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The Distinct Value of Occupational Therapy in Supported Employment of Adults with Intellectual Disabilities

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The Distinct Value of Occupational Therapy in Supported Employment of Adults with Intellectual Disabilities

Abstract

Background: Supported employment provides individuals with intellectual disabilities (ID) the support needed for community work. ID work is an integral occupation of adult life, facilitates social interaction, and fosters a sense of accomplishment and independence. The purpose of this study was to explore the unique contribution of occupational therapy to supported employment of adults with ID.

Methods: Case study methodology incorporating qualitative and quantitative data were used to examine two supported employees. Qualitative data were collected from interviews and administration of the Occupational Self-Assessment (OSA) and Work Environment Impact Scale (WEIS). The Assessment of Motor and Process Skills (AMPS) was used to measure change. The Occupational Therapy Intervention Process Model (OTIPM) was used.

Results: Both supported employees demonstrated improvements in work performance, as demonstrated by improved motor and process ability scores, after intervention. The job coaches at this supported employment agency felt OT could add value to their team.

Conclusion: The OTIPM was effectively used to address work performance of supported employees. The value of OT was seen in the adaptation of tasks and environments for enhanced work performance. OT's skill in observation and targeting intervention was the most significant contribution in this study.

Comments

The authors report no conflicts of interest to disclose.

Keywords

intellectual disability, supported employment, Occupational Therapy Intervention Process Model

Work is an integral occupation of adult life. In the simplest of terms, work is a productive means to provide financially for oneself and one's family. However, work is truly more than that. Work is a means for people to interact with other members of their communities, to feel accomplished and productive, and to contribute to society. This is especially true in the United States, where there is a great emphasis on independence (Snodgrass & Gupta, 2014). Furthermore, through work individuals earn the financial means for participation in chosen activities for quality of life, such as leisure and social occupations. Despite this, work continues to be an occupation that remains inaccessible to many people with disabilities, particularly those with intellectual disabilities (ID).

In the United States today, 44% of individuals with ID are considered a part of the labor force, which is defined as people who are employed, unemployed, or seeking employment. The employment rate of adults with ID is 34%, and 18% of individuals with ID are employed in integrated settings, which refers to settings where most employees do not have disabilities (Siperstein, Parker, & Drascher, 2013). Furthermore, only 10 states employ at least one-third of individuals with ID in competitive employment, and 13 states report successfully placing at least 60% of individuals with ID through vocational rehabilitation in jobs (Bragdon, 2014). If we are to have a society where people with disabilities are fully incorporated members of our communities, then adults with disabilities, including those with ID, must have the same opportunities to participate in employment and contribute to society in ways that are meaningful to them.

Employment First is a national movement to promote integrated employment as a priority for and preferred outcome of publicly funded services for adults with disabilities, regardless of their level of disability. This effort specifies that employment should pay at least minimum wage and be in integrated settings with co-workers without disabilities (Association of People Supporting Employment First, 2010). Several states in the US have adopted the Employment First movement. The Employment First Act was passed in Illinois in 2013 and requires state agencies to make competitive employment in integrated settings for people with disabilities in Illinois the first option. The law also requires the Employment and Economic Opportunity for Persons with Disabilities Task Force, created in 2009, to establish measurable goals and objectives and track progress (Illinois Government News Network, 2013). The Employment First Act is an opportunity to increase the number of adults with ID who work in integrated settings and to improve the quality of employment experiences for those who are currently employed. It is our proposition that occupational therapy can and should contribute to this endeavor.

In this study, we will explore the distinct value of occupational therapy in supported employment of adults with ID. We have chosen to focus on the distinct value of occupational therapy in supported employment for a few reasons. First, the literature demonstrates that supported employment is strongly correlated with increased skills, job satisfaction, and overall quality of life (Beyer, Brown, Akandi, & Rapley, 2010; Dague, 2012; Siporin & Lysack, 2004). Second, given that our society is moving toward inclusion of individuals with ID through inclusive school programs and initiatives like Employment First, we felt this was the most relevant area of employment on which to focus. Employment services for adults with ID are not a common practice area for occupational therapists; thus, the literature on this topic is limited.

The value of work as an occupation is well established in the occupational therapy profession. The *Occupational Therapy Practice Framework: Domain and Process* identifies work as one of the eight areas of occupation (American Occupational Therapy Association [AOTA], 2014). Work intersects with other areas of occupation as well. For example, in the occupation of social participation,

the workplace is a component of the community, and peers and friends may be a part of one's work environment (AOTA, 2014). Occupational therapy interventions to address challenges in work performance are complex because to be successful in the worker role, one must also be able to manage his or her activities of daily living (ADLs) and instrumental activities of daily living (IADLs) and have completed the necessary education and training required for one's work (Wysocki & Neulicht, 2004).

Occupational therapists have been addressing work since the conception of the profession. Eleanor Clark Slagle promoted the value of curative and leisure groups for people with mental illness and return-to-work programs for World War I soldiers. George Barton's Consolation House in New York, built in 1904, served as a community-based workshop for the ill and for people with disabilities. William Rush Dunton used workday planning with psychiatric patients to promote and maintain their work habits (Carrasco, Skees Hermes, & Burgos, 2012). Work remains an important occupation for occupational therapists to address with clients today.

Occupational therapists possess significant expertise, including the ability to identify matches and mismatches among the person, environment, and occupation; the knowledge of adaptive equipment and compensatory strategies; the understanding of ways in which habits, routines, and roles intersect with increased independence; and the use of assessments to evaluate occupational performance and competency in the worker role. This expertise has noteworthy potential to benefit supported employment teams, as the distinct value of occupational therapy is in facilitating participation and engagement in the meaningful and necessary roles and activities of everyday life. Supported employment of individuals with ID is an essential occupation that can benefit from occupational therapy.

Literature Review

Research has demonstrated that there are many benefits to employing adults with ID. Individuals with ID who are employed report higher quality of life and psychological well-being, engage in social interactions with nondisabled colleagues at work, and report higher levels of autonomy (Jahoda, Kemp, Banks, & Williams, 2008). The employment of adults with ID in integrated employment settings also correlates with increased adaptive skills, or the practical skills needed to care for oneself, interact with others, and function effectively in one's environment (Stephens, Collins, & Dodder, 2005). The literature also demonstrates supported employment strongly correlates with increased job satisfaction and overall quality of life (Beyer et al., 2010; Dague, 2012; Siporin & Lysack, 2004). Siporin and Lysack (2004) found that reasons for improved quality of life while working in supported employment included: more interesting and challenging work, increased freedom at work, and a more pleasant work environment. Dague (2012) identified that individuals with ID were more present in their communities when they were working in supported employment instead of in a sheltered workshop and that supported employment provided more opportunities for social participation with nondisabled peers and created a sense of belonging. This is significant, as adults with ID are a population that has historically been socially isolated and excluded.

The employment of individuals with ID is not a new issue in the United States. In the 1980s, many Mental Retardation and Developmental Disabilities (MR/DD) facilities serving this population began to provide employment assistance. In 1984, the Developmental Disability Act Amendment established employment services for adults with developmental disabilities (DD), many of whom also had ID, as a national priority (Braddock, Rizzolo, & Hemp, 2004). Since then, a dual system of sheltered and supported employment has existed in the United States. Sheltered employment includes

adult day care, work activities, and sheltered workshops (Rusch & Braddock, 2004). Supported employment provides an individual with a disability the support he or she needs to work in the community, including work in small business enterprises, on work crews, in industry enclaves, and through individual job placements (Braddock et al., 2004).

In recent years, there has been a shift toward supported employment services. One study found that 24% of people receiving employment services from an agency were working in supported employment in 2002, which was an improvement from the 9% in 1988. However, the other 76% of this population were still in day activity programs, day habilitation programs, or sheltered employment, demonstrating that despite the growth of supported employment that has occurred since the early 1980s, sheltered employment is still the most used option (Braddock et al., 2004).

Supported employment is an effective approach that empowers many adults with ID to perform in the worker role successfully. Supported employees, however, are faced with challenges. Issues found in the literature include: barriers to attaining employment associated with disability (Van Mechelen, Verhoef, Van Asbeck, & Post, 2008; Wang, Kapellusch, & Garg, 2014), problems associated with job separation (Banks, Jahoda, Dagnan, Kemp, & Williams, 2010; Lagomarcino & Rusch, 1990), and low rates of self-sufficiency in the worker role (Cimera, Rusch, & Heal, 1998). One study found that for adults with spina bifida, barriers to attaining employment included physical or mental demands, limited transportation, the inaccessibility of buildings, and the reluctance of employers to hire them (Van Mechelen et al., 2008). Barriers to employment are important considerations, as many adults with ID also face physical challenges. In a review of the literature on return-to-work after neurological injury, cognitive impairment after a stroke was found to be a negative predictor of whether a person would return to work (Wang et al., 2014).

Job separation, which includes being fired, laid off, or the expiration of a contract, has been found to impact supported employees negatively because many of them experience boredom and a decreased sense of self-efficacy because of job loss (Banks et al., 2010). The literature demonstrates that individuals with ID were more likely to separate from their jobs than those with other disabilities. For individuals with ID, the lack of job responsibility and social-vocational behavior were the reasons most reported for job separation (Lagomarcino & Rusch, 1990). There was also a significant relationship between job type and separation; specifically, janitors, maintenance personnel, and food service workers with mild ID were more likely to separate from these jobs than individuals with other disabilities (Lagomarcino & Rusch, 1990).

The literature demonstrates that occupational therapists can improve work performance by identifying the strengths and challenges of supported employees, assessing job responsibilities and work environment, and adapting the work environment and/or job responsibilities to ensure success of the supported employee in the worker role (Arikawa, Goto, & Mineno, 2013; Dean, Dunn, & Tomcheck, 2015). The use of self-determination principles to facilitate improved work performance by collaborating with the supported employees to solve problems and adapt the work environment is another way occupational therapists can add value to the supported employment team (Dean et al., 2015). Occupational therapists have a strong understanding of habits, routines, and roles to facilitate success in aspects of employment, such as job interviews, arriving to work on time, and dressing appropriately for work, which can facilitate improved work performance (Delahunt, Lowery, & Rudkoski, 2015). Finally, occupational therapists can add value by assisting with return-to-work after

injury or illness and adapting to this population's ever changing needs across the lifespan (AOTA, 2015).

One way occupational therapy can benefit supported employment teams is with the Occupational Therapy Intervention Process Model (OTIPM), a professional reasoning model to guide clinicians in providing occupation and client-centered evaluations and interventions (Fisher, 2009). Using this model, the occupational therapy process is broken down into three phases. The first phase is evaluation and goal setting. The occupational therapist develops a therapeutic rapport with the client, identifies client-reported strengths and areas of concern, observes and analyzes client performance, and identifies areas of ineffective performance. The therapist then identifies reasons for ineffective performance and sets client-centered goals (Fisher, 2009).

The second phase of the OTIPM is intervention. There are four approaches occupational therapists can use to address ineffective areas of performance: compensatory, education and teaching, acquisitional, and restorative. Using the compensatory approach, occupational therapists adapt tasks and the environment to compensate for ineffective performance skills. While using the education and teaching approach, occupational therapists provide education focused on occupational performance for the client with the purpose of improving performance. When occupational therapists use the acquisitional approach, they provide occupational skills training through practice. Using the restorative approach, occupational therapists provide intervention to target underlying body structures and functions (e.g., increasing grip strength) related to ineffective performance (Fisher, 2009). These approaches can be used independently or in combination to address performance deficits.

The third phase of the OTIPM is reevaluation, during which time the occupational therapist reevaluates a client's performance for improvements and increased satisfaction. If the performance deficits remain or new issues have arisen, then the process can reenter the evaluation phase (Fisher, 2009). This model is beneficial for therapists because it is performance focused, collaborative in nature, and provides several approaches for therapists to target a client's complex performance deficits. We think that this model can be useful for occupational therapists to address supported employment for adults with ID.

Based on the literature, we propose that occupational therapy may have a distinct value in the supported employment of adults with ID. Siporon and Lysack (2004) wrote, "as experts in occupational performance, occupational therapists can contribute to closing the gap between the impairments of individuals with developmental disabilities and the complex demands of supported employment and even the competitive workplace" (p. 463). Although supported employment is a good model, it is not without issues, and occupational therapists have a valuable skill set to contribute to supported employment teams. It is our proposition that the distinct value of occupational therapy in supported employment of adults with ID is increased participation by adults with ID in the workforce, higher rates of job retention, and increased self-sufficiency of supported employees in the worker role.

There is limited literature on occupational therapy and supported employment. Therefore, we sought to understand the perspectives of job coaches and supported employees regarding the challenges they face, the assessment of the work performance of supported employees, their perceptions of whether occupational therapy has a role in supported employment, and their recommendations about how to facilitate supported employees' performance in the worker role.

Method

Study Design

This research was carried out as a case study with embedded qualitative and quantitative data. This was deemed the most appropriate method considering the exploratory nature of this study. We obtained Institutional Review Board approval for all research materials and methods.

Study Participants

The participants in this study were two job coaches and two supported employees who were recruited from a community agency that provides supported employment services to adults with ID. We recruited the job coaches first, and we asked them to refer supported employees for whom there were concerns regarding work performance. Each participant gave informed consent. If a participant had a legal guardian, then the guardian granted informed consent.

Data Collection

Data collection methods for this study were designed to be as nonintrusive as possible to encourage a more authentic, naturalistic data collection process in the participants' work environments. The first researcher collected the data while the second researcher contributed to the analysis and interpretation phases of the study. The first researcher interviewed the two job coaches together about their specific roles and responsibilities and their concerns regarding the work performance of supported employees. The job coaches were also interviewed about the benefits of supported employment for adults with ID, the challenges of supported employment agencies found in the literature, and their perceptions of whether occupational therapy has a role in supported employment. This interview took place at the main office of the community agency and followed a semi-structured interview format. The interview prompts were created from extant and relevant literature on supported employment. The researcher took extensive notes during the interview. At the end of the interview, the researcher asked the job coaches to refer supported employees for whom there were concerns regarding work performance.

The job coaches referred two supported employees to the study. The interviews addressed the supported employees' occupational performance in daily life, including their work performance. These interviews took place at the main office of the community agency and followed a semi-structured interview process. The supported employees were interviewed about their perceptions of their own strengths and challenges when it comes to the worker role, their typical daily routine, and their experiences with challenges faced by supported employees' agencies as identified in the literature. As part of this interview process, the Occupational Self-Assessment (OSA) was also administered. The OSA is a formal tool that allows one to rate his or her performance in a variety of occupations as well as the perceived importance of these occupations (Baron, Kielhofner, Iyenger, Godhammer, & Wolenski, 2006). The OSA items were presented to each participant in print form as well as through the researcher's verbal queries. The researcher used visual symbols to ensure better understanding by the supported employees.

Next, workplace observations were used to assess the supported employees' work performance and environment. During these observations, the student researcher used (a) the Assessment of Motor and Process Skills (AMPS), an observational performance assessment to identify employees' strengths and areas of concern related to motor and process skills in task performances (Fisher & Jones, 2010), and (b) the Work Environment Impact Scale (WEIS), an assessment tool that identifies aspects of the

work environment that inhibit or facilitate work performance (Moore-Corner, Kielhofner, & Olson, 1998).

The data gathered from the interviews, the workplace observations, and the assessment tools were used to formulate recommendations to enhance work performance of the supported employees. These recommendations were written as formal reports and provided to the job coaches. In addition, the researcher had one session with each supported employee to practice using the recommendations and to educate them on more efficient and effective work performance. One week after the reports were delivered to the job coaches, the researcher reevaluated the work performance of supported employees' task performance using the AMPS as a posttest measure.

The above process of data collection, evaluation, intervention, and reevaluation was designed to follow the OTIPM. First, the researcher developed therapeutic rapport with the clients (job coaches and supported employees), identified client-reported strengths and areas of concern, observed and analyzed client performance, and identified areas of ineffective performance. With this information, we identified reasons for ineffective performance and set client-centered goals, specifically to improve the supported employees' work performance (see Table 1). The primary intervention approaches used were the compensatory and education/teaching approaches. Compensatory approaches are outlined below in the intervention section of each case. Education and teaching were provided to the supported employees and job coaches in a report format to promote carryover after the research project was completed. The acquisition approach was briefly used during training sessions but was limited by time constraints. The restorative approach was considered but was deemed not to be the most effective approach due to the limited time frame and the nature of the supported employees' disabilities. Finally, after intervention, the first researcher performed reevaluation to identify improvements in performance.

Data Analysis

Data analysis included the computation of gain scores from the pre and posttest AMPS ability measures, which are reported as logits (Fisher & Jones, 2010). Administration of the AMPS in the work context was performed to glean as much meaningful, objective data as possible. The researcher observed the supported employees' task performance and scored the motor and process skills according to the criteria in the AMPS manual and analyzed the pre and postscores using the OT Assessment Package (OTAP) software (Fisher & Jones, 2010). Both researchers are trained and calibrated in the AMPS. To use the tool most effectively, we examined the manual and specified the AMPS tasks that most closely met the criteria of the participants' work tasks. The participants' performances of their real-work tasks in the natural work context was prioritized because of the importance of context to functional performance of individuals with ID. Even though the AMPS IADL tasks were evaluated in a work context, and there were slight differences in the task objects used, the AMPS was deemed the best tool to evaluate the supported employees' work performance skills. Furthermore, the AMPS evaluates a person's occupational performance in daily activities rather than the underlying body functions and structures.

The first supported employee's work tasks were cleaning floors and collecting garbage. The AMPS tasks chosen that most closely represented his work tasks as performed in his natural environment were vacuuming, moving light furniture, and shopping. Vacuuming and moving light furniture were chosen rather than sweeping because he used a sweeper to clean the floor, which resembled a vacuum more than a brush and broom, and he had to move light furniture, such as chairs and garbage bins, to perform his cleaning. Shopping was chosen as a task that resembled the work task

of collecting garbage because of the demand of pushing a garbage cart and lifting items into the cart for transport. The second supported employee's work tasks were cleaning bathrooms and mopping floors. These were consistent with the AMPS tasks; however, standardization was not fully observed, as he was cleaning a public bathroom with stalls and mopping the floors in these bathrooms. On completion of the initial and reevaluations, the motor and process ratings for these tasks were entered into the OTAP software to obtain motor and process ability measures (Fisher & Jones, 2010). This was deemed the most effective method to generate pre and posttest work performance as quantifiable data to supplement the qualitative findings.

The purpose of the collected qualitative data was two-fold. Observational field notes as well as data gathered from the OSA and WEIS were collected to guide intervention strategies. The data from interviews with the job coaches and supported employees were collected to inform the researchers of the culture of this supported employment agency, the perceived benefits of supported employment by the participants, the challenges faced by the supported employment program, and the potential areas where occupational therapy could contribute. Thematic analysis was applied to the researcher's extensive notes and the data were coded for themes. These themes were then compared to those identified in the literature and used in the creation of interventions for the supported employees. Rigor was sought through constant comparison methods, frequent examination of the data, and efforts to examine patterns of data and identify potential themes (Hissong, Lape, & Bailey, 2015). Reliability was established through interrater efforts and extensive discussion of the findings (Hissong et al., 2015).

Results

Case 1

History. John was referred to this research study to improve his work performance. He had been employed for 10 years as a maintenance worker at an office building. His job responsibilities included collecting garbage, recycling, and cleaning floors. On a typical day, John collected the garbage, then collected the recycling, and then cleaned the floor. John's favorite part of his job was seeing his friends at work, who were office staff and a fellow supported employee. He reported that he liked all his work tasks and none were too challenging for him. John's pertinent work history included work in a fast-food restaurant prior to being laid off.

Evaluation. As part of this research study, John was interviewed and observed in the workplace. The occupational therapy researcher also evaluated him using the AMPS, the OSA, and the WEIS. The AMPS was completed during a workplace observation at the office building. He was observed collecting the garbage, recycling, and cleaning the floor with a sweeper.

While collecting the garbage, John demonstrated several ineffective performance skills. At the beginning of the garbage collection task, John did not properly drape and secure the garbage bag over the bin, resulting in the bag sliding off the edges and into the bin. Rather than adjusting the bag by properly draping it, John held the bag open with one hand and reached into the wastebasket with the other hand to pull garbage out, one handful at a time. This led to repetitive bending, slow pace, and physical fatigue. In addition, his gloves became dirty from reaching into the wastebasket, which led to sanitation issues when touching objects, such as doorknobs and elevator buttons. At the end of the task, John had difficulty tying the garbage bags closed; after several unsuccessful attempts, he would put them into the dumpster untied. John's initial evaluation ADL motor ability was 0.4 logits, indicating moderate to marked clumsiness and/or increased physical fatigue or effort (see Figure 1). John's initial

evaluation ADL process ability was 0.0 logits, indicating mild to moderate inefficiency and disorganization (see Figure 2).

John's performance during collecting the recycling was significantly better. When John collected the recycling, he lifted the small recycling bins and emptied them into a rolling recycling cart without a bag. Without the issue of the bag sliding off the edges of the bin, John's performance was much more effective.

John also demonstrated several ineffective performance skills while cleaning the floors. He swept in a random sequence that left large areas of the floor unswept. In addition, the sweeper he used was old and ineffective at picking up the dirt and debris on the floor, which John reported to the researcher with frustration. During this task, John also reported that his back hurt, which the researcher thought might be due to his repeated bending while collecting the garbage.

The results of the modified OSA and WEIS were consistent with the results from the AMPS. The modified OSA revealed that John was a reliable self-reporter, as he identified that physically doing the things he needed to do was challenging for him. The WEIS identified physically demanding tasks, low expectations for quality (i.e., leaving the floor not thoroughly cleaned), and properties of objects (i.e., the sweeper not working properly) as aspects of the work environment that did not support John's performance.

Based on the above findings, the researcher identified strengths and concerns regarding John's work performance. His strengths included holding previous jobs, working in his current job for an extended period, and understanding his job responsibilities. John had excellent social skills, community mobility skills, and a strong motivation to work. The areas of concern with John's work performance included physical fatigue due to ineffective strategies (i.e., repetitive bending to collect garbage), cleaning the floor in a random pattern and leaving large areas of the floor not cleaned, and work using objects that do not support his performance (i.e., a sweeper that does not work and garbage bags that are difficult to tie).

Intervention. To address the concerns with John's work performance collecting garbage, the researcher provided recommendations to the job coaches and worked with John to implement them. The garbage collection task was prioritized because it was deemed the most essential of his job tasks by the job coaches. The researcher recommended education on more efficient work strategies, such as dumping the wastebasket rather than repetitively bending to collect garbage. The researcher also provided a visual cue to remind him of this when he is working and attached it to the garbage bin for easy viewing. The researcher also recommended compensatory strategies to handle garbage bags better, specifically the use of clips to secure garbage bags around the garbage can and the use of drawstring garbage bags, which John was able to tie effectively.

To address the concerns for John's work performance cleaning the floor, the researcher provided recommendations to the job coaches. The researcher recommended education on how to clean the floor in a more efficient, systematic pattern (i.e., left to right). The researcher also recommended replacing the ineffective sweeper or identifying a different tool to use when cleaning the floor.

Reevaluation. John was reevaluated using the AMPS 1 week after the researcher made the recommendations. John could only be reevaluated with one task due to time constraints, so the researcher prioritized collecting the garbage. This was prioritized as it was John's most essential task and the ineffective sweeper had not yet been replaced. During the reevaluation, John still demonstrated some ineffective performance skills, but his performance was remarkably improved. Using clips to

secure the garbage bag over the bin allowed John to lift each wastebasket and empty it into the garbage bin, rather than repetitively bending. As a result, John's pace and endurance also improved. His gloves did not come into contact with the garbage inside the wastebaskets, which eliminated the sanitation issue of touching dirty gloves to doorknobs and elevator buttons. At the time of reevaluation, the recommended drawstring bags had not yet been ordered; however, during the intervention session John had demonstrated to the occupational therapy student researcher that he could tie a drawstring bag. John's ADL re-evaluation motor ability was 1.0 logits, indicating mild to moderate clumsiness and/or physical effort or fatigue (see Figure 1). John's ADL re-evaluation process ability was 0.8 logits, indicating questionable to mild inefficiency and disorganization (see Figure 2). His ADL motor ability increased by 0.6 logits and his ADL process ability increased by 0.8 logits.

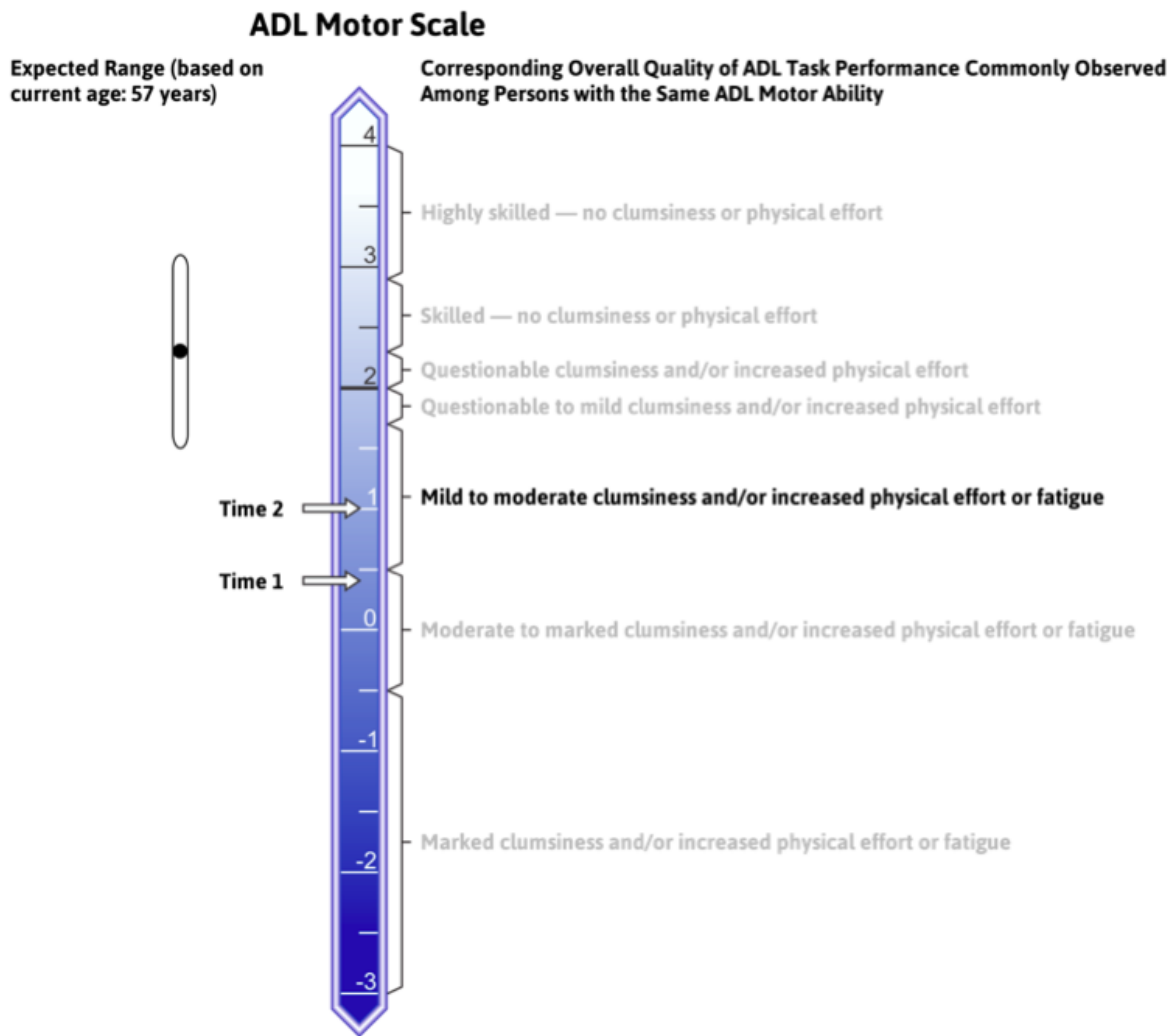


Figure 1. Supported employee 1 pre and post motor ability.

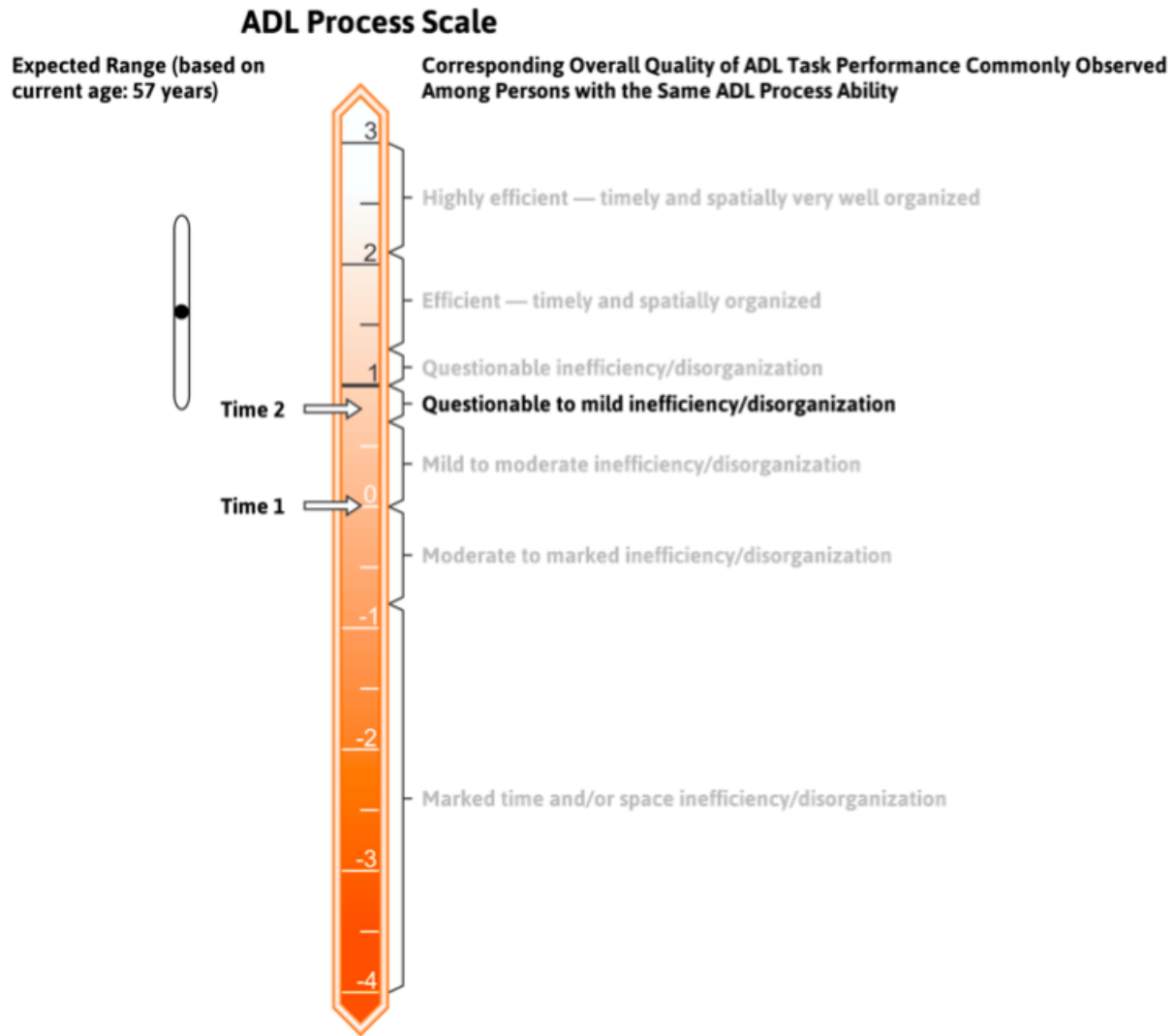


Figure 2. Supported employee 1 pre and post process ability.

Case 2

History. Paul was referred to this research study to improve his work performance as a maintenance worker. Paul had been employed as a maintenance worker at an office building, and his job was to clean the five bathrooms in the office building. On a typical day, Paul collected his supplies, such as his bucket, mop, and cart, and cleaned the bathrooms. His shifts lasted approximately 2 hr. He reported that he really enjoyed seeing his friends at work and that he previously had worked in a packaging job until the company moved. Paul reported that he liked all of his work tasks and felt that none were too challenging for him. However, per his job coaches, Paul struggled with attention to detail and did not clean the bathrooms thoroughly.

Evaluation. As part of this research study, Paul was interviewed and observed in the workplace. The researcher also evaluated him using the AMPS, the OSA, and the WEIS. The AMPS and WEIS were completed during a workplace observation at the office building. He was observed cleaning bathrooms, which included mopping the floors.

While cleaning bathrooms, Paul demonstrated several ineffective performance skills. Paul did not attempt to use any disinfectants or cleaners while cleaning the bathroom sinks and toilets. He cleaned in a disorganized manner, sometimes missing steps, such as cleaning the mirror. He also had reported that part of his job was to refill the soap containers, but he never checked the levels of the soap containers. He mopped the floors but would not sweep before mopping and mopped in a disorganized pattern, which led to the floor not being thoroughly cleaned. His fast pace, difficulties with temporal organization, and the omission of cleaner or disinfectant led to the bathrooms not being sufficiently cleaned. Paul's initial evaluation ADL motor ability was 1.3 logits (see Figure 3), indicating mild to moderate clumsiness and/or physical effort or fatigue. Paul's initial evaluation ADL process ability was -0.5 logits, indicating moderate to marked inefficiency and disorganization (see Figure 4).

The results of the modified OSA were not consistent with the results of the AMPS. The modified OSA revealed that Paul was not a reliable self-reporter, as he did not identify any items on the OSA as challenging for him, even though he had significant performance problems. The WEIS identified cognitively demanding tasks, low expectations for quality (i.e., leaving the bathrooms not thoroughly cleaned), and high expectations for autonomy (i.e., making a judgment when the soap should be filled), as aspects of the work environment that did not support Paul's performance.

Based on the above findings, the researcher identified strengths and concerns regarding Paul's work performance. Paul's strengths included holding other jobs in the past, working in the current job for an extended period, being physically capable to fulfill his job responsibilities, and being motivated to work. The areas of concern with Paul's work performance included his fast pace, which led to the bathrooms not being thoroughly cleaned, mopping the floor in a random pattern and not sweeping beforehand, and failure to use disinfectants or cleaners while cleaning the bathrooms. Areas of concern also included that this job had high cognitive demands (i.e., several steps in one task), and Paul's poor insight and knowledge of performance.

Intervention. To address the areas of concerns for Paul's work performance, the researcher provided recommendations to the job coaches. Specifically, the researcher recommended and created a detailed visual schedule of all of Paul's work tasks with all the requisite steps of the tasks. It was also recommended to the job coaches that Paul receive ongoing practice with job coaches to incorporate using the visual schedule into his routine. The researcher also recommended that Paul receive education on the importance of using disinfectant to clean the bathroom to eliminate germs. From the WEIS data, Paul was instructed about the importance of social interaction for the worker role (i.e., greeting people in the hallway).

Reevaluation. Paul was reevaluated with the AMPS 1 week after the researcher made the recommendations. During the reevaluation, Paul still demonstrated some ineffective performance skills, but his performance was remarkably improved. Paul required verbal cuing by the researcher to use his visual schedule, but once cued he used it effectively. One great improvement was that Paul used disinfectants and cleaners while cleaning the bathroom sinks and toilets. The visual schedule also cued him to clean in a more organized manner and he did not miss any major steps in cleaning. He checked and effectively filled the soap containers. He swept and mopped the floors in a slightly disorganized but still thorough pattern. His pace was still slightly fast, but the visual schedule ensured he completed all the necessary steps. Paul's reevaluation ADL motor ability was 1.7 logits, indicating questionable to mild clumsiness and/or physical effort or fatigue (see Figure 3). Paul's reevaluation ADL process

ability was 0.5 logits, indicating mild to moderate inefficiency and disorganization (see Figure 4). His ADL motor ability increased by 0.4 logits and his ADL process ability increased by 1.0 logits.

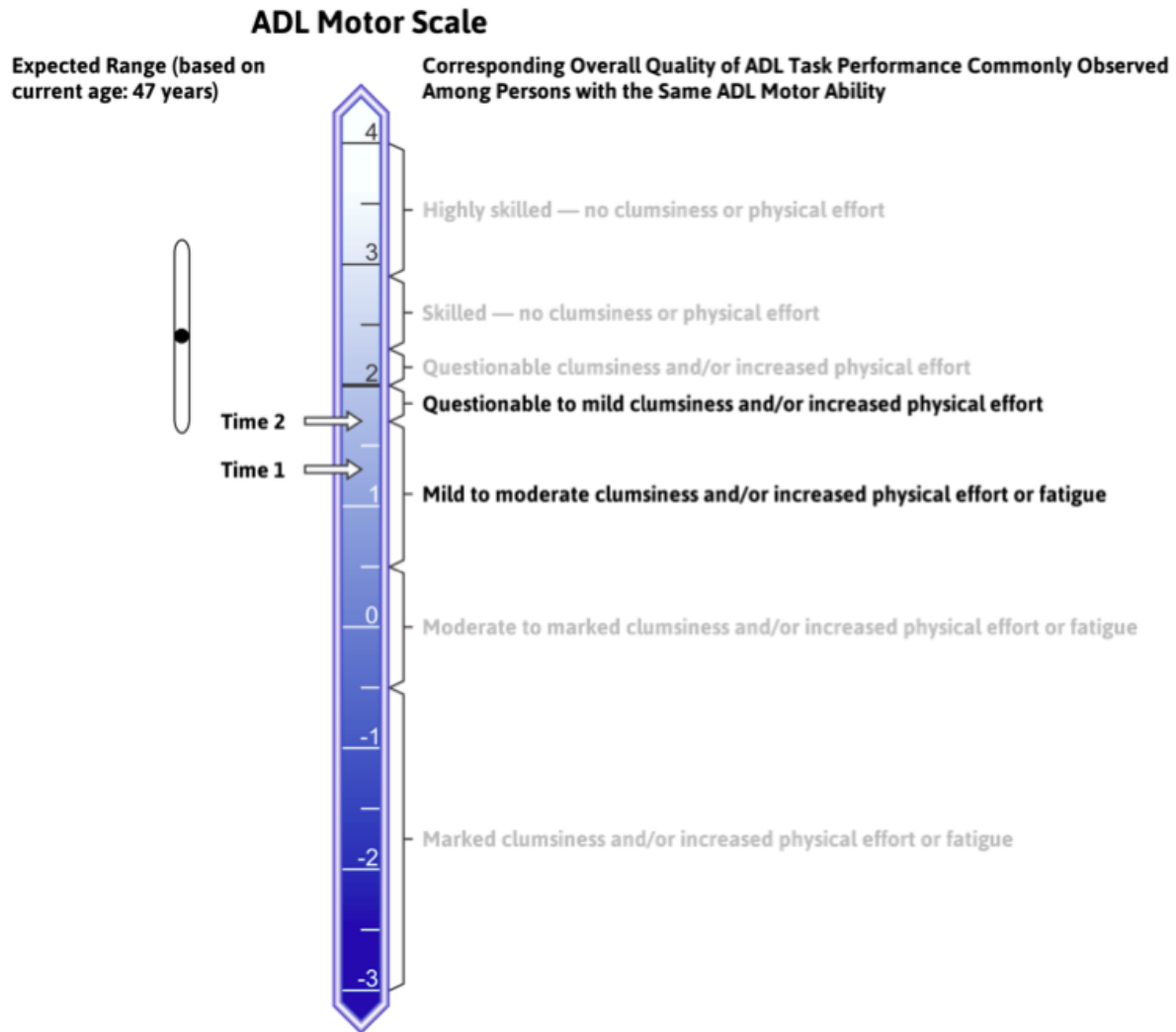


Figure 3. Supported employee 2 pre and post motor ability.

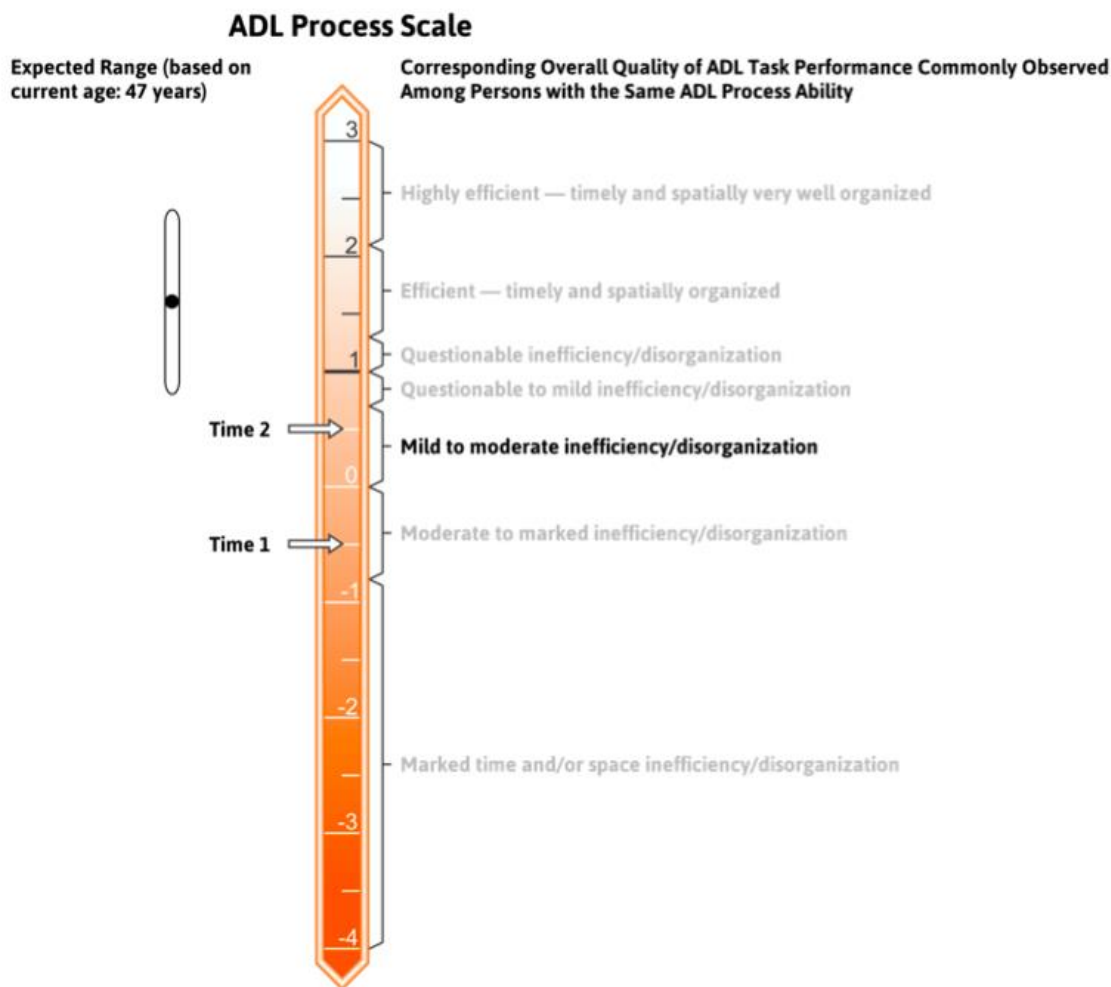


Figure 4. Supported employee 2 pre and post process ability.

Table 1
Strengths, Areas of Concern, and Recommendations for Supported Employees

	Supported Employee 1	Supported Employee 2
Strengths	Previous work experience Has held current job for an extended period Understanding of job responsibilities Good social and community mobility skills Motivated to work	Previous work experience Has held current job for an extended period Physically capable of completing all work tasks Motivated to work
Areas of Concern	Fatigue due to ineffective work strategies (repetitive bending) Difficulty managing garbage bags Cleaning floor in random pattern Ineffective sweeper	Fast pace Failure to use disinfectant High cognitive demands and several steps within one task Cleaning floor in random pattern Poor insight and knowledge of performance
Recommendations	Education on effective work strategies Provision of visual cues Clips to secure garbage bag Drawstring garbage bags Education on cleaning floor in more efficient pattern Replace ineffective sweeper	Detailed visual schedule of all work tasks broken down into steps Education on importance of social interaction to worker role Education on importance of using disinfectant to eliminate germs

Discussion

Through this case study, we sought to identify the distinct value of occupational therapy in the supported employment of adults with ID. Data gleaned from the interviews with the job coaches provided information about the responsibilities of the job coaches, the perceived benefits of supported employment by the participants, the challenges faced by the supported employment program, and the potential areas where occupational therapy could add value. Information from the interview with the job coaches was largely consistent with extant literature. The job coaches confirmed that, in their program, employment increases the individual's quality of life and, conversely, job separations negatively impact the individual's quality of life.

Inconsistent with the literature, the job coaches asserted that their supported employees become independent from job coaches over time. They stated that in the vocational rehabilitation world, there is a "place and dump" phenomenon where agencies will place large numbers of individuals in jobs without attention to quality in order to reap the monetary benefits of placing high numbers of individuals in jobs. However, these job coach participants reported that in their program they create long-term partnerships with employers and have a systematic approach for decreasing the job coach presence at work sites. They attribute the self-sufficiency of their employees to this approach.

The job coaches in this case study felt that occupational therapy could add value to supported employment teams. They identified several areas where they felt occupational therapy could add value, including addressing challenges with life skills, such as hygiene, and teaching technology skills. They also felt occupational therapy could add value to supported employment by facilitating return-to-work for individuals after illness or injury. Another area where they felt occupational therapy could contribute was in working with supported employees as they age and supporting their performance in the worker role across the lifespan.

Study Limitations

This study faced limitations. First, there was the small sample of only two participants. Further, the participants were Caucasian males and were recruited from one community agency. Although the participants had different work tasks, their place of employment and job title were technically the same, limiting the scope of this study.

Another limitation of this study was the use of the AMPS in a nonstandardized manner. As previously stated, participant performance of their real-work tasks in the natural context was prioritized over standardization due to the importance of context to functional performance of individuals with ID. Steps were taken to ensure the most effective application of this tool, but the deviation from standardized administration remained a limitation.

Finally, the most significant limitation of this study was the limited time frame. Due to the time constraints, we had to prioritize intervention and did not have the opportunity to work longitudinally to incorporate recommendations into longer work routines. The time constraints also limited the opportunity to use the acquisition and restorative approaches during intervention, which may have been beneficial to the supported employees. Finally, due to the limited time frame, we did not have the capacity to obtain greater qualitative information from the job coaches and supported employees regarding work performance after intervention, which would have significantly added to this study.

Conclusion

This study demonstrates preliminary findings of the unique contributions and distinct value that occupational therapy can bring to the supported employment of adults with ID. In this study, the value

of occupational therapy is seen in the employees' knowledge of and contributions to the transactional relationships among the person, environment, and task, and the direct application to the adaptation of tasks and environments for enhanced occupational performance. The OTIPM was used effectively as part of this study. Occupational therapy's skill in observation, critical reasoning, and targeted intervention directed toward improvement of specific motor and process performance skills was the most significant contribution in the case of these supported employees. As such, occupational therapy was found to be an effective part of the supported employment team.

Recommended next steps include further research on occupational therapy and supported employment of adults with ID and targeting specific motor and process skills in intervention. It would also be beneficial to further study the usefulness and application of OTIPM in occupational therapy interventions for adults with ID. Finally, further research on the benefits of occupational therapy in facilitating the employment of individuals with ID from neurological conditions, such as stroke and traumatic brain injuries, in addition to developmental disabilities is recommended. During the literature review, it was found that the published research on this population, and occupational therapy predominantly, focused on remedial approaches. The benefits of other approaches, such as the ones used in this study, should be further explored.

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