ABSTRACT

SELF-DETERMINATION FOR ADULTS WITH INTELLECTUAL DISABILITIES: EFFECTS ON GOAL ATTAINMENT

Special education and related services are undergoing a time of reformation in the United States at all levels. Self-determination in programming and life planning is becoming the expected standard of care for all individuals with an intellectual disability, regardless of severity. To that end, recent legislation has made individuals' involvement in planning their own lives mandatory, particularly at the adult level (Department of Health and Human Services, 2014). However, there has been limited research into the effect of teaching self-determination skills to adults who attend adult day programs who are not employed. The current study seeks to examine the effect of teaching self-determination skills using the *Take Action* intervention package (Marshall et al., 1999) on short-term goal attainment.

Rebecca Pings
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SELF-DETERMINATION FOR ADULTS WITH INTELLECTUAL DISABILITIES: EFFECTS ON GOAL ATTAINMENT

by

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CHAPTER 1: INTRODUCTION

Introduction

Services for adults who have an intellectual disability are undergoing a time of reformation in the United States. Programs and services for adults with intellectual disabilities are being encouraged to improve due to new federal mandates pertaining to the quality of care and services provided to this population (Home and Community-Based Services, 2014). Self-determination in all aspects of life and planning has become the expected standard of care; adults with intellectual disabilities are now legally guaranteed more autonomy in personal decision-making than ever before (Lee et al., 2012).

Despite these mandates, there is a dearth of research on how self-determination is applied to, and how it affects, adults who have intellectual disabilities. The majority of the available curricula designed to teach self-determination skills to individuals with intellectual disabilities were written for, and tested with, youth rather than adults (Algozzine, Browder, Karvonen, Test, & Wood, 2001). Much of the research available on teaching self-determination skills focuses on outcomes for transition-aged youth in the public school system (Lee et al., 2012; Seong, Wehmeyer, Palmer, & Little, 2015; Wehmeyer, 2015). Some research indicates that teaching self-determination skills to this population has empirical support comparable to that of other validated transition practices (Wehmeyer, 2015).

While some adults with intellectual disability do enter the workforce, many more attend adult day programs, government-funded facilities where life and functional skills continue to be taught throughout the individual's life. According to new legislation, all clients who attend adult day programs are required to have

self-directed individual service plans; these plans define measurable goals for clients in the system, as well as make known the individual's preferences for living, employment, friendship, and other quality of life-based facets of future planning (Medicaid, 2016).

The current study sought to examine the effect of teaching self-determination skills to adults who have intellectual disabilities on their goal-oriented behavior, one of the main aspects of self-determination. The results of this study informed best practice on which curriculum packages are most effective for adults with intellectual disabilities who attend adult day programs, and may be used to help develop protocols for teaching self-determination for this population, per the Centers for Medicare and Medicaid Services (CMS) Rule.

Background

Self-determination has been researched extensively in its applicability to serving individuals who have an intellectual disability, including children, teens, and adults. The following includes an examination of the studies most relevant to the current investigation of self-determination practices for people with intellectual disabilities.

In order to review the literature regarding self-determination for adults with intellectual disability, search terms were used in a number of databases. Primary search terms included combinations of intellectual disability, developmental disability, mental retardation, self-determination, self-advocacy, choice, individual service plans, quality of life, adult day programs, and services. The databases used were Academic Search Premier, Education Research Complete (EBSCO), ERIC, PsychINFO, JSTOR, and the National Center for Education Statistics.

Statement of the Problem

While some adults with intellectual disability do enter the workforce, many more attend adult day programs (Gray et al., 2014). According to new legislation, all clients who attend adult day programs are required to have self-directed individual service plans; these plans define measurable goals for clients in the system, as well as make known the individual's preferences for living, employment, friendship, and other quality of life-based facets of future planning (Medicaid, 2016). However, how well self-determination as a practice relates to actual outcomes for these individuals remains uncertain, as the research base for teaching self-determination skills to adults with intellectual disabilities is still developing.

Statement of the Purpose

The current study supplemented existing research on teaching self-determination skills to adults with intellectual disabilities by focusing on the effect of self-determination instruction on goal-based outcomes for adults who have an intellectual disability. A multiple baseline across subjects design was implemented to examine the effect of self-determination instruction on students' goal-oriented behavior, a skill that is fundamental to engaging in self-determined decision making and life planning.

Research Question

The research question addressed was as follows: Does using the *Take Action: Making Goals Happen* treatment package (Marshall et al., 1999) to teach goal-related self-determination skills to adults with moderate to severe intellectual disabilities result in increased goal-oriented behavior, as measured by the number of short-term goals met per day?

Definition of Terms

Adult Day Programs

As defined by the National Adult Day Services Association (2016), adult day programs are government-funded programs which provide social activities, transportation to and from the program, meals, personal care, and therapeutic activities. They are funded at both the federal and state levels, and are regulated via multiple laws (Patient Protection and Affordable Care Act, 2010; Home and Community-Based Services, 2014).

Despite the proliferation of adult day programs, few studies directly examine the effects these programs have on their consumers. Most research pertaining to outcomes of adult day services are in relation to residential placement, vocation, and severity of intellectual disability.

Goal-Oriented Behavior

Goal-oriented behavior is operationally defined as the behaviors in which students engage in order to attain their goals; these may include, but are not limited to, structuring free time in order to work on a goal, working on a task directly related to a goal, and recruiting support from peers and instructional staff to help attain their goal (Wehmeyer & Field, 2007). For the purposes of this study, goal-oriented behavior will be measured in terms of the number of self-selected short-term goals met per day out of three (German, Martin, Huber Marshall, & Sale, 2000).

Individual Service Plan

An individual service plan is a document outlining the provision of services and supports to be provided for an individual who has an intellectual disability, including their choice of residence, choice of programming and/or activities, and

what goals toward which they would like to work (Home and Community-Based Services, 2014). Individual service plans are written by a team of people with specialized knowledge of the person with a disability, including healthcare professionals, service providers, guardians, and the person with the disability him- or herself (National Council on Disability, 2016).

The formal name for individual service plans varies by state; however, at the federal and legal level, individual service plans are referred to simply as individual care plans, as written in the language of the CMS standard of care legislation (Home and Community-Based Services, 2014).

Intellectual Disability

For the purposes of this study, a person with an intellectual disability is defined as someone who has been labeled with one or more of the diagnoses covered in the 13 categories for special education and related service eligibility outlined in the Individuals with Disabilities Education Act (IDEA) (IDEA, 2004). The categories covered under the IDEA include autism, deaf-blindness, deafness, developmental delay, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment.

Person-Centered Planning

Person-centered planning is a method of developing life plans for people with intellectual disabilities wherein what the individual wants for him- or herself is identified and the supports and services required to actualize those wants are individually tailored to the person (National Disability Authority, 2014). It is a flexible model that is responsive to individual desires and needs. This differs from

the traditional method of life planning wherein an individual is offered services already existing in the community and is expected to choose from them (National Disability Authority, 2014).

Quality of Life

Quality of life is defined as having good emotional well-being, personal development, self-determination skills, interpersonal relationships, social inclusion, rights, material well-being, and physical well-being (Schalock, 2000). Quality of life refers to the degree of access individuals with disabilities have to core dimensions of life that their nondisabled peers do.

Self-Determination

Self-determination is operationally defined as behavior that influences one's quality of life; it refers to the causal agency with which a person with an intellectual disability acts with regarding his or her own circumstances, including advocating to change those circumstances (Wehmeyer, 2015). Put simply, self-determination refers to the extent to which a person has control over the major decisions that affect his or her quality of life.

Assumptions

For the purposes of this study, it was assumed that adult day programs funded by Medicaid are essentially comparable, facilitating the potential to generalize these results to adults with similar characteristics to the participants in this study who attend other adult day programs. It was also assumed that goal-oriented behavior is, indeed, a characteristic inherent to self-determined behavior and may be evaluated as such, as outlined in the literature (Wehmeyer & Field, 2007).

Limitations

This study examined the effect of instruction in self-determination practices on ISP meeting involvement for adults who have a moderate intellectual disability. As such, this study had no bearing on the efficacy of this type of intervention on individuals who have a diagnosis of mild, severe, or profound intellectual disability, and its findings cannot be directly generalized as such.

Additionally, this study used a multiple baseline across subjects design. While this design is appropriate given the infeasibility of finding large groups of individuals with similar demographics, disability labels, and intellectual characteristics and sorting them into comparison groups, it was limited in scope; external validity was somewhat limited due to individual characteristics of the participants chosen for this study. Generalizing its results to individuals with significantly different characteristics may not be possible.

Delimitations

The curriculum package used in this study, *Take Action: Making Goals Happen* (Marshall et al., 1999) was be examined for its efficacy in teaching self-determination skills to adults who have an intellectual disability. This package was chosen over others because of its empirical support and success rate in prior research (German, Martin, Huber Marshall, & Sale, 2000). It was also chosen due to the ease with which data were collected regarding students' progress toward goals, and thus how frequently they were engaging in self-determined behavior; it allowed for a simple multiple baseline design to be implemented to monitor change (German et al., 2000).

The *Take Action* (Marshall et al., 1999) has two tracks: one for teaching how to develop and attain long-term goals, and one for teaching how to develop and attain short-term goals. For the purposes of this study, only the short-term goal

track was used. This was done to facilitate ease of data collection, as well as to ensure the study is completed in a reasonable amount of time. The methodology of this study was therefore be commensurate with that used in German et al. (2000).

Significance of Study

The results of this research may be used to inform best practice on how to increase adults with intellectual disabilities' involvement in planning their own lives. Since direct instruction in self-determination was somewhat successful in increasing the number of self-selected goals per day, then it might be beneficial to incorporate such instruction into adult day programs' expected scope of provided services and programming.

Summary

Adult day programs in the United States are expected to incorporate self-determination into all levels of care for the individuals they serve, per the CMS Rule (Medicaid, 2016); however, best practice in how to implement this legislation remains uncertain. Much of the research on teaching adults who have an intellectual disability self-determination is oriented toward those who have a mild intellectual disability. While this research is valuable, it fails to represent those who have moderate, severe, or profound intellectual disability. The current study supplemented the research base by examining the effect of one self-determination curriculum package, *Take Action: Making Goals Happen* (Marshall, 1999), on the self-determined behavior of adults who have moderate intellectual disability.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Intellectual Disability

Intellectual disability is defined as a "disability characterized by significant limitations both in intellectual functioning and in adaptive behavior that affect many everyday social and practical skills" (American Association on Intellectual and Developmental Disabilities [AAIDD], 2018). Once thought to be largely incapable of learning skills to integrate into mainstream society and their community, individuals with disabilities are now guaranteed the right to engage in community life in terms of employment, recreation, and living (Americans with Disabilities Act Amendments Act [ADAAA], 2008).

Prevalence of Intellectual Disability

Data indicate that the prevalence of intellectual disability worldwide is approximately 1% of the global population (Maulik, Mascarenhas, Mathers, Dua, & Saxena, 2011). In the United States, approximately 4.4% of adults are identified as individuals with intellectual disabilities (Stoddard, 2014).

Worldwide, the number of adults with intellectual disabilities living past age 55 has increased dramatically as quality of care for these individuals improves; this is both due to advances in medical care and technology, as well as improvements in how people with intellectual disabilities are treated (Janicki, 2010). In the next 15 years, the number of adults with intellectual disabilities over the age of 60 is projected to triple, leading to an influx of people with disabilities who will need senior care (Janicki, 2010).

Given this trend toward longevity for people of all ages with an intellectual disability, it becomes apparent that the quality and nature of services provided to adults who have an intellectual disability should be examined. This aging

population should have community programs, supports, and resources in place, thus facilitating the ease of their transition to different stages of life; they should also have input into which of those services, programs, and supports they access (Kaehne & Beyer, 2014).

Characteristics of Intellectual Disability

Although specific diagnoses may vary, people with an intellectual disability share a common set of characteristics. These common characteristics include intellectual functioning, adaptive behavior, and age of onset (AAIDD, 2018).

Intellectual functioning. In terms of intellectual functioning, individuals who are diagnosed as having an intellectual disability generally have an intelligence quotient (IQ) score of 70, two standard deviations below the normative IQ score of 100 (National Research Council Committee on Disability Determination for Mental Retardation, 2002). Other sources indicate that people who have an intellectual disability may have an IQ score of up to 75 (AAIDD, 2018). This score may vary even more on a state-by-state basis; some states set the cutoff IQ score as high as 80, while others set it as low as 69 (National Research Council Committee on Disability Determination for Mental Retardation, 2002). An individual cannot be diagnosed as having an intellectual disability on IQ score alone; assessment of adaptive behavior must also reveal deficits in conceptual, social, and practical skills for a diagnosis to occur (American Psychiatric Association, 2013.

Adaptive behavior. Adaptive behavior refers to the everyday life skills requisite for independent functioning, including conceptual skills, social skills, and practical skills (AAIDD, 2018). These domains are assessed through a

combination of adaptive and standardized assessments to ensure that all relevant areas of adaptive behavior are assessed (American Psychiatric Association, 2013). Having deficits in adaptive behavior alone does not constitute enough evidence for diagnosing someone with an intellectual disability, but if deficits occur along with scoring below the eligibility cutoff on an IQ test, intellectual disability may be diagnosed (National Research Council Committee on Disability Determination for Mental Retardation, 2002).

Age. To be diagnosed with an intellectual disability, deficits in intellectual functioning and adaptive behavior must have been apparent before the age of 18. After that age, a person may no longer be diagnosed as having an intellectual disability under IDEA (AAIDD, 2018).

Services for Children with an Intellectual Disability

Children with an intellectual disability are guaranteed access to a free and appropriate public education in the least restrictive educational environment possible, as outlined in the IDEA (IDEA, 2004). Under the IDEA, a child may be diagnosed as having a disability in any of 13 categories: autism, blindness, deafness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment (IDEA, 2004). If a child is determined to have a disability, then he or she automatically qualifies for special education and related services, and an individualized education plan (IEP) is written to address their unique learning needs. Each IEP is mutually agreed upon by a team of people knowledgeable about the child’s needs, including school personnel, parents, specialists, and other

parties involved in the child's education, assessment, and/or placement (IDEA, 2004).

Special Education and Related Services

Special education and related services embody the supports, accommodations, and instruction used to augment the academic development of students who have a disability, as determined by the IDEA eligibility criteria (IDEA, 2004). IDEA (2004) outlines clear procedures for identifying, assessing, and providing services for children identified as having an intellectual disability, including child find, non-discriminatory assessment, and the development of an IEP with age restrictions.

Child find. All children who have a disability are legally entitled to assessment and services under the provisions of the IDEA (2004); to this end, the law outlines a Child Find mandate, wherein all children, including transient and migrant children, are required to be identified and assessed for eligibility for special education and related services.

Assessment regulations and procedures. Students suspected of having a disability are to be assessed using a variety of measures and tools; this is done to ensure that an accurate representation of the child's abilities and educational needs is rendered from which a final decision regarding placement may be made (IDEA, 2004). Assessment is to be administered only by an individual qualified to conduct the assessment, and in the child's native language or mode of communication (IDEA, 2004). In addition, assessments are to be non-discriminatory in nature; tools that have been found to be culturally biased may not be used (IDEA, 2004).

The results of the assessment are used to determine the child's eligibility for special education and related services. If a child is determined to have a disability as identified by the IDEA (2004), then he or she is referred for special education and related services, and an IEP meeting must be held (IDEA, 2004).

Individualized education programs. IEPs are a process used to document the services and instruction to be provided to a student who has a disability as well as the student's goals for the year (IDEA, 2004). IEPs must include a summary of the student's present levels of performance as a baseline for future growth and goal-setting, annual goals that are able to be quantified and measured, and provisions for support and/or accommodations necessary for the child/adult to thrive in the least restrictive educational environment (LRE, IDEA, 2004).

IEPs are revised annually; when this occurs, a meeting is convened, attended by the student's special education teacher, a general education teacher, the parents or guardians of their child/student, individuals responsible for providing services to the child, and any other parties who are involved in the child's education, including anybody invited by the parents (IDEA, 2004). At annual meetings, annual goals are revised based on the student's progress toward attaining them.

Age restrictions. Students may continue to receive services from their local education agency through the age of 21; when they turn 22, they are considered legally outside the scope of the IDEA and must find services elsewhere (IDEA, 2004).

Services for Adults with Intellectual Disability

Currently, individuals with an intellectual disability over age 22 have few options when it comes to adult life: they may enter the workforce, either independently or in a supervised capacity; they may attend an adult day program; or they may stay at home or at their residential placement (Gray et al., 2014). Most adults with intellectual disability attend some form of day program or day activity; underemployment and limited choice-making capacity is a significant barrier to inclusion for this population (Neely-Barnes, Marcenko, & Weber 2008).

Adult Day Programs

Adult day programs (ADPs) are government-funded institutions where adults with intellectual disability may go for socialization, recreation, limited health services, and for activities (National Adult Day Services Association, 2016). They are funded at both the federal and state levels, and are regulated via multiple laws (Home and Community-Based Services, 2014; Patient Protection and Affordable Care Act, 2010). Despite the proliferation of adult day programs, few studies directly examine the effects these programs have on their consumers. Most research pertaining to outcomes of adult day services are in relation to residential placement, vocation, and severity of intellectual disability.

The limited research that does exist indicates that adults who attend day programs have better social and independence skills than do their peers who stay at home (Makharadze, Kitiashvili, & Bricout, 2011). Researchers from this study interviewed adults with disabilities who either attend adult day programs or stay home for the majority of the day about several dimensions of their life, including community exposure and participation, academic skills, social skills, self-help ability, self-awareness, and self-care. In addition to more developed social and independence skills, adults who regularly attend adult day programs are more

responsible than those who stay at home (Makharadze, Kitiashvili, & Bricout, 2011).

In another examination of the effects of adult day program participation on consumers, researchers indicated that attendees generally experience a greater sense of social inclusion due to their participation in day programming (Campbell, 2012). However, the same study indicated that the services day programs offer must be re-evaluated to ensure students' needs and desires are being appropriately addressed (Campbell, 2012).

Individual service plans. Adults who have an intellectual disability and receive services in an adult day program setting are required to have an individual plan of care, referred to in many states as an individual service plan (ISP) (Home and Community-Based Services, 2014; National Council on Disability, 2016). Individual service plans are written by a team of people with specialized knowledge of the person with a disability, including healthcare professionals, service providers, guardians, and the person with the disability him- or herself (National Council on Disability, 2016).

An ISP defines the services and supports to be provided under the Home and Community-Based Healthcare provision of the Social Security Act (Home and Community-Based Services, 2014). The plan must be commensurate with the person's ability to function independently; that is, the person should be given as much freedom as possible while recognizing the limitations of what they are able to do without supports (Home and Community-Based Services, 2014). Individual service plans must also be person-centered in nature, meaning the individual with a disability whose life is being planned must be the primary director of all

planning and decisions made, insofar as he or she is able based on the constraints of his or her disability (Home and Community-Based Services, 2014).

Limitations relating to adult day programs. When quality of life outcomes for adults who attend day programs are compared to quality of life outcomes for adults who are employed in some capacity, data indicate that day programs fall short. In a comparison of quality of life, choice and control, and satisfaction, participants who were employed reported having a greater degree of choice and control in all aspects of life, as well as more exposure to meaningful experiences in their community (Blick, Litz, Thornhill, & Goreczny, 2016. Researchers postulated that individuals who are able to obtain and keep a job might have been more independent than their peers who attend day programs, which might have biased results to some degree (Blick et al., 2016). Another possible explanation researchers suggested was that increased community integration cultivated a feeling of autonomy that led participants to engage in more self-determined behavior, thus facilitating their personal growth and development (Blick et al., 2016). Regardless, the effect of community integration on self-determination and social skills that come with employment is significant.

Vocational Opportunities

A current estimate of the rate of employment for people with intellectual disabilities is at 14.7%, while the percentage of adults with intellectual disability who attend day programs with no vocational component is at 44.3% (Butterworth et al., 2015). The structure and content of adult day programs, then, is important to examine to determine their effects on the individuals they serve.

Current research into vocational programs and services available to adults who have intellectual disabilities has primarily centered on the availability and

proliferation of vocational rehabilitation programs. These programs are designed to teach adults with intellectual disabilities the requisite skills to obtain gainful employment (Pectu, Chezan, &Van Horn, 2015). The most researched model of administering vocational rehabilitation services involves a vocational rehabilitation counselor meeting with students with disabilities to advise them on how best to get a job that is both feasible given their set of abilities and meaningful to them interest-wise (Plotner & Marshall, 2016). Vocational rehabilitation services are frequently provided within the context of postsecondary educational growth; the student will attend classes at an institution of higher learning, and their education will be augmented by their mentorship from their vocational rehabilitation (Plotner & Marshall, 2016).

Outcomes associated with having received vocational rehabilitation services are significant: students who receive vocational rehabilitation counseling are likely to have a weekly salary up to $100 higher than their peers who did not receive vocational rehabilitation counseling (Butterworth et al., 2015). Additionally, students who receive vocational rehabilitation services alone are also more likely to obtain gainful employment than their peers who do not receive vocational rehabilitation services (Grigal, Migliore, & Hart, 2014; Plotner & Marshall, 2016).

Limitations relating to vocational rehabilitation. While this research is valuable in that it reflects the experiences of those individuals whose cognitive limitations do not preclude them from getting a job, it leaves out the substantial percentage of people with disabilities who do not have a skillset that would allow them to benefit from vocational rehabilitation services (Grigal, Migliore, & Hart, 2014). Individuals who cannot independently complete tasks and who require

support to navigate their community are less likely to secure the same jobs as their independent peers, as they require more supports to be successful in the workplace (Pectu, Chezan, & Lee Van Horn, 2015).

A longitudinal analysis of options available to adults with disabilities indicated that not only are individuals with intellectual disability underemployed as a group, but also the rate of unemployment correlated with the degree of intellectual disability; indeed, individuals with more moderate to severe intellectual disabilities were more likely to be unemployed than their peers with mild to moderate intellectual disabilities (Gray et al., 2014). Accordingly, adults with moderate and severe intellectual disabilities are significantly more likely to attend a non-mainstream daytime activity such as an adult day program (79.5% and 96% of respondents, respectively) than were their higher-functioning peers (65.8%) (Gray et al., 2014). Neely-Barnes et al. (2008) found that adults with a mild intellectual disability were more likely to have a greater number of choices regarding leisure, employment, and living arrangements and were less likely to attend adult day programs (Neely-Barnes et al., 2008).

Furthermore, while many vocational rehabilitation programs provide students with intellectual disabilities with the training and support needed to secure a job, few receive the work experience during their postsecondary education necessary to provide them with the real-world experience and background to get hired independently (Pectu et al., 2015). This creates a significant barrier toward actualizing plans of becoming employed, and limits the long-term efficacy of having participated in a vocational rehabilitation program.

Self-Determination

Self-determination refers to the extent to which a person has causal agency over the aspects of his or her life that affect his or her quality of life (Wehmeyer & Field, 2007). A person's behavior is said to be self-determined if he or she both has the opportunity to make his or her own choices, and practices their right to make his or her own choices. If a person has an opportunity to make a choice for him- or herself but someone else makes the decision on their behalf, then that person is not practicing self-determination (Wehmeyer & Field, 2007).

In legal terms, self-determination manifests itself in the form of person-centered planning, or the idea that people with intellectual disabilities should be regarded as experts on their own lives and therefore should be involved in all aspects of planning; this includes planning IEPs for young children, transition plans for older children, and individual service plans for adults (Carter et al., 2013).

Self-Determination and Quality of Life

Throughout the literature, it has been determined that adults who have more personal autonomy in choice-making are more likely to have a high quality of life (Neely-Barnes et al., 2008). One investigation of the relationship between degree of choice-making and quality of life determined that the opportunity to self-determine one's living arrangements, as well as living with fewer people, leads to higher scores on a scale of community inclusion, rights, and opportunities for relationships, three key aspects of quality of life (Neely-Barnes et al., 2008). Because of the clear relationship between self-determined behavior and quality of life, it is important to foster self-determination in adults with intellectual

disabilities; good quality of life is correlated with improved self-esteem and good mental health (Chesmore, Ou, & Reynolds, 2016).

Legal Aspects of Self-Determination

The CMS Rule and Medicaid. The CMS Rule is the colloquial name for the new mandate from the CMS pertaining to Medicaid-funded Home and Community Based Services (HCBS). The CMS Rule was enacted in order to ensure that adults with intellectual disabilities maintain their right to make decisions for themselves in all aspects of life, including their residential placement and programming (Department of Health and Human Services, 2014). Under the CMS Rule, service providers who fail to provide person-centered planning opportunities for their clients are ineligible to continue receiving funding for their programs from Medicaid (Home and Community-Based Services, 2014).

Affordable Care Act. The Affordable Care Act includes guidelines for the provision of services for adults with intellectual disabilities who require ongoing community support and services (National Council on Disabilities, 2016). The law reiterates the provisions of the CMS Rule legislation, including that services for adults who have intellectual disabilities are to be provided in a person-centered manner funded by Medicaid under the Home and Community Based Services waiver (Home and Community-Based Services, 2014).

A Functional Model of Self-Determination

The most comprehensive model of self-determination represented in the literature is that proposed by Wehmeyer: The Functional Model of Self-Determination (Wehmeyer, 1992, 1999; Wehmeyer & Field, 2007). This model

specifically defines self-determination as “act[ing] as the primary causal agent in one’s life and to make choices regarding one’s actions free from undue external influence or interference” (Wehmeyer, 1992, p. 305). Wehmeyer postulates that self-determined behavior cannot be quantified by a specific response class of behavior, but rather is manifested by the function of the behavior itself (Wehmeyer, 1999).

According to Wehmeyer’s functional model, there are four fundamental components that must be present if behavior is to be considered self-determined: autonomous action, self-regulated action, psychologically empowering action, and self-realized volition (Wehmeyer, 1999). These four aspects are submitted as the underpinnings of self-determined behavior because they pertain both to engaging in a behavior and not engaging in a behavior. In other words, the act of abstaining from engaging in a behavior could be in and of itself a self-determined choice; therefore, it is imperative that self-determination is defined in such a way to accommodate both action and the absence of action (Wehmeyer, 1999). In order for a person to develop behavior that is truly self-determined, he or she must have the capacity to engage in that behavior, the belief that he or she has causal agency over his or her own life circumstances, and the opportunity to engage in self-determined behavior (Wehmeyer & Fields, 2007).

Programming that Incorporates Self-Determination

Throughout the literature, it has been reported that programs that support strategies to encourage self-determined behavior in their consumers consistently lead to improved quality of life, improved self-esteem, and improved independence skills (Lee, Wehmeyer, & Shogren, 2015). Indeed, many studies that examined the impact of autonomous choice-making on quality of life and

emotional well-being have found that the more autonomy a person with a disability has over his or her own life, the better his or her quality of life (Gray et al., 2014; Kostikj-Ivanovikj & Chichevska-Jovanova, 2016). Additionally, some research has indicated that giving individuals with disabilities opportunities to self-advocate improves their self-held expectations for the future, thus improving their motivation to succeed and conceptualization of self-worth (Kostikj-Ivanovikj & Chichevska-Jovanova, 2016). The results of the aforementioned studies indicate that more attention should be given to the development of self-determination programming for use with adults who have intellectual disabilities.

The Self-Determined Learning Model of Instruction. One of the more well-known curriculum packages in the self-determination literature is the Self-Determined Learning Model of Instruction (SDLMI) (Lee et al., 2015; Mithaug, Wehmeyer, Agran, Martin, & Palmer, 1998). The SDLMI focuses on developing students' self-determination skills through instruction in how to self-regulate and self-direct learning through the process of setting goals, implementing a plan to attain the goals, and evaluating progress after implementation has occurred. Research indicates that children and teens who receive instruction using the SDLMI are more likely to engage in more self-determined behavior, as measured by access to general education curriculum and post-transition outcomes (Lee et al., 2015).

A meta-analysis of studies that implemented the SDLMI was conducted to determine the efficacy of the package (Lee et al., 2015). Researchers in this study used the percentage non-overlapping data (PND) to analyze studies that implemented the SDLMI using the single case research design for their effectiveness in increasing transition-related outcomes, access to the general

education curriculum, and maintenance and/or generalization. Results indicated that most studies increased students' access to the general education curriculum and supported transition-related goals being attained; the PND value associated with this improvement was, on average, 79.8% (Lee et al., 2015).

While the outcomes associated with the SDLMI are encouraging, the curriculum is limited in that it cannot be implemented in settings outside of the school or with adults (Lee et al., 2015). One of the primary measurable outcomes associated with using this package is access to the general education curriculum; this can only occur if the student is on a campus where he or she may attend general education classes and/or activities, which is impossible for adults who attend adult day programs. The other primary measurable outcome, transition-related goals being met, is specific to students who are graduating from high school and entering adult transition programs (Lee et al., 2015); adults would have already been through the transition process, making this metric irrelevant for any adult participants in the study. As both primary measurable outcomes used to determine the efficacy of this instructional package are not applicable to adults who attend adult day programs, this curriculum package is unsuitable for the current study.

The Self-Advocacy Strategy. The Self-Advocacy Strategy is a curriculum package designed to teach students with learning disabilities how to be more involved in their IEP meetings (Van Reusen, 1996). The curriculum focuses on helping students learn the requisite skills to formulate, express, and assert their own opinions about their development and education, culminating in their full participation in planning their own IEP goals. This is achieved by teaching students five steps for self-advocating, as represented by the acronym I PLAN:

Inventory, provide inventory information, listen and respond, as questions, and name your goals (Test & Neale, 2004). The curriculum may also be modified for use with students in adult transition programs and with adults with disabilities (Van Reusen, 1996). The Self-Advocacy Strategy (Van Reusen, Bos, Schumaker, & Deshler, 1994) has been used in a handful of studies to teach self-determination skills to youth with intellectual disabilities (Hammer, 2004; Test & Neale, 2004).

In an examination of the efficacy of The Self-Advocacy Strategy, Hammer (2004) implemented the curriculum with three middle school-aged students with learning disabilities. The 10-item assessment scale that comes with the package was used to determine students' ability to respond to IEP-related questions; this variable was considered to be a measure of self-determination (Van Reusen, 1996). Students were taught the subject matter via both in-person instruction and CD-ROM-based instruction (Hammer, 2004). Results indicated that all three participants were better able to respond to the 10-item assessment by the end of the study (Hammer, 2004).

The Self-Advocacy Strategy (Van Reusen et al., 1994) was used in a separate study conducted with middle school-aged students with learning disabilities in Test & Neale (2004). In this study, researchers taught four students with learning disabilities the five steps outlined in the curriculum. Data pertaining to students' mastery of the curriculum's content were collected via the ten-item survey included in the package; additionally, researchers used The Arc's Self-Determination Scale: Adolescent Version (Wehmeyer & Kelchner, 1995) to measure students' mastery of the concept of self-determination as a whole (Test & Neale, 2004). Participants were taught the curriculum via one-on-one in-person instruction. Results indicated that the package was effective at improving the

quality of students' responses to the ten-item survey, and that students were able to generalize their knowledge to their IEP meetings (Test & Neale, 2004).

While the results of Hammer (2004) and Test and Neale (2004) are encouraging, the curriculum remains limited in its ability to be applied to students who have intellectual disability. Both Hammer (2004) and Test and Neale (2004) were conducted with students who had a learning disability and attended general education classes for the majority of their academic programming; the characteristics of these students are significantly different from those of adults who attend segregated adult day programs and who have a diagnosis of intellectual disability, making its applicability to the latter population limited. Similarly, the 10-item survey included in the package requires that participants have sufficient verbal skills to clearly articulate their wants and needs. This might prove difficult for individuals with moderate intellectual disability, who is the target population of this study. Therefore, it may be concluded that this package is inappropriate for use with the population being investigated in this study.

Take Action: Making Goals Happen. The Take Action: Making Goals Happen (Marshall et al., 1999) is a curriculum package designed for use with individuals who have an intellectual disability to teach self-determination skills (Marshall et al., 1999). This is accomplished through teaching students the skills to identify a goal that is important to them, plan how to attain that goal, implement their plan, and then evaluate its effectiveness. The curriculum provides instruction in how to develop both short-term and long-term goals. The package consists of a series of lessons conducted in-person, with students watching one video related to instruction (Marshall et al., 1999).

The Take Action (Marshall et al., 1999) was implemented with high school-aged students with mild to moderate intellectual disability (German, Martin, Huber Marshall, & Sale, 2000). Participants were taught how to select, plan, implement, and evaluate self-selected short-term goals using the short-term goal track of the curriculum. Per the curriculum, students were provided instruction, and then given the opportunity to practice what they learned in a guided capacity before treatment was withdrawn and they were expected to continue using their skills independently. The metric used to determine participants' mastery of the curriculum was the number of short-term goals each participant attained per day out of three; this was chosen as the variable of interest as self-determination is closely tied to the ability to set and attain goals (German et al., 2000). Results demonstrated that participants' performance significantly improved, with between 80% and 100% of short-term goals being met per day during the maintenance period (German et al., 2000).

The Take Action: Making Goals Happen (Marshall et al., 1999) curriculum package is easily applicable to adults who attend adult day programs, as it requires no access to a general education environment or specifically to transition planning meetings to determine its effectiveness. The metric used to determine participants' mastery of the content may be easily implemented in a variety of settings, making it well-suited to the task of monitoring participants' self-determined behavior, both in their leisure time and during programming hours at their adult day program. Therefore, this package is appropriate for use with the population in question for this study.

Summary

New legislation mandates that adults who have an intellectual disability must be provided access to opportunities to act with self-determination in their behavior, from making day-to-day choices of preference to being involved in setting their own individual service plan goals and determining where they would like to live (Medicaid, 2016). However, in contrast to the clear procedural guidelines developed for children who have a disability, there is no clear consensus on how best to actualize this mandate, particularly in the area of instruction in self-determination. The current study seeks to help develop the body of knowledge on this topic by examining the efficacy of a self-determination curriculum package, Take Action: Making Goals Happen (Marshall et al., 1999), on developing the self-determined behavior of adults who have an intellectual disability.

CHAPTER 3: METHODOLOGY

Introduction

This study examined the extent to which the *Take Action: Making Goals Happen* (Marshall et al., 1999) instructional package causes adults who have a moderate or severe intellectual disability attain their daily short-term goals. The results of this study will be used to supplement existing evidence pertaining to the efficacy of instruction in self-determination skills in promoting self-directed behavior.

Research Design

A multiple baseline across participants design was used to monitor the effect of *Take Action* (Marshall et al., 1999) on adult participants. The intervention was therefore staggered across participants over time. After each participant completed his first week of intervention, the next participant began intervention.

Research Question

The research question being addressed was as follows: Does using the *Take Action* treatment package (Marshall et al., 1999) to teach goal-related self-determination skills to adults with moderate to severe intellectual disabilities result in increased goal-oriented behavior, as measured by the number of short-term goals met per day?

Variables

The independent variable in this study was instruction in self-determination, as facilitated by the *Take Action: Making Goals Happen* (Marshall et al., 1999) treatment package. The dependent variable was the number of short-

term goals attained per day out of three, as observed during students' classroom time.

Population and Sample

Participants were recruited from a local adult transition program that serves students age 18 to 22. Three participants were chosen to participate in the study based on shared characteristics, including disability label, level of intellectual disability, age, gender, and socioeconomic background. Selecting participants with shared characteristics served as the control to facilitate equitable comparisons between participants to better examine the relationship between the treatment given and performance outcomes.

Exclusion criteria. Students with mild intellectual disability were not recruited for the purposes of this study because this research seeks to fill a gap in the effect of self-determination instruction for students with moderate to severe intellectual disability. Currently, the majority of research conducted on outcomes for self-determination instruction has focused on outcomes for individuals with mild intellectual disability, particularly in vocational settings. While this research is certainly important, it fails to reflect the experience of the population of individuals who are unable to secure jobs and are not labeled as high-functioning (Grigal, Migliore, & Hart 2014).

Individuals with behavioral problems that would interfere with their ability to receive instruction, or would detract from the learning experience of others, were not included as participants in this study; this was done to preserve treatment integrity in terms of fidelity of instruction. To that end, students who had an active goal in their IEP regarding reducing the frequency of engaging in maladaptive or disruptive behavior were not asked to participate in this study.

Additionally, participants were required to have a set of prerequisite skills in order to participate in the study: they had to be able to follow multiple-step directions, and they had to be able to attend to a 10-minute video for its entire duration. These additional prerequisite skills were necessary to ensure participants fully engaged with the curriculum, as they needed to follow multiple-step directions to complete the planning portion of the curriculum and needed to be able to attend to a 10-minute video as part of the instructional portion of the curriculum.

Consent. Letters of consent for participation in this study were distributed, signed, and collected prior to any instruction being given. For participants who were conserved, letters of informed assent were distributed to the individuals themselves, and a letter of consent was sent home for a signature by a parent or legal guardian.

Instrumentation

Settings and Arrangements

All components of this study occurred at a local adult transition program that serves individuals who have intellectual disabilities age 18 through 22. Instruction occurred in a single classroom furnished with desks and chairs, as well as a computer with sound and access to the internet, as the package included an internet-based video as part of its curriculum.

One primary investigator delivered the curriculum package to participants. The primary investigator, the classroom teacher, and classroom instructional aides collected data throughout the day documenting how many daily self-selected goals were met per day. The classroom teacher and instructional aides were trained

extensively in the curriculum package and in data collection procedures. Interobserver agreement was calculated before baseline began to ensure consistency. The classroom teacher and aides were trained in data collection procedures following the protocol established in Appendix A. Interobserver agreement was established to ensure the fidelity of data collected; the formula for calculating total agreement percentage was used, as it assesses agreement both on occurrences and nonoccurrences of the target behavior of goal attainment (House, House, & Campbell, 1981).

Instructional Package

The *Take Action: Making Goals Happen* (Marshall et al., 1999) instructional package was used for this study. *Take Action* is an empirically validated package that has demonstrated success in multiple sub-populations of individuals with an intellectual disability (German et al, 2000; Williams-Diehm, Palmer, Lee, & Schroer, 2010).

The *Take Action* package includes criterion-referenced assessment tools, lesson plans, videos, and student worksheets (Marshall et al., 1999). The package has two tracks: lessons for teaching students how to attain long-term goals, and lessons for teaching students how to attain short-term goals. For the purposes of this study, only the short-term goal portion of this package was used. This choice mirrored the methodology used in the study by German et al. (2000).

Steps for accomplishing a goal. The short-term goal portion of the *Take Action* package outlines four steps for participants to use when developing personal goals: plan, wherein the participant develops a plan by which to attain their goal: act, wherein the participant implements that plan; evaluate, wherein the participant critically examines the efficacy of their plan in helping them attain

their goals; and adjust, wherein the participant modifies his or her plan if necessary in order to reach his or her goal.

The planning component of the process is further broken down for participant: strategy, wherein the participant is expected to evaluate what methods they will use to achieve their goal; schedule, wherein the participant considers when might be a good time to work toward their goal; and support, wherein the participant identifies the requisite supports they need to attain their goal.

Instruction. Instruction took place over the course of a 2-week period, with two lessons occurring each week. Participants will participate in four lessons varying in duration from 25 to 40 minutes.

During the first lesson, participants were asked to consider goals they had previously held, evaluating their success or failure at meeting those goals. They were then introduced to the *Take Action* steps for goal attainment (e.g. plan, act, evaluate, and adjust). Participants then completed a worksheet wherein they put the four steps in sequential order.

During the second lesson, participants learned what components are necessary for a goal-oriented plan to be successful: strategy, schedule, and support. To this end, they watched a 10-minute video depicting various goal-related scenarios involving same-age peers. They were then asked to refer to the video and discuss the main character's strategy, schedule, and support, respectively, for accomplishing his goal. After that, they repeated the process using three different characters working toward a shared goal but using different methods. Next, participants reviewed and critiqued a sample student goal plan, with a proposed strategy, schedule, and support. Finally, students completed a

worksheet detailing what questions they should be asking themselves when creating a plan based on strategy, schedule, and support.

The third and fourth lessons further developed participants' ability to critically evaluate goal-oriented plans. During the third lesson, students critiqued sample plans using the same evaluation criteria outlined in the second lesson and wrote their own plan incorporating strategy, schedule, and support. In the fourth lesson, they refined their plan-critiquing skills by exploring the concepts of evaluation and adjustment, the final two steps of the *Take Action* process.

Goal cards. Commensurate with prior research, goal cards were used to determine the effect the *Take Action* package has on goal-oriented behavior for participants (German et al., 2000). The goal cards were derived from the goals on participants' IEPs, and were therefore oriented toward tasks the student is expected to work on while at school. Thirty individualized goal cards were written for each student. If a goal was attained, its goal card was removed from the pool of potential daily goals for two days and then reintroduced (Germen et al., 2000). An example goal card may be found in Appendix B.

Additionally, criterion for goal attainment was itemized and assigned a difficulty level according to the number of steps necessary to attain the overall goal. For example, a goal card for cleaning up after oneself after lunch might include itemized steps such as throws trash in the trashcan, puts trays or Tupperware in their designated locations, and wipes down table as necessary. The number of steps necessary to attain that goal would indicate its difficulty level (e.g., 3). The lowest level of difficulty was one step, while the highest level of difficulty was six steps. Goals more complex than six steps were not included to allow students a reasonable opportunity to complete all three goals within a single

day. The difficulty of daily goals was recorded to analyze whether the number of goals attained per day was influenced by the difficulty of the goals chosen.

Data Collection

This study took 6½ weeks to complete, from beginning the process of obtaining informed consent and informed assent (Appendices C and D) to completing data collection and follow-up with all participants. Informed consent was obtained from all participants; those under conservatorships needed to provide informed consent as well as informed assent in order to participate in this study. Data sheets used in the study are included in Appendix E.

Baseline. Participants selected three goals out of their 30 personalized goals to work toward at the beginning of each day. In German et al. (2000), each participant read the three goal cards to the classroom teacher to ensure comprehension; participants who were unable to read had their goal cards read to them, and then repeated each card's salient points to ensure comprehension; therefore, the same procedure was followed in the current study. Participants were given no instruction, prompts, or feedback regarding their goal cards. Data were collected at the end of each day pertaining to how many of the three goals the student met based on criteria established for each individual goal.

Baseline data collection continued for at least 3 days to establish a trend against which intervention data could be compared. The first participant had baseline data collected for 4 days, while subsequent participants had baseline data collected until the previous participant was halfway through instruction and has at least two data points recorded pertaining to his or her performance during instruction. This was done to protect against the potential threats of maturation and history.

Intervention. The first participant received the *Take Action: Making Goals Happen* instructional package (Marshall et al., 1999), as outlined in the description of materials above. During intervention, participants still selected three goal cards to work on at the beginning of each day. After lesson three, the classroom teacher and instructional aides helped participants develop and write the *Take Action* steps for goal attainment for each goal. The classroom teacher and instructional aides provided prompts and feedback throughout the day to encourage students to work toward attaining their daily goals. At the end of each day, participants met with the primary investigator, who helped them evaluate and adjust their plans per the *Take Action* package; each component of the goal (e.g., strategy, schedule and support) was evaluated by determining whether it worked, and why or why not. Data collection continued as it did during baseline, where the number of daily goals attained per day was recorded at the end of each day.

Maintenance with prompts. Commensurate with prior research, for 1 week after the *Take Action* instructional package has been implemented, participants continued to meet with the primary investigator or classroom teacher to develop plans to attain their daily goals (German et al., 2000). The primary investigator and classroom teacher provided feedback and prompts throughout the day to facilitate the acquisition of skills (German et al., 2000). At the end of each day, each participant reported back to the primary investigator, who helped the participant evaluate and adjust his plan, per the *Take Action* model.

Maintenance without prompts. After the intervention concluded, participants continued to select three goal cards at the beginning of each day and independently wrote their steps for accomplishing their daily goals. If a participant needs help reading or writing, assistance was provided, but no feedback or input

was given pertaining to the goals or their respective plans. No feedback was given on their progress during the day. At the end of the day, participants reported to the primary investigator to evaluate and adjust their plan accordingly, but no assistance was provided to complete this process. Verbal praise was given if students attained any of their goals for the day. This was consistent with prior research (German et al., 2000).

Data Analysis

Consistent with the multiple baselines across subjects research design (Byiers, Reichle, & Symons, 2012), data were analyzed visually to determine significant changes in level, trend, and variability from baseline. The number of goals met per day was graphed for each participant. A participant was considered to have made significant improvement in engaging in goal-oriented self-determined behavior if he attained at least two out of three possible goals across 80% of days during the maintenance period.

To control for extraneous variables and protect against threats to internal and external validity, a variety of measures were in place. Interobserver agreement was calculated to determine the extent to which data gathering was consistent and valid, as outlined above. Additionally, participants were selected based upon a shared set of characteristics such as age and gender, as described in the exclusion criteria above. This protected against any threats based on participants' maturation or variations between participants based on age-related idiosyncrasies. Similarly, only those individuals who did not exhibit disruptive behaviors in instructional settings were considered for participation in this study in order to ensure fidelity of instruction and preserve treatment integrity.

Chapter Summary

A multiple baseline across subjects research design was used to determine if the Take Action curriculum package (Marshall et al., 1999) can be used to increase goal attainment in adults who have a moderate intellectual disability. Three participants received instruction using this model. Data were collected pertaining to how many short-term goals per day were met out of three. Results will be discussed in the next chapter.

CHAPTER 4: RESULTS

The purpose of this study was to examine the efficacy of implementing the *Take Action: Making Goals Happen* curriculum package with adults who have a moderate intellectual disability. The research question being addressed was: Does using the *Take Action* treatment package (Marshall et al., 1999) to teach goal-related self-determination skills to adults with moderate to severe intellectual disabilities result in increased goal-oriented behavior, as measured by the number of short-term goals met per day? Specifically, participants were provided instruction in how to attain their choice of three short-term daily goals; the number of goals attained per day was recorded. All goals were rated on a scale of difficulty from 1 to 6, where 1 was easiest and 6 was most difficult. Mastery criterion was set at attaining two or more goals per day across 80% of the days during maintenance without prompts.

The classroom teacher and instructional aides were all trained in data collection before data were collected. The classroom teacher and instructional aides engaged in a role play-based training wherein they were provided with sample data sheets and asked to determine whether or not a sample goal was met based on the criteria provided. This training was conducted until interobserver agreement was at 100% across three consecutive trials. This was done to ensure the reliability of data.

The setting was an adult transition program classroom. Instruction was provided at a small table in a quiet corner of the classroom away from the other adult students. During all sessions, participants were seated such that their backs were toward the rest of the class in order to minimize distractions. Data were collected for 27 days over the course of 7 weeks.

Findings

Participant 1 successfully met two or more goals across 80% of days during the maintenance without prompts period, thereby meeting the mastery criterion. Participants 2 and 3 each successfully met two or more goals across 33% of days during maintenance without prompts, thereby failing to meet the mastery criterion.

As illustrated in Table 1, Participant 1 most frequently chose goal 23 (Ask what the next school activity will be) and goal 10 (Ask a friend to do an activity with me during free time), selecting each goal card five times over the course of the study. S/he successfully accomplished goal 23 twice, and goal 10 three times. S/he selected goal 1 (Ask for a career book), goal 13 (Ask a classmate to sit next to me during free time), and goal 17 (Ask a coworker if I can help them at work, only being reminded once) four times each; he accomplished goals 1 and 17 twice, and goal 13 four times. The average difficulty level of the goals he chose over the course of the study was 3. The average difficulty level of the goals s/he met over the course of the study was 2.6. Of the goals s/he accomplished, 54.5% were socially based, 30.3% were vocationally based, and 15.2% were academically based.

Table 1

Participant 1's Goal Attainment During the Study

Goal	Number of Times Goal Was Selected	Number of Times Goal Was Met	Goal Difficulty
Goal 23 – Ask what the next school activity will be.	5	2	3
Goal 10 – Ask a friend to do an activity with me during free time.	5	3	2
Goal 13 – Ask a classmate to sit next to me during free time.	4	4	2
Goal 17 – Ask a coworker if I can help them at work, only being reminded once.	4	2	4
Goal 1 – Ask for a career book.	4	2	3

Note. Goal difficulty ranged from 1 (easiest) to 6 (hardest). Participant 1 selected 69 goals total during this study, and he accomplished 33 goals total.

As illustrated in Table 2, Participant 2 chose goal 22 (Talk to a friend during free time) most frequently, selecting it seven times. S/he chose goal 21 (Ask a friend to hang out during free time) six times, and goal 25 (Start a task at work without being reminded) five times, making these goals the second and third most frequently selected goals, respectively. S/he successfully accomplished goal 22 five times, goal 2 three times, and goal 25 three times. The average difficulty level of the goals s/he chose over the course of the study was 2.6. The average difficulty level of the goals s/he met over the course of the study was 2.5. Of the goals accomplished, 70.4% were socially based, 29.6% were vocationally based, and 0% were academically based.

Table 2

Participant 2's Goal Attainment During the Study

Goal	Number of Times Goal Was Selected	Number of Times Goal Was Met	Goal Difficulty
Goal 22 – Talk to a friend during free time.	7	5	3
Goal 21 – Ask a friend to hang out during free time.	6	3	3
Goal 25 – Start a task at work without being reminded.	5	3	1
Goal 17 – Ask a friend to do an activity with me during free time.	4	3	2

Note. Goal difficulty ranged from 1 (easiest) to 6 (hardest). Participant 2 selected 69 goals total during this study, and he accomplished 27 goals total.

As illustrated in Table 3, Participant 3 chose goals 17 (Drink water right after the timer goes off with only one reminder) and 20 (Talk to a friend and ask a "where" question) five times each. He successfully accomplished goal 17 three times, and goal 20 zero times. He selected goals 15 (Set a timer twice to remember to drink water) and 30 (Ask a friend to help me with an object control activity

during exercise time) four times each, making them the second most frequently selected goals. He successfully accomplished goal 15 four times, and goal 30 zero times. The average difficulty level of the goals he chose over the course of the study was 3.1. The average difficulty level of the goals he met over the course of the study was 3.2. Of the goals he accomplished, 68.4% were socially based, 10.5% were vocationally based, and 21.1% were academically based.

Table 3

Participant 3's Goal Attainment During the Study

Goal	Number of Times Goal Was Selected	Number of Times Goal Was Met	Goal Difficulty
Goal 17 – Drink water right after the timer goes off with only one reminder.	5	3	3
Goal 20 – Talk to a friend and ask a "where" question.	5	0	3
Goal 15 – Set a timer twice to remember to drink water.	4	4	3
Goal 30 – Ask a friend to help me with an object control activity during exercise time.	4	0	4

Note. Goal difficulty ranged from 1 (easiest) to 6 (hardest). Participant 2 selected 54 goals total during this study, and he accomplished 19 goals total.

Figure 1 illustrates participants' daily goal attainment during the study. The number of daily goals attained increased for all three participants. While Participant 1 achieved mastery criterion by accomplishing two or more goals during 80% of days during the maintenance without prompts period, Participants 2 and 3 did not meet mastery criterion, having accomplished two or more goals during 33% of days during the maintenance without prompts period.

Baseline. No participants achieved more than one goal per day during the baseline period. Participant 1 achieved zero goals on the first 3 days of baseline,

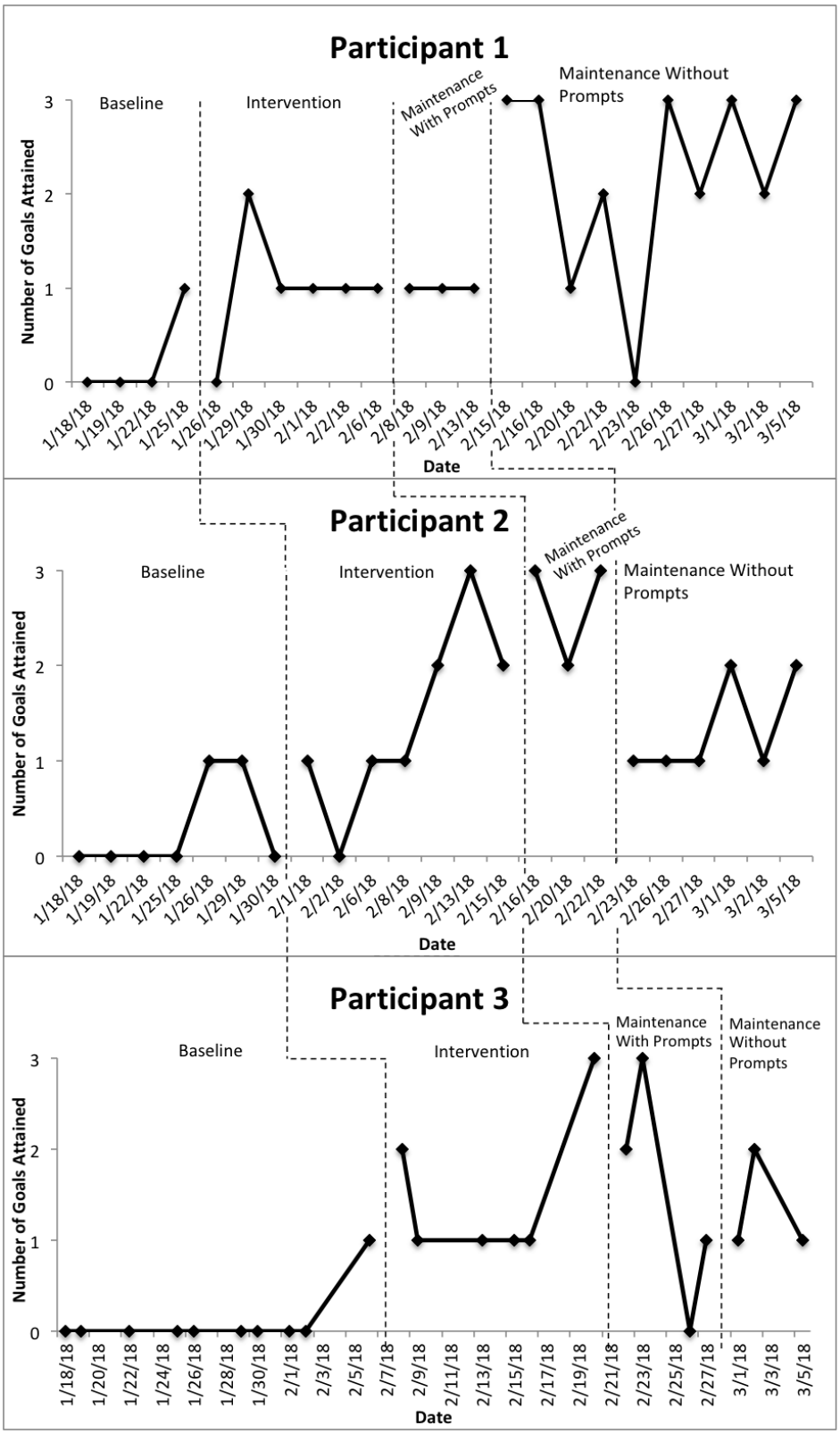

Figure 1. This figure illustrates participants' goal attainment for the duration of the study.

followed by one goal on the last day of baseline. Participant 2 achieved one goal per day twice during baseline, but their daily goal attainment returned to zero before instruction began. Participant 3 achieved zero goals for the majority of baseline, only achieving one goal on the last day of baseline.

Intervention. Participants achieved between zero and three goals per day during intervention, generally improving in relation to baseline. Participant 1 increased their daily goal attainment to an average of one goal per day. Participant 2's performance steadily increased to accomplishing between two and three goals per day. Participant 3's performance improved to accomplishing at least one goal per day, eventually accomplishing three per day by the end of instruction.

Maintenance with prompts. All three participants' performance continued to remain higher than it was during baseline. Participant 1 continued to achieve one goal per day. Participant 2 continued to achieve between two and three goals per day. Participant 3's performance continued to be variable, although goal attainment was still improved from what it had been during baseline.

Maintenance without prompts. Participants' performance during this phase dropped somewhat in comparison to the intervention and maintenance with prompts periods, but remained higher than it had been during baseline. Participant 1 achieved one or more goals across 90% of days during this phase, making his performance superior to that of baseline. Participants 2 and 3 achieved between one and two goals per day; this was an improvement over baseline, as well. Overall, all participants achieved more goals during the maintenance without prompts period than they did during baseline.

CHAPTER 5: DISCUSSION

This study examined the efficacy of teaching adults with moderate intellectual disability strategies to increase their goal-oriented self-determined behavior. Results indicated that only one out of three participants reached mastery criterion for the curriculum package of accomplishing two or more goals per day across 80% of days during the maintenance without prompts period. The other two participants met two or more goals per day across 33% of days during the maintenance without prompts period.

Impact on Self-Determination Skills

The purpose of this study was to teach participants skills to practice autonomous goal-oriented behavior, an essential component of self-determination. Wehmeyer's functional model of self-determination describes self-regulated behavior as one of the hallmarks of autonomous behavior (Wehmeyer, 1999); specifically, individuals who are able to accurately assess an environment, act within the environment, assess the consequences of their actions, and then make adjustments accordingly are said to display this component of self-determination (Wehmeyer, 1999). When this definition is observed in conjunction with participants' performance during this study, it becomes apparent that while participants may have made progress toward engaging in self-regulated behavior, they are not consistent in their engagement.

All three participants' performance on achieving daily goals improved over baseline during the study. Whereas all participants achieved between zero and one goals during baseline, each achieved at least one goal per day for the majority of days thereafter. This increase in performance is not particularly great, but in the context of Wehmeyer's definition of self-determination, it can be construed as

evidence that participants did, indeed, act with more self-regulation (Wehmeyer, 1999).

Comparison to Previous Research

German et al. (2000) implemented the *Take Action: Making Goals Happen* curriculum with high school-aged students with mild to moderate intellectual disabilities. The current study was based upon the methodology used in German et al. (2000), where it was found that all six participants attained all three short-term goals each day during the maintenance period. In this study, however, participants inconsistently attained all three short-term daily goals each day, if they attained three during the maintenance period at all.

The results may have differed from those found in German et al. (2000) due to the level of intellectual functioning of participants. German et al. (2000) listed the WISC-III Full Scale IQ scores in their study; five out of six participants had IQ scores that did not fall significantly below the IQ score of 70 requisite for classification for intellectual disability (AAIDD, 2018). Therefore, it can be concluded that most of the participants in the previous study had mild intellectual disability, which might have augmented their ability to understand and benefit from the *Take Action* package. The one participant who had a significantly lower IQ score only completed two days of daily goals after instruction and prompting was withdrawn; his high performance during this stage might have declined as more time between the withdrawal of instruction had passed.

Another aspect that might have influenced the discrepancy between the results in German et al. (2000) and the current study was the mode of implementation. In German et al. (2000), the classroom teacher implemented the *Take Action* curriculum, whereas in the current study an external investigator

visited the classroom to deliver instruction. Because of this, the classroom teacher in German et al. (2000) might have intentionally or unintentionally incorporated aspects of *Take Action* programming into other classroom activities and lessons, thereby providing students with more exemplars of its proper implementation and/or reminders to work toward daily goals. The classroom teacher in the current study, while trained extensively in data collection and prompting toward students' goal completion, had no explicit training in the instructional package and therefore would not have incorporated it into other aspects of the classroom. Future research should perhaps conduct separate studies under both conditions to determine the extent to which the teacher's level of familiarity with the curriculum impacts participants' success.

Possible Factors Influencing Participants' Success

Ability to Manipulate the Environment

Wehmeyer's functional model of self-determination recognizes four dimensions that are intrinsic to acting in a self-determined manner: behavioral autonomy, self-regulated behavior, psychological empowerment, and self-realization (Wehmeyer, 1999). The dimension of self-regulated behavior is most closely related to this study, as it encompasses an individual's ability to act within an environment and manipulate it to fulfill one's own needs; put more simply, the ability to self-regulate is directly related to the ability to set and attain goals. Students' ability to read the environment and respond in a manner that helps them accomplish their goals might have been a mediating factor in participants' overall goal attainment in this study.

By the end of this study, all three participants accomplished more short-term goals per day overall, but only one accomplished two or more goals per day consistently by its conclusion. This may have been a function of participants' ability to manipulate the classroom environment to accomplish their goals. Chou, Wehmeyer, Palmer, and Lee (2017) investigated the extent to which individuals with various cognitive differences engaged in the four dimensions of Wehmeyer's (1999) functional model of self-determination. Results indicated that individuals with intellectual disability had the lowest self-regulation scores as compared to the scores of individuals with autism spectrum disorder or learning disabilities. Data such as these imply that individuals with intellectual disability might need more explicit training in how to self-regulate their behavior prior to the implementation of self-determination curriculum or programming. It also suggests that participants may need more time with which to engage in instruction before being asked to independently implement skills, as this group may take longer to internalize and apply the information being taught (Chou et al., 2017).

Social Skills

The primary predictor of success for all participants appeared to be mastery of social skills; this mirrored findings from previous self-determination research (Pierson, Carter, Lane, & Glaeser, 2008). The *Take Action* curriculum requires participants to plan for social supports to help accomplish goals; as such, participants were expected to independently ask peers and teachers to help them accomplish each goal. Accordingly, the ability to communicate with others on a variety of topics, both in terms of academic and leisure-related activities, was important for participants to be successful. As the study progressed, it became

evident that participants' social skills, independent of their verbal ability, seemed to be influencing their ability to meet their respective goals (Pierson et al., 2008).

This may be a function of participants' ability to recruit support (Pierson et al., 2008). One of the main components of this curriculum package was participants' use of support; when planning for each goal, participants were expected to include a plan for the social supports required to accomplish each goal. While each participant successfully indicated a level of social support that would help them accomplish their goals, it appeared that only Participant 1, whose social skills were more developed, was able to actually put his plan into action and recruit support. Participants 2 and 3 consistently struggled to recruit support from either teachers or peers. Participant 2 was able to recruit support and accomplish his goals more frequently when the goals were socially based, while Participant 3 was able to recruit support and accomplish his goals more frequently when the goals were academically based.

Nature of the Goals

Another factor that appeared to influence participants' ability to accomplish all three of their goals each day was the nature of the goals themselves. Each participant selected from a bank of 30 goals based on his current IEP goals; as such, goals were related to the three domains most often covered in IEPs, namely social skills, academic skills, and vocational skills. Participants did not select the academic goals as frequently as they did social goals or vocational goals; indeed, of the top goals each participant selected, at least half were related to a social activity, such as talking to a peer or doing an activity with a peer. The academic goals participants did choose were not met as frequently as social goals or

vocational goals, and participants accomplished fewer academic goals than social goals or vocational goals.

An explanation for this is that the academic goals were not particularly reinforcing, as the students themselves did not independently select them. Research indicates that parents and guardians of individuals with intellectual disabilities often make decisions that affect their family member's quality of life on their behalf, regardless of what the individuals themselves may want; this is particularly true regarding major life transition decisions, and has been observed in school planning meetings (Curryer, Stancliffe, & Dew, 2015). If the participants in this study did not have their opinions heard when developing their IEP goals, they might not have been intrinsically invested in the goals, and therefore might have been less willing to work toward attaining them. Future research should consider this confound when designing studies, and should perhaps allow participants to identify and plan for goals they think of themselves rather than goals based on a predetermined set of IEP goals.

Wordiness of Curriculum

Another factor that may have influenced participants' performance was the wordiness of the *Take Action* curriculum package itself. The curriculum was based almost exclusively on written information. There were some picture-based visual supplements and supports, but the vast majority of the package was text-based, requiring participants to have well-developed reading fluency and comprehension skills to easily benefit from the program. Additionally, the vocabulary used in the curriculum was relatively high-level. The *Take Action* planning process included steps labeled as Plan, Act, Evaluate, and Adjust; the latter two steps' labels were confusing for all three students in the study as they were unfamiliar with those

words. Additional teaching was required to ensure students understood the terms and what each respective step entailed. Similarly, during instruction there were several instances where the wordiness of the instructional script confused students, and instruction had to stop while the meaning of the text itself was clarified. This impeded instruction from progressing as prescribed in the script and thereby interfered with the fidelity of instruction.

If the curriculum had been more simply written and had included additional visual supports such as images and diagrams, the students might have been better able to understand its content, thereby augmenting their ability to attain their short-term daily goals. As it was, students had to do their best to understand the complex instruction being provided to them without visuals to support their comprehension. Multiple means of representation might have helped students benefit from the *Take Action* package.

Attention and Memory

Another factor that influenced participants' ability to benefit from the curriculum was their ability to attend to the lessons themselves. Participant 3 was attentive and engaged for the duration of the lessons; however, Participants 1 and 2 were less able to attend for the entire duration. Participant 2 in particular was very easily distracted, and had to be redirected to attend to the lesson at least twice during each lesson. This may have influenced their ability to learn all of the components of the *Take Action* steps for goal attainment, which might have been partially responsible for his performance during the maintenance without prompts phase of the study.

Similarly, participants had difficulty keeping their goals in mind during the day, influencing their ability to accomplish them. Each morning, the day's

schedule was written on the board. Participants were all provided explicit instruction in how to check the daily schedule before selecting goal cards to ensure that the goals selected were actually attainable for that day. However, even with prompting from the classroom teacher and instructional aides, all three participants had trouble attending to the daily schedule in reference to their set of goals, often leading them to choose unattainable goals. Similarly, although participants made plans for each goal in the morning, they had trouble remembering to implement their plans, often only realizing they had not accomplished a goal at the end of the day when they reviewed their progress with the primary investigator.

Future studies or implementations of the *Take Action* package might include visual prompts or schedules to make implementation easier for individuals with moderate intellectual disability. Research has demonstrated that visual supports can significantly aid decision making in adults who have an intellectual disability (Bailey, Willner, & Dymond, 2011); similar supports might make the acquisition of the curriculum, which is decision-based in nature, easier. As it was, participants struggled to attend to all of the information and stimuli required to successfully select, plan for, and accomplish all three daily goals. Additional supports are indicated to ensure success.

Limitations

The primarily limitation of this study was its relatively small sample size. Due to adult transition programs' class sizes being relatively small and the need for participants to be matched based on shared characteristics such as age, gender, and disability label, it was not possible to include more than three participants in this study. Future studies should include more participants of both genders to

make the findings more robust and to provide additional data to ensure threats to validity such as maturation are not influencing results.

Another limitation of this study was the schedule of implementation. Because of the adult transition program's weekly schedule, it was not possible to work on daily goals or provide instruction on Wednesdays; therefore, there was one day out of the instructional week where participants were not exposed to the curriculum, which might have led to a slight deterioration of skills that influenced their ability to accomplish their daily goals. Additionally, there were three Mondays in a row where students were not in school due to holidays and school district training. These breaks in programming, again, might have influenced participants' ability to remember the content being taught, and therefore to successfully accomplish their daily goals. Future research should ensure that the curriculum is implemented with fewer breaks in programming to ensure continuity of instruction and that participants have the best chance of remembering the content and strategies being taught.

An additional factor that might have influenced results was the structure of adult transition programs. In previous studies, this curriculum was implemented in K-12 educational settings where instructional days are fairly regimented and the number of social outings is limited. In adult transition programs, much of the instructional day is spent outside the classroom engaged in various vocational and social activities. Because of this, their schedule changes daily, which might have made it more difficult for participants to select and plan for goals that they could actually accomplish. Implementing this research in a setting with a more predictable daily schedule would ensure that extraneous variables such as scheduling did not significantly influence results.

Suggestions for Future Research

Future research should include a larger sample size to ensure threats to validity are minimized. Future research should also include both males and females in their sample to ensure that effects are not influenced by gender. The curriculum should be implemented consistently, in a program where the daily schedule is relatively predictable and where there are few breaks in instructional time due to holidays and other scheduling concerns. The curriculum should also be implemented again with adults with moderate intellectual disabilities to ensure that the findings are generalizable in multiple settings, not just in the one observed during this study.

Summary

The results of this study provided information about how to teach adults who have a moderate intellectual disability the requisite skills to act with self-determination, particularly in terms of goal-oriented behavior. Because current legislation mandates the incorporation of self-determination into planning and programming for all adults who have an intellectual disability, this research provides more information about how instruction in self-determination might be implemented in a practical setting.

The overall conclusion that can be shared from the findings of the study is that while this particular curriculum package might have been partially successful at teaching goal-oriented self-determination skills, there may be a more effective way to organize instruction such that a greater number of individuals benefit from it. More research needs to be conducted to determine which components of instruction are the most effective at teaching self-determination skills, and a more comprehensive, targeted curriculum package should be developed based on that data.

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APPENDICES

APPENDIX A: RESEARCH ASSISTANT TRAINING PROTOCOL

Research Assistant Training Protocol

Research assistants (RAs) will be provided with a copy of the curriculum package for their review prior to the first day of training. They will be expected to read it in order to understand what will occur throughout the course of the study.

Training will involve teaching RAs how to take data and practicing collecting data through role play.

Data Training

RAs will be presented with a copy of the data sheets that will be used during the study. They will be instructed on how to determine whether or not a goal was met for the day; to that end, they will be instructed to look at the students' selected goal cards in the morning and monitor students throughout their day for goal completion. Each goal card will have specific criteria that delineates goal completion specific to each student; RAs will be instructed to write these criteria on the data sheet and refer to them when determining whether or not a goal was met for the day.

Role Play Data Collection

RAs will engage in role play to practice taking data on daily goal attainment. The primary investigator will select a goal card and give a copy to all RAs. She will then engage in a series of behaviors that may or may not be related to the goal. RAs will observe this behavior, and then record whether or not the goal was met based on their observations. This will be repeated until interobserver agreement is at least 90% across 3 consecutive trials.

APPENDIX B: SAMPLE GOAL CARD

FRONT

(Student's Name)'s Goal Card (Goal Number)

[Student-specific goal printed here]

BACK

[This side is left blank.]

APPENDIX C: INFORMED CONSENT FORM

CONSENT FORM

You are invited to participate in a study conducted by Dr. Colleen Torgerson and Rebecca Pings for California State University, Fresno. We hope to learn what the effect of implementing a self-determination intervention on goal attainment for adults who have an intellectual disability. You were selected as a possible participant in this study because you might benefit from self-determination instruction.

If you decide to participate, we will be teaching you about self-determination using the *Take Action: Making Goals Happen* curriculum package (Huber Marshall et al., 1999). This will teach you how to set goals for yourself, plan how you will reach your goals, work on your goals, and see how well you are meeting your goals. You will be able to practice what you learn with the instructor. Being a participant might mean you miss up to four of your regularly scheduled classes. However, if you do participate, you may learn how to make and set goals for yourself, which might help you be more independent. We cannot guarantee, however, that you will receive any benefits from this study.

Any information obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. If you give your permission by signing this document, we plan to disclose data about your performance over the course of the study to California State University, Fresno. This will be done to see how well the *Take Action* lessons worked to teach you self-determination skills.

Your decision whether or not to participate will not prejudice your future relations with California State University, Fresno or Diamond Learning Center. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. The Committee on the Protection of Human Subjects at California State University, Fresno has reviewed and approved the present research.

If you have any questions, please ask us. If you have any additional questions later, Dr. Colleen Torgerson (559-278-0328) and Rebecca Pings (559-284-1356) will be happy to answer them. Questions regarding the rights of research subjects may be directed to Kris Clarke, Chair, CSU Fresno Committee on the Protection of Human Subjects, (559) 278-4468.

You will be given a copy of this form to keep.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE, HAVING READ THE INFORMATION PROVIDED ABOVE.

Date **Signature**

Relationship to Subject

Signature of Witness **Signature of Investigator**

APPENDIX D: INFORMED ASSENT FORM

ASSENT FORM

You are invited to participate in a study conducted by Dr. Colleen Torgerson and Rebecca Pings for California State University, Fresno. We hope to learn what the effect of implementing a self-determination intervention on goal attainment for adults who have an intellectual disability. You were selected as a possible participant in this study because you might benefit from self-determination instruction.

If you decide to participate, we will be teaching you about self-determination using the *Take Action: Making Goals Happen* curriculum package (Huber Marshall et al., 1999). This will teach you how to set goals for yourself, plan how you will reach your goals, work on your goals, and see how well you are meeting your goals. You will be able to practice what you learn with the instructor. Being a participant might mean you miss up to four of your regularly scheduled classes. However, if you do participate, you may learn how to make and set goals for yourself, which might help you be more independent. We cannot guarantee, however, that you will receive any benefits from this study.

Any information obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. If you give your permission by signing this document, we plan to disclose data about your performance over the course of the study to California State University, Fresno. This will be done to see how well the *Take Action* lessons worked to teach you self-determination skills.

Your decision whether or not to participate will not prejudice your future relations with California State University, Fresno or Diamond Learning Center. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. The Committee on the Protection of Human Subjects at California State University, Fresno has reviewed and approved the present research.

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You will be given a copy of this form to keep.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE, HAVING READ THE INFORMATION PROVIDED ABOVE.

Date **Signature**

_____

Relationship to Subject

Signature of Witness **Signature of Investigator**

_____

APPENDIX E: SAMPLE DATA SHEET

Warriors

Date: _____ Observer name: _____

Time(s) observed: _____

Goal #	Goal	Criterion	Completed (Yes/No)
1	Ask for a career book.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Takes career book from staff member.	
2	Fill out half of the personal information section of a career book.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Fills out half of the personal information section, in any order.	
3	Fill out all of the personal information section of a career book.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Fills out all of the personal information section of the career book.	
4	Fill out half of a job application.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Fills out half of a job application (any sections, in any order)	
5	Fill out a whole job application.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Fills out all of a job application (any sections, in any order)	
6	Ask a teacher to help me fill out a job application.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Asks for help filling out a job application. ☐ Works on job application with staff member for at least five minutes.	
7	Ask a teacher to help me fill out the personal information section of a career book.	☐ Approaches staff member or teacher. ☐ Asks for a career book. ☐ Asks for help filling out personal information in the career book. ☐ Works on personal information with staff member for at least five minutes.	
8	Ask a friend to play a game with me during free time.	☐ Approaches friend during free time. ☐ Asks friend to play a game. *Note: Warriors does not have to actually play the game for this goal; the goal is specifically related to asking only. If he does play a game, please make a note below.*	

Notes:

_____

_____