the workforce has steadily improved, many employers are still novice to hiring people with disabilities and are unsure of how/when to provide accommodations. Employers are prohibited from asking questions to elicit information about disabilities on the application or during the interview. If the disability is obvious, employers can ask questions about how the applicant intends to do the job. Applicants should be prepared to advocate, provide creative solutions, and suggest reasonable accommodations. While this study demonstrates an increase in self-advocacy, these efforts will only be rewarded if the employer is prepared to offer reasonable accommodations.

Implications for Practice

This study offers several implications for practice and is accessible to practitioners since it does not require any programs or subscriptions. It's important for researchers and practitioners to consider the implications of this study for youth with and without disabilities. Interview skills

are not uniquely difficult to people with autism, and most would benefit from an interview skills intervention. Findings indicate the importance of individualizing interview skills interventions based on employment goals. Practitioners should tap into their students' strengths/interests to spark motivation and provide instruction that is relevant and meaningful. For example, Nancy was able to use rehearsed interview responses to interview and secure a job as a line cook. Second, this study collaborated with parent/guardian(s) on participant strengths, weaknesses, and previous experience as it relates to work aspirations. Parent input was helpful during the training session where participants brainstormed interview responses. Third, participants may have different instructional needs based on their level of communication and self-advocacy. Identifying the specific interview behaviors in need of intervention and providing instruction to target those areas is crucial. Forth, this study demonstrates how video modeling can be used to guide self-reflection leading to participant led instruction. Findings from this study suggest that watching videos of non-example and example interviews in addition to their own interviews may help youth with autism improve skill usage. Lastly, participants interviewed with local business owners for the generalization probe to practice, providing meaningful contexts. The low stakes interview offered participants a chance to practice their interviewing skills with a new interviewer in a new setting. The generalization interview also offered local business owners an opportunity to engage with young, capable, aspiring workers.

Future Directions and Limitations

This study highlights the importance and effectiveness of an interview skills intervention on youth with autism. Unlike previous literature, this study used an observational coding manual to segment transcripts into c-units and dichotomously code for relevant or irrelevant responses. The findings from this study suggest the need for future research in this area. This study, like all

single case designs, is limited by the generalizability of the included sample. Researchers and practitioners are encouraged to look at the operationalized descriptions of participants and settings to decide if the intervention is applicable to their population (Ganz & Ayres, 2018). Future research may replicate this study with a larger sample size for generalization with greater statistical power. This study also had time limitations due to conducting the study over the summer. While summer data collection was convenient to participants and reduced the likelihood of external influence from school it also limited the number of possible data collection days prior to school beginning again. A greater number of baseline data points is recommended when variability occurs, such as Keith and Nancy's irrelevant c-units.

Future studies may expand inclusion criteria of participants. To participate in this study, participants must have verbally expressed 50 or more words when asked ten questions about topics of interest. Future research can include participants with lower expressive language ability. Specifically, none of the existing literature includes participants who use alternative and augmented communication devices (AAC). Although not purposely excluded, the current study did not include any participants with an intellectual disability (ID). Only one study in the systematic literature review included participants with both autism and ID, a gap that should be addressed in future research. While this dissertation study focused on improving the interview skills of youth with autism to increase likelihood of accessing integrated employment, people without disabilities would also likely benefit from this intervention.

Future research may also explore effectiveness of each of the components of this packaged intervention. For example, the video recording and self-reflection component of the intervention package seemed to impact participant anxiety during intervention sessions. This anxiety led to the removal of intervention components (Lila's self-evaluation). Due to data

collection procedures, I cannot discriminate if the interview or being video recorded was the antecedent to anxiety. Lila was reminded at the beginning of each session that participation was voluntary and that she could stop at any time, but she verbally indicated that she wanted to "get better at interviewing." Next steps for this intervention package include using an alternating treatment design to discriminate whether anxiety is associated with video recording (e.g., a treatment with video recorded probes and one without).

Due to COVID-19, there has been an emphasis on interventions that can be completed independently at home. Strickland and colleagues (2013) conducted a randomized control trial that examined the effects of JobTips application in the home setting. Video analysis using a rating scale found growth in interview skills. Future research may expand the use of observational coding manuals to examine home-based interventions. This study used one interviewer across baseline and intervention probes. While I wanted to build a rapport with participants to instill trust, it is possible that familiarity increased irrelevant responses. For example, Keith may not have shared an off-topic story about his weekend plans if he was not comfortable with the interviewer. To avoid familiarity, future research may seek to alternate research assistants for interview probes rather than the person providing the intervention.

Future research may also explore the topic of disclosing disability status to employers before, during, or after the job interview. The present study did not advise participants on whether to disclose or not. Instead, this intervention focused on expressing work related strengths and weaknesses (relative to their disability or not). Mention of disability characteristics or traits were coded as relevant c-units. The Healthcare Toolkit for Autistic Adults and Primary Care Providers, created by the Academic-Autistic Spectrum Partnership in Research and Education (Nicolaidis et al., 2016), identifies several reasons for disclosing the diagnosis of

autism, such as increasing understanding, improving communication, and obtaining accommodations. The toolkit also identifies several potential consequences, including creating misunderstanding, experiencing discrimination, and feeling concerned about confidentiality. Future research could target disclosing disability status using the self-advocacy framework. Navigating disclosure will require a high level of knowledge of self and knowledge of rights. It may be potent to pair conflict-resolution skills with self-advocacy skills for successful disability disclosure (McDonald et al., 2022).

This study does not include a follow-up on whether or not participants received a job offer. At the time of the generalization interview, one of the four participants (25%) were employed. A follow-up survey would provide information about the generalization and maintenance of interview skills. Smith and colleagues (2015) conducted a six month follow up and found participants were 7.82 more likely to accept an offer for a competitive position (i.e., employment or competitive volunteer position) after controlling for differences in self-confidence and prior paid employment.

Conclusion

In this multiple probe across participants study, I examined the effects of a video based intervention on interview skills of youth with autism. A functional relation was demonstrated between the introduction of the intervention package and increases in interview skills. The three participants who agreed to participate in the generalization interview with a local business owner maintained interview skills. Participants agreed that the intervention helped them improve their interview skills and that they would recommend the intervention to friends. Results from this study indicate the importance of individualizing interview skill interventions to match each participant's employment goals. Furthermore, the construct of interview skills should be

examined operationally using an observational coding manual and a rubric to examine both the quantity and quality of participant responses. Successfully navigating job interviews requires a high level of self-advocacy. Using the self-advocacy framework, participants were encouraged to know their strengths, rights to employment, and advocate for themselves via interview responses. Additional research on interview skills interventions is needed to guide best practices and inform policies for inclusive employment.

Appendix A

Letter of Support

This letter has been modified to protect confidentiality, see below.

June 2nd, 2022

To Whom It May Concern:

I am writing this letter in support of the IRB application HM20024497 submitted by VCU Primary Investigator, Dr. Yaoying Xu and The Next Move Program Responsible Investigator Kelsey Turner. I understand that this project will involve participants ages 16-18 years old receiving an interview skills intervention using video modeling, direct instruction, role play, and self-reflection. The location for the pre-baseline meeting, baseline, and intervention sessions will be the conference room at our location. Research procedures will not be conducted during Next Move Program/Tablespoons hours of operation. I understand that Next Move staff, other than Kelsey Turner, will not be involved in the research activities and that research participants will not be directly referred to Next Moves services. I believe this research to be important as our students often struggle with interview skills and it is a common barrier to employment for youth with autism.

I fully support this research study occurring at our site. Please do not hesitate to contact me if there are any questions regarding our cooperation with this project.

Sincerely,

Appendix B

What to Expect
Interview Skills Intervention

The purpose of this form is to provide a broad overview of the study procedures and expectations. This form does not replace consent/assent form which provides more information on privacy/security procedures. If at any time, you need another copy of this form or your consent/assent form please ask the co-investigator Kelsey Turner.

What is a job interview? A meeting between someone applying for a job and a potential interviewer. An interview is an opportunity for you to show off what makes you an ideal applicant. It's also an opportunity for you to learn more about the company and decide if you can see yourself working there.

Why are interview skills important? Interview skills are important for getting a job. The interview is often the company's first impression of you and can determine whether you will get the job. It's common to get nervous during an interview, which is why most people practice answering interview questions to prepare beforehand.

Where? Job interviews can take place in-person, over the phone, or on zoom. For this study, we will practice interview skills in-person. The pre-baseline, baseline, training, and intervention sessions will happen in a conference room at (address removed for confidentiality). The generalization session will take place at another local business. I will let you know the address at least two weeks in advance our scheduled generalization session.

Who will be there? Kelsey Turner, the co-investigator of this study will be working with you to improve your interview skills. We will not meet while anyone else is working/dinning-in at Tablespoons for your privacy. The generalization session will take place at a local business, but we will meet in a private office, meeting, or conference room away from other workers/customers. During the generalization session you will be interviewed by a local business owner that has experience working with adults with disabilities.

When? We will work together to schedule a time to meet twice a week. We will try and keep the same schedule, meeting the same time/day every week.

How will I get there? You are responsible for providing your own transportation to and from all sessions.

What if I can't make it? Please let Kelsey Turner know if you can't make a scheduled session or if you are running late. You can do so by emailing her at turnerkc3@vcu.edu or calling (XXX-XXX-XXXX.

What will I be doing? This intervention has five stages. They are outlined below:

1. Pre-baseline session (One time, 60 minutes total). During this session you and Kelsey Turner will meet in-person at Tablespoons conference room to review basic information about you including your age, race/ethnicity, and gender. Kelsey will ask your parent/guardian to complete a survey to give the research team an idea of what your social skills strengths/weaknesses are. We will talk about what job you'd like to apply for in the future, any previous work experience or skills that are relevant to employment.

2. Baseline phase: (3-6 sessions, 15-20 minutes each). The purpose of a baseline session is to give the research team an idea of what interview skills you have before the intervention. This is so that we can tell if/how much the intervention helped you improve your interview skills. To get an idea of your abilities prior to intervention, Kelsey will ask you 10 interview questions. This session will take place at Tablespoons conference room and be video recorded for data collection.

3. Training session (one session, 90 minutes total). During the training session, Kelsey will present a PowerPoint presentation on general interview skills etiquette and examples/non-examples of interview answers. You and Kelsey will have a discussion on 10 interview questions and brainstorm answers based on your strengths, weaknesses, and interests. You will then practice answering the interview questions, pretending like you are being interviewed for your target job. This session will be video recorded for data collection and self-reflection.

4. Intervention sessions (3-6 sessions, 90 minutes each). Intervention sessions are where we practice interview skills together using the answers that we brainstormed during the training session. At each intervention session, you and Kelsey will view and discuss a video of a model answering interview questions. The video includes a non-example of someone messing up a job interview and an interview where the person does well. Using Kelsey's laptop, you'll watch your most recently recorded practice interview. Using a self-reflection form, we'll evaluate what you did well and where you can improve your interview responses. After reflecting, we'll role play answering the interview questions and receive feedback. Lastly, you'll pretend to be in a job interview and answer the 10 interview questions without feedback. The sessions will be video recorded for data collection and self-reflection.

You will participate in a minimum of three intervention sessions and a maximum of six sessions. Some participants may be asked to complete more than three sessions in order to improve individual interviewing skills but you will not be asked to participate in more than six sessions.

5.Generalization session (one time, 30 minutes total): The purpose of the generalization session is to practice interviewing in a new setting with a new interviewer. For this session, we'll meet at a local business in a private meeting or conference room. The local business owner will not share your information with anyone outside of the research team. It's important to remember this session is just for practice and you will not receive a job offer for participating. During the generalization session, you will practice answering 10 interview questions with the local

business owner. You'll answer the same questions we've practiced for your target job regardless of the type of local business. The session will be video recorded for data collection.

What should I wear? For pre-baseline, baseline, training, and intervention procedures you should dress casually in everyday clothes that are appropriate for school. For the generalization session, please dress business casual. In a real job interview, business casual (sometimes formal attire) is generally expected. See the image below for reference:

Business casual includes short-sleeved polos or button-downs, long-sleeved button-downs and collared shirts, blouse, dresses and skirts (not shorter than two inches above your knee), dress slacks or khakis pants, Loafers or dress shoes, closed-toe heels, or flats. Blazers are optional.

Will there be food? No, you should eat before or after study procedures. No food will be provided. You may bring water if needed.

What if I want to stop? Your participation is voluntary. You may decide not to participate in this study. If you do participate, you may withdraw from the study at any time. Your decision not to take part or to withdraw will involve no penalty or loss of benefits to which you are otherwise entitled.

What will I get for participating? You will not be pair for participating in this study. You will not get a job as a direct result from this study. This study may improve your interview skills which may help you get a job in the future.

What if I have questions? You may ask questions at any time. There is no need to raise your hand to ask a question. If you have a question outside of the interview session, you may email or call the co-investigator or private investigator at (concealed for confidentiality)

Appendix C

General Information for the Interviewer

1. What is autism?

Autism is a diagnostic term for a range of neurodevelopmental disabilities that affect an individual's communication, socialization, and flexibility in behavior / thinking. Individuals with autism have differences in the way their brains process information, which often causes them to think, learn, and behave differently than typically developing peers.

There are three main areas that characterize a person with an autism:

1. Communication differences

2. Social differences

3. Narrow or repetitive behaviors / interests

For a person to be diagnosed with autism, characteristics in each of these 3 categories must be present. Because autism is a *spectrum* disorder, the characteristics as well as the severity and intensity of these characteristics may vary greatly from person to person.

Communication differences that you might observe in the interview simulation:

- Difficulty sustaining a conversation with others
- Repetitive use of language (i.e., echolalia) or stereotyped language (i.e., using the same phrase repeatedly, even if it is used appropriately in context or using phrases from movies or television shows)
- Overly formal use of language
- Unusual rate, pitch, or tone of voice
- Limited use of gestures
- Difficulty understanding abstract language, such as metaphors, idioms, and sarcasm

Social differences that you might observe in the interview simulation:

- Difficulty displaying nonverbal behaviors, such as eye contact, facial expression, and gestures
- Difficulty reading the facial expressions of others
- Difficulty understanding emotions of self and others
- Difficulty taking the perspective of others
- Problems with reciprocity in social relationships
- Limited insight into typical relationships
- Social interest in others, but lacks skills to interact appropriately with others (i.e., social norms or customs are not intuitive, and the individual may come across as "awkward")

Narrow or repetitive behaviors / interests that you might observe in the interview simulation:

- Difficulty with transitioning from one topic to another
- Difficulty with changes in routine
- Restricted or narrow interest that is unusual in its intensity
- Inflexibility in thinking
- Rigidity
- Anxiety
- Unusual topics of interest (i.e., washing machines)
- Preoccupation with topics of interest

Like everyone else, **no two people with autism are alike**. An individual with autism will not necessarily have all of the characteristics associated with autism, but will have some of them in each of the areas of communication, socialization, and flexibility. These characteristics also exist in typical people, but in the case of autism, there are more of them in each person, and they are more intense as well.

2. Responding to agitation or anxiety during the interview

   In the screening process, we are working to filter out any subjects who might become highly agitated or anxious during these interview simulations. While it is highly unlikely, your interviewee may become very anxious during the interview. If the interviewee seems highly agitated or anxious, you can check in with them by saying something like, *"Interviews can be very stressful. It is okay for you to tell me that you are feeling stressed and need to stop. Are you okay?"*

If the interviewee is highly anxious or agitated, it is not necessary to continue the interview. Instead, you should calmly end the interview, making sure that the interviewee understands that:

- The interview is over
- It is okay to stop at this point
- They are free to leave

Many signs of anxiety for typical people are also signs of anxiety for people with autism, such as:

- Rocking in their chair
- Finger-tapping, leg jiggling
- Nail biting, or skin picking
- Sweating
- Shortness of breath
- Turning red in the face, neck, or ears

Note: Some people with autism exhibit some of these signs regularly (particularly, nail biting, finger tapping, rocking, leg jiggling), and it is no cause for worry. You are encouraged to ask the participant how they are feeling if you are concerned they are experiencing high anxiety.

Modified from: Strickland, D.C., Coles, C.D, & Southern, LB. (2013). JobTIPS: A transition to employment program for individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 43*(10), 2472-2483.

Appendix D

Demographic Information

Directions: These questions can be read out loud by Kelsey or on your own. The questions in this section will ask about your disability, race/ethnicity, and other factors that make up your culture. You may choose not to answer any questions that make you uncomfortable.

1. What disabilities do you have? (e.g., intellectual disability, autism, attention deficit and hyperactivity disorder, traumatic brain injury, dyslexia, etc.)

2. What language do you prefer to describe your disability? (e.g., person with a autism, autistic person, person with a disability, disabled person)

3. How would you describe your race/ethnicity? (e.g., Asian or Pacific Islander, Black or African American, Latino/a and/or Hispanic, Native American or Alaskan Native, White, other)

4. What is your sex? (i.e., female, male)

5. How do you identify? (e.g., woman, non-binary, man, transgender, or prefer to self-describe)

6. What are your preferred pronouns?

7. What grade are you in? (e.g., 11th or 12th grade)

8. What school do you currently attend?

9. Do you have any previous work of volunteer experience?

Appendix E

Pre-Baseline Measure of Expressive Language

The purpose of this pre-baseline measure is to examine the expressive language ability of participants for inclusion in the study. I will ask the parent/guardian for two areas of interest that the participant likes to talk about. The participant will be asked the following 10 questions in private, without the parent present. The interview will be transcribed as the participant is verbally responding and initially analyzed using the same sufficient/insufficient criteria used for the baseline, intervention, and generalization probes. To participate in this study, the participant must verbalize 50 or more relevant words in response to the following 10 questions on two topics of interest.

First interest:

1. Your X told me you like X. Can you tell me more about X?

Example Response: I like video games, I play pretty much all types of them.

2. When did you start playing/become interested in X?

Example Response: I think when I was in elementary school.

3. Who do you like to X with?

Example Response: Sometimes I play online with other friends.

4. Where do you usually X?

Example Response: In our living room.

5. Do you have a favorite X?

Example Response: I really like first shoorter games, but I also really like animal crossing.

Second interest:

6. "Your X told me you also like X. Can you tell me more about X?

7. "When did you start playing/become interested in X?

8. Who do you like to X with?

9. Where do you usually X?

10. Do you have a favorite X?

Inclusion Criteria: 50 or more relevant words

Appendix F

Participant Self-Evaluation Form

Name: _____ Date: _____

Use this form to rate your answers to the practice interview questions.

Question	Poor (0)	Fair (1)	Good (2)	Excellent (3)
Tell me about yourself				
Tell me about your strengths				
Tell me about your weaknesses				
Why do you want this job?				
Tell me about a problem, or a situation where something went wrong, and how you solved it				
Tell me about your previous work experience				
What do you do when you feel really frustrated or stressed?				
Give examples of how you are a team player				
Why should I hire you?				
Do you have any questions for me?				

Appendix G

Observational Data Collection Manual

DV#1: Relevant/Irrelevant Interview Response

Interview probes will be coded for relevant, irrelevant, and excluded by examining transcript responses. Specifically, participants interview responses will be segmented into communication units (c-units) as defined by the Systematic Analysis of Language Transcripts (SALT). Each C-unit will then be coded as relevant or irrelevant. This coding manual will provide the operational definitions, including examples and non-examples.

General Rules

- The purpose of this measure is to dichotomously code interview responses as relevant or irrelevant to examine the quantity of verbal responses produced for each interview question. The data collection form will be used to indicate relevant/irrelevant c-unit counts for each of the 10 interview questions and will be totaled for graphing purposes.
- It's important to note that the quality measure, Interview Skills Rating measure, adapted from Strickland et al. 2012) will provide a supplemental examination on high- or low-quality interview responses.
- Each of the 10 questions will be examined for relevant/irrelevant c-units independently to differentiate which questions may have a greater number of relevant/irrelevant responses.
- The c-unit count for each question continues until the next interview question is asked. For example, if the participant interjects with their own question between the 10 interview questions, it will be coded with the current interview questions c-unit count as relevant or irrelevant.
- Similarly, if a participant adds an answer to a previous interview question it will be coded with the current interview question. For example, if the participant says, "oh yeah, I'm smart and I forgot to say that as a strength of mine" It will be included in the c-unit count of the current question, not added to the strength question c-unit count.
- The participants final question "do you have any questions for me?" will continue to be coded for c-units until the end of the interview including c-units that respond to the answer the interviewer provided (e.g., "that's helpful to know") but excluding any pleasantries or farewells (e.g., "thank you for meeting with me", "I hope you have a good day")

Operational Definitions

- Communication unit (C-unit): is an independent clause with its modifiers. It includes one main clause with all subordinate clauses attached to it. It cannot be further divided without the disappearance of its essential meaning (Hughes et al., 1997)

- Clause "whether it is the main clause or a subordinate clause, is a statement containing both a subject and a predicate. Grammatically, a subject is a noun phrase and a predicate is a verb phrase" (C-Unit Segmentation Rules, 2016). For example, "Since I have an interview, I'm going to practice common interview questions."
  Since I have an interview (subordinate clause) I'm going to practice common interview questions (main clause). This will be coded as one c-unit. The subordinate clause does not make sense without the main clause.

Refer to Segmenting Utterances into C-units for detailed descriptions of the rules with lots of examples.

Relevant C-unit- Participants spoken c-unit is on-topic to the question.

- Answer connects to the sample job description
- The answer portrays the participant in a positive light. If sharing a weakness, it is an appropriate weakness for an interview (Example: perfectionism, being shy; Non-example: screaming, running away, ignoring people).
- Provides information relative to the question
- Participant asks a question relative to the interview or job. Example: What are you writing down?
- Participant has provided information relevant to a previous question. For example, "I thought of a strength that I forgot to mention before.."
- Participant is sharing resume, career portfolio or references

Relevant c-units will be indicated on the transcript using an R at the end of the segmented c-unit

Irrelevant C-unit- Participants spoken c-unit is off-topic to the question

- Non-answers- such as "I don't know," "I can't think of any/anything right now," "I'm not sure,"
- Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status)

- Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school)
- Examples and details are negative and portray participant in an unfavorable light (For example: I was fired, I hated that job. Non example: details or description of a disability)
- C-units are not syntactically correct enough to derive meaning from the utterance using context
- C-units that are not appropriate to tell an interviewer. Is not favorable to the participant (e.g., I scream when I'm frustrated).
- C-units that contain
- Does not provide information relative to the question
- An answer without any elaboration or an example. For example, "no, I don't have any work experience" or "no, I don't have any questions" does not provide the interviewer with enough information to be considered relevant.
- Participant asks a question that is not relative to the interview or job. For example, have you seen the movie Moana?
- Abandoned utterances where the participant started to say something but did not complete their thought, indicated during transcription with an >
- Intelligible speech that doesn't have meaning

Irrelevant c-units will be indicated on the transcript using IR at the end of segmented the c-unit

Excluded- c-units that will not be graphed as either relevant or irrelevant

- Filler words such as: ah or uh /ʌ/ and um /ʌm/ (er /ɜ:/ and erm /ɜ:m/
- Utterances where meaning cannot be derived due to unintelligible speech
- Repetitions of the same utterance. For example, "I love movies. Like I really love movies" The first c-unit will be coded as either relevant/irrelevant and the repetition of the c-unit will be excluded.
- Sneezing, coughing, tacting bodily issues
- Internal dialog (for example: hmm, what else am I good at?)
- Echolalia, defined as a precise repetition of the interviewer's c-unit
- Greetings or farewells (e.g., good morning, it's nice to meet you, thank you)

Excluded c-units will be indicated with a cross through the text. Filler words will not be crossed out due to the high frequency of occurrence. Rather, full c-units will be indicated (e.g., greetings, farewells).

Coding Key:
I: Interviewer utterance
P: Participant utterance

C-units will be segmented by beginning a new line of text
EX indicates an excluded c-unit
IR is an irrelevant c-unit
R is a relevant c-unit
.> indicates an abandoned utterance
X is used to mark unintelligible sections of an utterance. Use X for an unintelligible word, XX for an unintelligible segment of unspecified length, and XXX for an unintelligible utterance
Participant ID ____

Session: _____

Scorer: _____

Date: _____

Interview Question	Relevant	Irrelevant
1. Tell me about yourself		
2. Why do you want this job?		
3. Tell me about your previous work experience		
4. Tell me about your strengths		
5. Tell me about your weaknesses		
6. Tell me about a recent problem, or an incident where something went wrong, and how you solved it		
7. Why do you think I should hire you?		
8. What do you do when you feel really frustrated or stressed?		
9. Give some examples of how you're a team player		

10. Do you have any questions for me?		
Total		

Appendix H

Interview Skills Rating Instrument

Verbal Response Scoring Manual

Participant ID_____ Session Date:_____

Order of questions: _____

This scale is measuring <u>what</u> they say, not how they say it or what they do as they are saying it.

There are 10 interview questions for the study. After the initial greeting and handshake, the interviewer needs to ask the questions exactly as they are worded and in the exact order listed (for fidelity purposes) In order to control for threats to internal validity, we have varied the wording of questions slightly across probes and will present select questions in a random order. It is important to check the probe number listed at the top of this page to ensure the right wording/order is used for the correct probe sessions.

The interviewer will give each question a score (circling the number) as they go, rather than waiting until the end of the interview to score the content of all responses.

Question	Score	Verbal Criteria
1. "Tell me about yourself"	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • No mention of present role (e.g., personal information such student, worker, or currently looking for a job) **or** mention of previous experience **or** why they are interested in the job (0/3) • Limited or no response • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • Provides either present role **or** mention of previous experience **or** why they are interested in the job (1/3) • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • Provides present role **and** mention of previous experience **or** why they are interested in the job (2/3) • None or very little deviation off topic • Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Provides present role **and** relevant previous experience, **and** why they are interested in the job (3/3) • No deviation from topic • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic

2. Tell me about your strengths"	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • Limited or no response (e.g., "I can't think of a strength") • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • Describes situation with a wholly negative outcome • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • Provides strength(s), but they are **not relevant** to the position • Incomplete response, answered only part of the question • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • One strength that is relevant to the position • Complete response without deviation from the topic • Examples are details are relevant to the question • Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light • Describes situation with a positive outcome
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Two strengths that are relevant to the position

		• Examples and details provided are highly relevant to the question • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic • Describes situation with a positive outcome
3. "Tell me about your weaknesses"	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • Provides a weakness that is not relevant or appropriate to share with the employer, no plan to learn or improve on the skill • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in an unfavorable light • Describes situation with a wholly negative outcome • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • No Response, (e.g., "I can't think of any weaknesses") • Incomplete response, "Can we come back to this? But does not have a response when asked again" • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • Provides a relevant and appropriate weakness **but** no plan to learn or improve on the skill • Complete response without deviation from the topic • Examples are details are relevant to the question • Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Provides a relevant and appropriate weakness **with** a plan to learn or improve the skill • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic

4. "Why do you want this job"	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • No response, "I'm not sure", "I don't know" • Negatively Worded Response "I need money", "the job looks interesting I guess" • Off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • An example of experience or skills (e.g., technical, or soft skills) that is **partially relevant** to the position • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • One example of experience or skills (e.g., technical, or soft skills) that is **highly relevant** to the position • Complete response without deviation from the topic • Examples are details are relevant to the question • Adequate detail and examples to support response
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following:

		• More than one examples of experience or skills (e.g., technical, or soft skills) that are highly relevant to the position • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic
5. "Tell me about a problem, or a situation where something went wrong, and how you solved it"	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • Limited or no response • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • Describes a challenge with a wholly negative outcome • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • Participant tells a story, not necessary a challenge relevant to the position. For example, "I don't like gummy bears" • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • Participant describes challenge **but** does not describe specific actions. (e.g., the problem was solved by peers without influence from the participant or was never addressed) • Complete response without deviation from the topic • Examples are details are relevant to the question • Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light • Describes situation with a positive outcome

	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Participant describes a challenge **and** detailed actions of how they overcame the challenge and the result of the situation • Examples and details provided are highly relevant to the question • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic • Theorizes on an elaborate level as to how they would respond if never in that situation • Describes situation with a positive outcome and how they overcame the challenge
6. "Tell me about your previous work experience"	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • Limited or no response (e.g., "I don't have any") • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • Describes situation with a wholly negative outcome • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • An example of experience or skills (e.g., technical or soft skills) that are **not or only partially relevant** to the position • Names characteristics/qualities **without real world examples** (e.g., when, where, how) • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • An example of experience or skills (e.g., technical, or soft skills) that is **highly relevant** to the position • Discusses characteristics/qualities with **some detail** (e.g., when, where, how) • Complete response without deviation from the topic • Examples are details are relevant to the question • Adequate detail and examples to support response

	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Discusses any experience at school, home, volunteer, or previous work experience **highly relevant** to the position • Provides **adequate detail** of previous experience (e.g., chores or volunteer experience) that are relevant if they've never had a job before. • Provides adequate detail of previous experience (e.g., when, where, job description) • Examples and details provided are highly relevant to the question and portray that participant in a highly favorable light • Complete response without deviation from topic
7. What do you do when you feel really frustrated or stressed?	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • Limited or no response • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • Describes situation with a wholly negative outcome • Does not theorize as to how they would respond in never in that situation • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • Provides an example of being stressed or frustrated **without** a de-stressing activity or one that **cannot reasonably be done at work** • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • Provides an example of a de-stressing activity **that could be done at work**. (e.g., breathing exercises, organizing/prioritizing tasks) • Complete response without deviation from the topic • Examples are details are relevant to the question

		• Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Provides an example of a difficult task or assignment and how they overcame the stress/frustration • An example of de-stressing that **can be done at work with a real-world example** of a time they used it • Examples and details provided are highly relevant to the question • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic • Describes situation with a positive outcome
8. Give examples of how you are a team player	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • Limited/no response or says they do not like to work as a team • Fully off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • Describes situation with a wholly negative outcome • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • Provides **qualities or traits** that make a team player **without examples** of how they exemplify those traits • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • Discusses experience at school, home, volunteer, or previous work experience **somewhat relevant** to being a team player • Complete response without deviation from the topic • Examples are details are relevant to the question

		• Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Discusses any experience at school, home, volunteer, or previous work experience **highly relevant** to being a team player • Examples and details provided are highly relevant to the question • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic • Theorizes on an elaborate level as to how they would respond if never in that situation • Describes situation with a positive outcome
9.“Why should I hire you”	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • No response, “I’m not sure”, “I don’t know” • Off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light • A lengthy response that is only somewhat related to the question
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • An example of experience or skills (e.g., technical, or soft skills) that is **not or only partially relevant** to the position • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light • A response that is highly relevant but is too lengthy (may answer future questions in addition to this question)
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • **One example of experience or skills** (e.g., technical, or soft skills) that is highly relevant to the position • Complete response without deviation from the topic

		• Examples are details are relevant to the question • Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • **More than one examples of experience or skills** (e.g., technical, or soft skills) that are highly relevant to the position • Examples and details are positive and portray participant in a highly favorable light • Complete response without deviation from topic
10 "Do you have any questions for me?	0	Poor: Satisfied no portion of the question could be characterized by several of the following: • **Does not have a question** • Asks an inappropriate question about the position or workplace or a question that is answered in the job description (e.g., What does the person in this job do?, can I arrive late?, Do I need to pass a drug test?) • Off-topic response • Highly personal/inappropriate content (e.g., personal health, religion, politics, narrow interest not related to job, personal conflicts, relationship status) • Content listed in the job description (e.g., basic job description) • Highly negative content (negative or despairing comments about self, teachers, co-workers, peers, previous work, school) • Examples and details are negative and portray participant in an unfavorable light
	1	Fair: Satisfied limited portion of the question could be characterized by several of the following: • Asks a question that is **not relevant** to the position (e.g., do you have any pets?) • Some deviation off topic • Limited examples and details to support response • Mildly negative references (e.g., about self, teachers, co-workers, peers, previous work, school) • Examples and details are somewhat negative and portray participant in a mildly unfavorable light

		• Asked too many questions or asked questions too quickly
	2	Good: Satisfied adequate portion of the question could be characterized by several of the following: • Asks at least one question that is relevant to the position but **does not portray the participant in a highly positive** light (e.g., how much does this position pay?) • Complete response without deviation from the topic • Examples are details are relevant to the question • Adequate detail and examples to support response • Examples and details are positive and portray participant in a favorable light
	3	Excellent: Fully satisfied all aspects of the question could be characterized by several of the following: • Asks at least one question that is relevant to the position and portrays the participant in a positive light. (e.g., interested in learning more about how they can succeed in this role) • Complete response without deviation from topic

Modified from: Strickland, D.C., Coles, C.D, & Southern, LB. (2013). JobTIPS: A transition to employment program for individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 43*(10), 2472-2483.

Non-Verbal Scoring Manual

This is measuring how they say it, and the non-verbal behaviors that accompany their responses.

- We recommend that you wait until the video has ended to score the behaviors in the "During the Interview" section.
- Please give each response a whole score (i.e., 0,1, 2, or 3). No half scores (e.g., 1.5, 2.5).
- If you are unable to determine whether a behavior happened or not (or cannot clearly see the quality of the behavior on the video), score it as "N.O. - No opportunity to assess behavior."
- If the interviewer does not initiate a handshake (and the participant does not either), then the handshake and associated behaviors should be scored as "N.O."
- Feel free to write any comments in the blank spaces. There is also a "comments" section at the end of this document.

- Before completing each form, please make sure that you have scored every response (or given it an "N.O." score).

- Please do not pause, rewind, or fast forward as you are viewing. We want your viewing and rating experience to closely approximate the interviewer's experience.

Participant ID: _____

Session Date: _____

Introduction/Greeting		
Behavior	Score	Criteria
1. Smile: At least one smile within context of greeting/ handshake / introduction that is directed towards the interviewer	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
2. Participant initiates handshake at greeting: Extends hand towards interviewer at appropriate distance OR, of equal value: **Appropriately responds to handshake initiation by interviewer**: Extends hand to interviewer immediately following interviewer's initiation reach **(we want the interviewer to initiate the handshake if the participant does not do it first)** **OR, of equal value:** **Politely tells the interviewer they'd rather not shake hands because of the COVID pandemic**	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
3. Handshake is appropriate length: 2-3 long seconds, then release	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior

4. Eye contact or eye contact approximation during handshake: Looking into the interviewer's eyes, or at a point on their face (mouth) to approximate eye contact during handshake and verbal exchange for at least 5 seconds.	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
5. Participant sits down appropriately: Sits down when offered / directed. Does not rush to be seated before interviewer.	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O	No opportunity to assess behavior
During the Interview		
6. Eye contact or approximation of eye contact during responses: Looking into the interviewer's eyes, or at a point on their face (mouth) to approximate eye contact. Holds eye contact for at least 5 second durations at re-occurring and intermittent points as they are responding to questions, across the majority of responses.	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
7. Pleasant facial expression during questions and responses: Holds expression at a neutral or pleasant state, no frowning, grimacing, disgust across the majority of responses.	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion

	N.O.	No opportunity to assess behavior
8. Intermittent pause during responses to questions: Participant intermittently **pauses for several seconds** allowing interviewer to insert follow up questions/comments, across the majority of responses.	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
9. Maintaining appropriate posture in seat: Sitting upright, feet or legs crossed, or feet on floor, and directing head and body towards the interviewer across the majority of exchanges	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
10. Limited motor activity during interview: Sitting still with only minor physical adjustments, no distracting fidgeting (pen tapping, tapping fingers, swaying, bouncing in seat), across the majority of exchanges	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
The End of the Interview		
11. Eye contact or eye contact approximation during departure / goodbye: Looking into the interviewer's eyes, or at a point on their face (mouth) to approximate eye contact during goodbye.	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior
12. Smile: At least one smile within context of goodbye that is directed towards the interviewer	0	Never or almost never displayed behavior
	1	Sometimes displayed behavior but not to defined criterion
	2	Often displayed behavior, meeting defined criterion
	3	Almost always displayed behavior, exceeding defined criterion
	N.O.	No opportunity to assess behavior

13. Participant initiates handshake at departure: Extends hand towards interviewer at appropriate distance OR, of equal value: **Appropriately responds to handshake initiation by interviewer**: Extends hand to interviewer immediately following interviewer's initiation reach (we will want the interviewer to do this if participant does not do it first). OR polity reminds the interviewer that they would rather not shake hands because of the COVID pandemic.	0	No
	3	Yes
	N.0.	No opportunity to assess behavior
14. Handshake is appropriate length: Approx. 2-3 long seconds, then release	0	No
	3	Yes
	N.O.	No opportunity to assess behavior

Modified from: Strickland, D.C., Coles, C.D, & Southern, LB. (2013). JobTIPS: A transition to employment program for individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 43*(10), 2472-2483

Appendix I

Social Validity Measure for Participants

Circle the best answer that describes what you think or feel.

1. My interview skills improved from being in this study.

Agree Not Sure Disagree

2. Interview skills are important for me to get a job.

Agree Not Sure Disagree

3. Being in this study will help me get a job.

Agree Not Sure Disagree

4. Watching video models of other people helped me improve my answers to interview questions.

Agree Not Sure Disagree

5. Watching videos of myself answer interview questions helped me improve my answers to interview questions.

Agree Not Sure Disagree

6. The self-reflection forms helped me improve my answers to interview questions.

Agree Not Sure Disagree

7. Role playing/ practicing answering the interview questions helped me improve my answers to interview questions.

Agree Not Sure Disagree

8. Giving me feedback on my interviews helped me learn it.

Agree Not Sure Disagree

9. I would recommend this training to my friends.

Agree Not Sure Disagree

Appendix J

Social Validity Measure for Local Business Owners

Directions: For each item below, circle your level of agreement with the statement.

1. The participant's interview skills improved from being in this study.

Agree Not Sure Disagree

2. This intervention improved the participant's ability to access employment.

Agree Not Sure Disagree

3. The opportunity to practice and receive feedback on interview skills within a business setting helped the participant improve their interview skills.

Agree Not Sure Disagree

4. Teaching youth with autism interview skills is important and necessary.

Agree Not Sure Disagree

5. Teaching youth with autism how to answer interview questions enhances their ability to access employment.

Agree Not Sure Disagree

6. I would hire this participant or recommend them for employment (in the target job description)

Agree Not Sure Disagree

7. I would recommend this interview intervention to friends/families with youth with autism

Agree Not Sure Disagree

Appendix K

This appendix includes the procedure fidelity forms for the baseline, intervention, and generalization conditions.

Fidelity Checklist Baseline

Participant: _____ Observer: _____ Date: _____		
Procedure:	**Yes**	**No**
1. The researcher states that they are going to practice interview skills using 10 interview questions		
2. The researcher reminds the student that the interview will be video recorded and ask for consent to be recorded.		
3. The researcher asks the participant the 10 interview questions in the correct order and using the predetermined verbiage.		
4. The researcher provides noncontingent, low-quality praise (e.g., "good to hear," "sounds good") on a fixed nterval schedule of every one minute. No specific feedback (e.g., "I love the way you are making eye contact," "that's a great answer")		

Fidelity Checklist Intervention

Participant: _____ Observer: _____ Date: _____		
Procedure:	**Yes**	**No**
1. The researcher plays a video model with example and non-example interview responses		
2. The researcher asks comprehension questions such as "In that video what job was the applicant applying for"		
3. The researcher plays the participants previously videotaped interview		
4. The researcher pauses after each question and verbally prompts the participant to fill out the self-evaluation form by asking how they think they did and how they could improve (if Excellent was not selected). Researcher assists with writing responses, as needed.		
5. The researcher and the participant role play answering 10 interview questions. The researcher provides immediate feedback and using the self-reflection form to quide role playing (e.g., "you said you felt like you needed a longer response to the "tell me about your strengths' question")		
6. The researcher tells participants it's time to record a new video and starts a new video to be used as data collection probe.		
7. The researcher provides low-quality praise (e.g., "good to hear," "sounds good") on a fixed interval of one minute after the participant has stopped responding.		

Fidelity Checklist Generalization

Participant: _____ Observer: _____ Date: _____		
Procedure:	**Yes**	**No**
1. Researcher reminds the participant that they will be video recorded		
2. The local business owner states that they will ask 10 interview questions		
3. The local business owner asks the participant the scripted 10 interview questions in the provided order without much deviation from the wording.		
4. The local business owner does not provide any negative feedback during the interview (e.g., "you may want to look at the interviewer") Positive feedback is okay during the generalization probe (e.g., "That's a great example")		

Vita

Kelsey Turner Dunn

Curriculum Vitae

PERSONAL

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EDUCATION

Expected May 2022	Ph.D.	Virginia Commonwealth University, Richmond VA Special Education and Disability Policy Dissertation: Vocational Education: Interview Skills for Adults with Autism
2017	M.A.Ed.	The Collage of William and Mary, Williamsburg VA K-12 Special Education
2016	B.A	Christopher Newport University, Newport News VA Sociology and Childhood Studies

LINCENSURE AND CERTIFICATION

2020	Applied Behavior Analyst Certificate George Mason University, Fairfax, VA
2018- Current	Collaborative Institutional Training Initiative (CITI) Program Certified Human Subjects Research
2018	Autism Spectrum Disorder Certificate William and Mary, Williamsburg, VA
2017- Current	K-12 Special Education Licensure in VA

ACADEMIC APPOINTMENTS

2018- 2020 **Research Assistant.** Assisted and conducted research on an Institute of Education Sciences' grant examining associations between language delay and problem behaviors on early elementary children. Collected data on a research study assessing the association between early language skills and mathematical performance in early childhood education. Screened, coded, and analyzed literature to assist in writing systematic literature reviews and meta-analyses. Dr. Jason Chow, Department of Counseling and Special Education, School of Education, Virginia Commonwealth University, Richmond VA.

2018- 2020 **Graduate Assistant.** Dr. Jason Chow, Department of Counseling and Special Education, School of Education, Virginia Commonwealth University, Richmond, VA.

MANUSCRIPTS

Chow, J.C., Broda, M.D., Grander, K.L., Deering, B.T., & **Dunn, K.T**. (2021) Language skills predict friendship networks in kindergarten classrooms. *School Psychology*
.

Wallace Stehle, E., Senter, R., Peterson, N., **Dunn, K.T.** & Chow, J. (2020). How to establish an effective collaborative relationship with speech-language pathologists. *TEACHING Exceptional Children.*

PRESENTATIONS

NATIONAL CONFERENCES

Dunn, K. & Redford, E., Huber, H. (2021, January), *Job Training Individuals with Developmental Disabilities during COVID-19.* Council for Exceptional Children Division on Autism and Developmental Disabilities. Clearwater Beach, FL.

Dunn, K. & Chow, J. (2020, January), *Systematic Review of Work Interventions for Individuals with IDD.* Council for Exceptional Children Division on Autism and Developmental Disabilities. Sarasota, FL.

Dunn, K. & Chow, J. (2019, November), *Systematic Review of Work Interventions for Individuals with IDD.* Teacher Education Division. New Orleans, LA.

Wallace Stehle, E.**,** Peterson, N., & **Dunn, K.** (2019, August), *Establishing collaborative partnerships between speech language pathologists, general education teachers, and special*

education teachers. Seventh Annual School Speech-Language Pathology Conference at Vanderbilt, Nashville, TN.

Dunn, K. & Chow, J. (2019, February), *Patterns of engagement and disruptive behavior in children with or at risk for specific language impairment and emotional behavior disorders*. Midwest Symposium for Leadership. Kansas City, MI.

Dunn, K. & Chow, J. (2019, February), *Student-teacher interactions for children with or at risk for specific language impairment and emotional and behavioral disorders.* Division for Learning Disabilities, Indianapolis, IN.

Wallace Stehle, E., **Dunn, K.** (2018, November), *Language impairments and behaviors: Promoting SLP and teacher collaboration.* American Speech Language Hearing Association, Boston, MA.

LOCAL AND STATE CONFERENCES

Stehle, E. & **Dunn, K.** (2018, October), *Speech Language Pathologists Reported Knowledge and Behavior Management Training*. Metropolitan Education Research Consortium. Richmond, VA.

TEACHING

2020-Current	**Director of Education.** Next Move Program. Richmond, VA. 501©(3) organization that partners with businesses to create guided internship experiences for young adults with disabilities. Administers and supervises staff working with clients, leads the development of educational programs and program improvements. Works to ensure the quality of current programing and trains job coaches.
2021	**Adjunct Faculty.** Graduate, Characteristics and Accommodations for Students with Mild/Moderate Disabilities in the General Curriculum. William and Mary, Williamsburg, VA.
2020	**Course Development.** Undergraduate, Development and Implementation of Positive Behavior Support Plans. Virginia Commonwealth University, Richmond, VA.
2020	**Course Development.** Graduate, Characteristics and Accommodations for Students with Mild/Moderate Disabilities in the General Curriculum. William and Mary, Williamsburg, VA.
2019	**Teaching Assistant.** Undergraduate, Introduction into Special Education. Department of Counseling and Special Education, Virginia Commonwealth University, Richmond, VA.

2017-2019	**One Child for Autism.** Non-profit respite care nights: Respite care for children with disabilities and their siblings. Williamsburg, VA.
2017-2018	**Special Education Teacher.** Algebra 1 Inclusion. Warhill Highschool. Williamsburg James City Country, VA

RESEARCH ACTIVITY

2020	Contributed to two federal grant proposals; speech language pathologists 'behavior management training and public preschool teachers' use of language-supportive strategies when working with children with problem behavior.
2018- 2020	Elementary school study, examining children with and without problem behaviors and their language abilities. Federally funded by IES. Chesterfield County, Virginia
2018- Present	Cognition and Learning Lab. Dr. Jason Chow and Dr. Christine Bae, School of Education, Virginia Commonwealth University, Richmond, VA.

SERVICE

2019	**Policy/Service Internship,** Elizabeth Redford, The Next Move Program

UNIVERSITY

2019- Current	Association for Aspiring Leaders in Education, Member
2019- Current	LaunchPad@VCU, Member

AWARDS AND ACADEMIC HONORS

2020	Vicki Godsey White Scholarship in Special Education

MEMBERSHIPS IN PROFESSIONAL ASSOCIATIONS

2017- Current	Teacher Education Division (TED)
2017- Current	Council for Exceptional Children (CEC)
2019- Current	Division on Autism and Developmental Disabilities (DADD)

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