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Addressing the Training Needs of Supervisors of Employees with Developmental Disabilities: Development of a Leadership Training Framework

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ADDRESSING THE TRAINING NEEDS OF SUPERVISORS OF EMPLOYEES WITH DEVELOPMENTAL DISABILITIES: DEVELOPMENT OF A LEADERSHIP TRAINING FRAMEWORK

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To: Dean Michael R. Heithaus
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This dissertation, written by Laura M. Heron, and entitled Addressing the Training Needs of Supervisors of Employees with Developmental Disabilities: Development of a Leadership Training Framework, having been approved in respect to style and intellectual content, is referred to you for judgement.

We have read this dissertation and recommend that it be approved.

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Florida International University, 2021

DEDICATION

I dedicate this dissertation to my friends and family who have always supported me on my academic journey.

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ABSTRACT OF THE DISSERTATION

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Individuals with developmental disabilities (DD) represent a significantly underutilized talent pool and often miss out on the many benefits of meaningful work. To improve the employment outlook for this population, there is an urgent need for research that investigates ways to eradicate existing barriers limiting opportunities for full-time employment. To address gaps in both research and practice, the overarching purpose of the present collected papers dissertation was to provide evidence-based research that informs the development of supportive workplace practices to improve employment outcomes specifically for people with DD.

Study One involved the identification of skill and knowledge gaps of supervisors of employees with DD, based on the perspectives of four stakeholder groups representing both supported employment and hiring organizations. Each perspective provided valuable insight into the training needs of supervisors of employees with DD and demonstrated the need for training across different supervisor duties. Building off findings from Study One, Part One of Study Two involved a qualitative investigation of the current training

practices for supervisors of employees with DD. Four themes were generated, demonstrating that the majority of trainings are outsourced, and that job coaches are often responsible for guiding supervisors in how to communicate with employees with DD, apply job accommodations, and teach routine tasks. Collectively, findings from Study One and Part One of Study Two confirmed the need for organizations to develop internal trainings to thoroughly prepare supervisors for managing and supporting employees with DD.

To guide organizations in developing holistic training programs, Part Two of Study Two proposed an evidence-based leadership training framework to increase supervisor capacity to manage and support employees with DD. The framework consists of six training components that will empower supervisors to build a foundation for healthy work, create an inclusive team climate, manage workplace stress, promote transfer of training, facilitate employee performance, and increase opportunities for growth. Ultimately, the present collected papers dissertation makes a timely and important contribution to disability-employment research and practice by helping organizations create the infrastructure needed to promote long-term, meaningful employment outcomes for people with DD.

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ABBREVIATIONS AND ACRONYMS

ADA	Americans with Disabilities Act
ADHD	Attention-Deficit/Hyperactivity Disorder
ASD	Autism Spectrum Disorder
DD	Developmental Disabilities
ID	Intellectual Disability
I-O	Industrial-Organizational
SE	Supported Employment
TNA	Training Needs Analysis
RTA	Reflexive Thematic Analysis

I. COLLECTED PAPERS INTRODUCTION

The present collected papers dissertation involves the development of an evidence-based leadership training framework that will increase supervisor capacity to manage and support employees with developmental disabilities (DD) in the workplace. The background to the problem, problem statement, and supporting empirical research are presented first, followed by the purpose, description, and implications of the collected papers dissertation. Each collected paper is then presented. Finally, this dissertation ends with a summary of the collected papers dissertation aims and findings, implications, directions for future research, and concluding remarks.

Background to the Problem

From 2008 to 2018, the employment rate for working age individuals (16-64) with disabilities ranged from 32-39%, compared to 70-75% for people without disabilities (Erickson et al., 2020). Current estimates from the Bureau of Labor Statistics, puts the employment rate for people with disabilities at 30.9%, compared to 74.6% for those without disabilities (U.S. Department of Labor, 2020), further demonstrating the large and consistent employment gap. While recent data on specific disabilities is limited, there is evidence to suggest that the employment outlook worsens for people with DD. For example, in 2018-19, only 19% of individuals with DD receiving support from service providers were employed (National Core Indicators, 2019). As these discouraging statistics clearly demonstrate, increased opportunities for gainful employment are needed for all individuals with disabilities, but particularly so for those with DD who represent a significantly underutilized talent pool.

Several interdisciplinary models have been proposed over the last few decades that aim to conceptualize disability and inform policy to meet the needs of people with disabilities (see Berghs et al., 2016; Jackson, 2018). The medical and social models of disability are two of the most well-known models in the literature (Haegele & Hodge, 2016). The medical model views disability as resulting from physical or mental impairment that is unrelated to the environment, and can be rehabilitated through medical treatment (Jackson, 2018). The medical model has been heavily critiqued over the years by academics and advocates alike, given the inherent implication that disability is a negative concept or a personal tragedy that has to be fixed. Such an emphasis places the blame of disability on the person and argues that to be "normal" an intervention is required. Despite the many limitations and criticisms of the medical model, the reliance on healthcare professionals in providing diagnoses to determine the types of services and resources received (for example, in education), is still evident and heavily influences the social perception of individuals with disabilities (Haegele & Hodge, 2016). Further, this model assumes that if a person's disability cannot be "cured" by modern medicine, then they are less able to contribute to society compared to individuals without disabilities. This assumption results in discrimination and social exclusion which perpetuates the notion that individuals with disabilities are not as valued or productive as those without disabilities (Bunbury, 2019), thus limiting their access to resources that enable them to live independently and provide for themselves through meaningful work.

The social model of disability was developed in response to the narrow scope and many criticisms of the medical model and is considered to be one of the most popular models in recent years (Haegele & Hodge, 2016). Several versions of the social model

exist, but each essentially define disability as a social construct in that "society imposes disability on individuals with impairments" (Haegele & Hodge, 2016, p. 197). The distinction between disability and impairments in the social model is an important one. Disability is considered to be a disadvantage imposed on people by society, while impairment is an abnormality of the body. In other words, it is barriers in society and not one's impairments that limit a person's ability to live independently and experience full-time work, which ultimately leads to marginalization. Solutions are therefore best addressed through changes in societal structures, policy, and people's attitudes, and not through medical intervention. From an organizational perspective, the social model suggests that the responsibility is on employers to remove barriers and create the infrastructure that fully integrates individuals with disabilities.

Since its conception over 30 years ago, the social model of disability has faced criticism centered around two key issues, 1) how impairment is separated from disability which may ignore the lived experiences of people with disabilities, and 2) how the model does not take into account the complexity of individual differences (Oliver, 2013). Despite these criticisms and suggestions that it is only a partial explanation for the exclusion of individuals with disabilities, the social model has helped to reframe attitudes and assumptions of disability, and brings awareness to the issues this population faces, which has inevitably inspired action and change (Berghs et al., 2016; Samaha, 2007).

As a result of increased awareness of the social structures that limit employment opportunities for individuals with DD, efforts have been made over the past few decades by the government and several organizations to increase access to employment for people with disabilities. For example, the Americans with Disabilities Act (ADA) was amended

in 2008 to provide increased protection against workplace discrimination (EEOC, 2008), the U.S. Department of Labor's Office of Disability Employment Policy was established in 2001 to increase employment opportunities (Office of Disability Employment Policy, 2001), and the Workforce Innovation and Opportunity Act signed into law in 2014 aimed to increase access to support services, training, education and employment for people with disabilities (Workforce Innovation and Opportunity Act, 2014). Organizations such as the Job Accommodation Network, the Workforce Recruitment Program for College Students with Disabilities, and the Employer Assistance and Resource Network on Disability Inclusion, also provide a variety of support to help people with disabilities experience meaningful employment.

Despite federal legislation and support from advocacy organizations, several barriers still exist preventing individuals with DD from finding opportunities for employment. This problem is exacerbated given the disproportionate impact of the COVID-19 pandemic on people with disabilities (Brooks, 2020; Maroto & Pettinicchio, 2020), as they often occupy low-wage, part-time positions in severely impacted industries (such as hospitality or other service industries; Maroto & Pettinicchio, 2014). Hence, there is now an enhanced need to not only bring attention to the disparity in employment opportunities, but to also identify ways to improve the employment outlook for people with DD to ensure that they are not further marginalized in the post-COVID economy. To date, the majority of disability-employment literature focuses on identifying barriers to employment, and there is a significant lack of research critically examining the conditions of the work environment that contribute to successful job performance and long-term employment for this population.

The Problem Statement

The role of the immediate supervisor in generating positive individual and organizational outcomes in the workplace has been well documented by prior research on neurotypical individuals (see Eisenberger et al., 2010; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Griffin, Patterson, & West, 2001; Maertz Jr, Griffeth, Campbell, & Allen, 2007; Shanock & Eisenberger, 2006; Swanberg, McKechnie, Ojha, & James, 2011). However, given the important role that supervisors play in managing employees with DD, the training and support needs of these supervisors have largely been neglected by disability employment research.

Lacking the necessary knowledge and skills needed to effectively manage and support employees with DD is a critical problem, as poor supervisor-incumbent relationships often lead to reduced employee job satisfaction (Stringer, 2006) and increased turnover rates (Kim et al., 2013). A lack of knowledge and training on behalf of the supervisor can also reduce their feelings of competence in being able to support employees with DD, which may negatively impact their hiring and inclusion of these employees in the future. As such, given the difficulties individuals with DD face in finding and maintaining employment, having a supervisor who is ready to provide them with the support and guidance needed to successfully navigate the workplace, complete their job tasks effectively, and grow and develop in their career, is crucial.

To address the significant gaps that currently exist in both research and practice, the present collected papers dissertation involves three specific aims: 1) to conduct a training needs analysis in order to identify the skill and knowledge gaps of supervisors of employees with DD from multiple perspectives, 2) to qualitatively explore the current

landscape of training for supervisors of employees with DD, and 3) to develop an evidence-based leadership training framework that will increase supervisor capacity to manage and support employees with DD.

Defining Developmental Disability

The term *developmental disability* encompasses a "group of conditions due to an impairment in physical, learning, language, or behavior areas" (CDC, 2018; Rubin & Crocker, 1989). Developmental disabilities originate during the development stage (from birth to approximately age 22) and are usually lifelong. While the causes of most types of DD are unknown, it is thought that many occur prior to pregnancy due to a variety of factors including genetics, parental behavior and health, infection, and others such as exposure to certain toxins in the environment (CDC, 2018). However, developmental disabilities can also result from injury, infection, or other factors after birth. Typically, a DD is identified when a child is delayed in meeting expected developmental milestones at certain ages, such as taking their first steps or smiling. A recent longitudinal study demonstrated that the percentage of children diagnosed with DD significantly increased from 16.2% in 2009-2011 to 17.8% in 2015-2017 (Zablotsky et al., 2019). The increasing prevalence rate means that approximately one in six children aged three to 17 are reportedly being diagnosed with DD in the United States (Zablotsky et al., 2019).

Attention-deficit/hyperactivity disorder (ADHD), learning disability, autism spectrum disorder (ASD), and intellectual disability (ID) are among the most common types of DD (Zablotsky et al., 2019), although there are many others including (but not limited to) cerebral palsy, fetal alcohol spectrum disorders, fragile X syndrome, hearing loss, language and speech disorders, Down syndrome, Tourette syndrome, and vision

impairment. Developmental disabilities are often comorbid, meaning that they commonly co-occur with other disabilities. For example, ID commonly co-occurs with ADHD (Clark & Bélanger, 2018; Neece et al., 2013) and ASD (Tonnsen et al., 2016). In comparison to other types of DD, diagnoses have increased specifically for ID, ADHD, and ASD in recent years (Zablotsky et al., 2019), likely the result of increased awareness and improved screening (Caye et al., 2019; Matson & Kozlowski, 2011; Stavrakantonaki & Johnson, 2018).

Some types of DD are considered visible (e.g., Down syndrome, cerebral palsy and ASD) as they are apparent to observers, whereas invisible disabilities (e.g., ADHD and Asperger's syndrome) may not have an evident physical characteristic or feature that is associated with a disability (Santuzzi et al., 2014). People with visible and invisible disabilities tend to face different challenges in the workplace. Since visible disabilities are difficult to conceal, individuals can suffer from negative stereotypes or stigmas based on their physical appearance (Martz, 2003). While some invisible disabilities can be hidden in the workplace (e.g., asthma, arthritis, diabetes, etc.), individuals with DD may differ in the way that they speak, interact, and interpret information, and are often judged to be "odd" by others as a result, which can negatively impact the way in which they are treated within the workplace.

The Employment of People with Developmental Disabilities

Many people grow up knowing what they want to do and where they want to work when they finish their education. This is born from a cultural expectation that to be a functioning member of modern society, people should be employed. The expectation to be employed can become a heavy burden for people with disabilities, who face

significant barriers when it comes to finding and maintaining work. The importance of employment on mental health (Modini et al., 2016), general wellbeing, social integration and financial stability (Muir et al., 2017; Reeve et al., 2016) have been well documented over the last decade. Due to the significant benefits gained from working, the Universal Declaration of Human Rights (Article 23) recognizes that everyone has the right to work in favorable conditions with equal pay for equal work (United Nations, 2015).

It is not surprising that having access to gainful employment results in several positive outcomes for individuals with DD, including increased psychological wellbeing (i.e., self-esteem), autonomy, independence, social networks, and quality of life (see Jahoda, Kemp, Riddell, & Banks, 2008). Employed people with DD also report higher quality of life scores, compared to unemployed individuals with DD (Kober & Eggleton, 2005). The quality of life construct used in both of these studies (see Keith & Schalock, 1994) encompasses several facets, including satisfaction, empowerment, independence, productivity, social belonging, and community integration. Research focusing on ASD also provides evidence for the positive impact of employment on overall quality of life, by increasing an individual's perceived environmental control, community involvement, perception of personal change (see Sinnott-Oswald, Gliner, & Spencer, 1991), and improved cognitive performance (García-Villamisar & Hughes, 2007).

Despite the clear importance of employment on health and wellbeing, these individual outcomes rarely feature in the reasons why organizations should hire people with DD. Instead, much of the focus is on the organizational advantages to hiring people with disabilities, otherwise known as the "business case." While there are many organizational benefits, including increased workforce diversity, long-term employment,

consistent attendance, and improved co-worker partnerships, job effectiveness, customer satisfaction, marketing opportunities, and brand attractiveness (Lengnick-Hall, Gaunt, & Kulkarni, 2008; Morgan & Alexander, 2005; Siperstein, Parker, Bardon, & Widaman, 2007), the fact remains that everyone deserves to have access to employment. Being able to work and make a living is a crucial driver of human independence and plays a vital role in social integration. For many individuals with DD, employment opportunities are extremely limited, which significantly reduces their ability to live independently and become fully integrated members of their community. Hence, it is vital that opportunities for meaningful employment are increased for this population.

Barriers to Employment for People with Developmental Disabilities

Most disability-employment related literature in the past few years has focused on identifying barriers to employment for individuals with DD (Houtenville & Kalargyrou, 2012a; Lengnick-Hall et al., 2008; Meltzer et al., 2020; Scott et al., 2017). One of the most significant barriers stems from a common societal misconception that people with DD either cannot do the work or do not want to be employed. This notion is unfounded as many individuals with DD have a strong desire to be employed (Miller et al., 2008; Smyth & McConkey, 2003), express great value in the ability to learn new skills either through employment or voluntary workshops and are disappointed with the lack of paid jobs available to them (Miller et al., 2008). Unfortunately, many employers still have the misconception that individuals with DD would not be as productive as other employees or possess the skills needed to meet performance expectations (Houtenville & Kalargyrou, 2012).

Organizations are also often hesitant to facilitate disability employment practices due to perceived additional costs (Ellenkamp, Brouwers, Embregts, Joosen, & van Weeghel, 2016), which can include health care, reasonable accommodations, accidents or injuries, and legal costs (Lengnick-Hall et al., 2008). Additionally, employers are concerned about not knowing how to communicate or work with individuals with disabilities and tend to think that supervisors, in particular, may be uncomfortable overseeing employees with disabilities (Houtenville & Kalargyrou, 2012). Other barriers to employment include the absence of disability as a defined group in the organization's diversity strategy, and inadequate knowledge and training about anti-discrimination legislation and reasonable accommodations (Chan et al., 2010). Additionally, Moore, McDonald, and Bartlett (2018) demonstrated that modern recruitment systems often tend to marginalize individuals with DD, as they are typically screened and scored in relation to other applicants.

As a consequence of the barriers to employment, individuals with disabilities commonly occupy temporary or part-time positions (Maroto & Pettinicchio, 2014; Schur, 2002), with lower pay and fewer benefits compared to people with long-term employment contracts. Individuals with cognitive or mental disabilities, in particular, are disproportionately employed in specific occupations such as food preparation and service, with an annual wage that is less than half the average of other occupations (Maroto & Pettinicchio, 2014). Even if the pay gap between people with and without disabilities was eradicated, poverty rates among the disability population would continue to be high since they occupy lower-wage jobs in general, and often struggle to get as many paid working hours as nonstandard workers without disabilities (Schur, 2002).

Many of the barriers to employment stem from societal stigmas, a general lack of knowledge of disabilities, and low disability confidence (Lindsay & Cancelliere, 2018). Disability confidence is a relatively new concept which defines the degree to which people have favorable attitudes towards disability, are comfortable working with people with disabilities, and are generally inclusive of disabilities in the workplace (Lindsay & Cancelliere, 2018). According to Lindsay and Cancelliere (2018), increasing employer disability confidence can act as a catalyst for improving disability inclusion in the workplace by reducing disability discomfort, which can help to break stereotypes and improve attitudes towards people with disabilities.

While highlighting the various barriers to workplace inclusion for people with disabilities can be useful, few studies have taken the necessary steps to eradicate these barriers, improve disability confidence, and provide organizations with the infrastructure needed to support and maintain long-term employment. To increase the number of full-time employment opportunities for employees with DD, more attention needs to be paid to addressing these barriers, rather than simply identifying them. One way to address these barriers, increase employer disability confidence, and improve employment rates for people with disabilities, is to focus on building more inclusive workplace cultures that fully integrate *all* individuals, including those with disabilities.

Building an Inclusive Workplace Culture

Over the last decade, the rise of workplace diversity and inclusion initiatives has received considerable attention in the literature, as organizations begin to realize the benefits of having a diverse and inclusive workforce in the current global economy. By being more inclusive, organizations attract more talented job applicants, increase their

pool of customers, and create diverse work teams that are more creative, leading to stronger product development (Nair & Vohra, 2015). A diverse workforce is generally characterized by the demographic composition of employees within an organization (Nair & Vohra, 2015), whereas inclusion is "the achievement of a work environment in which all individuals are treated fairly and respectfully, have equal access to opportunities and resources, and can contribute fully to the organization's success" (Society for Human Resource Management, 2008). As such, inclusion relates more to the workplace culture and climate that enables minoritized individuals to feel fully accepted and integrated into the organization (Stevens et al., 2008).

Employers often think that increasing the diversity of their hiring practices will lead to a work environment that is both diverse *and* inclusive. However, even if an organization has a diverse workforce comprised of people of differing gender, race, sexual orientation, age, or ability, they may not have an environment is inclusive of these differences (Pless & Maak, 2004). Hence, while increasing employment opportunities for people with disabilities is a prominent focus of current research, specific attention should also be paid to creating a fully integrative work environment. Progress in this area is demonstrated by the fact that many organizations now encourage workplace flexibility, job sharing, and work-life balance – all of which are initiatives that can help the workplace be more inclusive of people with disabilities. Further, as a result of increased diversity, many organizations now roll out organization-wide diversity trainings in an effort to reduce unconscious biases, stereotypes, or negative attitudes, and increase recognition of the benefits of having a diverse workforce (Bezrukova et al., 2012; Pendry et al., 2007).

Studies suggest that diversity training can improve employee relations (Bezrukova, Jehn, & Spell, 2012), and diversity self-efficacy (i.e., the motivation to help create change and work towards diversity-related goals; Combs & Luthans, 2007). However, despite their widespread use, little empirical research has been conducted that examines the effectiveness of diversity and inclusion training particularly with a focus on disabilities (Phillips et al., 2016). Evaluating these programs as a whole is difficult given the substantial variation in methods and formats (Kalinoski et al., 2013), and the general lack of thorough program evaluations (Kochan et al., 2003). Many programs that do include information about disabilities may focus more on visible disabilities, such as physical disabilities, so employees may remain largely ignorant of many types of DD. It is also important to note that diversity trainings are often conducted as a reaction to workplace problems and may not necessarily lead to changes in organizational climate, decision making, organizational structure, or management (Richard et al., 2000). Similarly, some programs may be conducted as a "good faith" effort, and without top-down support, it is unlikely that a change to company culture and climate will occur. Subsequently, to truly become both diverse *and* inclusive, organizations cannot just rely on a broad diversity training program.

Positive workplace relationships will only occur if there is an inclusive culture where everyone recognizes the importance and benefits of having diversity in the workforce. Supervisors play a central role in creating an inclusive work environment, as employees often model themselves based on supervisor behaviors and attitudes. While there are many things that can be done to make environments more inclusive for individuals with disabilities (e.g., improving general workplace attitudes towards

disabilities and having a clear accommodations process in place), organizations must establish the necessary workplace supports that are needed for employees to succeed – and supervisors are arguably a crucial natural support for employees with DD. As such, providing supervisors with guidance and training to build the skills and knowledge necessary to manage and support employees with DD is an essential step in ensuring that they are successfully integrated into the workplace.

Organizational Partnerships with Supported Employment

For individuals with DD, competitive integrated employment is often achieved through supported employment (SE), which is a strategy used to help people with disabilities find and retain meaningful employment with equal pay and job security (as well as other benefits). Service providers including vocational rehabilitation (VR), supported employment agencies and employment vendors perform job analyses, job profiling, on-the-job training, and job matching (Beyer, 1995). Often, these processes are facilitated by a job coach (or employment specialist), who trains clients with DD in the basic skills needed to be successful on the job, helps them find a suitable position, and remains in a supportive role for approximately six months (although the amount of support varies greatly depending on the service or agency).

Job coaches often initiate the first contact with organizations and are responsible for introducing the employer to the possibility of hiring people with disabilities (Gustafsson et al., 2013). An employer's willingness to move forward with hiring individuals with disabilities often hinges on the SE agency's ability to meet their needs and find an appropriate match for both the organization and the employee. Once an employee is hired, employers often have open lines of communication with the job coach

who provides guidance and support to alleviate any uncertainties (Gustafsson et al., 2013). Ultimately, having access to SE support has led to positive outcomes for individuals with DD who see increased productivity, emotional wellbeing, and role clarity, and also have a greater understanding of policies and procedures at work (Beyer, Brown, Akandi, & Rapley, 2010).

However, to date, no studies have comprehensively examined the role that job coaches play in the workplace, particularly in regard to readying the supervisor for providing continual support once the job coach's role ends. In most cases, the job coaches' primary role is to provide initial training and support to the employee with DD, so it is likely that the degree of training or support provided to supervisors varies, just as the length of time that job coaches remain in a supportive role varies across agencies and service providers. As such, while there is initial support for the employee when they first get the job for a short period, organizations may not facilitate ongoing support for both the employee and their supervisor once the partnership with SE ends.

A review of SE by Wehman, Revell, and Brooke (2003) demonstrated that ensuring ongoing supports is a crucial feature of the SE model and there is a need for organizations to develop systems that will provide continual support for employees with disabilities. Unfortunately, many VR agencies struggle to coordinate continued support once funding ends, resulting in workplace problems and issues with retaining employees with DD. For this reason, the ability to leverage and adapt existing workplace support, is essential. By developing internal structures that complement the support provided by SE providers, organizations can create fully inclusive work environments that contribute to positive, long-term employment outcomes for individuals with DD.

Leveraging Internal Workplace Supports

An exchange relationship occurs between employees and an organization, such that when an employee perceives that their organization supports and values them, they will respond by being more committed, resulting in improved performance and reduced turnover (Rhoades & Eisenberger, 2002). The role of organizational support in facilitating positive organizational and individual outcomes has been well documented (Eisenberger et al., 2002, 2010; Maertz Jr et al., 2007; Rhoades et al., 2001; Rhoades & Eisenberger, 2002). There are several antecedents to perceived organizational support, including positive perceptions of organizational justice (Moorman et al., 1998), favorable job conditions (Eisenberger et al., 1986), and supervisor support (Wayne et al., 1997). Most organizations have existing natural supports that involve policies, practices, and people, including supervisor and coworker support, informal or formal mentoring, training programs, and employee resource groups. However, despite the depth of literature examining the impact of each type of support on neurotypical employees, little attention has been paid to the specific types of support needed for employees with DD to be successful at work.

More specifically, the role of potentially the most critical source of support, the immediate workplace supervisor, has largely been overlooked. As a result, there is a significant lack of research exploring the skill and knowledge areas needed for supervisors to be effective at managing and supporting employees with DD. In addition to providing support on the job, supervisors are also important in making employees with disabilities feel comfortable and accepted in the workplace. Von Schrader, Malzer, and Bruyere (2014) found that 63.5% of employees with disabilities reported that having a

supportive supervisor was a key factor in the decision to disclose their disability at work. Participants also stated that they would be more likely to disclose their disability if their supervisor was understanding, supportive, and trustworthy. Altogether, these findings point to the importance of providing supervisors of employees with DD with thorough training that will allow them to deliver successful and ongoing support.

The Role of the Supervisor

While there is a lack of literature examining the specific needs of employees with DD or their supervisors, one study has investigated how supervisors perceive organizational efforts to integrate individuals with a range of disabilities into the workplace. In 2017, the Kessler Foundation conducted a survey examining supervisor perspectives of the recruitment, selection, training, and retention of employees with disabilities within their organization (Kessler Foundation, 2017). While over half of the respondents in this survey had experience supervising employees with hearing, visual, or mobility disabilities, 27% had experience working with employees with cognitive deficiencies, and 15.6% worked directly with individuals with DD.

Generally, supervisors worked in organizations with established recruitment and training procedures but reported that these procedures were not as effective for employees with disabilities compared to employees without disabilities. For example, while 90% of supervisors reported their organization's recruitment processes to be effective in general, only 61% reported the same process to be equally effective for individuals with disabilities. Similarly, while the majority of supervisors reported that their organizations had established training procedures for new employees, these training processes were considered less effective for employees with disabilities (73%), compared

to employees without disabilities (93%). Furthermore, even though 78% of supervisors felt that top-down support was important, only 43% reported feeling that upper management was "very committed" in terms of providing support to people with disabilities when learning their job tasks.

Finally, to gather information regarding efforts to retain employees with disabilities, participants were asked whether their organizations offered any training programs that aimed to address negative attitudes, stigmas, and stereotypes within the workplace. While only 43% of organizations had such training programs, 94% of supervisors reported that providing these types of programs were effective in increasing the inclusive nature of the organization. Unfortunately, less than 20% of the organization's supervisors worked for had an established process allowing employees to disclose their disability anonymously. This last finding raises a critical issue; if employees with disabilities are unable to disclose (perhaps because they do not feel as though they would be supported), it is unlikely that supervisors will be able to provide them with the accommodations or support needed to succeed in the workplace. Even for individuals finding employment through service providers (in which case the employer will know the employee has a disability), being able to trust and feel comfortable talking to a supervisor about their disability is necessary for them to receive the ongoing support they need to be successful on the job.

Overall, the information provided by the Kessler Foundation further stresses how critical the role of the supervisor is in terms of managing and supporting employees with disabilities. However, while this study is instrumental in highlighting areas of both progress and concern related to current organizational recruitment, selection, training,

and retention strategies, little is known about what training or support is provided for supervisors specifically of employees with DD.

Supervisor Training Needs Identified in the Literature

Since few studies have comprehensively examined the supervisor's role, it is difficult to determine the specific training needs of supervisors of employees with DD. While it is likely that support needs will vary significantly depending on the individual, there is some evidence to suggest that supervisors may need to spend more time managing employees with intellectual disabilities (Olson et al., 2001). However, it is possible that findings concerning the need for extra supervision time are a function of inefficient workplace practices (perhaps from a lack of supervisor training), or a lack of support surrounding employees with disabilities in the workplace.

In terms of specific training needs, one study by Reisman and Reisman (1993) investigating the supervision of individuals with learning disabilities (a type of DD) can be used to generate potential training need areas for supervisors of employees with other types of DD. In terms of general management practices, participants reported conducting regular meetings, giving clear instructions and directions, and adapting tasks for employees with learning disabilities. Supervisors also stated that it was important to be realistic about expectations, strengths, and weaknesses, provide prompt feedback and encourage employees to communicate, ask questions, and self-advocate. The factors that were *most* important to supervisors in terms of supporting employees with disabilities included supervisor attitudes, self-efficacy, and competence, the knowledge of how to overcome weaknesses, and a thorough understanding of employee needs (Reisman & Reisman, 1993). Another key finding from this study was that supervisors' primary

source of support came from a job coach who provided them with encouragement, empathy, role clarification, information regarding special needs, strengths and weaknesses of the employee with the disability, suggestions about helping techniques, problem-solving, goal setting, and information about the assignment of tasks.

Ultimately, findings from the Reisman and Reisman (1993) study highlight the critical need to focus on the training and support needs of the supervisor of employees with disabilities. While several areas of supervisor training can be identified from this study (e.g., disability awareness, communication, etc.), the findings pertain specifically to one type of DD. More recent research building on these findings is needed to further examine the needs of supervisors of employees with DD, which will likely yield several other critical training need areas.

Purpose of Collected Papers

The overall aim of the present collected papers dissertation is to provide evidence-based research to inform the development of supportive workplace practices that will improve employment outcomes specifically for people with DD. In the first study, the overall aim is achieved through a training needs analysis which is used to identify skill and knowledge gaps among supervisors of employees with DD from the perspective of multiple informed stakeholders. Findings from the training needs analysis and a qualitative exploration of the current status of supervisor trainings are used to inform the development of a leadership training framework to increase supervisor capacity to manage and support employees with DD in the workplace.

Description of Collected Papers

This dissertation will involve two collected papers. The topic across both papers is aimed at helping organizations provide employees with DD with a fully integrative and supportive workplace environment, by developing an evidence-based leadership training framework to better prepare the immediate supervisor.

COLLECTED PAPER 1:

Purpose and Research Questions

The first study in the present collected papers dissertation investigates the knowledge and skill gap of supervisors of employees with DD, through a comprehensive training needs analysis (TNA) conducted from the perspective of multiple stakeholders representing both SE and hiring organizations. Evidence gained from Study One is expected to significantly shape organizational best practices in preparing supervisors to more effectively manage and support employees with DD.

Research aims:

1. Identify training need areas of supervisors of employees with DD informed by four stakeholder groups representative of both SE and hiring organizations.
2. Prioritize skill and knowledge areas to display the most *critical* training needs.

Method

Models of training needs analysis

A TNA is the first step in the organizational process to improve performance outcomes (Swanson, 2007). Most needs assessment models recognize three levels of analysis: organizational (i.e., a measure of where training is required), task (i.e., a measure of what needs to be done for effective performance), and person analysis (i.e., a

measure of specific training needs, and which employees need it; Werner & DeSimone, 2006). Depending on which level of analysis is used, the data collection methods will vary. For example, an organization-level analysis involves examining the broad goals, values, and mission of the organization, while task or person-analyses will often involve conducting interviews, observations, or surveys. Several models of how to conduct a needs assessment exist in the literature. The TNA conducted in Study One of the present dissertation includes elements from each of the following models.

Traditional TNA models describe an open system model of training, involving inputs, processes, and outputs. For example, Swanson (2007) identified a three-stage model, the first of which involves identifying performance gaps, determining whether the problem is a present issue or a future requirement, deciding the level of performance that should be targeted (organization, process, team, or individual), and finally, articulating the purpose of the needs analysis. All of the information from phase one feeds into the next phase involving the assessment of performance, specification of performance measures, and identification of performance needs. Assessing performance involves examining existing data, collecting more data, and profiling gaps in the data. A performance diagnosis matrix is used to identify gaps, which includes five core performance variables: mission, system design, capacity, motivation, and expertise. For example, at an individual level of analysis, questions are asked pertaining to whether the mission aligns with the values of the employee, and whether the individual has the knowledge and skills to perform their job. Finally, the performance needs identified in phase two inform the final phase, which involves the development of a performance improvement proposal.

Other models focus more on the individual performance appraisal process. For example, the first stage of a model identified in a review by Herbert and Doverspike (1990), involves an initial appraisal of employee performance, which leads to the identification of a performance gap. Each individual's behaviors are compared to others' or an "ideal" set of behaviors and the source of the gap is identified. This stage involves gathering information at all three levels of analysis, and examining both internal (i.e., motivation, skills, and knowledge) and external factors (i.e., poor work conditions and a lack of resources or faulty equipment). Once the reason for the gap is identified, the final step in the performance appraisal process is to find a solution to the performance gap, such as a training program.

The present TNA involves a task and person-level of analysis to identify what skills and knowledge areas are necessary for effective performance and to identify what specific training supervisors of employees with DD need. Further, the data collection is mixed methods, involving interviews and a survey that was disseminated with stakeholders at various levels within (and outside of) organizations, designed to gather multiple perspectives. Conducting the interviews and surveys with multiple stakeholders allowed the TNA to gather holistic information from individuals who are invested in disability employment efforts, and will ultimately benefit from an evidence-based training program for supervisors of employees with DD. The data were interpreted with these perspectives in mind.

The TNA in the present study differs from the aforementioned models in that it is already recognized that there is a gap in supervisor knowledge and skills to support employees with DD. However, a TNA is needed to ascertain *where* the gaps are in

relation to specific employment processes. The present TNA also focuses more on the internal factors that are the reason for the gap (i.e., skills and knowledge), rather than problems with faulty equipment or a lack of resources, which are outside of the scope of training. Therefore, the present approach to TNA looked to combine components of both traditional and integrative models of needs assessment to thoroughly assess the current knowledge and skill gaps of supervisors of employees with DD.

Survey Development Interviews

Sample. The development of the TNA survey involved an expert review of task and knowledge statements and seven interviews with subject matter experts (SME) in the field of disability employment. Specifically, the expert reviewer was the CEO of a job matching platform for people with disabilities with 10 years of experience working in disability employment. Interviewees consisted of five direct workplace supervisors of employees with DD, including two staff members at a large southeastern university who supervise interns with DD (one with five years of experience, and one with 10 months of experience working with interns), one executive chef with five years of experience supervising employees or interns with DD (currently supervising two employees with DD), a general manager at a gym with three years of experience supervising one employee with DD, and a district manager of a restaurant chain who currently supervises one employee with DD, and two non-supervisors including a field inclusion manager in a large corporation with 11 years of experience supporting disability employment efforts, and a disability program manager in a large global company with five years of experience working in disability employment.

Procedure. An initial list of 30 task and 32 knowledge statements were developed using author subject matter expertise (SME) in the area of Industrial-Organizational Psychology and disability employment. The list was piloted by an expert reviewer who was asked to provide feedback on wording and comprehension, whether statements required examples for clarification, and whether any statements were missing or irrelevant to the supervision of employees with DD.

Seven interviews were also conducted in-person, over the phone, and over Zoom to better understand the skills and duties involved in supervising employees with DD, and further refine and enhance the list of task and knowledge statements. Interviews were semi-structured, meaning that each interviewee received the same set of questions, but there was still an opportunity for elaboration to ensure as much information was gathered as possible. Direct workplace supervisors were asked about their own experiences managing and supporting employees with DD, while the two non-supervisors were asked about the experiences of supervisors within their organizations across the following broad topics: onboarding, socialization, training, performance management, and career development. Interviews lasted for approximately 60 minutes and were audio recorded. Participants were compensated with $30 e-gift cards for their time. All study materials (including the pilot interviews and the survey described below) received Institutional Review Board Approval (IRB-19-0295).

Feedback from the expert reviewer along with data from the seven interviews informed the refinement of existing statements, and the development of new ones, culminating in a final list of 48 task and 31 knowledge statements.

Survey Pilot Interviews

Sample. The TNA survey was piloted by three SMEs in the field of disability employment, including the president and founder of a support provider agency, an employer in the education system who hires individuals with DD, and finally, an employee with experience working with individuals with DD who currently works within a large healthcare organization with a strong inclusion program.

Procedure. After the survey development expert review and interviews, the TNA survey was constructed, and three further pilot interviews were conducted. Interviewees were asked to provide feedback on *all survey items*, including the definition of DD, eligibility questions (i.e., how clear it was for participants to select into the groups that best represented their current role, such as a workplace supervisor or a job coach), demographic-type questions, survey instructions, as well as task and knowledge statement comprehension (i.e., whether they required examples, and whether any were missing or irrelevant). Knowledge and task statements were only refined with slight wording changes or the addition of examples, and no new statements were added following the three pilot interviews. Informed by the interview data and from author SME, the final list of statements were conceptually mapped onto the following areas representing various supervisor duties: onboarding (five task, two knowledge), socialization (nine task, five knowledge), training (six task, three knowledge), feedback and evaluation (seven task, four knowledge), health and wellbeing (three task, one knowledge), general management (eight task, two knowledge), job accommodations (four task, six knowledge), goal setting (two task, two knowledge), career development (four task, one knowledge), and disability awareness (five knowledge).

Training Needs Analysis (TNA) Survey

Sample. In the present study, the term "workplace supervisor" was used to refer to anyone, no matter of their job level or title, who directly oversees the work of at least one employee with DD in their organization. To be eligible to participate, participants had to fall into one of the following four categories: 1) work (or have worked in the last 6 months) as a direct workplace supervisor of employees with DD, 2) occupy a different position, but have knowledge of the role that workplace supervisors within their organization play in managing and supporting employees with DD, 3) work as a job coach (or employment specialist, employment consultant, etc.) by directly assisting individuals with DD to find and maintain employment, or 4) occupy another position within an organization that provides services to individuals with DD (e.g., supported employment agency, vocational rehabilitation, center for independent living, vendor, educational agency, etc.). Gathering each unique perspective was essential in conducting a thorough and holistic analysis of the training needs of supervisors of employees with DD. The terms *workplace supervisor*, *non-supervisor*, *job coach*, and *service provider employee*, respectively, are used to refer to each participant group.

After removing participants who did not pass four out of six attention check items (n = 6), the final sample (n = 113) consisted of 33 workplace supervisors, 13 non-supervisors, 30 job coaches, and 37 service provider employees. The participants were predominantly female (66.4%), White (69.9%), and Non-Hispanic or Latino (64.6%). Participant age ranged from 22 to 67 (M = 41.19, SD = 12.02), and most held either a bachelor's degree (35.4%) or a master's degree (36.3%). A range of industries were represented, with 37.2% of participants providing open ended responses after selecting

"other" (common open responses included human services, social work, and supported employment), 26.5% education, 21.2% service and to a lesser extent health care (9.7%), manufacturing (1.8%), retail (.9%), and agriculture (.9%). The majority of participants worked in the not-for-profit sector (54%), and the most common job positions were non-managerial (31.6%) and middle management (27.4%).

Procedure. The present TNA was conducted at the task and individual level, with a focus on the skills and knowledge needed for successful performance (see Werner & DeSimone, 2006). Specifically, a TNA survey was designed to gather information from multiple stakeholders representing both SE and hiring organizations, focusing on the potential training needs of supervisors of employees with DD. Survey recruitment efforts included the use of disability-employment listservs, LinkedIn, and direct outreach to employers and organizations such as centers for independent living, supported employment agencies, vocational rehabilitation, and Inclusive Postsecondary Education Programs serving young adults with DD. Participants were compensated with $40 e-gift cards upon completion.

Measures. Following the format of a TNA conducted by Hennessey-Hicks (2011), participants were asked to respond to each task and knowledge statement in two different ways: A) how important the task or knowledge statement was to the supervisor's job in managing an employee with DD (1 = Not at all important, 5 = Very important), and B) what the current level of performance (or knowledge) was for each statement (1 = Poor, 5 = Excellent). Instructions varied slightly across each group. For example, for the A rating, workplace supervisors were asked "how important is this task (or knowledge area) to your job in managing an employee with DD?" whereas the

remaining three groups were asked, “how important is this task (or knowledge area) to a supervisor’s job managing an employee with DD?” Similarly, for the B rating, workplace supervisors were asked, “what is your current level of performance on this task (knowledge in this area)?” whereas non-supervisors were asked, “On average, what is the current level of performance of supervisors in your organization on this task (knowledge of supervisors in your organization in this area)?” and job coaches and service provider employees were asked, “across organizations that you work with, what is the current level of performance of supervisors on this task (knowledge of supervisors in this area)?”

While some level of knowledge is expected for all knowledge statements, in recognition of the fact that workplace supervisors may not perform certain tasks (or other participants may not know that supervisors perform these tasks), participants across all four groups were given a 6th response option for the B rating of each task statement. Specifically, workplace supervisors could select “Do not perform” and the remaining three groups could select “I do not know.” Participants who selected this 6th option were not included in that row of data.

Demographic variables. In addition to rating the task and knowledge statements and answering demographics (age, gender, ethnicity, race, education level, industry, sector, and managerial level), all participants were asked several questions designed to provide more context to the TNA findings. Questions asked of all participants included the types of DD they have experience with and whether their organizations have an initiative to hire individuals with DD. Workplace supervisors were asked how many employees they currently manage, how long they have been in a supervisor role, and the percentage of time they spend managing employees with DD. Non-supervisors were

asked how many supervisors within their organization manage employees with DD, and how many employees have a disclosed DD. Both workplace supervisors and non-supervisors were asked whether their organizations have a partnership with SE, and how long a job coach remained in their supportive role (job coaches were also asked this last question). In addition to these demographic-type questions, the following questions with agreement scales were asked:

Familiarity with DD. To measure participant familiarity with the needs of employees with DD, all four groups were asked "In general, how familiar are you with the employment needs of employees with developmental disabilities?" This question was rated on a Likert scale from 1 (Not familiar at all) to 5 (Extremely familiar).

Level of preparedness. To measure perceived supervisor preparedness to manage and support employees with DD, workplace supervisors were asked, "How prepared do you feel in managing and supporting employees with developmental disabilities?", non-supervisors were asked, "On average, how prepared do you feel supervisors within your organization are in managing and supporting employees with developmental disabilities?", and job coaches and support provider employees were asked, "On average, how prepared do you feel supervisors in organizations that you engage with are in managing and supporting employees with developmental disabilities?" All questions were rated on the same agreement scale (1 = Not prepared, 5 = Extremely prepared).

Role of and reliance on the job coach. To better understand the relationship between job coaches and supervisors, workplace supervisors were asked, "What is your current level of knowledge of the role of the job coach in the employment setting?" (1 = poor, 5 = excellent), and "How much do you rely on the job coach to provide you with

support in managing your employees with developmental disabilities?" (1 = Not at all, 5 = A great deal).

Diversity and inclusion efforts. To measure the diversity and inclusion efforts of organizations they work with, job coaches and service provider employees were asked, "On average, how would you rate the diversity and inclusion efforts of the organizations that you work with?" (1 = Very poor, 5 = Very good").

Data Analysis. To identify the training needs of supervisors of employees with DD, several analyses were conducted using SPSS v.25 (IBM Corp, 2017). First, items were ranked in terms of their average importance and performance or knowledge scores to get a general idea of how each statement was rated. Next, paired sample *t*-tests were run to statistically compare A and B ratings (Hennessy et al., 2006; Hicks & Fide, 2003). The Benjamini-Hochberg procedure was applied to reduce the false discovery rate for multiple comparisons (Benjamini & Hochberg, 1995). Quadrant graphs were then created to further examine which task and knowledge statements represent *critical* training needs, to provide employers with more targeted recommendations. Finally, a difference score was calculated from the training needs identified in the quadrant graphs by subtracting the performance and knowledge scores (B) from the importance scores (A). Larger difference scores indicated a higher training need.

Publication submission and formatting

The first study will be submitted for publication in *Academy of Management*. All materials for publication are written in the APA format (7th edition).

COLLECTED PAPER 2:

Purpose and Research Questions

The second study in the present collected papers dissertation builds on study one findings by first examining the current landscape of supervisor trainings using qualitative methods (part one). Findings from the TNA (study one) and from the qualitative analysis of current supervisor trainings were then used to inform the development of a leadership training framework to increase supervisor capacity to manage and support employees with DD (part two).

Part One Research questions:

1. What training is offered to supervisors of employees with DD?
2. What are the components of training that supervisors of employees with DD receive?

Method

Part One

Sample. After removing participants who did not pass four out of six attention check items (n = 6; e.g., "For this row, please select *not at all important*"), who indicated that supervisors did not receive any training (n = 12), and who did not respond to the qualitative survey question examined in this study (n = 8), the final sample was 93. Specifically, the sample included 25 *workplace supervisors* (who work directly with employees with DD), 10 *non-supervisors* (who have an understanding of the role that supervisors within their organization play in managing employees with DD), 27 *job coaches* (who directly assist individuals with DD in finding and maintaining employment), and 31 *service provider employees* (who occupy a role other than a job

coach within an organization that provides services to individuals with DD). The majority of participants were female (64.4%), White (68.3%), and Non-Hispanic or Latino (64.4%). Participant age ranged from 22 to 63 (M = 40.6, SD = 11.07), and most held either a bachelor's degree (37.6%) or a master's degree (35.6%). Most participants (35.6%) provided open ended responses regarding their industry (common responses included human services, social services, and supported employment), with fewer representing education (23.8%), service (23.8%), health care (10.9%), manufacturing (2%), retail (1%), and agriculture (1%). The majority of participants worked in the not-for-profit sector (56.4%), and the most common job positions were non-managerial (30.7%) and middle management (27.7%).

Procedure. Individuals were recruited via disability-employment listservs, LinkedIn, and direct outreach to employers and organizations (e.g., centers for independent living, supported employment agencies, vocational rehabilitation, and Inclusive Postsecondary Education Programs serving students with DD) to take part in an online Qualtrics survey. The survey used in the present study was designed as part of a broader effort to gather information on the role that supervisors play in managing and supporting employees with DD (Heron & Bruk-Lee, 2021). To be eligible to take the survey, participants had to be over the age of 18, work in the US, and fall into at least one of the four categories described above. Participants were compensated with $40 e-gift cards upon completion of the survey. All survey materials were approved by the University Institutional Review Board prior to dissemination.

Measures. To gather in-depth information related to current training efforts, all participants were asked an open-ended question about the components of current

supervisor training programs. Specifically, *workplace supervisors* were asked, "Please describe the components of your current supervisor training program as it relates to the management of employees with developmental disabilities" and n*on-supervisors* were asked, "Please describe the components of your organization's current supervisor training as it relates to the management of employees with developmental disabilities." Finally, *job coaches* and *service provider employees* were asked "Please describe the components of the supervisor training programs that organizations you engage with typically offer (as it pertains to employees with developmental disabilities)?"

Data Analysis

Qualitative data were analyzed using Reflexive Thematic Analysis (RTA) outlined by (Braun & Clarke, 2019). Reflexive Thematic Analysis is flexible method commonly used to answer a variety of research questions related to individual experiences and perspectives. Analysis followed an inductive, semantic, and (critical) realist approach, meaning that the coding of data and development of themes were guided by and reflected the content of the data (Braun & Clarke, 2019). Data were analyzed primarily by the first author, and the second author reviewed each phase to finalize coding and theme development. Specifically, analysis followed a 6-step process: the first author read through the data to get familiarized (step 1), then assigned a code to each line of data that related to the research question (step 2). Initial themes were then developed by examining codes to identify broader patterns of meaning across the data (step 3). Both authors reviewed and refined themes by comparing with the dataset (step 4) and agreed upon final theme labels and descriptions (step 5). The final stage involved writing up the themes using example extracts from the data (step 6).

Part Two

Part two of the second study describes the development of a leadership training framework aimed at increasing supervisor capacity to manage and support employees with DD. The proposed framework was developed based on evidence gathered using a multi-method approach to understanding the training needs of managers and draws on best practices from industrial-organizational (I-O) psychology. The process of development involved nine steps, including an expert review of task and knowledge statements, interviews, and the dissemination of a training needs analysis survey. The leadership training framework for supervisors of employees with DD is comprised of six training components that are essential in providing supervisors with the skills and knowledge needed to successfully manage and support employees with DD in the workplace. Specifically, the six components will guide organizations in developing training programs that empower supervisors to build a foundation for healthy work, create an inclusive team climate, manage workplace stress, promote transfer of training, facilitate employee performance, and increase opportunities for growth.

Publication submission and formatting

The second study will be submitted for publication in *Personnel Psychology*. All materials for publication are written in the APA format (7th edition).

Implications of Collected Papers Research

The present collected papers dissertation fills a significant gap in both literature and organizational practice by identifying the critical training needs of supervisors of employees with DD, increasing our understanding of the current landscape of supervisor trainings, and finally, proposing an evidence-based leadership training framework to

increase supervisor capacity to manage and support employees with DD. Findings from the training needs analysis, in particular, will pave the way for future research to more thoroughly investigate how organizations can create more meaningful and integrative work environments that will aid the development and retention of individuals with DD. Furthermore, the development of the evidence-based framework for training will assist employers in developing programs that will provide supervisors with the skills and knowledge needed to successfully manage employees with DD, resulting in more positive supervisor and employee outcomes. Lastly, this program will help build employer disability confidence by eliminating barriers to employment, thus increasing opportunities for individuals with DD to gain work, and subsequently, a more meaningful life.

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II. STUDY #1: TRAINING NEEDS ANALYSIS

Identifying the Skill and Knowledge Gaps of Supervisors of Employees with Developmental Disabilities

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Abstract

Individuals with developmental disabilities (DD) face significant barriers limiting their opportunities for long-term, meaningful employment. Much of the disability-employment research to date focuses on the reasons for underemployment in this population, and there is a need for research that investigates ways to eradicate existing barriers and improve the employment outlook. To address significant gaps in both research and practice, the present study involved the identification of skill and knowledge gaps of supervisors of employees with DD through a training needs analysis (TNA) involving four stakeholder groups representing both supported employment and hiring organizations (n = 113). Each perspective provided valuable insight into the training needs of supervisors of employees with DD and highlighted the need for training that extends beyond traditional disability awareness topics. Evidence gained from this study is expected to significantly shape organizational best practices in preparing supervisors to more effectively manage and support employees with DD.

Introduction: Identifying the Skill and Knowledge Gaps of Supervisors of Employees with Developmental Disabilities

For the majority of people, work is a central part of life. Beyond the positive impact of employment on economic stability (Baker et al., 2003), wellbeing (Creed & Watson, 2003; Modini et al., 2016), and social integration (Kahn, 2007), work gives people a sense of purpose and independence. However, individuals with developmental disabilities (DD) are often denied the benefits of meaningful work due to many existing barriers, which limits their freedom, empowerment, and overall quality of life (Jahoda et al., 2008; Kober & Eggleton, 2005). The latest employment rate estimates indicate that only 19% of individuals with DD receiving support from employment services are employed (National Core Indicators, 2019), compared to 30.9% of individuals with any disability, and 74.6% of individuals without disabilities (U.S. Department of Labor, 2020). Altogether, these statistics provide insight into the disproportionately low employment rate for people with DD.

Given how severely the COVID-19 pandemic has impacted industries commonly occupied by individuals with DD (Brooks, 2020; Maroto & Pettinicchio, 2020), this population faces even greater marginalization in the post-COVID economy. As such, there is an urgent need for research that not only increases awareness of the disparity in employment rates, but also takes steps to help eradicate the many barriers preventing individuals with DD from finding and maintaining employment. The present study aims to do this by informing internal organizational practices that build managerial capacity to support employees with DD.

Developmental disabilities are a group of lifelong conditions that involve behavior, language, learning or physical impairment (CDC, 2018). Common types of DD include (but are not limited to), intellectual disability, autism spectrum disorder, attention-deficit/hyperactivity disorder, and learning disability (Zablotsky et al., 2019). Approximately 17% of children in the United States are diagnosed with DD, which marks an increase of 9.5% from 2009 to 2017 (Zablotsky et al., 2019). Despite the barriers they face, many individuals with DD actively seek employment when they reach working age (Miller et al., 2008). However, unless organizations create the infrastructure needed to be fully inclusive, the increasing prevalence rate will result in even more people with DD becoming part of a vastly underutilized talent pool.

The Need for Building Internal Supports

Over the last decade, efforts have been made by the federal government and several advocacy organizations (e.g., Job Accommodation Network and the Employer Assistance and Resource Network on Disability inclusion) to improve the employment outlook for individuals with disabilities. For example, the Workforce Innovation and Opportunity Act of 2014 increased access to education, training, and support services in an effort to provide individuals with disabilities with increased opportunities for employment (Workforce Innovation and Opportunity Act, 2014). As a result of improved employment transition planning, many individuals with DD receive assistance through supported employment (SE) to find work.

SE service providers (e.g., vocational rehabilitation, supported employment agencies, vendors, etc.) offer a number of services, often facilitated through a job coach, such as basic skills training, job matching, and on-the-job support for individuals with

DD (see Beyer et al., 2010). Job coaches also play an important role in fostering successful partnerships with organizations, and an employer's willingness to hire individuals with DD often hinges on the ability of service providers to meet employer needs and find an appropriate match between the employee and the organization (Gustafsson et al., 2013). However, to date, there is a lack of research examining the role that job coaches play in the workplace, particularly in regard to assisting organizations in building the necessary internal structures to support individuals with DD in the long-term. There are also many variations in both the degree of workplace support provided by job coaches, and in the length of time they may remain in a supportive role of employees with DD (Beyer et al., 2010).

For this reason, the successful employment of individuals with DD cannot depend solely on external partnerships, and there is a need for organizations to facilitate ongoing support for both the employee with DD and their supervisor. This statement is not meant to lessen the importance of SE in the employment of individuals with DD. Rather, it demonstrates the need for organizations to step up and work in collaboration with service providers by leveraging existing natural supports to build the infrastructure needed to promote long-term employment outcomes for this population. Ultimately, it is clear that there are multiple stakeholders involved in the employment of individuals with DD (from both SE and within the hiring organization), and understanding these different perspectives is key in providing the necessary supports to fully integrate individuals with DD within organizations.

The Role of the Supervisor

Arguably the most critical source of natural support is the immediate supervisor, who is responsible for the ongoing management of employee wellbeing and performance. Prior research demonstrates the importance of the workplace supervisor in shaping job attitudes, influencing the performance, career, and work experience of neurotypical employees (Elias & Mittal, 2011; Karatepe, 2014; Paterson et al., 2014; Smith, 2005), and research specific to disability indicates the supervisors integral role in promoting a climate of inclusion (Schur et al., 2005), and facilitating social integration of employees with DD among members of their team (Meacham et al., 2017).

Despite their clear importance, there is a lack of research establishing the specific skills and knowledge needed for supervisors to effectively manage and support employees with DD. There is also evidence to suggest that organizations are generally unprepared to manage the needs of employees with DD and often fail to promote policies and practices that support the immediate supervisor (Lysaght et al., 2012). This raises a critical issue, especially as the degree of support and training provided by a job coach (whose primary role is to support the employee with DD) to the workplace supervisor is unknown. Ultimately, a lack of skills or knowledge on behalf of the supervisor can result in a poor supervisor-employee relationship, which will negatively impact outcomes for both the supervisor and the employee with DD. To address existing gaps in both research and practice, the present study aims to identify the training needs of supervisors of employees with DD, from the perspectives of four stakeholder groups representative of both SE and hiring organizations.

Potential Supervisor Training Needs

Although there is a lack of research examining the experiences of supervisors of employees with DD, it seems that organizational readiness efforts are generally limited to diversity training aimed at reducing unconscious biases, negative attitudes, and stereotypes (Bezrukova et al., 2012; Pendry et al., 2007). If trainings include specific information about disabilities (which is not guaranteed), they are often focused on disability awareness topics such as the use of correct terminology (Linkow et al., 2013; Matt & Butterfield, 2006), the Americans with Disabilities Act (ADA), job accommodations (Chan et al., 2010), and assistive technologies (Hyland & Rutigliano, 2013). These critically important topics are typically geared towards a broader organizational audience rather than supervisors specifically, and it is unclear to what extent these trainings effectively prepare supervisors for managing and supporting employees with DD. Hence, there is an expressed need for supervisor training that extends beyond these disability awareness topics in order to build their capacity as natural supports in the workplace (Gurchiek, 2019).

Supervisors perform tasks across many different employment processes, including onboarding, socialization, training, performance management, and career development. Effective management in each of these areas requires a set of skills that, while important for all employees, may need to be tailored to meet the needs of employees with DD. For example, typical onboarding procedures involve introducing new employees to organizational and team policies and practices. However, to make this process more effective for employees with DD, supervisors may need to coordinate with other parties within the organization as well as their job coach to ensure this process goes smoothly

(Markel & Elia, 2016). Further, given the vital role supervisors play in facilitating an inclusive workplace, they should be aware of specific socialization activities such establishing a mentoring system, that can help employees with DD adjust to their new work environment (Markel & Elia, 2016). In addition to onboarding and socialization, most supervisors are responsible for either formally or informally training employees in their job tasks. However, the training methods that are effective for neurotypical employees may not work as well for employees with DD (Kessler Foundation, 2017). Hence, supervisors need to know how to adapt training methods, materials, and environments to maximize learning outcomes for each member of their team.

Performance management involves the continual identification, evaluation, and development of people within an organization, allowing the organization to accomplish its goals, and employees to progress in their careers (Aguinis, 2009; Cascio & Aguinis, 2018). Supervisors play an essential role in performance management, as they are responsible for ongoing activities such as keeping employee performance aligned with organizational standards, managing health and wellbeing, motivating employees, and facilitating conflict resolution – all areas which require specific skills and knowledge that can make such processes equally as effective for employees with DD. Performance evaluation, in particular, is commonly reported to be an area that supervisors of employees with disabilities find uncomfortable (Houtenville & Kalargyrou, 2012), which results in biased appraisals that can significantly hinder the progress of employees with disabilities in the organization (Colella et al., 1993; Adrienne Colella et al., 1997). As such, it is crucial that supervisors are aware of common appraisal pitfalls when managing the performance of employees with DD. Lastly, career development is an area that is

often overlooked for individuals with DD, who face limited opportunities for progression (Crawford, 2011). There are many ways in which supervisors can facilitate opportunities for employees with DD, including giving them constructive feedback to improve current skills, training to gain new skills, and offering chances for job rotation (a form of lateral movement in which employees experience a variety of positions and tasks, allowing them to learn new skills).

Altogether, each of these employment processes represent areas of potential training need for supervisors of employees with DD. However, making conjectures about specific training needs for these supervisors based on literature that primarily focuses on neurotypical employees, is not sufficient. Hence, in the present study, a training needs analysis (TNA) is conducted from the perspective of multiple stakeholders in an effort to identify the skill and knowledge gaps of supervisors of employees with DD. Evidence gained from this study is expected to significantly shape organizational best practices in preparing supervisors to more effectively manage and support employees with DD. Specifically, this TNA aims to:

1. Identify training need areas of supervisors of employees with DD informed by four stakeholder groups representative of both SE and hiring organizations.
2. Prioritize skill and knowledge areas to display the most *critical* training needs.

Methods

Survey Development Interviews

Sample

The development of the TNA survey involved an expert review of task and knowledge statements and seven interviews with subject matter experts in the field of

disability employment. The expert reviewer was the CEO of a job matching platform for people with disabilities with 10 years of experience working in disability employment. Interviewees consisted of five direct workplace supervisors of employees with DD, including two staff members at a large southeastern university who supervise interns with DD (one with five and one with 10 months of experience working with interns), one executive chef with five years of experience supervising employees or interns with DD (currently supervising two employees with DD), a general manager at a gym with three years of experience supervising one employee with DD, and a district manager of a restaurant chain currently supervising one employee with DD. The remaining two interviews were conducted with a field inclusion manager in a large corporation with 11 years of experience supporting disability employment efforts, and a disability program manager in a large global company with five years of experience working in disability employment.

Procedure

An initial list of 30 task and 32 knowledge statements were developed using author subject matter expertise (SME) in the area of Industrial-Organizational Psychology and disability employment. Task statements defined specific actions or duties supervisors perform as part of their role (e.g., "Communicating expectations clearly to employees with DD"), and knowledge statements defined areas of knowledge that are important to the management and support of employees with DD (e.g., "Knowledge of effective strategies to motivate employees with DD").

The list of task and knowledge statements was piloted by an expert reviewer who was asked to provide feedback on wording and comprehension, whether statements

required examples for clarification, and whether any statements were missing or irrelevant to the supervision of employees with DD.

Seven interviews were also conducted in-person, over the phone, and over Zoom to better understand the skills and duties involved in supervising employees with DD, and to further refine and enhance the list of task and knowledge statements. Interviews were semi-structured, meaning that each interviewee received the same set of questions, but there was still an opportunity for elaboration to ensure as much information was gathered as possible. Direct workplace supervisors were asked about their own experiences managing and supporting employees with DD, while the two non-supervisors were asked about the experiences of supervisors within their organizations across the following broad topics: onboarding, socialization, training, performance management, and career development. Interviews lasted for approximately 60 minutes and were audio recorded. Participants were compensated with $30 e-gift cards for their time. All study materials (including the pilot interviews and the survey described below) received Institutional Review Board Approval (IRB-19-0295). See Appendix A for the interview script.

Feedback from the expert reviewer along with data from the seven interviews informed the refinement of existing statements, and the development of new ones, culminating in a final list of 48 task and 31 knowledge statements. See Appendix B for the full list of statements.

Survey Pilot Interviews

Sample

The TNA survey was piloted by three SMEs in the field of disability employment, including the president and founder of a support provider agency, an employer in the

education system who hires individuals with DD, and finally, an employee who has experience working with individuals with DD and currently works within a large healthcare organization with a strong inclusion program.

Procedure

After the survey development expert review and interviews, the TNA survey was constructed, and three further pilot interviews were conducted. Interviewees were asked to provide feedback on *all survey items*, including the definition of DD, eligibility questions (i.e., how clear it was for participants to select into the groups that best represented their current role, such as a workplace supervisor or a job coach), demographic-type questions, survey instructions, as well as task and knowledge statement comprehension (i.e., whether they required examples, and whether any were missing or irrelevant). Knowledge and task statements were only refined with slight wording changes or the addition of examples, and no new statements were added following the three pilot interviews.

Informed by the interview data and from author SME, the final list of task and knowledge statements were conceptually mapped onto the following areas representing various supervisor duties: onboarding (five task, two knowledge), socialization (nine task, five knowledge), training (six task, three knowledge), feedback and evaluation (seven task, four knowledge), health and wellbeing (three task, one knowledge), general management (eight task, two knowledge), job accommodations (four task, six knowledge), goal setting (two task, two knowledge), career development (four task, one knowledge), and disability awareness (five knowledge).

Training Needs Analysis (TNA) Survey

Sample

In the present study, the term "workplace supervisor" was used to refer to anyone, no matter of their job level or title, who directly oversees the work of at least one employee with DD in their organization. To be eligible to participate, participants had to fall into one of the following four categories: 1) work (or have worked in the last 6 months) as a direct workplace supervisor of employees with DD, 2) occupy a different position, but have knowledge of the role that workplace supervisors within their organization play in managing and supporting employees with DD, 3) work as a job coach (or employment specialist, employment consultant, etc.) by directly assisting individuals with DD to find and maintain employment, or 4) occupy another position within an organization that provides services to individuals with DD (e.g., supported employment agency, vocational rehabilitation, center for independent living, vendor, educational agency, etc.). Gathering each unique perspective was essential in conducting a thorough and holistic analysis of the training needs of supervisors of employees with DD. The terms *workplace supervisor*, *non-supervisor*, *job coach*, and *service provider employee*, respectively, are used to refer to each participant group.

After removing participants who did not pass six attention check items (n = 6), the final sample (n = 113) consisted of 33 *workplace supervisors*, 13 *non-supervisors*, 30 *job coaches*, and 37 *service provider employees*. The participants were predominantly female (66.4%), White (69.9%), and Non-Hispanic or Latino (64.6%). Participant age ranged from 22 to 67 (M = 41.19, SD = 12.02), and most held either a bachelor's degree (35.4%) or a master's degree (36.3%). A range of industries were represented, with 37.2% of

participants providing open ended responses after selecting “other” (common open responses included human services, social work, and supported employment), 26.5% education, 21.2% service and to a lesser extent health care (9.7%), manufacturing (1.8%), retail (.9%), and agriculture (.9%). The majority of participants worked in the not-for-profit sector (54%), and the most common job positions were non-managerial (31.6%) and middle management (27.4%).

Procedure

The present TNA was conducted at the task and individual level, with a focus on the skills and knowledge needed for successful performance (see Werner & DeSimone, 2006). Specifically, a TNA survey was designed to gather information from multiple stakeholders representing both SE and hiring organizations, focusing on the potential training needs of supervisors of employees with DD. Survey recruitment efforts included the use of disability-employment listservs, LinkedIn, and direct outreach to employers and organizations such as centers for independent living, supported employment agencies, vocational rehabilitation, and Inclusive Postsecondary Education Programs serving young adults with DD. Participants were compensated with $40 e-gift cards upon completion.

Measures

Following the format of a TNA conducted by Hennessey-Hicks (2011), participants were asked to respond to each task and knowledge statement in two different ways: A) how important the task or knowledge statement was to the supervisor’s job in managing an employee with DD (1 = Not at all important, 5 = Very important), and B) what the current level of performance (or knowledge) was for each statement (1 = Poor, 5

= Excellent). Instructions varied slightly across each group. For example, for the A rating, workplace supervisors were asked "how important is this task (or knowledge area) to your job in managing an employee with DD?" whereas the remaining three groups were asked, "how important is this task (or knowledge area) to a supervisor's job managing an employee with DD?" Similarly, for the B rating, workplace supervisors were asked, "what is your current level of performance on this task (knowledge in this area)?" whereas non-supervisors were asked, "On average, what is the current level of performance of supervisors in your organization on this task (knowledge of supervisors in your organization in this area)?" and job coaches and service provider employees were asked, "across organizations that you work with, what is the current level of performance of supervisors on this task (knowledge of supervisors in this area)?"

While some level of knowledge is expected for all knowledge statements, in recognition of the fact that workplace supervisors may not perform certain tasks (or other participants may not know that supervisors perform these tasks), participants across all four groups were given a 6th response option for the B rating of each task statement. Specifically, workplace supervisors could select "Do not perform" and the remaining three groups could select "I do not know." Participants who selected this 6th option were not included in that row of data.

Demographic variables. In addition to rating the task and knowledge statements and answering demographics (age, gender, ethnicity, race, education level, industry, sector, and managerial level), all participants were asked several questions designed to provide more context to the TNA findings. Questions asked of all participants included the types of DD they have experience with and whether their organizations have an

initiative to hire individuals with DD. Workplace supervisors were asked how many employees they currently manage, how long they have been in a supervisor role, and the percentage of time they spend managing employees with DD. Non-supervisors were asked how many supervisors within their organization manage employees with DD, and how many employees have a disclosed DD. Both workplace supervisors and non-supervisors were asked whether their organizations have a partnership with SE, and how long a job coach remained in their supportive role (job coaches were also asked this last question). In addition to these demographic-type questions, the following questions with agreement scales were asked:

Familiarity with DD. To measure participant familiarity with the needs of employees with DD, all four groups were asked "In general, how familiar are you with the employment needs of employees with developmental disabilities?" This question was rated on a Likert scale from 1 (Not familiar at all) to 5 (Extremely familiar).

Level of preparedness. To measure perceived supervisor preparedness to manage and support employees with DD, workplace supervisors were asked, "How prepared do you feel in managing and supporting employees with developmental disabilities?", non-supervisors were asked, "On average, how prepared do you feel supervisors within your organization are in managing and supporting employees with developmental disabilities?", and job coaches and support provider employees were asked, "On average, how prepared do you feel supervisors in organizations that you engage with are in managing and supporting employees with developmental disabilities?" All questions were rated on the same agreement scale (1 = Not prepared, 5 = Extremely prepared).

Role of and reliance on the job coach. To better understand the relationship between job coaches and supervisors, workplace supervisors were asked, "What is your current level of knowledge of the role of the job coach in the employment setting?" (1 = poor, 5 = excellent), and "How much do you rely on the job coach to provide you with support in managing your employees with developmental disabilities?" (1 = Not at all, 5 = A great deal).

Diversity and inclusion efforts. To measure the diversity and inclusion efforts of organizations they work with, job coaches and service provider employees were asked, "On average, how would you rate the diversity and inclusion efforts of the organizations that you work with?" (1 = Very poor, 5 = Very good").

Results

Sample Description

Participants had experience working with individuals with many types of DD, the most common of which included, ASD (77.9%), ID (62.8%), learning disorders (53.1%), down syndrome (46.9%) and ADHD (46.9%). Other reported types of DD less common across all four groups included cerebral palsy, hearing loss, learning and speech disorders, vision impairment, fetal alcohol syndrome, fragile X syndrome, and Tourette syndrome. When asked about their level of familiarity with the employment needs of individuals with DD, 72.7% of workplace supervisors, 84.6% of non-supervisors, 90% of job coaches, and 81% of service provider employees reported being at least "very or extremely familiar." The majority of workplace supervisors (66.7%) reported being at least "very well or extremely prepared," whereas non-supervisors (53.9%), job coaches (60%), and service provider employees (62.1%) mostly reported that supervisors were

either “somewhat or adequately prepared.” When asked to select all the types of positions employees with DD held (options included: full-time paid employment, part-time paid employment, internship, job shadow, and volunteer), 51.5% of workplace supervisors, 38.5% of non-supervisors, 93.3% of job coaches, and 89.2% of service provider employees selected part-time (1-34 hours per week), and fewer (except for non-supervisors) selected full-time (33.3%, 46.2%, 40%, and 51.4%, respectively), internship (21.2%, 38.5%, 26.7%, and 37.8%, respectively), job shadow (12.1%, 23.1%, 10%, and 10.8%, respectively), and volunteer (9.1%, 15.4%, 36.7%, and 48.6%, respectively). Finally, participants were asked to indicate whether an initiative to recruit and hire individuals with DD was present in their employing or partnering organization. The majority of workplace supervisors (63.6%) and non-supervisors (69.2%) reported working in organizations that had such an initiative. Finally, 56.8% of service provider employees and 43.3% of job coaches reported working with organizations that had such an initiative.

The following data reflects specific questions that provide more context to the demographic make-up of each participant group. The majority of workplace supervisors reported currently managing (or having managed in the past 6 months) either one (33.3%) or two (18.2%) employees with DD. On average, workplace supervisors had been in a position managing employees with DD for five years (SD = 6.9), and 51.5% reported spending less than 25% of their time supervising employees with DD. Non-supervisors were aware, on average, of approximately 10 workplace supervisors within their organization working with employees with DD (Mean = 10.5, Median = 3), and 53.9% reported that up to 10% of their organization’s workforce have a disclosed DD. Most

organizations that both workplace supervisors and non-supervisors worked for had a partnership with a supported employment agency (51.5% and 61.5%, respectively). Of those who said yes to having this partnership, 58.8% of workplace supervisors and 62.5% of non-supervisors currently worked with a job coach. The majority of workplace supervisors reported having at least "above average" knowledge of the role of the job coach (52.9%), and 70% reported relying on the job coach "quite a bit or a great deal."

To understand how long job coaches remained in a supportive role, participants were given the option to report the length of time in months or days (only if the job coach was in their role for less than one month), or whether the job coach remained indefinitely. The range of time a job coach actively worked with employees with DD varied greatly across workplace supervisors (range: zero days – indefinitely), non-supervisors (range: 14 days – indefinitely), and job coaches (range: 14 days – indefinitely). Finally, when asked to rate the diversity and inclusion efforts of organizations they work with, 70% of job coaches and 51.3% of service provider employees rated current efforts as "fair or good."

Average Importance and Performance/Knowledge Ratings

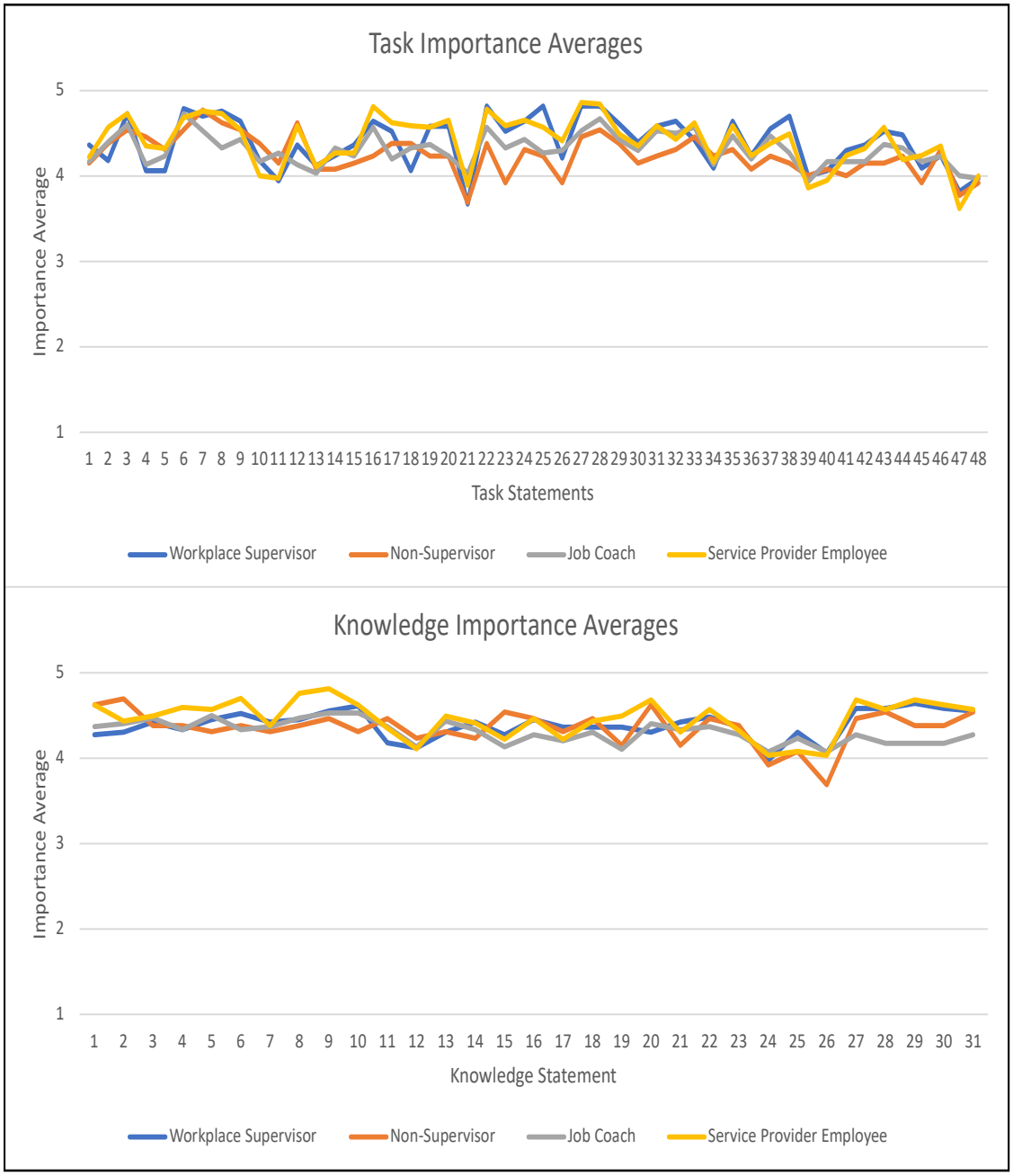
To get a general idea of how each task and knowledge statement was rated in terms of importance (A) and level of performance or knowledge (B), average A and B scores for each statement were calculated. See figures one and two for importance and performance/knowledge ratings, respectively. Across all participants, each statement (both task and knowledge) received an average importance score of at least "moderately important." Specifically, the average importance score across all four groups ranged from 3.62 to 4.86 for task statements, and 3.69 to 4.81 for knowledge statements. There was

also less variability in how participant groups rated importance for each statement, compared to the ratings assessing their level of performance and knowledge (task performance ratings across all four groups ranged from 2.51 to 4.46, and knowledge ratings ranged from 2.48 to 3.91). As indicated in figure two, B ratings particularly for knowledge statements were often scored below "average" from the perspective of job coaches and service provider employees (task performance ratings for these groups ranged from 2.51 to 3.97, and knowledge ranged from 2.50 to 3.20). Finally, workplace supervisors and non-supervisors scored *all* task statements and most (but not all) knowledge statements as above "average" in terms of performance/knowledge (task performance ratings for these groups ranged from 3.08 to 4.46, and knowledge ranged from 2.48 to 3.91).

Identifying Training Need Areas

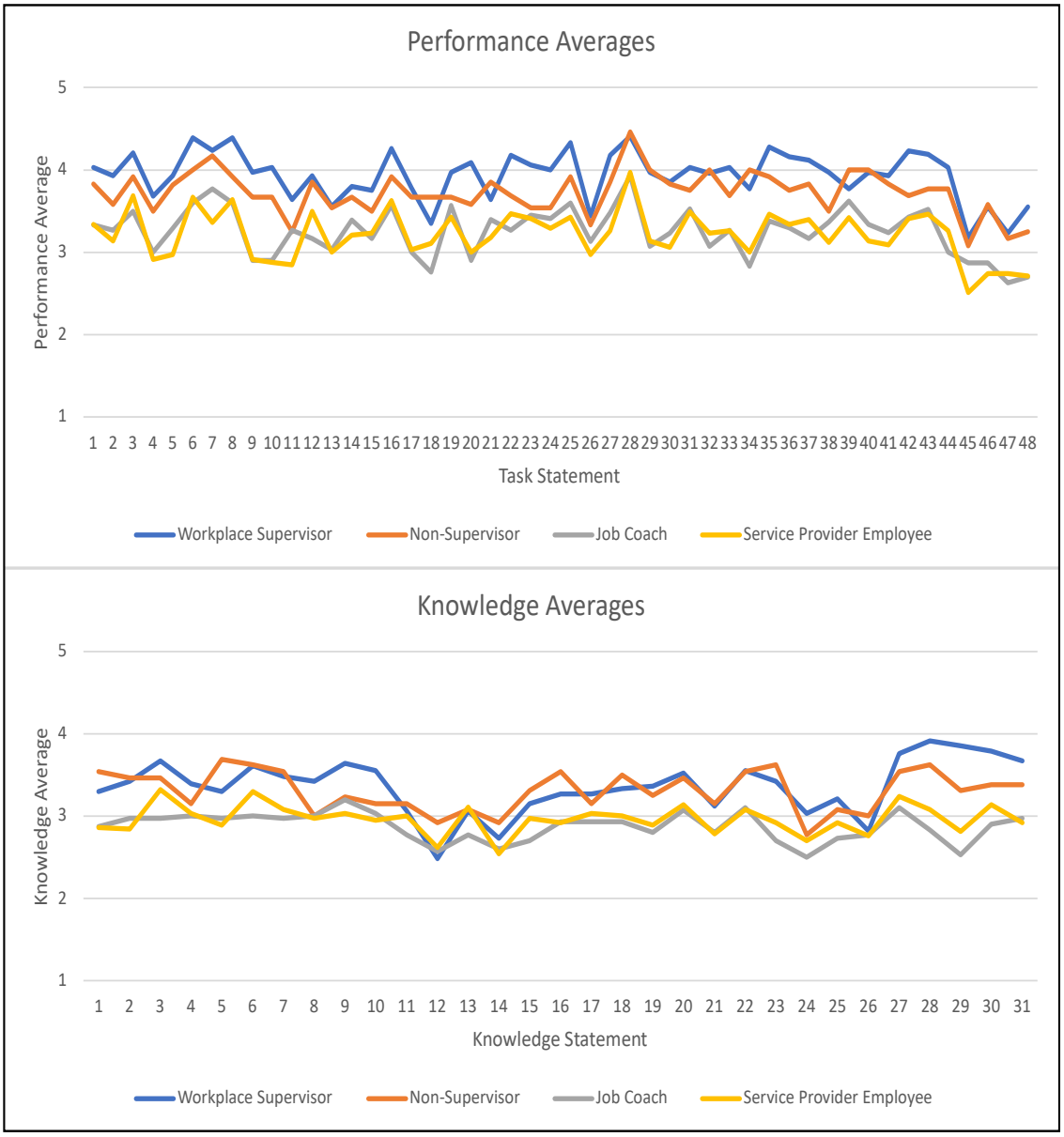
To identify the training needs of supervisors of employees with DD (research aim one), several analyses were conducted using SPSS v.25 (IBM Corp, 2017). First, paired-sample *t*-tests were run to statistically compare A and B ratings, where a significant difference indicates a training need (Hennessy et al., 2006; Hicks & Fide, 2003). The Benjamini-Hochberg (B-H) procedure was used to control for multiple comparisons by reducing the false discovery rate (i.e., the number of false positive findings; FDR; Benjamini & Hochberg, 1995). This procedure involved ranking and comparing original *p*-values with the B-H critical value (calculated by dividing the rank number by the number of statistical tests performed and multiplying by the FDR). Additionally, adjusted *p*-values were created and compared to the FDR.

Figure 1. Average Importance Ratings



Note. This figure shows the average importance rating across groups for each task and knowledge statement.

Figure 2. Average Performance/Knowledge Ratings



Note. This figure shows the average performance/knowledge rating across groups for each task and knowledge statement.

Across workplace supervisor, job coach, and service provider employee groups, all *t*-values were in the expected direction, meaning that ratings of importance were, on average, always higher than ratings of performance. For non-supervisors, all but one statement ("Using the same procedures to evaluate the performance of employees without

disabilities and those with DD") were in the expected direction. See tables one and two for task and three and four for knowledge statement means, *t*-tests, and adjusted *p*-values.

All *t*-tests for the 31 knowledge statements were significant across the four groups. This indicates that all 31 knowledge statements represented a significant training need for supervisors of employees with DD, as there was a significant difference between importance and knowledge ratings. For the task statements, 43 (out of 48) were identified as significant training needs by workplace supervisors, and 25 were significant from the non-supervisor group. All but one task statement ("Modifying work schedules for employees with DD") represented a significant training need from the job coach and service provider employee perspectives.

Prioritizing Training Need Areas

Since the vast majority of statements across groups were identified as training needs, quadrant graphs were created to further examine where the most *critical* training needs lie (Hennessey-Hicks, 2011). Doing so allowed the authors to prioritize skill and knowledge areas to display the most *critical* training needs (addressing research aim two). Each statement was plotted according to the average importance and performance/knowledge score across participants in each group, providing a visual demonstration of where each statement falls. Average importance scores (rating A) were plotted on the y-axis, and average performance or knowledge scores (rating B) were plotted on the x-axis. Statement averages that fall in the upper left quadrant indicate *critical* training needs (as importance is ranked either at or above average importance, but performance/knowledge is ranked either at or below average). See figures three to eight for quadrant graphs displaying *critical* training need areas for each group.

Table 1. Task Statement T-Tests: Workplace Supervisors and Non-Supervisors

Task Statement	Workplace Supervisors (n = 26-33)				Non-Supervisors (n = 11-13)			
	Mean A	Mean B	*T(df)*	*p*-value	Mean A	Mean B	*T(df)*	*p*-value
1	4.52	4.03	2.619(30)	0.067*	4.08	3.83	0.713(11)	0.873
2	4.24	3.93	1.558(28)	0.328	4.33	3.58	1.621(11)	0.346
3	4.73	4.21	3.721(32)	0.024*	4.58	3.92	2.966(11)	0.104*
4	4.19	3.68	2.794(30)	0.062*	4.50	3.50	2.872(11)	0.103*
5	4.34	3.93	2.268(28)	0.115*	4.45	3.82	3.130(10)	0.106*
6	4.79	4.39	2.871(32)	0.067*	4.55	4.00	3.464(10)	0.096*
7	4.70	4.24	2.887(32)	0.064*	4.75	4.17	3.924(11)	0.048*
8	4.76	4.39	2.814(32)	0.064*	4.67	3.92	4.180(11)	0.048*
9	4.64	3.97	4.690(32)	0.000*	4.50	3.67	4.022(11)	0.048*
10	4.18	4.03	1.000(32)	0.780	4.33	3/67	2.966(11)	0.104*
11	4.11	3.64	2.372(27)	0.100*	4.08	3.25	3.079(11)	0.106*
12	4.57	3.93	3.739(29)	0.024*	4.62	3.85	3.333(12)	0.096*
13	4.22	3.56	3.388(31)	0.032*	4.08	3.58	2.171(11)	0.216*
14	4.23	3.80	2.644(29)	0.067*	4.08	3.67	1.332(11)	0.458
15	4.47	3.75	4.400(31)	0.000*	4.17	3.50	2.602(11)	0.150*
16	4.84	4.26	3.815(30)	0.024*	4.25	3.92	1.301(11)	0.459
17	4.59	3.78	4.214(31)	0.000*	4.42	3.67	2.462(11)	0.154*
18	4.19	2.25	3.851(25)	0.024*	4.33	3.67	1.685(11)	0.360
19	4.58	3.97	4.942(32)	0.000*	4.25	3.67	1.629(11)	0.370
20	4.58	4.09	3.689(32)	0.024*	4.17	3.58	1.735(11)	0.355
21	4.00	3.64	1.780(27)	0.249*	3.69	3.85	-.617(12)	0.941
22	4.82	4.18	4.924(32)	0.000*	4.38	3/69	3.323(12)	0.096*
23	4.52	4.06	4.232(32)	0.000*	3.92	3.54	2.132(12)	0.216*
24	4.64	4.00	4.924(32)	0.000*	4.31	3.54	2.993(12)	0.106*
25	4.82	4.33	3.909(32)	0.000*	4.23	3.92	1.760(12)	0.357
26	4.19	3.44	4.633(31)	0.000*	3.83	3.33	1.732(11)	0.355
27	4.82	4.18	4.924(32)	0.000*	4.46	3.85	2.551(12)	0.150*
28	4.84	4.41	3.259(31)	0.036*	4.54	4.46	0.433(12)	1.114
29	4.61	3.97	3.799(32)	0.024*	4.42	4.00	1.449(11)	0.400
30	4.39	3.85	3.605(32)	0.024*	4.25	3.83	1.164(11)	0.538
31	4.56	4.03	3.283(31)	0.036*	4.25	3.75	1.732(11)	0.355
32	4.68	3.96	4.423(27)	0.000*	4.31	4.00	1.760(12)	0.355
33	4.40	4.03	1.943(29)	0.198*	4.46	3.69	2.993(12)	0.104*
34	4.19	3.77	2.087(30)	0.154*	4.55	4.00	1.936(10)	0.303
35	4.63	4.28	2.350(31)	0.100*	4.33	3.92	2.159(11)	0.216*
36	4.22	4.16	0.421(31)	1.478	4.08	3.75	1.483(11)	0.398
37	4.55	4.12	2.435(32)	0.092*	4.25	3.83	2.159(11)	0.216*
38	4.70	3.97	4.276(32)	0.000*	4.17	3.50	4.690(11)	0.048*
39	4.03	3.77	1.763(30)	0.249*	4.17	4.00	1.000(11)	0.651
40	4.13	3.97	0.841(29)	0.930	4.25	4.00	1.915(11)	0.303
41	4.43	3.93	2.812(29)	0.062*	4.08	3.83	0.761(11)	0.855
42	4.45	4.23	1.563(30)	0.344	4.15	3.69	2.521(12)	0.346
43	4.63	4.19	2.820(31)	0.062*	4.15	3.77	1.594(12)	0.144*
44	4.48	4.03	2.689(32)	0.066*	4.23	3.77	1.897(12)	0.303
45	4.04	3.18	3.352(27)	0.032*	3.92	3.08	2.590(11)	0.144*
46	4.26	3.55	3.406(30)	0.032*	4.33	3.58	2.462(11)	0.154*
47	4.00	3.23	4.811(25)	0.000*	3.75	3.17	1.629(11)	0.355
48	3.97	3.55	3.243(30)	0.036*	3.92	3.25	2.966(11)	0.103*

Note. Sample sizes vary as participants who selected the 6th response option were selected out of each row of data. Adjusted Benjamini-Hochberg *p*-values are displayed. * indicates significance based on adjusted *p*-value < FDR of .25.

Table 2. Task Statement T-Tests: Job Coaches and Service Provider Employees

Task Statement	Job Coaches (n = 28-30)				Service Provider Employees (n = 33-36)			
	Mean A	Mean B	*T(df)*	*p*-value	Mean A	Mean B	*T(df)*	*p*-value
1	4.17	3.33	3.699(29)	0.024*	4.31	3.34	4.364(34)	0.000*
2	4.40	3.27	4.852(29)	0.000*	4.58	3.14	6.365(35)	0.000*
3	4.60	3.50	5.508(29)	0.000*	4.80	3.69	6.113(34)	0.000*
4	4.21	3.00	4.274(28)	0.000*	4.33	2.91	6.973(32)	0.000*
5	4.39	3.29	5.026(27)	0.000*	4.36	2.97	6.414(32)	0.000*
6	4.73	3.60	5.070(29)	0.000*	4.69	3.67	4.751(35)	0.000*
7	4.53	3.77	3.434(29)	0.032*	4.75	3.36	6.675(35)	0.000*
8	4.33	3.60	3.515(29)	0.024*	4.75	3.64	5.719(35)	0.000*
9	4.43	2.90	5.073(29)	0.000*	4.57	2.91	7.152(34)	0.000*
10	4.17	2.90	4.407(29)	0.000*	4.09	2.88	5.738(33)	0.000*
11	4.27	3.27	3.476(29)	0.032*	4.00	2.85	4.903(32)	0.000*
12	4.14	3.17	3.096(28)	0.038*	4.58	3.50	5.624(35)	0.000*
13	4.07	3.03	3.839(28)	0.024*	4.14	3.00	5.164(34)	0.000*
14	4.36	3.39	3.289(27)	0.036*	4.47	3.21	6.076(33)	0.000*
15	4.23	3.17	4.136(29)	0.000*	4.31	3.23	5.365(34)	0.000*
16	4/57	3.57	4.014(29)	0.000*	4.86	3.63	5.868(34)	0.000*
17	4.20	3.00	3.756(29)	0.024*	4.61	3.03	6.985(35)	0.000*
18	4.38	2.76	5.014(28)	0.000*	4.63	3.11	7.193(34)	0.000*
19	4.37	3.57	3.077(29)	0.040*	4.60	3.43	5.775(34)	0.000*
20	4.23	2.90	4.434(29)	0.000*	4.69	3.00	6.362(34)	0.000*
21	4.03	3.40	2.392(29)	0.123*	4.00	3.18	3.524(32)	0.024*
22	4.57	3.27	5.110(29)	0.000*	4.76	3.47	6.319(33)	0.000*
23	4.31	3.45	3.911(28)	0.024*	4.62	3.41	6.422(33)	0.000*
24	4.41	3.41	3.952(28)	0.000*	4.71	3.29	6.543(33)	0.000*
25	4.27	3.60	2.525(29)	0.102*	4.57	3.43	6.211(34)	0.000*
26	4.30	3.13	3.624(29)	0.024*	4.39	2.97	5.378(32)	0.000*
27	4.52	3.48	4.396(28)	0.000*	4.86	3.26	7.102(34)	0.000*
28	4.67	3.93	3.515(29)	0.024*	4.86	3.97	5.621(34)	0.000*
29	4.43	3.07	5.163(29)	0.000*	4.51	3.14	5.493(34)	0.000*
30	4.30	3.23	3.661(29)	0.024*	4.33	3.06	6.217(35)	0.000*
31	4.53	3.53	4.447(29)	0.000*	4.63	3.49	5.674(34)	0.000*
32	4.50	3.07	4.870(29)	0.000*	4.51	3.23	4.924(34)	0.000*
33	4.57	3.27	4.176(29)	0.000*	4.66	3.26	6.018(34)	0.000*
34	4.13	2.83	4.333(29)	0.000*	4.15	3.00	4.286(32)	0.000*
35	4.48	3.38	4.506(28)	0.000*	4.63	3.46	5.354(34)	0.000*
36	4.20	2.20	3.804(29)	0.024*	4.29	3.34	4.515(34)	0.000*
37	4.47	3.17	4.390(29)	0.000*	4.46	3.40	6.671(34)	0.000*
38	4.27	3.37	3.407(29)	0.032*	4.47	3.12	5.012(33)	0.000*
39	3.90	3.62	0.915(28)	1.766	3.92	3.42	2.393(35)	0.352
40	4.14	3.34	3.000(28)	0.041*	3.97	3.14	3.511(35)	0.024*
41	4.17	3.24	3.174(28)	0.038*	4.31	3.09	5.059(34)	0.000*
42	4.17	3.43	2.947(29)	0.041*	4.35	3.41	5.263(33)	0.000*
43	4.34	3.52	3.266(28)	0.036*	4.57	3.46	5.067(34)	0.000*
44	4.31	3.00	4.812(28)	0.000*	4.23	3.26	4.694(34)	0.000*
45	4.17	2.87	4.938(29)	0.000*	4.26	2.51	7.475(34)	0.000*
46	4.23	2.87	4.719(29)	0.000*	4.38	2.74	6.256(33)	0.000*
47	4.00	2.63	5.001(29)	0.000*	3.63	2.74	3.563(34)	0.024*
48	3.97	2.70	4.829(29)	0.000*	4.00	2.71	5.767(34)	0.000*

Note. Sample sizes vary as participants who selected the 6th response option were selected out of each row of data. Adjusted Benjamini-Hochberg *p*-values are displayed. * indicates significance based on adjusted *p*-value < FDR of .25.

Table 3. Knowledge Statement T-Tests: Workplace Supervisors and Non-Supervisors

Knowledge Statement	Workplace Supervisors (n = 33)				Non-Supervisors (n = 13)			
	Mean A	Mean B	*T(df)*	*p*-value	Mean A	Mean B	*T(df)*	*p*-value
1	4.27	3.30	4.923(32)	0.000*	4.62	3.54	3.742(12)	0.023*
2	4.30	3.42	4.792(32)	0.000*	4.69	3.46	4.064(12)	0.021*
3	4.42	3.67	4.822(32)	0.000*	4.38	3.46	3.860(12)	0.021*
4	4.33	3.39	6.001(32)	0.000*	4.38	3.15	5.333(12)	0.000*
5	4.45	3.30	5.899(32)	0.000*	4.31	3.69	2.889(12)	0.043*
6	4.52	3.61	5.013(32)	0.000*	4.38	3.62	3.333(12)	0.027*
7	4.42	3.48	5.585(32)	0.000*	4.31	3.54	2.739(12)	0.051*
8	4.45	3.42	5.821(32)	0.000*	4.38	3.00	6.501(12)	0.000*
9	4.55	3.64	5.941(32)	0.000*	4.46	3.23	4.382(12)	0.016*
10	4.61	3.55	6.775(32)	0.000*	4.31	3.15	4.215(12)	0.016*
11	4.18	3.06	6.707(32)	0.000*	4.46	3.15	4.250(12)	0.016*
12	4.12	2.48	7.261(32)	0.000*	4.23	2.92	5.516(12)	0.000*
13	4.30	3.06	5.210(32)	0.000*	4.31	3.08	4.788(12)	0.000*
14	4.42	2.73	8.412(32)	0.000*	4.23	2.92	5.516(12)	0.000*
15	4.27	3.15	6.490(32)	0.000*	4.54	3.31	4.064(12)	0.021*
16	4.45	3.27	6.321(32)	0.000*	4.46	3.54	3.207(12)	0.031*
17	4.36	3.27	5.697(32)	0.000*	4.31	3.15	4.629(12)	0.016*
18	4.36	3.33	6.016(32)	0.000*	4.50	3.50	4.062(11)	0.021*
19	4.36	3.36	5.014(32)	0.000*	4.17	3.25	4.005(11)	0.021*
20	4.30	3.52	3.714(32)	0.016*	4.62	3.46	4.629(12)	0.016*
21	4.42	3.12	5.818(32)	0.000*	4.15	3.15	4.416(12)	0.016*
22	4.48	3.55	5.245(32)	0.000*	4.46	3.54	5.196(12)	0.000*
23	4.36	3.42	5.585(32)	0.000*	4.38	3.62	2.739(12)	0.051*
24	3.97	3.03	5.407(32)	0.000*	3.92	2.77	3.895(12)	0.021*
25	4.30	3.21	6.395(32)	0.000*	4.08	3.08	3.606(12)	0.025*
26	4.06	2.82	5.706(32)	0.000*	3.69	3.00	3.959(12)	0.021*
27	4.58	3.76	4.376(32)	0.000*	4.46	3.54	3.488(12)	0.025*
28	4.58	3.91	3.870(32)	0.016*	4.54	3.62	3.207(12)	0.031*
29	4.64	3.85	3.974(32)	0.000*	4.38	3.31	3.482(12)	0.026*
30	4.58	3.79	4.713(32)	0.000*	4.38	3.38	3.122(12)	0.031*
31	4.55	3.67	5.087(32)	0.000*	4.54	3.38	4.215(12)	0.016*

Note. Adjusted Benjamini-Hochberg *p*-values are displayed. * indicates significance based on adjusted *p*-value < FDR of .25.

All task statement ratings for workplace supervisors were grouped in the top right quadrant (i.e., all tasks were important, and self-rated performance was high), whereas three knowledge statements were in the top left quadrant, indicating high importance and average or below average knowledge. Based on the demographics of the workplace supervisor group, it is possible that there is a subset working in positions where there is an expectation of being more prepared to manage and support employees with DD. Just under half of the workplace supervisors in the sample reported either not having a

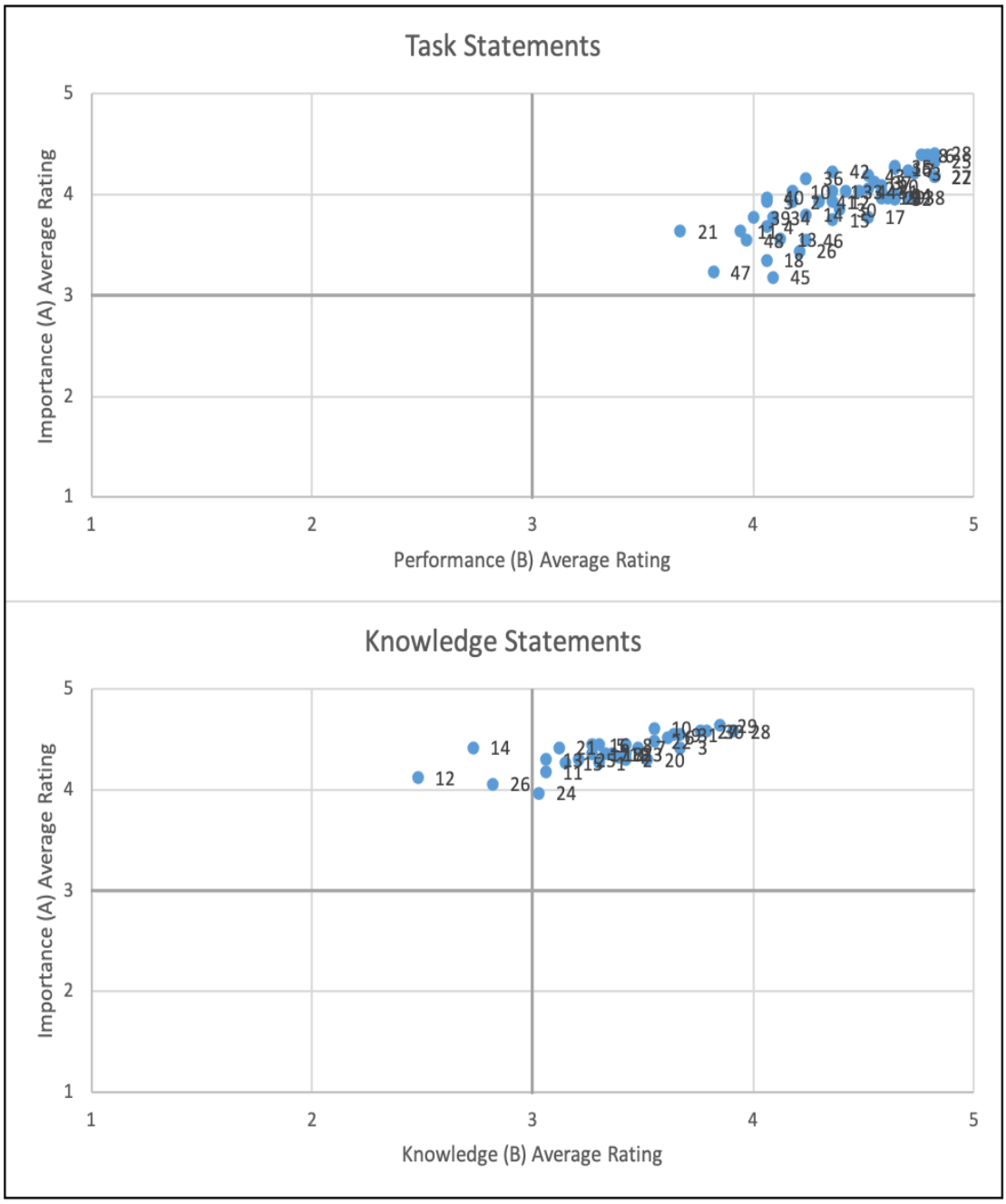
partnership or not knowing whether their organization had a partnership with SE (n = 16). It is possible that this subgroup has fewer resources and strategies to manage employees with DD, compared to those receiving assistance from SE. When this group is split based on those who answered "No" or "I do not know" to whether they work for an organization with a SE partnership, two task and 11 knowledge statements were identified as *critical* training needs.

Table 4. Knowledge Statement T-Tests: Job Coaches and Service Provider Employees

Knowledge Statement	Job Coaches (n = 30)				Service Provider Employees (n = 37)			
	Mean A	Mean B	*T(df)*	*p*-value	Mean A	Mean B	*T(df)*	*p*-value
1	4.37	2.87	5.385(29)	0.000*	4.62	2.86	7.619(36)	0.000*
2	4.40	2.97	6.017(29)	0.000*	4.43	2.84	6.172(36)	0.000*
3	4.47	2.97	6.289(29)	0.000*	4.49	3.32	5.521(36)	0.000*
4	4.33	3.00	5.419(29)	0.000*	4.59	3.03	6.603(36)	0.000*
5	4.50	2.97	6.430(29)	0.000*	4.57	2.89	6.749(36)	0.000*
6	4.33	3.00	4.746(29)	0.000*	4.70	3.30	6.270(36)	0.000*
7	4.37	2.97	6.283(29)	0.000*	4.38	3.08	5.441(36)	0.000*
8	4.47	3.00	5.916(29)	0.000*	4.76	2.97	8.121(36)	0.000*
9	4.53	3.20	5.135(29)	0.000*	4.81	3.03	7.454(36)	0.000*
10	4.53	3.03	6.165(29)	0.000*	4.62	2.95	6.749(36)	0.000*
11	4.37	2.77	5.845(29)	0.000*	4.35	3.00	5.130(36)	0.000*
12	4.13	2.57	5.716(29)	0.000*	4.11	2.62	5.876(36)	0.000*
13	4.43	2.77	6.774(29)	0.000*	4.49	3.11	7.065(36)	0.000*
14	4.33	2.60	6.397(29)	0.000*	4.41	2.54	8.003(36)	0.000*
15	4.13	2.70	5.076(29)	0.000*	4.22	2.97	5.819(36)	0.000*
16	4.27	2.93	4.224(29)	0.000*	4.46	2.92	5.431(36)	0.000*
17	4.20	2.93	5.188(29)	0.000*	4.22	3.03	5.439(36)	0.000*
18	4.30	2.93	4.926(29)	0.000*	4.43	3.00	5.478(36)	0.000*
19	4.10	2.80	4.448(29)	0.000*	4.49	2.89	7.456(36)	0.000*
20	4.40	3.07	5.419(29)	0.000*	4.68	3.14	7.188(36)	0.000*
21	4.33	2.80	5.426(29)	0.000*	4.30	2.78	5.490(36)	0.000*
22	4.37	3.10	4.911(29)	0.000*	4.57	3.08	6.173(36)	0.000*
23	4.27	2.70	5.630(29)	0.000*	4.32	2.92	5.702(36)	0.000*
24	4.07	2.50	6.861(29)	0.000*	4.03	2.70	6.341(36)	0.000*
25	4.23	2.73	5.467(29)	0.000*	4.08	2.92	5.181(36)	0.000*
26	4.07	2.77	5.302(29)	0.000*	4.03	2.76	5.651(36)	0.000*
27	4.28	3.10	4.627(28)	0.000*	4.68	3.24	5.806(36)	0.000*
28	4.17	2.83	5.049(29)	0.000*	4.57	3.08	5.743(36)	0.000*
29	4.17	2.53	7.030(29)	0.000*	4.68	2.81	6.539(36)	0.000*
30	4.17	2.90	4.675(29)	0.000*	4.62	3.14	6.019(36)	0.000*
31	4.27	2.97	4.709(29)	0.000*	4.57	2.92	7.170(36)	0.000*

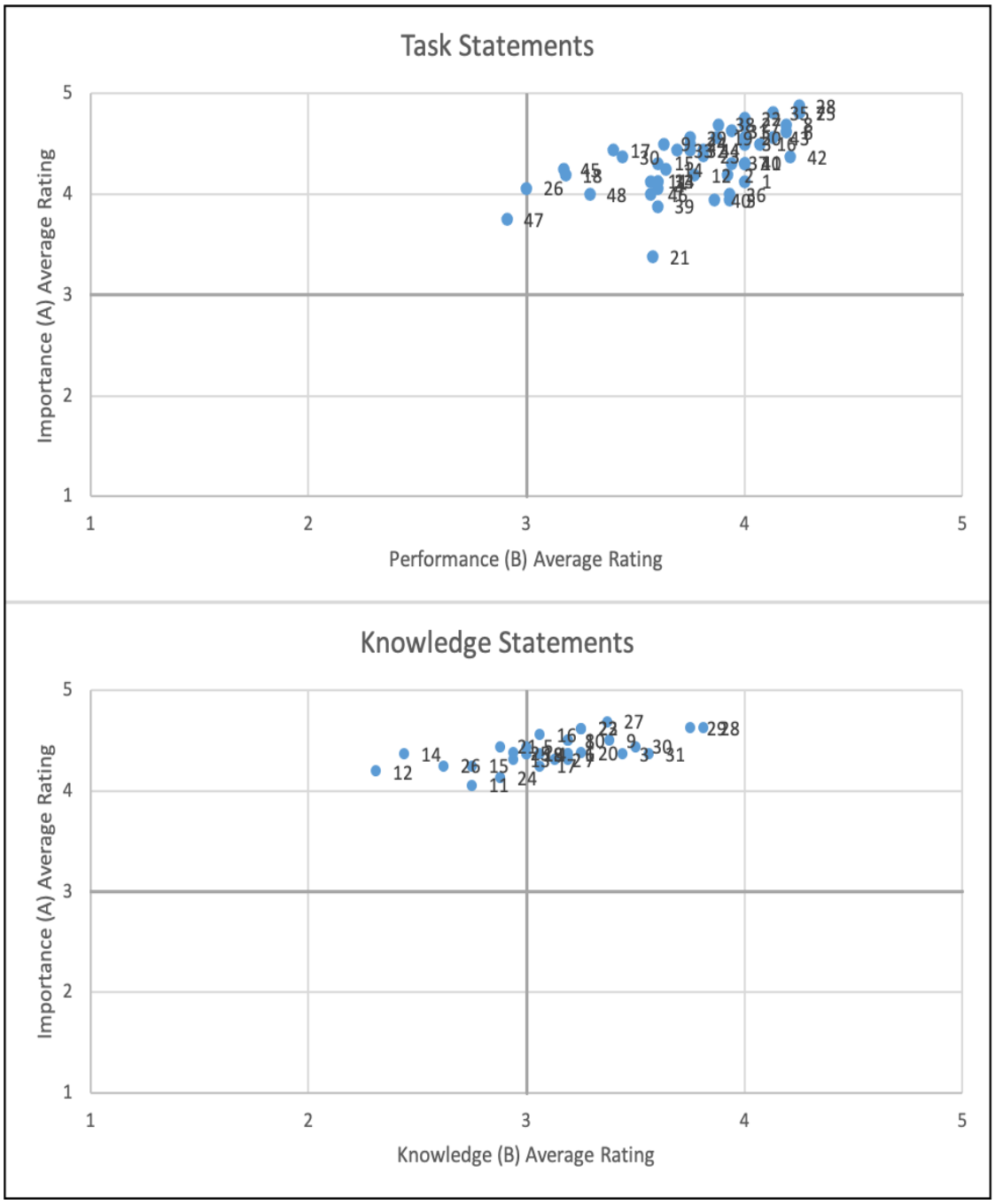
Note. Adjusted Benjamini-Hochberg *p*-values are displayed. * indicates significance based on adjusted *p*-value < FDR of .25.

Figure 3. Critical Training Needs: Workplace Supervisors (Full Group)



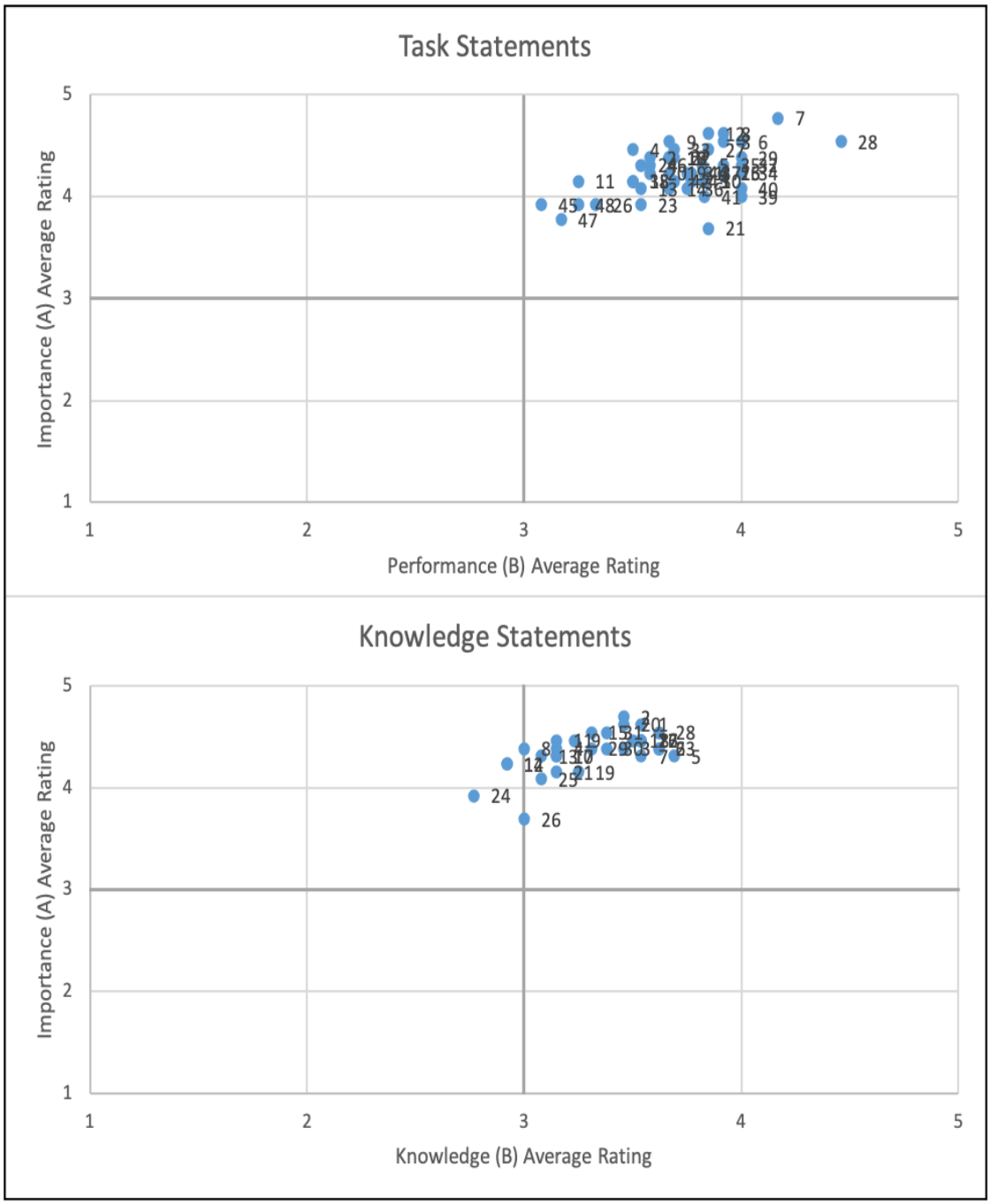
Note. The upper left quadrant of each graph displays the statements that were identified as *critical* training needs.

Figure 4. Critical Training Needs: Workplace Supervisors with No SE Partnership



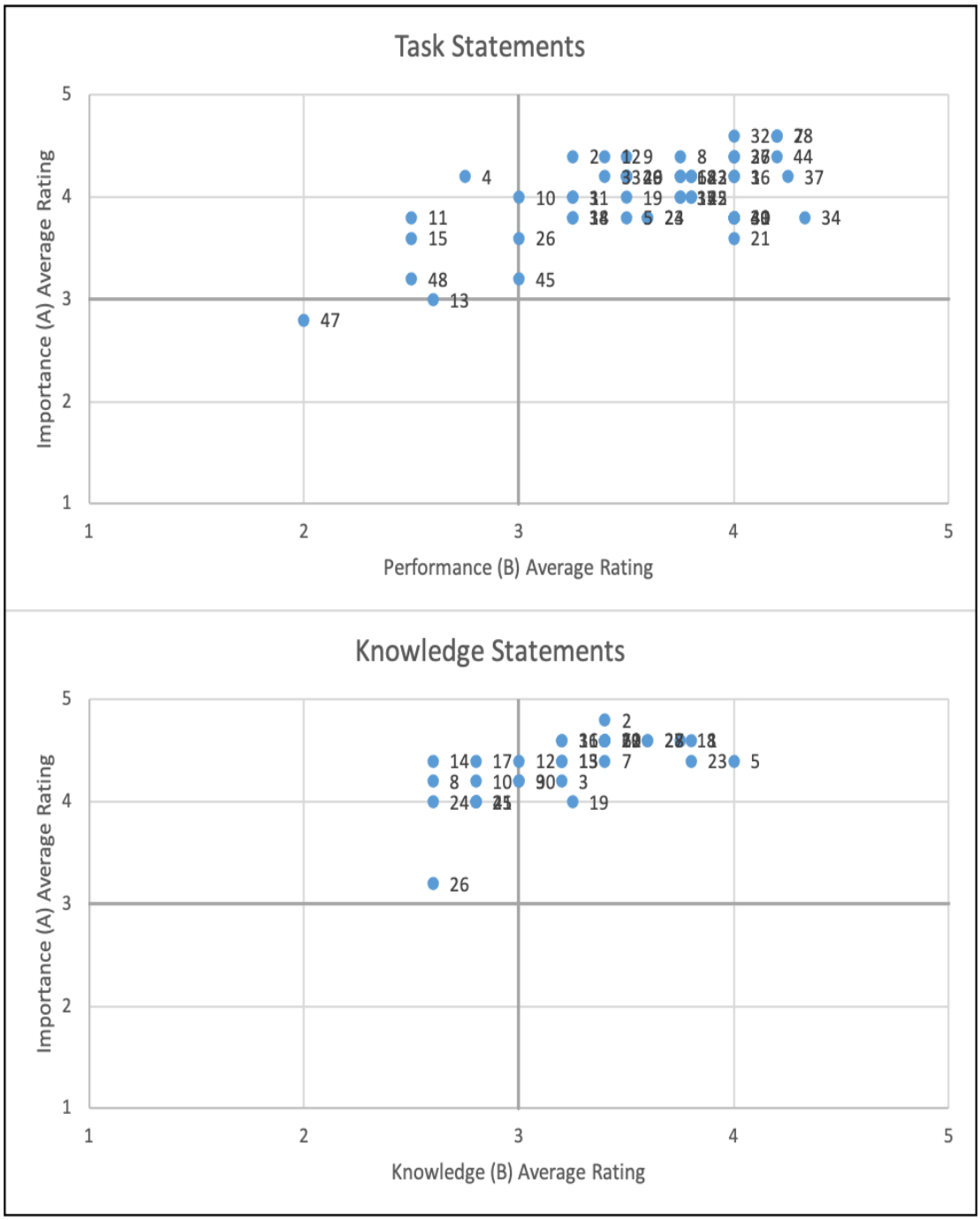
Note. The upper left quadrant of each graph displays the statements that were identified as *critical* training needs.

Figure 5. Critical Training Needs: Non-Supervisors (Full Group)



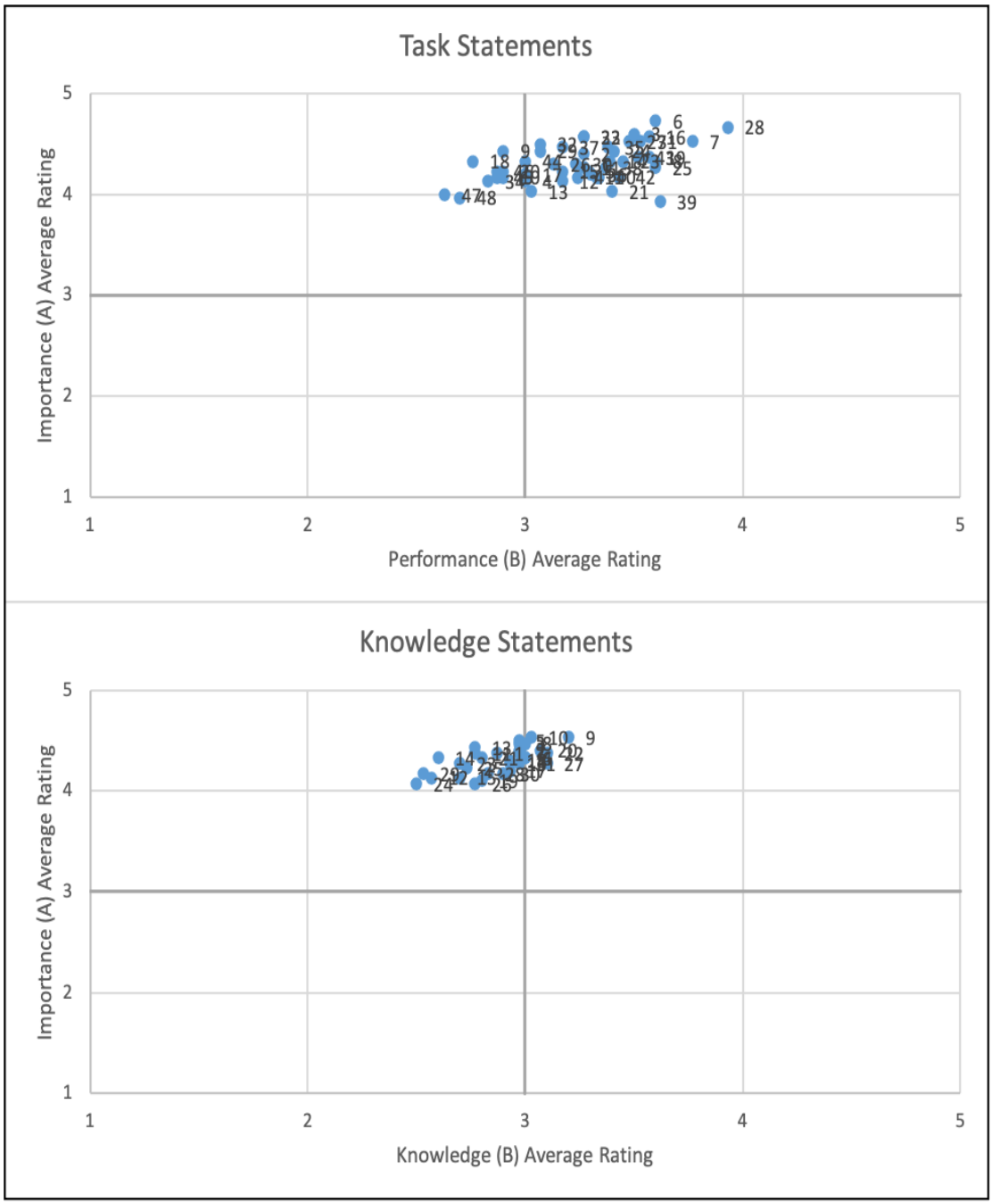
Note. The upper left quadrant of each graph displays the statements that were identified as critical training needs.

Figure 6. Critical Training Needs: Non-Supervisors with No SE Partnership



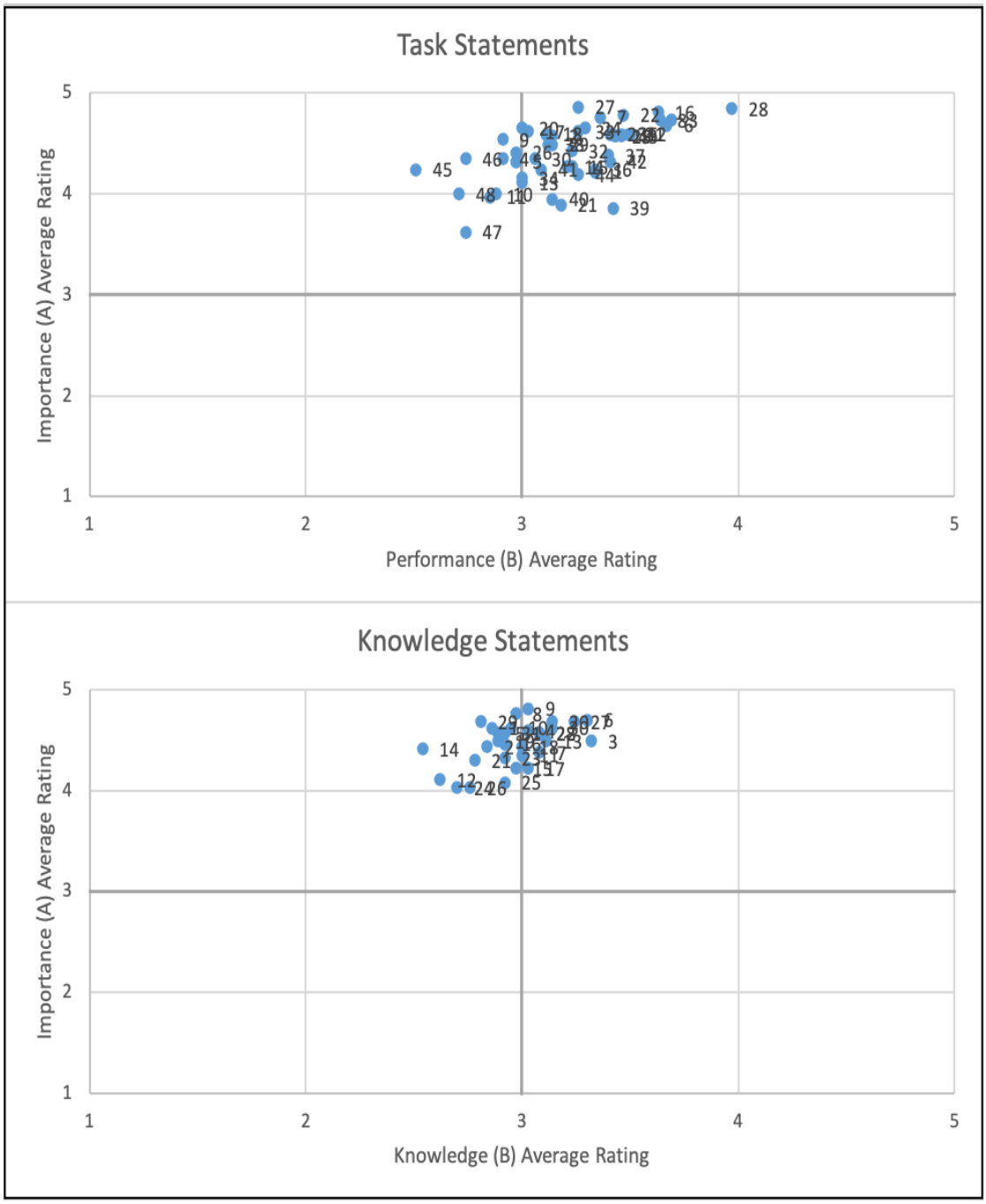
Note. The upper left quadrant of each graph displays the statements that were identified as critical training needs.

Figure 7. Critical Training Needs: Job Coaches



Note. The upper left quadrant of each graph displays the statements that were identified as critical training needs.

Figure 8. Critical Training Needs: Service Provider Employees



Note. The upper left quadrant of each graph displays the statements that were identified as critical training needs.

Table 5. Critical Training Needs: Task Statements (Full Groups)

Statement Group	Task Statements	Importance Average (A)	Performance Average (B)	Average Difference Score (A-B)
	Job Coaches (*n* = 30)			
T	Using assistive technology during training	4.33	2.76	1.57
S	Providing others with communication tips	4.43	2.9	1.53
CD	Encouraging more organizational involvement	4.00	2.63	1.37
CD	Customizing jobs for employees to develop job-relevant skills	4.23	2.87	1.36
T	Using different strategies to provide job instruction	4.23	2.90	1.33
GS	Providing continuous guidance towards goal attainment	4.33	3.00	1.33
GM	Conducting regular meetings with employees	4.13	2.83	1.30
CD	Creating job growth opportunities within the organization	4.17	2.87	1.30
CD	Increasing the responsibility within the team	3.97	2.70	1.27
S	Engaging in *informal* mentoring	4.17	2.90	1.27
T	Adapting training materials	4.20	3.00	1.20
O	Informing employees about available internal resources	4.13	3.00	1.13
	Service Provider Employees (*n* = 37)			
CD	Creating job growth opportunities within the organization	4.24	2.51	1.73
T	Using different strategies to provide job instruction	4.65	3.00	1.65
S	Providing others with communication tips	4.54	2.91	1.63
CD	Customizing jobs for employees to develop job-relevant skills	4.35	2.74	1.61
FE	Preparing the team to provide feedback to coach employees	4.41	2.97	1.44
O	Informing employees about available internal resources	4.35	2.91	1.44
O	Collaborating with other departments for successful onboarding	4.32	2.97	1.35
CD	Increasing the responsibility within the team	4.00	2.71	1.29
GM	Conducting regular meetings with employees	4.16	3.00	1.16
S	Engaging in *formal* mentoring	3.97	2.85	1.12
S	Engaging in *informal* mentoring	4.00	2.88	1.12
S	Creating opportunities for coworkers to mentor	4.11	3.00	1.11
CD	Encouraging more organizational involvement	3.62	2.74	0.88

Note. Task statements have been shortened – for full statements see Appendix B. Categories: O = Onboarding, S = Socialization, T = Training, FE = Feedback and Evaluation, GM = General Management, GS = Goal Setting, CD = Career Development.

Table 6. Critical Training Needs: Knowledge Statements (Full Groups)

Statement Group	Knowledge Statements	Importance Average (A)	Knowledge Average (B)	Average Difference Score (A-B)
	Workplace Supervisors (*n* = 33)			
FE	Supporting employees in the event of job termination	4.42	2.73	1.69
FE	Common mistakes made in rating employee performance	4.12	2.48	1.64
CD	Making effective career-related goals within the organization	4.06	2.82	1.24
	Non-Supervisors (*n* = 13)			
T	Different ways to present information to help employees learn the job	4.38	3.00	1.38
FE	Common mistakes made in rating employee performance	4.23	2.92	1.31
FE	Supporting employees in the event of job termination	4.23	2.92	1.31
GS	Using self-directed goals	3.92	2.77	1.15
CD	Making effective career-related goals within the organization	3.69	3.00	0.69
	Job Coaches (*n* = 30)			
FE	Supporting employees in the event of job termination	4.33	2.60	1.73
FE	Timing, type, and methods for giving feedback	4.43	2.77	1.66
DA	Invisible disabilities	4.17	2.53	1.64
FE	Effectively conducting performance evaluations	4.37	2.77	1.60
GS	Using self-directed goals	4.07	2.50	1.57
JA	Assistive technology commonly used by people with DD	4.27	2.70	1.57
FE	Common mistakes made in rating employee performance	4.13	2.57	1.56
JA	Effective strategies for conducting interviews for applicants with DD	4.33	2.80	1.53
S	Managing negative attitudes among coworkers	4.5	2.97	1.53
GS	Setting goals at appropriate times	4.23	2.73	1.50
O	Tools or resources that make adapting to work environments less challenging	4.37	2.87	1.50
S	Developing positive mentoring habits	4.47	2.97	1.50
T	Different ways to present information to help employees learn the job	4.47	3.00	1.47
O	Strategies to make the orientation experience less overwhelming	4.4	2.97	1.43
HW	Strategies to manage stress	4.13	2.70	1.43
S	Encouraging collaboration between employees	4.37	2.97	1.40
JA	Strategies for modifying job tasks/requirements to maximize performance	4.30	2.93	1.37
DA	Disability etiquette	4.17	2.83	1.34
GM	Helping employees adapt to change affecting their work	4.27	2.93	1.34
S	Strategies for integrating an employee with DD with coworkers	4.33	3.00	1.33
S	Communication strategies	4.33	3.00	1.33
CD	Making effective career-related goals within the organization	4.07	2.77	1.30
JA	Tools and accommodations to support performance and productivity	4.10	2.8	1.30
DA	Recognizing your own biases or unconscious attitudes about a social group	4.27	2.97	1.30
DA	Common misconceptions, stigmas, and stereotypes of people with DD	4.17	2.90	1.27
GM	Effective strategies to motivate employees	4.20	2.93	1.27
	Service Provider Employees (*n* = 37)			
FE	Supporting employees in the event of job termination	4.41	2.54	1.87
DA	Invisible disabilities	4.68	2.81	1.87
T	Different ways to present information to help employees learn the job	4.76	2.97	1.79
O	Tools or resources that make adapting to new work environments less challenging	4.62	2.86	1.76
S	Managing negative attitudes among coworkers	4.57	2.89	1.68
T	Making training effective for employees with DD	4.62	2.95	1.67
DA	Recognizing your own biases or unconscious attitudes about a social group	4.57	2.92	1.65
JA	Tools and accommodations to support performance and productivity	4.49	2.89	1.60
O	Strategies to make the orientation experience less overwhelming	4.43	2.84	1.59
GM	Helping employees adapt to change affecting their work	4.46	2.92	1.54
JA	Effective strategies for conducting interviews for applicants with DD	4.30	2.78	1.52
FE	Common mistakes made in rating employee performance	4.11	2.62	1.49
JA	Strategies for modifying job tasks/requirements to maximize performance	4.43	3.00	1.43
JA	Assistive technology commonly used by people with DD	4.32	2.92	1.40
FE	Effectively conducting performance evaluations	4.35	3.00	1.35
GS	Using self-directed goals	4.03	2.70	1.33
CD	Making effective career-related goals within the organization	4.03	2.76	1.27
HW	Strategies to manage stress	4.22	2.97	1.25
GS	Setting goals at appropriate times	4.08	2.92	1.16

Note. Knowledge statements have been shortened – for full statements see Appendix B. Categories: O = Onboarding, S = Socialization, T = Training, FE = Feedback and Evaluation, GM = General Management, GS = Goal Setting, CD = Career Development.

Table 7. Critical Training Needs: Workplace Supervisor and Non-Supervisor Split Groups

Statement Group	Task Statement	Importance Average (A)	Performance Average (B)	Average Difference Score (A-B)
	Workplace Supervisors - No Partnerships (*n* = 16)			
FE	Preparing the team to provide feedback to coach employees	4.06	3.00	1.06
CD	Encouraging more organizational involvement	3.75	2.91	0.84
	Non-Supervisors - No Partnerships (*n* = 5)			
O	Informing employees about available internal resources	4.20	2.75	1.45
S	Engaging in *formal* mentoring	3.80	2.50	1.30
T	Creating opportunities for coworkers to act as supports	3.60	2.50	1.10
S	Engaging in *informal* mentoring	4.00	3.00	0.80
CD	Encouraging more organizational involvement	2.80	2.00	0.80
CD	Increasing the responsibility within the team	3.20	2.50	0.70
FE	Preparing the team to provide feedback to coach employees	3.60	3.00	0.60
S	Creating opportunities for coworkers to mentor	3.00	2.60	0.40
CD	Creating job growth opportunities within the organization	3.20	3.00	0.20

Statement Group	Knowledge Statement	Importance Average (A)	Knowledge Average (B)	Average Difference Score (A-B)
	Workplace Supervisors - No Partnerships (*n* = 16)			
FE	Supporting employees in the event of job termination	4.37	2.44	1.93
FE	Common mistakes made in rating employee performance	4.19	2.31	1.88
CD	Making effective career-related goals within the organization	4.25	2.62	1.63
HW	Strategies to manage stress	4.25	2.75	1.50
S	Managing negative attitudes among coworkers	4.44	3.00	1.44
GS	Setting goals at appropriate times	4.38	2.94	1.44
JA	Strategies for modifying job tasks/requirements to maximize performance	4.37	3.00	1.37
JA	Tools and accommodations to support performance and productivity	4.37	3.00	1.37
FE	Timing, type, and methods for giving feedback	4.31	2.94	1.37
FE	Effectively conducting performance evaluations	4.06	2.75	1.31
GS	Using self-directed goals	4.13	2.88	1.25
	Non-Supervisors No Partnerships (*n* = 5)			
FE	Supporting employees in the event of job termination	4.40	2.60	1.80
GM	Effective strategies to motivate employees	4.40	2.80	1.60
T	Different ways to present information to help employees learn the job	4.20	2.60	1.60
T	Making training effective for employees with DD	4.20	2.80	1.40
FE	Common mistakes made in rating employee performance	4.40	3.00	1.40
GS	Using self-directed goals	4.00	2.60	1.40
S	Strategies for integrating an employee with DD with coworkers	4.00	2.80	1.20
T	Maximizing learning outcomes of on-the-job training	4.20	3.00	1.20
JA	Effective strategies for conducting interviews for applicants with DD	4.00	2.80	1.20
GS	Setting goals at appropriate times	4.00	2.80	1.20
CD	Making effective career-related goals within the organization	3.20	2.60	0.60

Note. Statements have been shortened – for full statements see Appendix B. Categories: O = Onboarding, S = Socialization, T = Training, FE = Feedback and Evaluation, GM = General Management, GS = Goal Setting, CD = Career Development.

Similar to the full workplace supervisor group, no task statements were considered to be *critical* training needs from the non-supervisor perspective, but five knowledge statements were identified as such. When the non-supervisor group was split based on those who responded "No" or "I do not know" to working in an organization with a SE partnership (n = 5), eight task and 12 knowledge statements were identified as *critical* training needs. For job coaches, 12 task and 26 knowledge statements were considered to be *critical* training need areas. Finally, the service provider employees identified 13 task and 19 knowledge statements as *critical* training needs.

Tables five, six, and seven present the list of task and knowledge statements identified as *critical* training needs from the quadrant graphs. As a matter of convenience, statements in each table were ordered based on a difference score calculated by subtracting the performance/knowledge score (B) from the importance score (A). Larger difference scores indicated the highest training need, which can provide a useful starting point for training program development. Nine task and 18 knowledge statements representing all 10 supervisor duties were identified as *critical* by two groups. Two knowledge statements were identified as *critical* by three groups including one related to training, "Knowledge of different ways to present information to help employees with DD learn the job," and one related to goal setting, "Knowledge of how to use self-directed goals for employees with DD."

Finally, three statements were identified as *critical* across all four full groups, including two from feedback and evaluation, "Knowledge of common mistakes made in rating the performance of employees with DD" and "Knowledge of how to support employees with DD in the event of job termination," and one from career development,

"Knowledge of how to make career-related goals within the organization that are effective for employees with DD." When workplace supervisor and non-supervisor subgroups were considered (instead of the full groups), seven statements were *critical* across the four groups, including one task statement related to career development ("Encouraging employees with DD to become more involved in the organization") and five knowledge statements (one from career development, and two each from feedback and evaluation and goal setting).

Discussion

As organizations begin to recognize the value in expanding their workforce to include people with DD, there is a need for research to inform management practices that promote long-term, meaningful employment for this population (Marcy & Bayati, 2020). This is critical, as organizations currently lack the readiness to fully integrate individuals with disabilities into the workplace, and managers, in particular, report being uncomfortable working with employees with DD (Gurchiek, 2019). The training needs analysis conducted in this study directly contributes to this effort by informing the development of programs that will increase supervisor capacity to manage and support employees with DD.

Specifically, findings increase our understanding of skill and knowledge gaps across various supervisor duties relating to onboarding, socialization, training, feedback and evaluation, health and wellbeing, general management, goal setting, job accommodations, career development, and disability awareness. All statements (task and knowledge) across each group were considered at least moderately important, indicating that all participants recognized how crucial each task and knowledge area was to the

management and support of employees with DD. Further, all knowledge statements were identified as significant training needs, and most task statements were significant from the perspective of workplace supervisors, job coaches and service provider employees (just over half of the task statements were significant for non-supervisors). Findings of this nature clearly demonstrate the need for supervisor training that targets specific skill and knowledge areas that span the full spectrum of supervisor duties.

Critical gaps were further explored in order to provide employers with more targeted recommendations for supervisor training. Knowledge statements relating to disability awareness were not recognized as *critical* training needs by either workplace supervisors or non-supervisors, and only three statements (relating to knowledge of invisible disabilities, recognizing biases or unconscious attitudes, and common misconceptions, stigmas, and stereotypes about people with DD) were collectively rated as *critical* across job coach and service provider employee groups. Although the scope of supervisor trainings is largely unknown, the lack of *critical* training needs in this area provides evidence to suggest that when supervisors do receive training these are the types of topics that are currently being covered.

In contrast, statements related to feedback and evaluation and career development, for example, were commonly identified as *critical.* Given prior findings relating to performance appraisal bias for employees with disabilities, it is not surprising to find that supervisors have a general lack of knowledge regarding common mistakes made in the rating of employees with DD. In a review of the literature, Colella, DeNisi, and Varma (1997) suggest that supervisors of employees with disabilities can be influenced by various types of bias (e.g., norm to be kind, lowered expectations, general stigma) that

impact the feedback and performance appraisal process (in either a negative or positive way depending on the type of bias). While this research was conducted over three decades ago, the present study's findings provide evidence to suggest there is still a need for supervisors to be more aware of these potential appraisal traps to ensure they give accurate appraisals and feedback (Bellé et al., 2017). Receiving constructive performance feedback helps employees to grow in their role and meet performance expectations (Randhawa, 2017), which is critical for employees with DD given the limited opportunities they face for career progression (Crawford, 2011).

All groups reported that supervisors currently have limited knowledge of how to support employees with DD in the event of job termination. While it might seem unusual for an organization to plan to support employees in the event of job termination, this practice is essential for employees with DD who face many barriers when it comes to finding employment. All options for retaining employees with DD should be thoroughly explored (e.g., through retraining and finding options for job rotation), but there may be situations when there is a poor job match and the employee with DD would have more opportunity to thrive with another organization. As such, supervisors should at least be aware of the need to reconnect individuals with DD with SE services in the event that options for retention are exhausted.

Finally, given prior research demonstrating the limited opportunities for career advancement experienced by individuals with disabilities (Kulkarni & Lengnick-Hall, 2014), it is unsurprising that statements relating to career development (particularly regarding making career-related goals for employees with DD) regularly featured in the *critical* training needs across groups. A study examining the experiences of individuals

with an intellectual disability in Canada, demonstrates that compared to 5.5% of employees with other disabilities, 16% of employees with an intellectual disability were denied promotions, and 19.5% (compared to 6.3%) were given fewer job responsibilities (Crawford, 2011). In line with these findings, the present study confirms the need for more awareness of the disparity in opportunities for progression, and the need for supervisors to find ways to support the development and growth of individuals with DD. While opportunities to progress up the career ladder may not always be available, there are many other ways (including further training, job customization, and increasing employee involvement and responsibility) in which supervisors can help employees with DD grow in their careers.

Not only do the present findings involve the identification of training need areas for supervisors of employees with DD across different supervisor duties, but they also demonstrate the value in understanding training needs from different entities who work to support individuals with DD. Specifically, the findings from four different stakeholder groups representing both SE and hiring organizations provide a unique lens to understanding the needs of supervisors of employees with DD.

Neither workplace supervisors nor non-supervisors initially identified any task statements as being *critical* training needs. Supervising someone with a disability can be a powerful lived experience, in that supervisors may derive a great sense of fulfillment from helping individuals with DD and may rate their performance higher as a result. Further, if their employee with DD is doing well, supervisors may rate themselves higher in terms of performance on each task statement in recognition of the effort it takes to manage and support them. Similarly, non-supervisor ratings will likely reflect how well

employees with DD are doing within their organization. When findings from workplace supervisors and non-supervisors who do not receive assistance from SE were considered, more statements were identified as *critical* (although still not comparable to job coach and service provider groups). This finding is expected, given that supervisors who have more support and are more prepared will likely perform better and have more knowledge of the strategies needed to successfully manage employees with DD.

Performance or knowledge ratings can also reflect the different roles occupied by each stakeholder group examined in this study. If workplace supervisor and non-supervisor groups perceive that they (or supervisors within their organization) are performing to the requirements of their job based on the training they have received, they will rate performance highly. In other words, supervisors only know what they know, and when rating a statement such as "observing work regularly to ensure it meets standards" some supervisors and non-supervisors may think that observing work once per week is adequate. However, a job coach or a service provider employee who (by the nature of their role) provides more hands-on support to employees with DD, may believe there is a need for more frequent observations. Both can be considered acceptable practices depending on the different point of view, which is why examining knowledge and skill areas from four different perspectives is so valuable in providing unique insight into what training for supervisors of employees with DD must include.

Over half of the workplace supervisors in this study reported managing only one or two employees with DD and spent less than 25% of their time working directly with them. This suggests that managing employees with DD is often a relatively small part of a supervisor's role. As such, the rating of performance may have been in relation to the

team in general, and not specifically as it pertains to the management of employees with DD. This is in contrast to job coaches and service provider employees, who spend the vast majority of their time providing services to individuals with DD. This different perspective is a likely reason for why job coaches and service provider employees identified more statements (both task and knowledge) as *critical,* in general, compared to workplace supervisors and non-supervisors.

Practical Implications

The identification of supervisor training needs carries significant practical implications for organizations currently employing or looking to employ individuals with DD. First, the findings from this study can be used to inform the development of more holistic training programs that effectively prepare supervisors for managing and supporting employees with DD. Specifically, the findings demonstrate the need for training that spans beyond disability awareness topics and allows for more targeted training specific to task and knowledge areas across various supervisor duties.

By bringing attention to the gaps in supervisor skill and knowledge areas, the present study demonstrates the urgent need for organizations to step up and develop the internal infrastructure that will provide the natural supports to promote positive employment outcomes for individuals with DD (Gurchiek, 2019). For example, many of the *critical* training needs were related to specific management practices (e.g., evaluating performance and making career related goals), which are often conducted by supervisors following policies and guidelines set by their organization. Internal training efforts that provide supervisors with specific guidance in these areas, will therefore improve the network of support surrounding employees with DD. This is particularly important given

the substantial variation in time job coaches remain in their supportive role. Ultimately, providing supervisors with more thorough training will alleviate their concerns related to working with individuals with DD (AskEARN, 2015). This will facilitate a more positive employment experience for both supervisors and employees with DD, that can promote the long-term inclusion of this population in the workplace (Morgan & Alexander, 2005).

Finally, this study identifies a list of task and knowledge statements (informed by subject matter expertise in I-O psychology and disability-employment), that are important to a supervisor's role in managing and supporting employees with DD. Hence, findings provide important insight into the role of supervisors, and increase our understanding of the tasks and duties required to effectively manage and support employees with DD. In addition to informing the development of training programs, such findings can be used to establish a job profile for supervisors of employees with DD. This can be useful in the development of job descriptions and in hiring managers who would likely do well in inclusive programs.

Limitations and Future Research

A few study limitations should be noted. First, the survey data collection took place during the COVID-19 global pandemic, and while unlikely, the recruitment of participants could have been impacted. For example, it is possible that respondents may reflect larger organizations who were able to remain open and running during the pandemic, and may not be representative of the range of organizations employing or working with individuals with DD. Second, the workplace supervisor group seemed to come from more experienced industries and were more prepared to manage employees with DD. Findings from this group may therefore reflect a more experienced sample.

While subsets of both workplace supervisors and non-supervisors were examined for this reason, it should be noted that the sample size for these split groupings was relatively small. Hence, although the involvement of multiple perspectives helped to give a holistic idea of the training needs, future studies should look to examine the role of other supervisors in organizations who perhaps do not have support from SE providers.

In addition to addressing these study limitations, future research should continue to examine ways in which organizations can build the internal infrastructure that is needed to increase the network of support around employees with DD. Such efforts should include the investigation of trainings needed for coworkers of employees with DD, and even for employers who are responsible for hiring people with disabilities. Further, other organizational systems should be examined including the need for more inclusive management practices that fully integrate people with all types of disabilities in the workplace. Ultimately, research that investigates ways to increase organizational readiness to manage and support employees with DD is needed (Gurchiek, 2019), to ensure that barriers continue to be eradicated and progress is made towards positively changing the employment landscape for this population.

Conclusion

To eradicate existing barriers preventing employees with DD from finding and maintaining work, organizations must create fully inclusive environments that provide them with the supports needed to be successful. To do this, there is a need for both researchers and practitioners to collectively inform and develop management practices that contribute to positive outcomes for this population. The present study makes a timely contribution to this effort by identifying the training needs of supervisors of employees

with DD from the perspectives of multiple stakeholders representing both hiring organizations and SE. Each perspective provided valuable insight into the skill and knowledge gaps of supervisors of employees with DD and highlighted the need for training that extends beyond traditional disability awareness topics to cover various supervisor duties related to onboarding, socialization, training, feedback and evaluation, goal setting, job accommodations, general management, health and wellbeing, and career development. Findings from this effort will inform internal organizational efforts to better prepare supervisors for managing and supporting employees with DD.

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III. STUDY #2: LEADERSHIP TRAINING FRAMEWORK

Development of a Leadership Training Framework for Supervisors of Employees with Developmental Disabilities

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Abstract

Despite the recent neurodiversity movement, the employment rate for individuals with developmental disabilities (DD) remains critically low. Much of the disability-employment research to date focuses on identifying barriers to employment, and there is a need for research to inform organizational practices in an effort to improve the employment outlook for this population. Part one of this study involved a qualitative investigation (n = 93) of current supervisor trainings from the perspective of key stakeholders representing both supported employment and hiring organizations. Findings demonstrated a heavy reliance on supported employment to provide training for supervisors of employees with DD and confirmed the need for internal training efforts extending beyond disability awareness. To address existing gaps in both research and practice, part two of this study proposed an evidence-based leadership training framework for supervisors of employees with DD. The proposed framework consists of six training components that will increase supervisor capacity to build a foundation for healthy work, create an inclusive team climate, manage workplace stress, promote transfer of training, facilitate employee performance, and increase opportunities for growth. By informing the development of supervisor trainings, this framework will help organizations create the infrastructure needed to fully integrate employees with DD.

General Introduction: Development of a Leadership Training Framework for Supervisors of Employees with Developmental Disabilities

Individuals with developmental disabilities (DD) represent a significantly underutilized talent pool in today's workforce. Despite actively seeking gainful employment (Miller et al., 2008), only 19% of individuals with DD receiving support services were employed before the COVID-19 pandemic (National Core Indicators, 2019). Given the disproportionately negative impact of the pandemic on workers with disabilities, who are often the first to lose their jobs (Brooks, 2020; Maroto & Pettinicchio, 2020), recent employment estimates will likely present an even more discouraging picture. Having access to meaningful employment results in a significantly better quality of life for people with DD, through increased independence, social integration, economic stability, and psychological wellbeing (see Jahoda, Kemp, Riddell, & Banks, 2008). As such, there is now an even greater need for research that increases organizational readiness for integrating individuals with DD to change the employment landscape for this population. The present study aims to do this by informing management practices to better prepare supervisors to manage and support employees with DD.

DD is a term that encompasses several disabilities related to physical, language, learning, or behavior impairments (CDC, 2018; Rubin & Crocker, 1989). The prevalence of DD has risen in recent years, as an estimated 17% of children in the United States have a DD diagnosis (Zablotsky et al., 2019). The most common types of DD include attention-deficit/hyperactivity disorder, learning disability, autism spectrum disorder, and intellectual disability (Zablotsky et al., 2019). There has been a recent neurodiversity

movement geared towards improving employment opportunities for individuals with cognitive differences, and some organizations have adopted internal initiatives aimed at hiring and integrating individuals with specific types of DD such as autism (Austin & Pisano, 2017). However, while progress in this area is encouraging (although well overdue), it is critical that research and practice continues to advocate for the inclusion of *all* types of DD.

Much of the disability-employment research in the last decade has focused on identifying the reasons for underemployment that contribute to the significantly low employment rate for individuals with DD (Ju et al., 2013; Meltzer et al., 2020). Commonly cited barriers include negative employer attitudes, concerns regarding the cost of accommodations, productivity levels, and supervision time, and non-inclusive hiring practices (see Burke et al., 2013). Many of these barriers stem from an employer's lack of understanding and experience with disability, which results in discrimination and stigma (Lindsay et al., 2019). Subsequently, employers are either reluctant to hire individuals with DD, or fail to provide the necessary workplace supports needed to fully integrate them.

While few studies have been conducted which critically examine ways to eradicate existing barriers, Lindsay et al. (2019) describe the need to increase employer disability confidence to promote the inclusion of individuals with disabilities. Generally, disability confidence refers to "being comfortable with, inclusive of, and having positive attitudes towards people with disabilities" (Lindsay & Cancelliere, 2018, p. 2123). From an employment perspective, disability confidence also means creating a fully inclusive work environment and being able to make the necessary adjustments to effectively recruit

and retain employees with disabilities (Lindsay et al., 2019). Prior research demonstrates that when employers have experience working with individuals with DD, they have favorable attitudes towards them as employees, and value the increased workforce diversity and collaboration with team members, consistent attendance, and reduced turnover that comes as a result of promoting diversity and being inclusive (see Burke et al., 2013). More importantly, employers who have positive experiences working with this population are more likely to continue to hire individuals with DD in the future (Morgan & Alexander, 2005). Ensuring that organizations have the internal infrastructure that provides these employees with the supports needed to be successful is, therefore, vital to increasing employer disability confidence and overcoming the many barriers that prevent them from finding meaningful, long-term employment.

A critical source of natural support within organizations for employees with disabilities is the immediate supervisor (Fabian et al., 1993), who is responsible for the ongoing management of employee performance and wellbeing. Although there is limited research in this area, there is evidence to suggest that organizations rarely provide the time and resources needed for supervisors to effectively support employees with DD (Cavanagh et al., 2017; Lysaght et al., 2012). Hence, there is a need for research that informs management practices to better prepare supervisors for managing and supporting employees with DD (AskEARN, 2015; Gurchiek, 2019).

This two-part study aims to: 1) increase our understanding of current supervisor training practices, and 2) address existing gaps through the development of a leadership training framework that will increase supervisor capacity to manage and support employees with DD. Part one involves a qualitative investigation of the current training

that supervisors of employees with DD receive based on multiple stakeholder perspectives, including direct workplace supervisors of employees with DD, others who work in organizations that hire individuals with DD (and have knowledge of the role of the supervisor), and employees (job coaches and others) who work in supported employment services. Part two builds on findings from part one and leverages previously identified training need areas (Heron & Bruk-Lee, 2021) to develop an evidence-based leadership training framework for supervisors of employees with DD.

Part One: Qualitative Examination of Current Supervisor Training Practices

Overview

Many individuals with DD receive assistance from supported employment to find and maintain a job. Support providers (e.g., vocational rehabilitation or independent supported employment agencies) engage in several activities including job analyses, job matching, and initial training on-the-job (Beyer, 1995), all of which are often conducted by a job coach (Gustafsson et al., 2013). The main role of the job coach is to provide clients with DD with basic skills training, find them a position within an organization, and support them at the beginning of their employment journey. Although the length of time a job coach will remain in their supportive role varies across support providers, this support is often temporary, and the ongoing management of employees with DD needs to be facilitated by the organization (Wehman et al., 2003). To overcome the many barriers that limit employment opportunities for individuals with DD, it is clear that collaboration between supported employment and the hiring organization is vital. However, the role that supported employment plays in preparing the organization, and the immediate supervisor, for the ongoing support of employees with DD is relatively unknown.

Prior research demonstrates the critical role of supervisors in facilitating positive work experiences for employees with disabilities, in general, by reinforcing an inclusive team climate (Schur et al., 2005), and specifically for employees with DD by encouraging social integration among team members (Meacham et al., 2017). Further, perceived supervisor support has a greater impact on job satisfaction among workers with a disability (including both physical and non-physical disabilities), compared to those without a disability (Snyder et al., 2010). There is also evidence to suggest that employees with DD often rely on supervisor support to mitigate common job stressors (such as high workload, a lack of training, or a lack of performance feedback), which ultimately helps to increase individual wellbeing and overall quality of work life (Flores et al., 2011). Findings of this nature demonstrate the importance of supervisors in terms of facilitating positive employment outcomes for employees with DD.

Given the lack of research examining the training supervisors receive in preparation for managing and supporting employees with DD, there is a need for the thorough exploration of current practices. It is likely that most supervisors receive traditional diversity training focused on recognizing implicit biases and combatting negative stereotypes and attitudes (Bezrukova et al., 2012; Pendry et al., 2007). These trainings are often not specific to disabilities and are developed for a broader organizational audience, rather than just the supervisor. If disability is included in such trainings, they are often limited to disability awareness topics such as the Americans with Disabilities Act (ADA), job accommodations (Chan et al., 2010), disability etiquette (Linkow et al., 2013; Matt & Butterfield, 2006), and/or the use of assistive technologies (Hyland & Rutigliano, 2013).

To better understand the landscape of supervisor trainings, part one of this study aims to explore the current training practices for supervisors of employees with DD from the perspective of four stakeholder's representative of both supported employment and hiring organizations. Given that individuals from both supported employment and within hiring organizations are integral in facilitating positive employment outcomes for employees with DD, gathering information from each perspective is key to creating a framework for supervisors of employees with DD that builds on current training efforts. Specifically, part one of this study sought to explore the following two research questions:

1. What training is offered to supervisors of employees with DD?
2. What are the components of training that supervisors of employees with DD receive?

Method

Sample

After removing participants who did not pass four out of six attention check items (n = 6; e.g., "For this row, please select *not at all important*"), who indicated that supervisors did not receive any training (n = 12), and who did not respond to the qualitative survey question examined in this study (n = 8), the final sample was 93. Specifically, the sample included 25 *workplace supervisors* (who work directly with employees with DD), 10 *non-supervisors* (who have an understanding of the role that supervisors within their organization play in managing employees with DD), 27 *job coaches* (who directly assist individuals with DD in finding and maintaining employment), and 31 *service provider employees* (who occupy a role other than a job

coach within an organization that provides services to individuals with DD). The majority of participants were female (64.4%), White (68.3%), and Non-Hispanic or Latino (64.4%). Participant age ranged from 22 to 63 (M = 40.6, SD = 11.07), and most held either a bachelor's degree (37.6%) or a master's degree (35.6%). Most participants (35.6%) provided open ended responses regarding their industry (common responses included human services, social services, and supported employment), with fewer representing education (23.8%), service (23.8%), health care (10.9%), manufacturing (2%), retail (1%), and agriculture (1%). The majority of participants worked in the not-for-profit sector (56.4%), and the most common job positions were non-managerial (30.7%) and middle management (27.7%).

Procedure

Individuals were recruited via disability-employment listservs, LinkedIn, and direct outreach to employers and organizations (e.g., centers for independent living, supported employment agencies, vocational rehabilitation, and Inclusive Postsecondary Education Programs serving students with DD) to take part in an online Qualtrics survey. The survey used in the present study was designed as part of a broader effort to gather information on the role that supervisors play in managing and supporting employees with DD (Heron & Bruk-Lee, 2021). To be eligible to take the survey, participants had to be over the age of 18, work in the US, and fall into at least one of the four categories described above. Participants were compensated with $40 e-gift cards upon completion of the survey. All survey materials were approved by the University Institutional Review Board prior to dissemination.

Measures

To gather in-depth information related to current training efforts, all participants were asked an open-ended question about the components of current supervisor training programs. Specifically, *workplace supervisors* were asked, "Please describe the components of your current supervisor training program as it relates to the management of employees with developmental disabilities" and n*on-supervisors* were asked, "Please describe the components of your organization's current supervisor training as it relates to the management of employees with developmental disabilities." Finally, *job coaches* and *service provider employees* were asked "Please describe the components of the supervisor training programs that organizations you engage with typically offer (as it pertains to employees with developmental disabilities)?"

Data Analysis

Qualitative data were analyzed using a Reflexive Thematic Analysis (RTA) method outlined by (Braun & Clarke, 2019). Reflexive Thematic Analysis is flexible method commonly used to answer a variety of research questions related to individual experiences and perspectives. Analysis followed an inductive, semantic, and (critical) realist approach, meaning that the coding of data and development of themes were guided by and reflected the content of the data (Braun & Clarke, 2019). Data were analyzed primarily by the first author, and the second author reviewed each phase to finalize coding and theme development. Specifically, analysis followed a 6-step process: the first author read through the data to get familiarized (step 1), then assigned a code to each line of data that related to the research question (step 2). Initial themes were then developed by examining codes to identify broader patterns of meaning across the data (step 3). Both

authors reviewed and refined themes by comparing with the dataset (step 4) and agreed upon final theme labels and descriptions (step 5). The final stage involved writing up the themes using example extracts from the data (step 6).

Results

A total of 93 entries were reviewed based on participants who responded to the open-ended survey question. Step two of the RTA resulted in 132 initial codes, which were clustered together under 14 labels (see table eight for the coding clusters and theme labels). For example, the initial codes "regular training" and "monthly and annual training" were clustered together under "frequency of training." Four themes were generated in step three by identifying patterns of similar meaning across coding clusters: lack of internal supervisory training (theme one), reliance on external training providers (theme two), variations in training format (theme three), and common topics across supervisor trainings (theme four). Each theme is presented below, along with example data excerpts (with participant group and their tenure working with or servicing people with disabilities).

Table 8. Coding Clusters and RTA Themes

Lack of Internal Supervisory Training	Reliance on External Support Providers	Variations in Training Format	Common Topics Across Supervisor Trainings
– No formal training – Informal training only – Training not specific to DD or supervisors of employees with DD – Reliance on self-training – Reliance on personal experiences	– Training comes from supported employment agencies or other organizations – Job coaches fill a significant training gap – Job coaches offer support to supervisors	– Training modality – Training resources – Frequency of training	– Disability awareness – Communication – Tasks

Theme One: Lack of internal supervisory training. A prominent theme across the data was the lack of training that supervisors receive from their own organization. Specifically, participants described how supervisors rarely receive internal training that equips them with information, resources, and tools specific to managing and supporting employees with DD.

> I have not received any training regarding management of employees with developmental disabilities. [Workplace Supervisor, 4 years]
>
> In my eight years with my agency, I have never seen an integrated community placement [organization that employs individuals with DD] that offered disability centered/focused training. All training from community employers is the same training given to non-disabled employees, barring audio visual accommodations. [Service provider employee, 6 months]
>
> Web training if that. We have a want of real training. [Non-supervisor, 3 years and 2 months]

When supervisors do receive internal training from their organization, the topics are often not specific to developmental disability and rarely extend beyond disability awareness topics.

> The employers almost never have training geared towards working with individuals with disabilities. [Service provider employee, 1 year and 2 months]
>
> Very rarely a company will offer a general overview of how to supervise individuals with developmental disabilities. [Service provider employee, 5 months]
>
> All the trainings provided by the businesses are ADA compliance and/or person first type trainings which are helpful in the first phase of employment but does not drill down to the actual need to know strategies which can help our students be successful. [Service provider employee, 10 years]

As a result of a lack of internal training, supervisors often rely on their own experiences or supplement their current knowledge by seeking training from other community organizations or businesses.

> Most of my training comes from seminars in the communities, other businesses and corporations working with individuals with disabilities in an employment setting, and my own professional development/literature. [Workplace supervisor, 7 years]

Theme Two: Reliance on external service providers. It was clear from the data that training for supervisors of employees with DD largely comes from supported employment agencies and is delivered by job coaches employed to provide support for clients with DD in the workplace setting. The following examples from three job coaches exemplify this finding:

> Working with employers in the community I have found that there aren't typically training's offered to supervisors and the education falls upon the supported employment agencies that are providing supports to the employees with developmental disabilities. Even after providing them tools it still does not always work providing a[n] unproductive relationship between the employer and the supported employment agency. [Job coach, 2 years and 1 month]

> In reality, I have not seen any internal specific training programs for organizations who are interested in hiring adults with disabilities. Because of this, as a job coach, I also train the employer on how to treat the adult with disabilities, how to find better ways for them to complete tasks, and how to handle inappropriate behaviors. With time, the individual's supervisor will get to know the individual and learn how to manage them and their unique personalities. [Job coach, 1.5 years]

> I do not believe supervisor training programs offer extensive training for working with employees with developmental disabilities. When engaging with these organizations, it seems like I, as a job coach with a support employment or vocational rehabilitation program, have to help instruct them. [Job coach, 9 months]

Beyond acting as a support and filling in significant gaps in training for supervisors, job coaches also play an important role in facilitating an inclusive workplace culture, improving employer knowledge of disabilities, and ensuring that employees with DD are meeting performance requirements.

> Through the use of a job coach, an employer can be educated on the Supported Employment process. This allows for the employer to create a company culture that is open to hiring persons with disabilities. The job coach will fill in the gaps of training that may occur due to the person's disability. [Job coach, 2 years and 9 months]

> I check in regularly with supervisors and co-workers to ensure that the employee is performing the duties of their job up to the employer's satisfaction and to answer any questions they may have about the employee's needs. [Job coach, 3 years]

Theme Three: Variations in training format. When training is offered, many different modalities are leveraged, including online or in-person (e.g., online or in-person workshops, on-the-job training, and job shadowing), and trainings differ in regard to the time of year it is completed and the amount of training that is required.

> We offer on-site training at the request of the business. We also offer workshops multiple times a year that many employers can participate in. [Service provider employee, 1 year and 9 months]

> Internal [trainings] consist of training/shadowing with providers who are familiar and experience working with people with developmental disabilities. [Workplace supervisor, 1.5 years]

Some supervisors receive training several times a year, and others when there is a new hire and periodically after that.

> Regular online and in person training supplemented with training that I find and want to participate in. [Workplace supervisor, 1 year and 3 months]

> Trainings offered by and given by the employer, when supervisors first come on board and again every 6 months. [Non-supervisor, 3 years and 7 months]

Theme Four: Common topics across supervisor trainings. The vast majority of trainings offered to supervisors of employees with developmental disabilities cover disability awareness topics. These include sensitivity training, knowledge of Americans with Disabilities Act (ADA) guidelines, how to apply job accommodations, how to

communicate effectively (e.g., interpersonal skills and person-first language), and finally, how to assign or train employees on new tasks.

> Training consists of learning the employment rights of people with developmental disabilities (DD), how to accommodate employees and provide support, and to learn from the employee what works best for them and offer alternatives as needed. [Workplace supervisor, 32 years and 5 months]
>
> What to expect when you deal with an individual who has a disability/how to engage in communication with individuals who have a disability. [Service provider employee, 1 year and 3 months]
>
> [The] basics/characteristics of specific disability if known, if not, general accommodations [and] Americans with Disabilities Act. [Service provider employee, 2 months]
>
> Overall disability employment laws and reasonable accommodations. [Service provider employee, 30 years]
>
> Training focuses on best communication practices, breaking down tasks, teaching styles, natural supports, and general Q&A. [Job coach, 29 years]

Part One Discussion

Four themes were generated that provide insight into what training is offered to supervisors (answering research question one), and what the components of training are that supervisors currently receive (answering research question two). It is clear that supervisors rarely receive training from their hiring organization. Instead, trainings are often facilitated through the supported employment partnership, or more specifically, the job coach. Job coaches fill in supervisor skill and knowledge gaps related to disability awareness, communication, and training employees with DD on routine tasks. When supervisors do receive training, there are many variations regarding delivery with some trainings being offered in-person or online, and at different times throughout the year.

The present investigation of the current landscape of supervisor trainings was needed to fully understand the training needs of supervisors of employees with DD. Specifically, the qualitative findings demonstrate the need for more holistic training that better prepares supervisors in areas across different supervisor duties. Together with the training needs identified from Heron and Bruk-Lee (2021), this research confirms the need for organizations to develop their own internal efforts that complement the current training given to supervisors by supported employment agencies.

Part Two: Development of a Leadership Training Framework for Supervisors of Employees with DD

Overview

Expanding hiring practices to include individuals with DD is an important step in improving the employment rate for this population. However, to ensure that employees with DD are successful in the long-term, organizations must build the necessary infrastructure to create a system of support that will contribute to positive individual and employment outcomes (Wehman et al., 2003). As noted in part one of this study, the workplace supervisor represents a critical source of natural support that is integral to the successful employment of individuals with DD (Cavanagh et al., 2017; Flores et al., 2011; Lysaght et al., 2012; Meacham et al., 2017). Yet, current internal training efforts do not adequately prepare supervisors for managing and supporting employees with DD.

A framework for understanding the training needs of supervisors of employees with DD does not presently exist in the literature. To address this gap, part two of this study proposes an evidence-based leadership training framework that will guide future training practices to empower supervisors in areas specific to managing, integrating,

training, and developing employees with DD. Essentially, this framework will build on the training provided to supervisors of employees with DD from external sources, by focusing on best practices across different supervisor duties. While this framework was developed with the specific needs of supervisors of employees with DD in mind, it should be noted that all supervisors can stand to benefit from adopting the concepts discussed in this training framework.

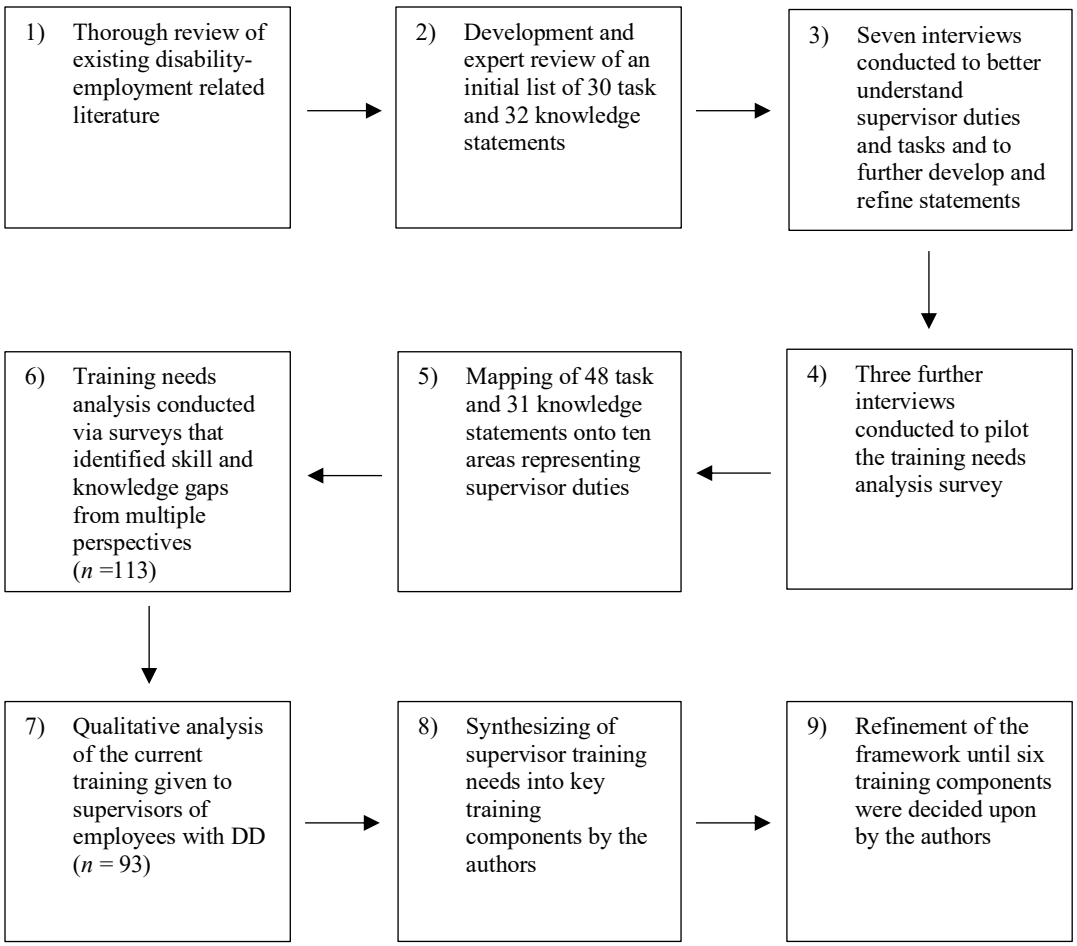
Development of the Framework

The following leadership training framework was developed based on evidence gathered using a multi-method approach to understanding the training needs of managers and draws on best practices from industrial-organizational (I-O) psychology. The steps involved in the development of the framework are presented in figure nine. A thorough review of existing disability-employment literature was a necessary first step and confirmed the need for a framework focusing on the training needs of supervisors of employees with DD.

Steps two through seven describe the stages involved in a comprehensive training needs analysis, which aimed to identify the skill and knowledge gaps of supervisors of employees with DD. Specifically, step two involved the development and expert review of an initial list of 30 task (e.g., “Integrating employees with DD into team practices”) and 32 knowledge (e.g., “Knowledge of different ways to present information to help employees with DD learn the job”) statements relating to the supervisor’s role. Statements were generated based on author subject matter expertise in the area of I-O psychology, and the expert review involved gathering feedback from an individual with 10 years of experience working in disability employment. Seven interviews were

conducted in step three to better understand the duties and tasks involved in supervising employees with DD, and to refine and add to the existing list of statements. Step four involved three further interviews that were conducted with subject matter experts to pilot a training needs analysis survey by gathering feedback on all questions, instructions, and statements. The final list of statements included 48 task and 31 knowledge statements, which were conceptually mapped by the authors in step five onto 10 areas representing supervisor duties across onboarding, socialization, training, feedback and evaluation, health and wellbeing, general management, job accommodations, goal setting, career development, and disability awareness.

Figure 9. Process of Leadership Training Framework Development



Step six involved the dissemination of the training needs analysis survey to four stakeholder groups (n = 113) involved in the employment of individuals with DD (workplace supervisors, non-supervisors with knowledge of the role of supervisors within their organization, job coaches, and other service provider employees). Participants reported having experience working with many different types of DD, including (but not limited to) attention-deficit/hyperactivity disorder, learning disability, autism spectrum disorder, intellectual disability, cerebral palsy, and down syndrome. The survey asked participants to rate the task and knowledge statements in two different ways: 1) how important the statement was to the management of employees with DD, and 2) the current level of performance (or knowledge) of each statement. A significant difference between scores on the first rating (importance) and the second rating (performance/knowledge) indicated a training need. The training needs analysis demonstrated that skill and knowledge gaps exist for supervisors of employees with DD across each potential training need area (see Heron & Bruk-Lee, 2021 for a more detailed description of the training needs analysis process and findings).

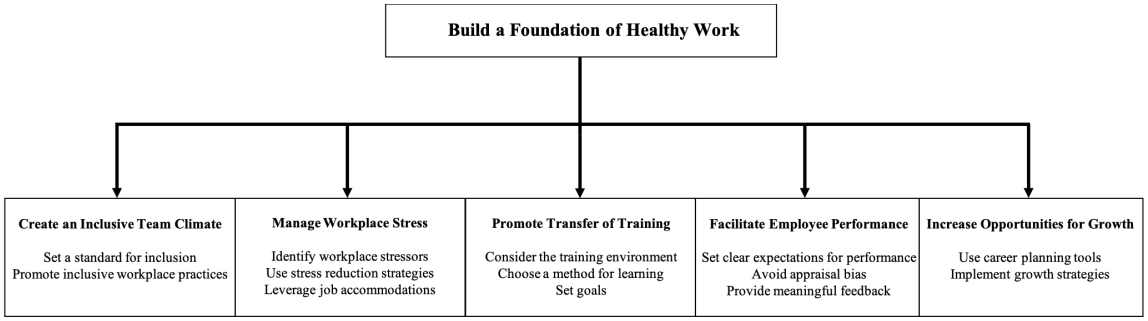
To ensure that the proposed framework extends current efforts, a qualitative analysis (n = 93) was conducted in step seven to investigate the training practices offered to supervisors of employees with DD from multiple perspectives (see part one of this study). Examining the data across steps six and seven demonstrated a significant need for more thorough training that complements the current training provided to supervisors by supported employment agencies. Step eight involved the construction of the leadership training framework by synthesizing the training needs using data gathered in all forms of

prior data collection into training components. The final step involved the refinement of the framework until the final six training components were agreed upon by the authors.

Leadership Training Framework

The leadership training framework for supervisors of employees with DD is comprised of six training components that are essential in providing supervisors with the skills and knowledge needed to successfully manage and support employees with DD in the workplace. Specifically, the six components will guide organizations in creating training programs that empower supervisors to build a foundation for healthy work, create an inclusive team climate, manage workplace stress, promote transfer of training, facilitate employee performance, and increase opportunities for growth. The following sections describe the importance of each training component and provide practical recommendations for how organizations can train supervisors in areas addressing identified training needs for supervisors of employees with DD (Heron & Bruk-Lee, 2021). The relationship between each training component is presented in figure ten.

Figure 10. Leadership Training Framework for Supervisors of Employees with DD



Training Component One: Build a Foundation for Healthy Work

The first component of this framework involves training supervisors on how to build a foundation for healthy work. This component represents the starting point for the leadership training framework as building a healthy workplace culture is critical to the successful integration, training, management, and development of employees with DD, that are the focus of the subsequent training components. Looking across current supervisor skill and knowledge gaps, there is a need for supervisors to more effectively socialize employees with DD, manage workplace stressors, facilitate skill development, provide meaningful feedback, and create opportunities for career growth. Altogether, these training need areas represent the type of healthy work environment that will allow employees with DD to thrive, feel valued, and grow in the workplace.

Before supervisors are trained on how to create an inclusive team climate, manage workplace stress, promote transfer of training, facilitate employee performance, and increase opportunities for growth, they should have an understanding of how their leadership behaviors and practices play a significant role in the work experience of employees with DD. While promoting a healthy workplace culture must occur on a broader organizational level (e.g., through employee resource groups, safety training, annual employee benefits, etc.), it is critical that supervisors implement their own practices at the team level to foster happier, healthier, and more productive employees.

Leaders that promote a healthy workplace culture will develop stronger connections with their employees, value their contributions, and better understand the strengths they bring to the team. This is particularly salient when a team is made up of a diverse group of individuals including those with DD, who should all stand to benefit

equally from the workplace practices that define their organizational and team culture. To provide supervisors with the tools needed to build a foundation for healthy work, trainings should leverage the American Psychological Association's five pillars of a healthy workplace. The five pillars broadly capture the existing supervisor training needs by promoting employee involvement, work-life balance, growth and development, health and safety, and employee recognition (see Grawitch et al., 2006). *Employee involvement* refers to the act of giving employees a voice in the workplace. This is particularly salient to individuals with disabilities, as they often have fewer opportunities to participate in decision-making, particularly in regard to their own job (Schur et al., 2009). As such, trainings should instruct supervisors in ways in which they can increase employee involvement, for example, by allowing all employees to share their perspectives and participate in decision-making during team meetings.

Work-life balance acknowledges the flexibility needed for employees to meet the often-competing demands of personal life and work. Employees with DD may face more personal demands (e.g., health-related needs) and may have fewer strategies to deal with stressors, that can ultimately interfere with their performance and wellbeing. Hence, trainings should prepare supervisors to practice flexibility in regard to work arrangements, which can help to alleviate stressors relating to balancing work and personal life. *Growth and development* refers to the process of helping employees build the skills and knowledge that will allow them to progress in their role. Given the fact that employees with disabilities face limited opportunities to participate in organizational trainings or even receive informal training from team members (Schur et al., 2009), supervisors need training that gives them the tools and strategies to promote career

development, particularly for employees with DD (see *improve opportunities for growth*). *Health and safety* involves maximizing employee wellbeing through the continual assessment of workplace problems and risk factors. Trainings should prepare supervisors to promote employee health and wellbeing by managing common workplace stressors experienced by employees with DD (see *managing workplace stress*). Finally, *employee recognition* refers to the process of rewarding employees for their professional achievements. Given that recognizing employee accomplishments is an effective way of increasing team morale and can promote employee productivity and self-esteem (Coduti et al., 2016), supervisory trainings should instruct supervisors to reward all members of their team by praising employee performance (see *facilitating performance and growth*), creating internal awards, or publicly acknowledging employee efforts in team meetings.

Ultimately, providing supervisors with training on how to build a foundation for healthy work is critical in promoting a positive work experience for supervisors and all employees on their work team (Day et al., 2014). This first component presents many foundational topics, and provides supervisors with a broad introduction to understanding how to create a work environment that will support all employees, including those with DD. The concepts discussed in this component are built upon in the remaining training components of this framework.

Training Component Two: Create an Inclusive Team Climate

The second component of this framework involves training supervisors on how to create an inclusive team climate. Given the key role supervisors play in creating a workplace where individuals with DD feel accepted and included (Meacham et al., 2017), it is vital that organizations provide them with training on how to fully integrate

employees with DD into their work team. Prior research demonstrates the importance of coworker attitudes in facilitating the socialization of employees with disabilities in general (Kulkarni & Lengnick-Hall, 2011), and more specifically for employees with DD (Meacham et al., 2017). Having support from team members is also important for general performance management, as some employees with DD may feel more comfortable interacting with their peers (Meacham et al., 2017), or may need their support if the immediate supervisor is not available. Ultimately, having an inclusive climate will increase the degree of social connectedness perceived by employees with DD, enhancing their feelings of belonging and acceptance (Lysaght et al., 2017) and facilitating a more positive experience at work. To effectively create an inclusive team climate, organizations should train supervisors on how to set a standard for inclusion and promote inclusive workplace practices.

Set a standard for inclusion. To set a standard for inclusion, trainings should focus on the need for supervisors to establish a set of rules for their team to follow. This can involve creating values and norms specific to each work team that guide behaviors and attitudes. Once standards are agreed-upon, it is vital that these standards are continually reinforced to ensure that they do not get lost as employees come and go. Supervisors should also learn the importance of reinforcing a climate of inclusion through consistent communication (e.g., verbally at team meetings or via posters around the workspace that act as a visual reminder) and by rewarding behaviors and attitudes that promote inclusion.

Promote inclusive workplace practices. Trainings should also help supervisors foster cohesion and productivity among their team by promoting inclusive workplace practices. One inclusive practice that would be beneficial for supervisors of employees with DD includes encouraging all team members to participate in team activities. This is an important practice that can help all employees feel integrated. However, supervisors need to be aware that, for some employees with DD, it may take time for them to be comfortable engaging with other team members in meetings, so they should not force employees with DD to participate in work-related social activities before they are ready.

Another beneficial inclusive practice is peer mentoring. Training programs should provide supervisors with the tools and guidance needed to successfully implement peer mentoring among their work team, which typically involves the pairing of a new employee with a more senior employee (although it can also be used throughout an employee's tenure with the organization). Essentially, peer mentors serve to provide guidance and support to another employee by giving developmental feedback and through sharing personal experiences and work-related information (see McManus & Russell, 2007). Occasionally, employees with DD can develop a strong bond with their peer mentor who may become an important form of social support within the organization. Many employees benefit from mentoring, but this type of support has specifically been found to help employees with DD successfully adjust to their work environment (Markel & Elia, 2016), learn new skills, and problem solve when issues arise (Meacham et al., 2017).

Training Component Three: Manage Workplace Stress

The third component of this framework involves training supervisors on how to manage workplace stress. Every employee experiences stress at work (Bakker & Demerouti, 2017; Lamb & Kwok, 2016), which is why many organizations promote wellness practices aimed at providing employees with the coping strategies needed to manage stress. However, individuals with DD experience higher levels of stress in their daily lives (Hatton & Emerson, 2004) and at work (Hurlbutt & Chalmers, 2004), compared to individuals without DD. They may also not possess the necessary coping mechanisms needed to deal with workplace stressors, which can negatively impact their wellbeing and performance. Currently supervisors lack the knowledge and skills needed to identify and manage stressors for employees with DD (Heron & Bruk-Lee, 2021). As such, there is a need for organizational training that prepares supervisors to identify workplace stressors, use stress reduction strategies, and leverage job accommodations.

Identify workplace stressors. Commonly cited workplace stressors for neurotypical employees include high workload, role conflict, role ambiguity, and time pressure (see Schaufeli & Taris, 2014). Employees with DD will experience many of the same stressors, in addition to sensory overstimulation (e.g., loud office noises), social relationships (e.g., coworker conflicts; Rochester Institute of Technology, n.d.), disruptions to routines, planning and organizing activities, and managing work-life balance (Autism West Midlands, 2020; Department of Human Services, 2017). If workplace stressors are not mitigated or managed, employees can experience various psychological, physical, or behavioral strain outcomes, such as burnout (see Alarcon, 2011), poor sleep quality and quantity (Berset et al., 2011; Sasaki et al., 2007),

gastrointestinal problems (Nixon et al., 2011), and counterproductive work behaviors (e.g., aggression or interpersonal conflict; Fox et al., 2001).

For this reason, it is critical that supervisors receive training to identify workplace stressors and help them recognize when their employees with DD are experiencing strain. For example, training should cover specific strain outcomes for employees with DD, including changes in common patterns of behavior (Department of Human Services, 2017) and repetitive behaviors such as stimming and meltdowns (Autism West Midlands, 2020). How employees respond to stressors will vary, so it is important that supervisors are aware of the different types of strain reactions that can be exhibited by employees with DD.

Use stress reduction strategies. In addition to receiving training that increases their awareness of the types of stressors to look out for, supervisors of employees with DD must also be provided with the skills and knowledge needed to effectively manage them. Firstly, supervisory trainings need to cover the importance of encourage their team to adopt healthy lifestyle habits in general (e.g., through consistent exercise and sleep, healthy eating, relaxation, the use of wellness apps, etc.) as this can help to alleviate the experience of stress.

Secondly, supervisors should also be instructed in specific stress reduction strategies geared towards helping employees with DD manage stress. As their main point of contact in the organization, supervisors often represent a source of safety and comfort for employees with DD. Organizations therefore need to train supervisors on the importance of being a consistent and safe presence, the purpose of stimming behaviors, and when it is appropriate to expect eye contact (Autism West Midlands, 2020). Finally,

training should guide supervisors in creating a stress management plan with their employee with DD, so that they are better prepared to deal with the stress when it occurs. This can include identifying what the most effective coping strategies are for each employee (e.g., using a calming app or taking a walk).

Leverage job accommodations. Supervisors also need to be aware of how job accommodations can be used to manage workplace stressors for employees with DD. Job accommodations can involve making changes to the physical workspace, using technology, adjusting workplace practices, and making communications more accessible. Supervisors are often responsible for modifying jobs or administering accommodations to employees, yet their knowledge of accommodations has been identified as a significant barrier to the employment and career advancement of employees with disabilities (Unger, 1999). Further, employer concerns regarding the cost of accommodations represents another barrier to employment for people with disabilities (Burke et al., 2013). Altogether, these prior findings demonstrate the importance of training that increases supervisory awareness of the many inexpensive and simple accommodations that can make a big difference to the work experience of employees with DD.

Specifically, trainings should provide supervisors with specific accommodations that can help to reduce potential stressors for employees with DD. For example, to prevent overstimulation, supervisors can reduce auditory distractions by giving employees headphones, using white noise machines, or assigning an employee with DD to a workspace with minimal distractions. Visual distractions can be managed by minimizing clutter in the immediate workspace and using dim lighting if possible (Rochester Institute of Technology, n.d.). Supervisors can also provide employees with

DD with hand-held stress balls if they commonly exhibit atypical body movements (e.g., fidgeting) as this can help them to focus on tasks or calm them down if they are feeling stressed (Rochester Institute of Technology, n.d.). Other common accommodations (see Job Accommodation Network, 2019) include modifying or designing work schedules with employee needs in mind, planning work schedules ahead of time to reduce anxiety over disruptions to routine, using assistive technology (discussed further in *Promote Transfer of Training*), creating to-do-lists to help employees with DD accomplish tasks, modifying work tasks, and using various tools (e.g., reminder applications, adjustable workstations, using iconography to visualize tasks, etc.), all of which can effectively reduce stress and aid in successful task completion.

Training Component Four: Promote Transfer of Training

The fourth component of this framework involves training supervisors on how to promote transfer of training. Training is an important employment process, through which employees learn to perform the tasks needed to successfully meet performance expectations. Without proper training, employees may not learn the skills needed to maintain their position or progress within the organization. To ensure that training is successful, employees must be able to apply the knowledge and skills they learned during the training stage to their actual job - a process called transfer of training (Macey & Schneider, 2008). If the training process is not designed in a way that optimizes learning for employees, transfer of training will be low, and they will not gain the skills needed to succeed (Grossman & Salas, 2011).

While a job coach may be involved in providing initial training, supervisors are responsible for the ongoing training of employees with DD. However, supervisors

currently lack the skills and knowledge needed to effectively train employees with DD in new tasks (Heron & Bruk-Lee, 2021). Hence, there is a need for supervisors to be aware of different methods for training that they can leverage to best support learning outcomes for employees with DD. While there is not one specific method of training that will work best for every member of a work team, supervisors must take time to assess what methods are most conducive for each employee with DD. Specifically, supervisory training should cover the factors that need to be considered to ensure that transfer of training is optimized for employees with DD. This includes instructing supervisors on how to consider the training environment, choose a method for learning, and set goals to guide employees with DD through the training process.

Consider the training environment. To ensure the effective transfer of training, supervisors need to know what types of training environments are most conducive to learning. For example, some employees with DD may find busy work environments distracting and overwhelming (Autism West Midlands, 2020), so training sessions that take place in busy, unfamiliar, off-site locations, may not be the most appropriate setting. Using identical elements is another strategy that supervisors should be aware of, which essentially means training an employee in an environment similar (or the same as) their actual workspace (van der Locht et al., 2013). This is especially important in situations when employees with DD are expected to perform manual tasks involving the use of equipment. Training employees with DD using the same equipment (or a similar mock-up) that will be used when they are actually performing their job, will enhance their ability to recall the knowledge gained during training. For this reason, employees with DD are commonly trained on-the-job (i.e., in the actual workspace), which has been

found to help people with severe disabilities learn the skills that are needed to perform their tasks, while they are physically doing the actions that are required of them (White & Weiner, 2004).

Choose a method for learning. In addition to knowing how to create an environment that is conducive to learning, supervisors must also receive training that prepares them to identify the most effective learning methods for employees with DD. This will facilitate more successful training outcomes. For example, supervisory trainings can leverage the use of prompting, which is a popular method often used by job coaches to train employees with DD (Banda et al., 2011; Fetko et al., 1999; *Mississippi Job Skills Trainer Manual*, 2018). Prompts are actions that help an individual perform a correct behavior and can be delivered in terms of a hierarchy from prompts that offer low support to those that offer high support to the trainee. Low level prompts include visual (e.g., presenting the trainee with pictures), and verbal (e.g., asking the trainee "What's next?") prompts, whereas higher level prompts can range from gesturing, modeling correct behaviors, and physical prompts (e.g., hand-over-hand assistance). More involved prompts give trainees the least independence in completing their tasks and may be needed more frequently during the early training stages. Overtime, the types of prompts used should become less involved to allow the trainee to learn how to do their job on their own. The type of prompt used may also depend on the preferences of employees with DD. For example, some employees with DD may not feel comfortable with the use of physical prompts, so supervisors will have to adjust their training method accordingly.

To help supervisors find the right teaching method, trainings should also discuss the various conditions of practice that maximize learning. Conditions of practice include

spaced vs. massed (e.g., teaching a skill gradually over time, or all at once), whole vs. part (e.g., teaching the entire skill together, or breaking the skill into parts and teaching one at a time), and overlearning (i.e., continued practice of the skill even after mastery). While there is currently no research establishing the optimum conditions of practice for employees with DD, granting more time to learn skills, teaching skills in smaller increments (rather than all at once), and providing continuous training in some areas over time, are all practices which could be beneficial. However, it should be noted that favored learning styles can differ drastically from one employee to the next, so supervisors will need to tailor the training format to fit the needs of each employee.

Set goals. Goal setting has been evidenced to improve self-determination in people with severe or multiple disabilities (Wehmeyer, 2005), and performance among employees with mild intellectual disabilities (Devlin, 2011). Organizations would therefore benefit from instructing supervisors in ways to set goals to ensure that progress is being made and to provide employees with a realistic timeline with which to accomplish training goals. Goal setting involves creating targets (both short- and long-term) that an individual works towards to help employees stay on track as they progress through training (Locke & Latham, 2002). To ensure that supervisors set effective goals, trainings can leverage the SMART tool (Doran, 1981), which involves setting goals that are specific, measurable, attainable, realistic, and time-based.

Training Component Five: Facilitate Employee Performance

The fifth component of this framework involves training supervisors' on how to facilitate employee performance. Providing supervisors with training on how to best facilitate employee performance is critical, as employer concerns regarding supervisors'

level of comfort in terms managing the performance of employees with disabilities (particularly in terms of evaluation) has been cited as a significant employment barrier to the employment of people with disabilities (Houtenville & Kalargyrou, 2012). Further, skill and knowledge areas relating to feedback and evaluation represent critical training need areas for supervisors of employees with DD (Heron & Bruk-Lee, 2021). Therefore, to effectively facilitate employee performance, organizations should train supervisors on how to set clear expectations for performance, avoid appraisal bias, and provide meaningful feedback.

Set clear expectations for performance. When supervisors have high performance expectations, they manage their employees in a way that matches those expectations, and employee performance increases as a result (i.e., the Pygmalion effect; see Colella et al., 1993). When supervisors have lowered expectations, the opposite effect occurs, and employee performance tends to decrease (i.e., the Golem effect). There is evidence to suggest that both supervisors and coworkers can have lowered expectations of employees with disabilities, which impacts not only their performance, but also their socialization within the organization (Colella et a., 1993). As a result of lowered expectations, supervisors often give employees with disabilities fewer challenging tasks, either due to the belief that they cannot handle more complex ones, or that they are hesitant to overburden the employee (Kulkarni & Lengnick-Hall, 2011). Treatment such as this can hinder employee growth as they have fewer opportunities to master new skills to progress in their careers. Further, team members often view this as "special treatment," resulting in feelings of resentment and negative attitudes, making it less likely that employees with DD will be fully integrated and accepted into the organization.

To avoid the negative repercussions of lowered expectations, supervisors must receive training that focuses on the importance of holding employees performing the same role to the same performance standards. Essentially, the rules and policies guiding employee performance standards should be the same for every individual on a work team. There may be times when supervisors have to tailor their practices to better suit the needs of employees with DD, for example by communicating expectations more consistently, observing behaviors more frequently, and providing more hands-on support in general to help with task completion. However, many of these practices can also serve to help each employee on the work team, not just those with DD.

Organizations should also provide supervisors with guidance concerning what to do when employees with DD are not meeting performance expectations. Specifically, training should help supervisors know how to best leverage supports or the appropriate accommodations for employees with DD who are consistently struggling to meet expectations. For example, supervisors can assess whether an accommodation is needed, engage in retraining the employee in their essential job tasks, or look for opportunities for job rotation if the employee's skills and abilities would be better suited for another position within the organization.

There may be situations when all options for employee retention have been exhausted, and the employee would be better suited for another organization. Depending on how long the employee has been with the organization, the supervisor may have developed a strong relationship with them and is in the best position to support them through this process. However, supervisors currently lack knowledge regarding supporting employees with DD in the event of terminations (Heron & Bruk-Lee, 2021),

so training in this area is critical. Supervisors need to be made aware of the organizational practices for re-engaging external supports or know how to leverage internal hiring initiatives that may intervene to assist individuals with DD.

Avoid appraisal bias. Formal appraisals of employee performance are standard practice in many organizations and are often facilitated by the supervisor. Annual or biannual performance reviews serve to inform many management practices including the allocation of rewards or benefits (Cappelli & Conyon, 2018), and opportunities for training, promotions, and even terminations (Javidmehr & Ebrahimpour, 2015). For this reason, fair and equitable appraisal processes are essential in ensuring that all employees are given the same opportunity to succeed within an organization. However, research indicates that supervisors of employees with disabilities can be influenced by different biases, that either positively or negatively impact appraisals (Colella, DeNisi, & Varma, 1997). It is therefore critical that supervisory trainings cover the common types of bias that can influence employee appraisals and relay the importance of approaching formal appraisals in the same way for all employees.

Appraisals can be positively inflated by supervisor's need to protect employee emotions (i.e., the norm to be kind) or from their lowered expectations, both of which can limit the usefulness of constructive feedback, thus hindering employee progress. Types of bias which can have either a negative or a positive impact on appraisals include the quality of the supervisor-employee relationship (Duarte et al., 1994), halo bias (i.e., when a supervisor makes an overall judgement of the employee to rate performance; Bellé et al., 2017), and leniency or severity ratings (i.e., when supervisors rate everyone on a team the same way either highly or poorly; Marchegiani et al., 2013).

Provide meaningful feedback. Supervisors are responsible for providing constructive feedback to employees if they are not performing tasks correctly, or if they are performing below the expected standards. However, supervisors currently lack the knowledge of how to provide timely and effective feedback for employees with DD (Heron & Bruk-Lee, 2021). Trainings should therefore instruct supervisors in how to provide meaningful feedback for employees with DD. For example, the frequency and timing of feedback are characteristics that impact its usefulness (Wille & Sajous-Brady, 2018), and would be particularly salient features of feedback given to employees with DD.

Trainings should also instruct supervisors in communicating feedback both verbally and visually. For example, some employees with DD prefer to receive hands-on feedback where the supervisor models the correct behavior (Müller et al., 2003), rather than just receiving a verbal description of the change that needs to be made. Employees with DD may also benefit from receiving repetitive feedback to ensure that the information is retained, and they can more effectively make the changes needed to maintain performance (Jarrold & Brock, 2011). Finally, training should also provide supervisors with the tools needed to reinforce correct behaviors and provide positive feedback when expectations are met (Evans & Dobrosielska, 2019). This is important as praise from a supervisor significantly predicts task performance (Evans & Dobrosielska, 2019), and is effective at increasing employee motivation (Dewhurst et al., 2009).

Training Component Six: Increase Opportunities for Growth

The sixth and final component of this framework involves training supervisors' on how to increase opportunities for growth. In today's global economy, careers are defined

by high mobility and reduced job security, which means that employees are constantly having to adapt to new work environments and learn new skills to stay marketable (Santilli et al., 2014). Essentially, there is no longer the expectation that if employees work hard, they will be rewarded with stability and a long-term employment contract (Cascio & Aguinis, 2018). This change represents a significant challenge for individuals with DD, who face many existing barriers limiting their opportunities for training and career progression (Crawford, 2011). Despite this, individuals with DD have a strong desire to learn new skills and progress in their careers just like any other employee (Miller et al., 2008). However, supervisors currently lack the skills and knowledge needed to help employees with DD grow in their careers (Heron & Bruk-Lee, 2021). Hence, to increase opportunities for growth for employees with DD, organizations should train supervisors on how to use career planning tools and implement growth strategies.

Use career planning tools. Organizational trainings should prepare supervisors to increase opportunities for growth by leveraging existing models of career development for people with disabilities. Specifically, supervisors should learn about the self-determined career development model, which has been effective in helping people with DD achieve work-related goals (Devlin, 2008). This model involves developing a plan for growth in three phases, by creating a career-related goal, taking action towards goals, and making an assessment of progress. Training should guide supervisors in how to implement each phase. For example, in phase one, supervisors can ask employees with DD to identify their strengths to help them create a self-directed goal for what they want to learn within the organization in the future. In phase two, supervisors can ask employees with DD which actions they need to take in order to reach their goals, and to

identify any potential barriers that could hinder their progress. Finally, in phase three, supervisors can ask employees with DD to recap the actions they have undertaken towards their goals, whether they were able to overcome any barriers, and whether or not they have achieved what they wanted to. Ultimately, supervisors should be made aware of the benefits of encouraging employees with DD to create their own career plan, as doing so will give them a sense of empowerment and help them to become self-advocates in regard to their own growth.

Implement growth strategies. To help employees with DD achieve career-related goals, training should provide supervisors with growth strategies they can implement. For example, growth strategies that supervisors use to help employees with DD grow and develop include job rotation, job crafting, and mentoring. Job rotation is a form of lateral movement in which employees experience a variety of positions and tasks, which exposes employees to more experiences, helps them identify which positions suit them best, and increases motivation through learning new skills (Eriksson & Ortega, 2006). Job rotation has specifically been found to help employees with disabilities develop both leadership and problem-solving skills ("Best Practices", 2005).

Alternatively, job crafting is often initiated by an employee (rather than their supervisor or the organization) and involves the customization of their role to better suit their strengths, essentially making the role more meaningful (Berg et al., 2013; Wrzesniewski & Dutton, 2001). For this reason, job crafting can improve employee job satisfaction and engagement (Berg et al., 2008). However, research indicates that individuals with disabilities (physical and cognitive) engage in fewer crafting behaviors, as they are less likely to give preference to specific tasks aligning with their strengths or

interests, take on additional tasks, or change the scope of tasks they complete, compared to employees without disabilities (Brucker & Sundar, 2020). As such, there is a need for training that instructs supervisors in ways to promote crafting behaviors for employees with DD, by encouraging them to get more involved in the organization, taking on more responsibilities within the work team, and leveraging their strengths in how they approach their tasks. Making these small changes can go a long way to increasing employee feelings of ownership and meaning over their role.

Finally, organizations would benefit from providing supervisors with the guidance needed to build positive mentoring habits to promote growth in employees with DD. Supervisors often act as an "informal" mentor, as they are responsible for providing general support to employees from the outset of employment. Mentors can promote growth in mentees by acting as a role model, providing career-related guidance, and giving employees specific assignments geared towards their own development (see Ragins & Verbos, 2007). In addition to discussing how supervisors can mentor employees with DD, trainings should also relay the benefits of mentoring. For example, research demonstrates that mentoring is mutually beneficial, as mentees see increased organizational commitment and job and career satisfaction, and reduced turnover (Allen et al., 2004), and mentors see increased job satisfaction, career success, and organizational commitment (Ghosh & Reio, 2013). Ultimately, supervisors should be aware that mentoring is a practice that is always available and does not have to be expensive or involve a great deal of organizational resources or time.

Part Two Discussion

The proposed evidence-based leadership training framework consists of six training components that cover multiple areas identified previously as supervisor training needs (Heron & Bruk-Lee, 2021). The six training components in the proposed framework serve to complement current supervisor trainings that are typically geared towards disability awareness topics. Adopting this framework will enable organizations to create training programs that will empower supervisors to more effectively build a foundation for healthy work, create an inclusive team climate, manage workplace stressors, promote transfer of training, facilitate employee performance, and increase opportunities for growth. By better preparing supervisors to manage employees with DD across these areas of supervisor duties, this framework will facilitate successful supervisor-employee relationships resulting in more positive outcomes for both supervisors and employees with DD.

General Discussion

Individuals with DD represent an untapped pool of talent that can contribute meaningfully to the workforce. However, in comparison to the abundance of research examining the reasons for underemployment in this population (Houtenville & Kalargyrou, 2012; Lengnick-Hall et al., 2008; Meltzer et al., 2020; Scott et al., 2017), less attention has been paid to implementing the necessary supportive practices to facilitate a positive and empowering work environment for these employees. The present study contributes to this effort by proposing a leadership training framework that will inform management practices to increase supervisor capacity to manage and support employees with DD. The framework was developed following a comprehensive analysis

of supervisor training needs (Heron & Bruk-Lee, 2021) and a qualitative examination of current supervisory training practices.

Part one of this study increases our understanding of the current landscape of supervisor trainings. This analysis was needed to fully understand where the current training needs are, and to ensure that the proposed framework extends beyond what is already being done. Findings demonstrated that the majority of trainings are outsourced, and it often falls on the job coach to fill in supervisor skill and knowledge gaps related to the management of employees with DD. Specifically, job coaches commonly provide instruction to supervisors related to disability awareness topics (e.g., disability etiquette, employment laws, and accommodations), communication, and teaching routine tasks, which speaks to their strengths and area of expertise. It is critically important that supervisors continue to receive training in these areas. However, there is a clear need for organizations to support this effort by providing supervisors with training across different supervisor duties relating to onboarding, socialization, training, performance management, and career development. Doing so will facilitate more holistic and tailored support to individuals with DD.

To address existing gaps in both research and practice, part two of this study proposed a novel leadership training framework for supervisors of employees with DD, consisting of six training components. This framework is the first to provide organizations with a guide for training that focuses on helping supervisors more effectively integrate, train, manage, and develop employees with DD. Specifically, each component provides employers with practical recommendations and suggestions for developing trainings that address existing skill and knowledge gaps (Heron & Bruk-Lee,

2021). How organizations choose to implement this framework will depend on several conditions of the workplace. For example, employers should consider the number of supervisors in need of training, how many employees with DD they manage, what existing supports are in place for both the supervisor and employees with DD, and the extent to which the organizational culture already promotes a healthy work environment. All of these factors can influence how employers choose to execute supervisory trainings. As such, trainings that are based off the proposed framework could vary significantly both in terms of the modality or format, and how in-depth material is covered.

Altogether, the six training components presented in this leadership training framework contain concepts related to supervisor duties that are integral to the successful management and support of employees with DD. However, this effort does not undermine the importance of teaching disability awareness topics. Rather, it points out that efforts and resources should be put into training supervisors of employees with DD in other critical areas, as well. Similarly, this work is not a replacement of supported employment, but a demonstration of the need for organizations to facilitate stronger collaborations to build a network of support around employees with DD. Currently, supported employment agencies bear much of the responsibility in providing assistance to both employees with DD and their supervisors. However, with the recent neurodiversity movement (Austin & Pisano, 2017), more emphasis is being put on hiring organizations to step up and ensure that partnerships are successful. The present study contributes to this effort by helping organizations develop the infrastructure needed to ensure the long-term support of employees with DD.

Theoretical and Practical Implications

By providing a substantial contribution to the limited body of research exploring the needs of supervisors of employees with DD, this two-part study carries significant implications for both research and practice. Part one investigated current training practices and confirmed the need for internal training efforts that span beyond disability awareness topics. Not only do these findings increase our understanding of the training landscape for supervisors of employees with DD, but they also demonstrate the reliance that hiring organizations currently have on assistance provided by supported employment. Research and organizational efforts aimed at developing the internal infrastructure to better support employees with DD, should therefore consider how to maximize the effectiveness of this relationship to promote positive, long-term employment outcomes for employees with DD.

Part two of this study proposed a novel framework consisting of six training components that are integral to the successful management and support of employees with DD. Organizations can use the framework to develop supervisor trainings targeting key skill and knowledge areas to complement what is currently being provided by supported employment. The development of internal trainings that address existing supervisor needs will increase their capacity to manage and support employees with DD, resulting in more successful employment experiences for both the employee and the supervisor. The proposed framework therefore serves to improve employer disability confidence by eliminating common barriers to employment (see Houtenville & Kalargyrou, 2012), which will promote the continued hiring and inclusion of individuals with DD in the future (Morgan & Alexander, 2005).

The leadership training framework will also help to improve collaborations between hiring organizations and supported employment. Without this collaboration, partnerships depend solely on outsourcing and much of the responsibility falls on supported employment to ensure individuals with DD have a successful employment experience. There is a clear need for organizations to recognize their part in this effort (Gurchiek, 2019). Ultimately, facilitating stronger collaborations will help to create a more holistic network of support around individuals with DD, including stakeholders from both supported employment and within the hiring organization.

A final practical implication of this research involves the usefulness of the framework across different contexts. Specifically, the training needs used to inform the framework were identified using data from participants who reported working across a range of industries, including (but not limited to) education, service, healthcare, and manufacturing, and with individuals with all types of DD. Further, by using best practices from I-O psychology, many of the concepts shared in this framework are applicable to any supervisor managing a diverse team. Hence, by building a foundation for healthy work, creating an inclusive team climate, managing workplace stress, promoting transfer of training, facilitating employee performance, and increasing opportunities for growth, supervisors can create an environment that promotes successful outcomes for *all* employees on their work team.

Ultimately, as the first study to develop a comprehensive framework of training needs for supervisors of employees with DD, these implications demonstrate the importance of producing evidence-based actionable solutions that can be adopted by organizations to improve the employment outlook for individuals with DD.

Limitations and Future Directions

Future research should look to address some study limitations. First, data collection for part one of this study occurred during the COVID-19 pandemic, and it is possible that recruitment was impacted. For example, the sample may reflect more established organizations who were able to remain open, and may be less representative of the range of organizations employing or working with individuals with DD. Second, part one involved an open-ended survey question, which typically take more time and effort to answer, compared to quantitative items. As a result, participant answers differed in terms of detail and scope. Therefore, while the use of a qualitative survey question in part one of this study was useful in gathering data from a large sample size, the method of data collection may have limited the depth of data that would normally be gained in other qualitative methods.

This study raises many potential areas for future research. For example, to further explore current training practices, future research can adopt more interactive methods such as interviews or focus groups. Future research should also look to further investigate the role of the job coach. Preliminary evidence from part one of this study points to the heavy reliance of supervisors on receiving support and guidance from job coaches, specifically to fill in skill and knowledge gaps related to the management of employees with DD. More research is needed to further understand the scope of training provided by job coaches. Having a better understanding of the differences in support provided by external service providers, in general, could also be valuable in identifying strategies or techniques that can be more widely applied to the management of employees with DD.

The proposed leadership training framework provides a starting point for future research to investigate ways in which organizations can more effectively support employees with DD and their supervisors. Future research should be conducted to examine the framework's effectiveness at informing management practices to increase supervisor capacity to support and manage employees with DD. As such, thorough evaluations of training programs that utilize the concepts presented in the framework are needed. This can involve examining skill and knowledge acquisition (from before and after training) and supervisor reactions to training topics. Other potential outcomes of this framework should also be explored, including the extent to which more holistic supervisor trainings improve employer disability confidence, supervisor and employee relationships and job satisfaction, and other long-term employment outcomes for employees with DD.

As discussed previously, there could be significant variability in how organizations choose to adopt this framework to develop their internal supervisory trainings. It is also possible that different conditions of the workplace could influence which training components are most salient to employers. The variety in possible uses of this framework across different organizations therefore presents many areas for future research to explore. Future research could investigate the effectiveness of the framework at informing supervisory trainings that leverage different formats and modalities, and that cover the content in different depths. Further, employers may look to expand on the concepts in this framework by adding material that is specific to their organization. This is another area that researchers should explore, as there may be other topics that were not covered in this framework that could be beneficial for supervisors of employees with DD.

Conclusion

The disproportionately low employment rate experienced by individuals with DD limits their independence, financial stability, and ability to become a fully engaged member of their community. To prevent the continued marginalization of this population, organizations must develop the internal infrastructure needed to successfully support and integrate individuals with DD into the workforce. The present study makes a significant contribution to this effort by proposing a novel leadership training framework that builds on current supervisor trainings and addresses the existing skill and knowledge gaps of supervisors of employees with DD. The six training components of the proposed framework serve to guide internal organizational practices that complement the assistance provided by supported employment. By providing employers with recommendations for training across different supervisor duties, the proposed leadership training framework will increase supervisor capacity to support and manage employees with DD. In doing so, this research effort will help to eradicate existing barriers to employment and promote long-term employment outcomes for individuals with DD.

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IV. CONCLUSIONS

The final chapter of the present collected papers dissertation consists of four sections. The first section includes an overview of the aims of this collected papers dissertation and a summary of the key findings and contributions. In the second section, the overall implications of this collected papers dissertation for both research and practice are discussed, and the third section presents directions for future research. Finally, this collected papers dissertation ends with concluding remarks.

Collected Papers Dissertation Aims and Findings

The overall aim of the present collected papers dissertation was to provide evidence-based research that informs the development of supportive workplace practices to improve employment outcomes specifically for people with DD. The overall aim was achieved through two studies, involving a comprehensive training needs analysis to identify skill and knowledge gaps of supervisors of employees with DD (Study One), a qualitative investigation of current supervisor trainings (Part One of Study Two), and finally, the development of a leadership training framework that will increase supervisor capacity to manage and support employees with DD (Part Two of Study Two).

Specifically, Study One aimed to 1) identify the training need areas of supervisors of employees with DD informed by multiple stakeholders representing both supported employment and hiring organizations, and 2) prioritize skill and knowledge areas to display the most *critical* training needs in an effort to provide more targeted recommendations to employers. The first aim was achieved by comparing participant ratings of importance and performance/knowledge on 48 task and 31 knowledge statements that reflect key supervisor duties. Across all four groups, all statements (both

task and knowledge) were considered at least moderately important to the supervisor's role in managing and supporting employees with DD. Further, all knowledge statements were identified as training needs, meaning that there was a significant difference between importance and knowledge ratings. For workplace supervisors, job coaches, and service provider employees, the majority of task statements were identified as training needs, and just over half (25) of the task statements were identified as training needs from the perspective of non-supervisors.

Study One also involved the prioritization of training needs based on reported criticality of task and knowledge statements (aim two). The workplace supervisor and non-supervisor groups only identified three and five knowledge statements, respectively, as *critical*. However, when these groups were split based on those who did not (or did not know whether they did) have a partnership with supported employment, the number of task and knowledge statements identified as *critical* increased. This is expected, as supervisors who are not working with supported employment partnerships may have less access to the resources, tools, and strategies needed to effectively manage employees with DD. Job coaches and service provider employees identified eight and 12 task, and 12 and 26 knowledge statements, respectively, as *critical* training needs.

Statements relating to all areas of supervisor duties were identified as *critical* by at least two groups. Three groups identified statements relating to training and goal setting as *critical*, and all four groups identified statements relating to feedback and evaluation and career development as *critical*. Finally, knowledge statements related to disability awareness were only identified as *critical* by job coach and service provider employee groups. Overall, findings from Study One provided evidence for supervisor

skill and knowledge gaps across supervisor duties related to onboarding, socialization, training, feedback and evaluation, health and wellbeing, goal setting, general management, job accommodations, and career development.

Building on Study One, Part One of Study Two involved a qualitative investigation of the current training practices offered to supervisors of employees with DD. Specifically, this study investigated the following two research questions: 1) What training is offered to supervisors of employees with DD internally and from supported employment? and 2) What are the components of training that supervisors of employees with DD receive? Four themes were generated from the RTA that provided insight into the types of training supervisors are currently receiving (including the modality, frequency, and common topics covered), and whether training efforts are largely internal or outsourced. It was clear that supervisors of employees with DD rarely receive internal training from their hiring organization (theme one). Instead, much of the responsibility falls on supported employment, and the job coach, to fill in supervisor skill and knowledge gaps (theme two). Another key finding was the variety of training modalities, including in-person or online training, that are offered to supervisors of employees with DD at different times throughout the year (theme three). Finally, when supervisors do receive training, topics are generally limited to disability awareness (e.g., ADA guidelines), communication skills, and how to teach routine tasks. Altogether, findings from Study One and Part One of Study Two demonstrated that supervisors of employees with DD are in need of holistic training that targets specific areas of supervisor duties to compliment the training currently provided by supported employment.

To address gaps in both research and practice, Part Two of Study Two proposed an evidence-based leadership training framework for supervisors of employees with DD. The purpose of this framework was to inform the development of training programs that will increase supervisor capacity to manage and support employees with DD. The framework consists of six training components that will empower supervisors to build a foundation for healthy work, create an inclusive team climate, manage workplace stress, promote transfer of training, facilitate employee performance, and increase opportunities for growth. Each component provides employers with recommendations and best practices that address the skill and knowledge gaps identified in Study One, and complement the current training provided to supervisors by supported employment.

The first training component involves training supervisors on how to build a foundation for healthy work. This component represents a starting point for the framework, as building a healthy work culture is key to successfully integrating, training, managing, and developing employees with DD (covered in subsequent training areas). Specifically, organizations are encouraged to leverage the American Psychological Association's five pillars of a healthy workplace to guide supervisors in promoting practices that will foster happier and healthier employees. The second component provides recommendations for training that will help supervisors create an inclusive team climate. For example, supervisory trainings should prepare supervisors to set a standard for inclusion by establishing rules for their team to follow and promoting inclusive workplace practices such as peer mentoring. The third component involves training supervisors on how to manage workplace stress, by instructing supervisors to identify common stressors for employees with DD, use stress reduction strategies, and leverage

job accommodations. The fourth component presents suggestions for providing supervisors with the tools and strategies needed to promote transfer of training. Specifically, this component demonstrates the need for training that prepares supervisors to consider the training environment, choose a method for learning, and set goals to maximize learning outcomes for employees with DD. The fifth component involves training supervisors on how to facilitate employee performance, by setting clear expectations, avoiding appraisal bias, and providing meaningful feedback to employees with DD. Finally, the sixth component of the proposed framework provides recommendations for training to help supervisors increase opportunities for growth. For example, training should prepare supervisors to use career planning tools and implement growth strategies such as job rotation, crafting, and mentoring.

Overall, the two studies in the present collected papers dissertation provide a significant contribution to disability-employment research and practice, and accomplish the overarching aim of informing management practices to improve employment outcomes for people with DD. Both studies demonstrate the need for organizations to improve their internal efforts to better support employees with DD, and the proposed framework provides organizations with a guide to develop training programs that will increase supervisor capacity to manage and support employees with DD.

Overall Collected Papers Dissertation Implications

The present collected papers dissertation offers several prominent implications for both researchers and employers looking to or currently employing individuals with DD. First, this dissertation addresses not only a significant gap in the disability-employment literature, but also an expressed need for more holistic supervisor training (Gurchiek,

2019) by proposing an evidence-based framework. The leadership training framework provides organizations with targeted recommendations to develop trainings that address existing skill and knowledge gaps of supervisors of employees with DD. In doing so, the present collected papers dissertation will help organizations empower supervisors with the tools, strategies, and resources needed to successfully manage and support employees with DD.

Holistic training will alleviate supervisor concerns related to working with individuals with DD (AskEARN, 2015), facilitating increased performance and wellbeing outcomes for both the supervisor and the employee. A more positive employment experience for both parties will improve employer disability confidence (Lindsay & Cancelliere, 2018) and promote the long-term inclusion of employees with DD in the workplace (Morgan & Alexander, 2005). By increasing organizational readiness to embrace the inclusion of this population, this collected papers dissertation helps to eradicate barriers to employment that contribute to the consistent and disparagingly low employment rate for individuals with DD (*National Core Indicators*, 2019).

Another important implication of the proposed framework involves its use across different contexts. For example, the data collection efforts in Study One involved participants who reported working with individuals with all types of DD and across a range of industries. Hence, the framework can be adopted by any organization that is looking to or currently employs individuals with all DD diagnoses. Furthermore, although this framework provides specific recommendations based off the identified training needs of supervisors of employees with DD, it was also developed using best practices from I-O psychology. As such, many of the concepts discussed in each of the

six training areas of the framework will provide any supervisor with the skills and knowledge needed to successfully manage a diverse team. For example, the foundational component of the leadership training framework involves training supervisors on how to build a healthy work culture by leveraging the five APA pillars of healthy work. Having a supervisor who understands the importance of work-life balance, health and safety and promoting employee involvement, growth and development, and employee recognition, will benefit *all* members of a work team.

Furthermore, the second framework component provides recommendations for training supervisors on how to create an inclusive team climate. Supervisors can do this by setting a standard for inclusion and promoting inclusive workplace practices such as peer mentoring. It is critically important that all supervisors embrace the need for creating inclusive team climates, as coworker and team member attitudes can significantly impact the work experience of employees with disabilities (Kulkarni & Lengnick-Hall, 2011; Meacham et al., 2017). This is especially important for employees with DD, given that team members may be more readily available than the supervisor to provide support. Ultimately, promoting inclusive practices will increase team cohesion and collaboration, which will positively impact outcomes for each member of the team. Hence, using the present framework to train supervisors in skills and knowledge to more effectively manage employees with DD, will have positive downstream effects on their entire work team, and subsequently, the organization.

In addition to informing the development of training programs, this dissertation also increases our understanding of the role of the supervisor. In Study One, task and knowledge statements across ten different areas of supervisor duties were identified as

important to the supervisor's role in managing and supporting employees with DD by all stakeholder groups (workplace supervisors, non-supervisors, job coaches, and service provider employees). As such, the list of 79 task and knowledge statements generated in Study One can be used to define a job profile for supervisors of employees with DD. A job profile will allow organizations to develop more accurate job descriptions, which can inform the hiring of supervisors who would likely do well in inclusive programs. Organizations can also leverage the task and knowledge areas to more holistically evaluate supervisor performance.

Finally, an integral part of this research involved collecting data from four groups representing both hiring organizations and supported employment. This was done to ensure that the development of the framework was fully informed by the different stakeholders involved in the employment of individuals with DD. As such, findings from the present collected papers dissertation carry important implications for the relationship between supported employment and hiring organizations. For example, it was clear from Part One of Study Two that there is a need for organizations to build stronger partnerships by developing their own internal infrastructure to better support employees with DD. Currently, supported employment bears much of the responsibility in readying the supervisor for managing employees with DD. However, the findings from this dissertation call for organizations to step up and collaborate in this effort by providing internal training that empowers and supports supervisors in effectively performing all of their managerial duties.

Further, training supervisors in strategies to effectively manage employees with DD may also alleviate some of the responsibility of the job coach to train the supervisor

in addition to their client with DD. This implication does not negate the importance of the job coach in guiding the supervisor, but it may help to ease the employees' transition into the workforce and potentially lessen the time needed for the job coach to provide more hands-on support for both the employee and the supervisor. Ultimately, by internally training supervisors, organizations will create a stronger network of support around employees with DD that will increase job fit and improve long-term employment outcomes.

Directions for Future Research

By providing a much-needed novel contribution to disability-employment literature, this collected papers dissertation paves the way for future research to more thoroughly investigate how organizations can create meaningful work environments that will aid the development and retention of individuals with DD. First, future research should examine the effectiveness of the proposed leadership training framework in guiding the development of training programs for supervisors of employees with DD. Specifically, training programs that adopt the concepts in the framework should be thoroughly evaluated to examine its effectiveness in addressing supervisor skill and knowledge gaps identified in Study One. Further, there is a need for longitudinal research to investigate the long-term outcomes of such training programs, particularly in regard to the performance, wellbeing, and retention of employees with DD. Other potential outcomes of interest include whether supervisor readiness, employer disability confidence, and employer intent to hire increase as a result of improving supervisor capacity to manage and support employees with DD.

As mentioned in the general discussion of Study Two, there will likely be great variety in regard to how organizations choose to implement the recommendations presented in the proposed framework. For example, employers should consider the number of supervisors in need of training, how many employees with DD they manage, what existing supports are in place for both the supervisor and employees with DD, and the extent to which the organizational culture already promotes a healthy work environment. These conditions may influence how salient certain recommendations are across different employers and organizations, which will result in many different applications of the framework. For example, organizations with strong inclusive cultures may choose to adopt parts of the framework that relate more to specific supervisory duties such as training, performance management, and career development, rather than focusing on training supervisors on how to promote healthy workplace cultures and inclusive team climates.

Additionally, supervisor trainings can be conducted in several formats (e.g., in-person or online programs), and materials can be presented in many ways (e.g., through visual presentations of content, videos, verbally, using behavior modeling, etc.). Each different training modality could influence the extent to which supervisors learn and understand key concepts, which will subsequently impact training program outcomes (i.e., supervisor capacity to support and manage employees with DD). As such, future research should explore 1) the use of the framework in guiding the development of trainings that leverage a variety of modalities, and 2) how different formats influence supervisor reactions to training content and long-term training outcomes.

Future research should also explore other organizational interventions that will further facilitate the full inclusion of people with DD. For example, while the present collected papers dissertation focused on the need to better prepare the immediate supervisor, there is still a need for research to examine the types of training that effectively prepare other internal stakeholders (e.g., team members, other coworkers, human resource managers, etc.) for supporting employees with DD in the workplace. The framework presented in Study Two represents a promising starting point for this effort, as many of the concepts discussed in each training area may be beneficial for team members or other individuals at different levels within the hiring organization (e.g., human resource managers). As such, future research should look to build on the findings from the present collected papers dissertation, by examining the skill and knowledge gaps of other individuals within hiring organizations who play a role in the employment experiences of people with DD. Such efforts are critically important, as increasing awareness across all individuals within an organization will help to build a stronger network of support around employees with DD.

In addition to exploring ways to increase organizational readiness at the individual level, there is a need for research to examine other initiatives that can also improve employment outcomes for people with DD. Two specific areas in need of future research are recruitment and selection (Marcy & Bayati, 2020), as individuals with disabilities are often marginalized from traditional hiring systems which limits their opportunities for employment (Burke et al., 2013). Prior research demonstrates that organizations lack the strategies needed to recruit people with disabilities and the training needed to effectively interview them (Nishii & Bruyere, 2014). For this reason,

individuals with DD often depend solely on assistance from supported employment to find work. Hence, future research needs to explore other viable recruitment options for organizations to hire individuals with DD. For example, since the introduction of federal legislation such as the Higher Education Opportunity Act (HEOA, 2008), a greater number of young adults with ID and other types of DD are attending college through inclusive postsecondary education (IPSE) programs. IPSE programs provide young adults with the opportunity to experience a college program aimed at improving their academic and independent living skills with the ultimate goal of preparing them for integrated employment when they graduate (Becht et al., 2020). With the increasing number of IPSE programs around the country (Think College, 2020), there is a need for research to examine ways in which organizations and IPSE programs can work together to create pipelines for employment.

Other promising practices for improving the recruitment of individuals with DD include the need for organizations to build stronger partnerships with government agencies (e.g., Vocational Rehabilitation) and other community organizations that support individuals with DD in finding jobs, improve the inclusivity of their marketing strategies (e.g., by making their values and mission related to diversity and inclusion more visible and communications more accessible), and increase their presence at community or school job fairs and networking events (AskEARN, 2015). Future research should build on these promising practices by investigating other potential recruitment strategies for increasing the inclusion of people with DD in the workplace.

With the recent neurodiversity movement (Austin & Pisano, 2017), some organizations have created specialized selection systems specific to hiring autistic

individuals. For example, Microsoft developed a neurodiversity hiring program that focuses on allowing autistic applicants to showcase their strengths via skill assessments (Microsoft Neurodiversity Hiring Program, n.d.). In response to this movement, it is encouraging to see more research being conducted that investigates ways in which organizations can make the workplace a more inclusive place for autistic individuals (see Black et al., 2020; Tomczak, 2020; Waisman-Nitzan et al., 2019, 2020). However, it is vitally important that research continues to focus on increasing opportunities for individuals with *all* types of DD. Ultimately, there is a need for research to establish the most effective selection assessments for this population, both in terms of predicting future performance and facilitating positive applicant reactions. This research is important in helping organizations create more inclusive and accessible selection processes, and possibly open the door for increased mainstream hiring of individuals with all types of DD.

The present collected papers dissertation also brings to light the need for research to thoroughly explore the relationship between supported employment and hiring organizations. As mentioned in both collected papers, the job coach plays an integral role in both the pre-employment phase and in providing initial on-the-job support for employees with DD. However, research needs to be conducted that further examines the role of the job coach in providing support and guidance to the supervisor and to the hiring organization. One of the practical implications discussed previously was the importance of the hiring organization working in collaboration with supported employment. However, based on the small body of literature that currently exists, it seems that assistance from supported employment varies significantly across service providers

(Wehman, Revell, & Brooke, 2003). The present collected papers dissertation provides further evidence for the variety in assistance provided, as participants in the Study One TNA survey reported variability in regard to the length of time job coaches remained in their supportive role of employees with DD. While Part One of Study Two provides some insight into the relationship between hiring organizations and supported employment, there is a need for research that holistically examines these partnerships across different organizations and support providers.

Finally, as a broad recommendation for disability-employment academics, future research should continue to take a positive approach in generating actionable solutions that help to eradicate existing barriers. As discussed in the introduction of this collected papers dissertation, much of the disability-employment research currently focuses on the barriers to employment. This research is important, as having an understanding of existing barriers is needed in order to identify ways to remove them. However, there is an urgent need for research that goes beyond identification and delivers actionable solutions to common barriers. This research is vital in helping practitioners readily implement change within their organizations in an effort to increase organizational readiness for the inclusion of people with DD.

Concluding Remarks

Everyone deserves to have the opportunity to work, live independently, provide for themselves, and contribute to their community. Until recently, individuals with disabilities were underrepresented in discussions of diversity at work, however, over the past few years more organizations are recognizing that they have a social responsibility to integrate people with all types of disabilities. This movement cannot just be a trend; it

must become a top organizational priority to ensure that individuals with DD, in particular, are afforded the same opportunities for meaningful, long-term employment as people without disabilities. For this to happen, organizations need to be proactive in developing the internal infrastructure needed to fully support employees with DD.

Given the urgent need for increased organizational readiness to hire and retain individuals with DD (Austin & Pisano, 2017; Gurchiek, 2019; Marcy & Bayati, 2020), the present collected papers dissertation makes an important and timely contribution to disability-employment research and practice. It is clear that supervisors are in need of holistic training to provide them with the skills and knowledge to effectively support individuals with DD across duties related to onboarding, socialization, training, performance management, and career development. The current research effort culminated in the development of an evidence-based leadership training framework that will provide supervisors with the tools and resources needed to effectively support and manage employees with DD.

Ultimately, evidence gained from the present collected papers dissertation will increase organizational readiness to integrate and retain individuals with DD. In doing so, this effort will help to improve the employment outlook for this population – an implication that is critical given the consistently low employment rates experienced by individuals with DD, and the severe impact of the COVID-19 pandemic on workers with disabilities. Moving forward, researchers and practitioners alike have a responsibility to continue to eradicate barriers, so that individuals with DD are given the same opportunities as people without disabilities to thrive in the workplace, contribute to their communities, build their social networks, and have the quality of life they deserve.

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APPENDICES

Appendix A

SURVEY DEVELOPMENT INTERVIEW SCRIPT – STUDY ONE

Interview Script

Welcome! Thank you for agreeing to participate in this interview. I am Laura, a graduate researcher in the IO psychology department here at FIU. I conduct research in Dr. Bruk-Lee's occupational health psychology lab, and I also work with FIU Embrace.

To give you some background about this study, FIU Embrace and the Occupational Health Psychology lab at FIU are conducting interviews to gather information to identify areas of supervisor training needs, specific supervisor tasks, and challenges commonly faced in the management and support of employees with developmental disabilities.

Before we begin, I want you to know that I will be recording this interview so that we can identify themes across participants.

For this study, the term "developmental disability" encompasses a wider range of disabilities, including physical, language, learning, or behavior impairment. Examples of developmental disability include intellectual disability, autism, Down syndrome, cerebral palsy, learning disorders, Tourette's, and more.

When answering the questions, can you speak specifically to developmental disabilities, or does your experience draw from a broader range of disabilities?

If you don't have any questions, we are going to start with some general questions, and then we will get to more specific supervisor task-related questions.

General Questions

1. Please could you state your full name and job title?
2. How many years have you worked in this role?
3. What does your role at Baptist entail?
4. Are you currently a direct supervisor of someone with a DD?
5. How long have you been supervising someone with DD at Baptist?
6. How many employees with DD do you work with?
    a. Are they involved in the Baptist internship program? Or are they full time employees?
7. How many employees at Baptist have disclosed a DD?
8. Does Baptist partner with a supported employment agency?
    a. Do you currently work with a job coach?
    b. How long were/are they in place?
9. Does each employee with DD work with their own supervisor, or do they work as

part of a team?
10. How did you become a supervisor of an employee with DD?
11. What does your current supervisor training entail?
12. Does Baptist provide a diversity and inclusion training program and are there components unique to developmental disabilities?
13. What are the main challenges that supervisors face when managing and supporting employees with developmental disabilities?
14. What would you say are the top 3-5 training areas [*concerns*] that supervisors most need when working with employees with developmental disabilities?

Thank you, that is the end of the general question segment. We will now get into more specific supervisor-task questions.

Supervisor Task-Specific Areas

The next set of questions are specific to various employment processes such as onboarding and socialization, training, performance management, and career development, and we are looking to see if these processes present specific training need areas for supervisors of employees with developmental disabilities.

Onboarding & Socialization

We will begin with onboarding and socialization, which refers to the process of integrating new employees into the organization. This generally involves helping employees adapt to their new position both socially and in terms of job tasks.

15. What activities does your organization do to onboard or socialize employees with developmental disabilities at the beginning of employment?
    a. What role do you play in this process?
16. Do you receive any training on how to effectively onboard and socialize employees with developmental disabilities?
    a. As part of this training, do you receive any training on how to build effective mentoring habits as they will often act as informal/formal mentors?

Thank you, we have reached the end of the questions for the onboarding and socialization section.

Training

The next section is training. Even with involvement from a job coach, supervisors are responsible for providing ongoing daily job instructions to employees with DD.

17. What challenges do you face when it comes to providing ongoing job instruction or training employees with developmental disabilities on new tasks or skills?

18. Do you receive training on effective methods of learning or how to create optimal training environments for employees with developmental disabilities? If not, would this be beneficial?

Thank you, we have reached the end of the questions for the training section.

Performance Management

The next section is performance management. This involves many components, including evaluations or appraisals, discipline, managing employee health and wellbeing, providing job accommodations, giving feedback, and goal setting.

19. What are the main challenges you face regarding performance evaluation and providing corrective feedback?
20. What type of training, if any, do you receive on how to evaluate performance or provide corrective feedback to employees with developmental disabilities?
21. What are the most common challenges you face in managing employee health and wellness and do you receive training to identify and manage specific stressors?
22. What type of training, if any, do you receive on modifying job tasks, providing accommodations, or setting appropriate goals for employees with developmental disabilities?
23. What type of training, if any, do you receive in a situation where employees with developmental disabilities are not a good match for the job?

Thank you, we have reached the end of the questions for the performance management section.

Career Development

The final section of questions concerns the provision of career development opportunities for employees with developmental disabilities.

If you are ready, we will begin these questions.

24. What are the most common challenges you face when helping employees with developmental disabilities with their career development and do you receive any training on how to provide opportunities for career development?

We have now finished with the questions on career development.

Extra if time permits:

- What are the most common types of supports in place for supervisors of employees with developmental disabilities?

    - Who provides these supports?
    - How long are these supports in place?
- What leadership behaviors have you found to be most effective for supervising people with DD?
- Do work teams typically include both neurotypical employees as well as employees with developmental disabilities?
    - If so, are supervisors given any training on how to integrate people or encourage collaboration with diverse work teams?

Thank you for answering all of our questions and participating in this interview. We will make sure that you receive an online gift-card within the next 24 hours.

Appendix B

LIST OF TASK AND KNOWLEDGE STATEMENTS USED IN THE TNA SURVEY – STUDY ONE

Statement numbers correspond to the numbers given to each statement in Study One tables and figures.

Number	Statement Group	Task Statements
1	Onboarding	Informing employees with DD about team climate, company mission, and values
2	Onboarding	Informing employees with DD about disability-related company policies and procedures
3	Onboarding	Helping employees with DD navigate their workspace physically
4	Onboarding	Informing employees with DD about available internal resources (e.g., employee resource groups, mentoring programs, etc.)
5	Onboarding	Collaborating with other departments to ensure a successful onboarding process
6	Socialization	Establishing a relationship with employees with DD at the start of employment
7	Socialization	Setting a standard for maintaining a positive and inclusive climate among team members
8	Socialization	Introducing employees with DD to coworkers/team members
9	Socialization	Providing others with tips to help them communicate with employees with DD
10	Socialization	Engaging in *informal* mentoring with employees with DD (e.g., providing extra guidance and support outside of job duties)
11	Socialization	Engaging in *formal* mentoring with employees with DD (e.g., mentoring as part of an official program like a buddy system)
12	Socialization	Integrating employees with DD into team practices (e.g., team meetings)
13	Socialization	Creating opportunities for coworkers to informally mentor employees with DD
14	Socialization	Managing diverse work teams comprised of both employees without disabilities and those with DD
15	Training	Creating opportunities for coworkers to act as supports for employees with DD during training
16	Training	Demonstrating the proper way to complete a task for employees with DD
17	Training	Adapting training materials to help employees with DD
18	Training	Using assistive technology (e.g., screen readers, voice recognition programs, etc. during training to aid employees with DD
19	Training	Gradually introducing tasks to ensure mastery
20	Training	Using different strategies to provide job instruction (e.g., modeling, using step-by-step lists, etc.)
21	Feedback and Evaluation	Using the same procedures to evaluate the performance of employees without disabilities and those with DD
22	Feedback and Evaluation	Giving corrective feedback effectively to help employees with DD complete their tasks
23	Feedback and Evaluation	Observing work regularly to ensure it meets standards
24	Feedback and Evaluation	Providing corrective feedback to address performance issues
25	Feedback and Evaluation	Recognizing and rewarding good work
26	Feedback and Evaluation	Preparing the team to help provide feedback to coach employees with DD
27	Feedback and Evaluation	Communicating expectations clearly to employees with DD

28	Health and Wellbeing	Ensuring the safety of workspaces for employees with DD
29	Health and Wellbeing	Identifying stressors (i.e., sensory overload) for employees with DD
30	Health and Wellbeing	Encouraging employees with DD to advocate for their health and wellbeing at work
31	General Management	Communicating with other stakeholders (e.g., team members, supported employment agency, job coach, etc.) to help with managing the performance of employees with DD
32	General Management	Managing disruptive work behaviors
33	General Management	Facilitating conflict resolution in situations involving employees with DD
34	General Management	Conducting regular meetings with employees with DD
35	General Management	Interacting and working effectively alongside employees with DD
36	General Management	Prompting employees with DD to complete tasks
37	General Management	Motivating employees with DD to perform their tasks
38	General Management	Assessing the strengths of employees with DD
39	Job Accommodations	Modifying work schedules for employees with DD
40	Job Accommodations	Designing work schedules with the needs of employees with DD in mind
41	Job Accommodations	Creating to-do-lists to help employees with DD accomplish daily tasks
42	Job Accommodations	Planning employee work schedules ahead of time for employees with DD
43	Goal Setting	Setting realistic goals based on the capabilities of employees with DD
44	Goal Setting	Providing continuous guidance to employees with DD towards the attainment of goals
45	Career Development	Creating job growth opportunities for employees with DD within the organization
46	Career Development	Customizing jobs for employees with DD to develop job-relevant skills
47	Career Development	Encouraging employees with DD to become more involved in the organization (e.g., join a fundraising team, etc.)
48	Career Development	Increasing the responsibility within the team for employees with DD (e.g., assigning extra tasks, giving opportunities to develop leadership, etc.)

Number	Statement Group	Knowledge Statements
1	Onboarding	Knowledge of tools or resources that make adapting to new work environments less challenging for employees with DD (i.e., having daily meetings with new employees, giving new employees a to-do-list, etc.)
2	Onboarding	Knowledge of strategies to make the orientation experience less overwhelming and more personalized to individuals with DD
3	Socialization	Knowledge of how to develop positive mentoring habits (e.g., establishing mutual trust and respect, engaging in active listening) with employees with DD
4	Socialization	Knowledge of strategies for integrating an employee with DD with coworkers/team members in their workspace
5	Socialization	Knowledge of managing negative attitudes among coworkers who are working alongside employees with DD
6	Socialization	Knowledge of strategies for communicating with employees with DD
7	Socialization	Knowledge of how to encourage collaboration between employees without disabilities and employees with DD
8	Training	Knowledge of different ways to present information to help employees with DD learn the job (e.g., video-based instruction, modeling, written instruction, or a combination of methods)

9	Training	Knowledge of how to maximize learning outcomes of on-the-job training for employees with DD (e.g., breaking a task down into smaller parts)
10	Training	Knowledge of how to make training effective for employees with DD (e.g., minimizing distractions)
11	Feedback and Evaluation	Knowledge of how to effectively conduct a performance evaluation for employees with DD
12	Feedback and Evaluation	Knowledge of common mistakes made in rating the performance of employees with DD
13	Feedback and Evaluation	Knowledge of the timing, type, and methods for giving feedback to employees with DD
14	Feedback and Evaluation	Knowledge of how to support employees with DD in the event of job termination (i.e., provide resources to help them find a new position)
15	Health and Wellbeing	Knowledge of strategies to manage stress for employees with DD
16	General Management	Knowledge of how to help employees with DD adapt to change affecting their work (e.g., new work schedules, new tasks, new coworkers, etc.)
17	General Management	Knowledge of effective strategies to motivate employees with DD
18	Job Accommodations	Knowledge of strategies for modifying job tasks/requirements to maximize performance for employees with DD
19	Job Accommodations	Knowledge of tools and accommodations to support performance and productivity (e.g., leveraging reminder lists/applications, adjustable workstations, using iconography, etc.)
20	Job Accommodations	Knowledge of how to make the workplace accessible with accommodations for employees with DD
21	Job Accommodations	Knowledge of effective strategies for conducting interviews for applicants with DD
22	Job Accommodations	Knowledge of job accommodations for people with DD
23	Job Accommodations	Knowledge of assistive technology commonly used by people with DD
24	Goal Setting	Knowledge of how to use self-directed goals for employees with DD
25	Goal Setting	Knowledge of how to set goals at appropriate times for employees with DD (e.g., setting several goals too early could be overwhelming)
26	Career Development	Knowledge of how to make career-related goals within the organization that are effective for employees with DD
27	Disability Awareness	Knowledge of Americans with Disabilities Act (ADA) regulations
28	Disability Awareness	Knowledge of disability etiquette (e.g., correct terminology, accessibility)
29	Disability Awareness	Knowledge of invisible disabilities
30	Disability Awareness	Knowledge of common misconceptions, stigmas, and stereotypes of people with DD
31	Disability Awareness	Knowledge of how to recognize your own biases or unconscious attitudes about a social group

VITA

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PUBLICATIONS AND PRESENTATIONS

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