DISSERTATION

ADVANCING THE TRANSITION TO EMPLOYMENT FOR YOUNG ADULTS WITH INTELLECTUAL DISABILITIES THROUGH ASSESSMENT, SELF-REPORT, AND LEARNING FROM LIVED EXPERIENCE

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ABSTRACT

ADVANCING THE TRANSITION TO EMPLOYMENT FOR YOUNG ADULTS WITH INTELLECTUAL DISABILITIES THROUGH ASSESSMENT, SELF-REPORT, AND LEARNING FROM LIVED EXPERIENCE

This dissertation seeks to advance the transition to employment for young adults with intellectual disabilities through three distinct approaches. First, we explore the construct of self-determination specifically as it pertains to the employment of young adults with intellectual disabilities. Second, we intentionally refine an assessment of "vocational fit" for self-report by young adults with intellectual disabilities. Third, we examine how young adults with intellectual disabilities and their families experience barriers to engagement in self-advocacy in navigating complex systems intended to assist with the transition to work. In Study 1, we found evidence to support the idea that the context of employment plays a bigger role in the construct of self-determination than is explicated in current self-determination theories. We learned in Study 2 that young adults with intellectual disabilities can interpret and respond appropriately to a self-report version of a vocational fit assessment. In Study 3, findings taught us that the complexities of support systems intended to assist young adults with intellectual disabilities in reaching their employment goals drastically affects their and their families' ability to advocate for their rights and needs. Taken together, these studies present a multi-faceted approach to improved assessment, inclusion, and access necessary for the successful transition to employment for young adults with intellectual disabilities.

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On a personal note, thank you to the friends and family who've championed me throughout these last five years. I have felt grounded by your presence through every step of this process. I hope my feelings of gratitude for getting to participate in this educational journey are felt loudly by those who encounter this work.

DEDICATION

For my boys–

Before I even knew how to start– A,

As I decided just how to finish– R,

There seeing me through it all– D.

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CHAPTER 1: INTRODUCTION

Work is a fundamental human right (United Nations, 1948). The ability to work and earn a living wage is strongly linked to health (Robertson et al., 2019), quality of life (Randall et al., 2023), and socioeconomic status (McMahon et al., 2022), but individuals with intellectual disabilities face significant challenges to entering the workforce (Winsor et al., 2023). Roughly 3% of the American population lives with an intellectual disability (Anderson et al., 2019) and of those, a moderate amount (39%) experience some level of employment in the years immediately following high school (Newman et al., 2011). Unfortunately, even when people with intellectual disabilities obtain employment in early adulthood, they often fail to maintain employment as they age (Winsor et al., 2018).

Intellectual disabilities typically manifest before an individual turns 22 years of age and are characterized by significant limitations in both intellectual functioning and adaptive behavior (Schalock et al., 2021). Intellectual functioning, or intelligence, refers to concepts such as learning, reasoning and problem solving. Adaptive behavior includes conceptual, social, and practical skills required during everyday life. Those with intellectual disability are typically classified into mild, moderate, severe, or profound categorizations based on intelligence quotient (IQ) and adaptive skill presentation (Schalock et al., 2021).

In the United States, children with disabilities, including intellectual disability, have a right to publicly funded and individualized education under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA; P.L. 101-476). The beliefs guiding this law and practice, as expressed by Congress, are that disability is a natural part of the human experience and improving educational results of individuals with disabilities is essential to safeguarding the

right to participate in and contribute to society (Cleary & Persch, 2020). Under IDEA, transition planning for students with disabilities (who have Individualized Education Programs, or IEPs) must begin at age 16 or earlier. Prior to the adoption of IDEA in 2004, the Individuals with Disabilities Education Act of 1997 had indicated transition planning should start at age 14 (Bouck & Joshi, 2016) and many states still adhere to those guidelines. In fact, Suk et al., (2020) found that over half of states and territories in the United States (52%; 29 of 56) require that transition planning start earlier than age 16. For students with intellectual disabilities, Cimera et al., (2014) found those living in states requiring transition planning start at age 14 were more likely to be employed after exiting high school. Students with IEPs, including those with intellectual disabilities, may complete high school around age 18 with their peers who do not have disabilities, or they may continue to receive special education and transition services through age 21, and even older in some states.

The federal government also recognizes that, for students with disabilities, early exposure to work opportunities may lead to better employment outcomes after high school (Miller et al., 2018). The Workforce Innovation and Opportunity Act of 2014 (WIOA; P.L. 113-128) places requirements on state vocational rehabilitation agencies (VR) to make pre-employment transition services (Pre-ETS) available to all students with disabilities who need them. Pre-ETS are in addition to transition services already provided by schools under IDEA. The required Pre-ETS are (1) job exploration counseling, (2) workplace readiness training, (3) work-based learning experiences, (4) counseling on postsecondary enrollment, and (5) instruction in self-advocacy. Each of these services is meant to either emphasize a strength of prior practices or address a gap in prior policy (Strauser, 2020). VR agencies are required to report on Pre-ETS delivery quarterly to the Rehabilitation Services Administration (RSA) and must reserve at least 15 percent of

federal grants received for Pre-ETS. These requirements mirror some accountability measures placed on schools through IDEA, namely State Performance Plan Indicators 13 and 14 (see Gaumer Erickson et al., 2014 for details). Taken together, these changes to federal policy represent major shifts towards outcome-oriented expectations, and with them, a higher bar for interagency collaboration in transition services for youth with disabilities.

The make-up of transition teams and provision of services varies widely based on students' needs and goals, family preferences, and local and state resources (Wehman, 2020). Generally, transition teams may be made up of local education agency (LEA)/school personnel (e.g., regular and special education teachers, transition coordinators, school psychologists, related service providers such as occupational therapists or speech language pathologists, etc.) and other agency professionals like state VR providers or representatives from the Social Security Administration (The IRIS Center Peabody College Vanderbilt University, 2024). The makeup of the team and the services provided should be reflective of the needs and goals of the student in transition. As such, there are exponential combinations of individual student factors and available resources across the country, resulting in many different models and practices for improving post-secondary employment outcomes of individuals with disabilities. Most interventions target key determinants of successful transition, as presented by Test, Mazzotti, et al., (2009) in their seminal systematic review.

Self-determination is an evidence-based predictor of successful post-school employment outcomes (Mazzotti et al., 2021). Broadly, self-determination is defined as "acting as the primary causal agent in one's life" (Shogren et al., 2015). As a construct, self-determination has a rich history in philosophy, psychology, and education (Wehmeyer et al., 2017) and has been

emphasized in research and practice with transition-aged students with disabilities over the past three decades.

Similarly, student's involvement in transition planning is recognized best practice (Test, Fowler, et al., 2009; Wehmeyer et al., 2007). Wehman (2020) advises "student participation in the IEP and transition process is critical to developing relevant self-determination skills and preparing students to self-advocate after exiting school" (p. 12). Transition teams are required by IDEA to invite the student to their IEP meetings and the student's expected roles are to identify their strengths and interests, set goals and share preferences for post-school outcomes, and assist in identifying strategies and activities for transition (Wehman, 2020). Interventions like the Self-Directed IEP have shown promising results for increasing student participation in IEP meetings (Diegelmann & Test, 2018; Martin et al., 2006) yet in practice, few students are provided any instruction or support to actively participate in their IEP process (Agran & Hughes, 2008). Further, tools to aid this best practice are scarce for students with more severe disabilities (Palma, 2019). Patient reported outcome measures, or PROMS, are one potential avenue for supporting students of all abilities in fulfilling active roles on transition teams (Persch & Parsons, 2020) and ensuring that what the student thinks and feels is fully expressed (Schwartz et al., 2021).

As stated by Wehman, involving students in transition planning, and promoting self-determination skills serve to build self-advocacy skills necessary upon exiting high school. Even during the transition process, self-advocacy is a crucial element for students with disabilities and their families to work efficiently with multiple stakeholders, and promote inter-agency collaboration, another evidenced-based predictor of successful post-secondary outcomes for students with disabilities (Test, Mazzotti, et al., 2009). When students' transition plans are

employment-oriented, professionals from different government agencies and human services organizations (e.g., VR counselors, job coaches, work incentive counselors) partner with LEAs/schools to work cooperatively towards goals. Alas, each separate organization focuses on a limited aspect of students' transition and collaboration alone does not often suffice (Parent-Johnson et al., 2020). Students and families who are aware of their own circumstances, understand local, state, and federal resources available to them, and can advocate for themselves during transition years, are much better prepared to exercise the same advocacy skills beyond the school environment.

This dissertation seeks to advance the transition to employment for young adults with intellectual disabilities through three distinct approaches: examining the construct of self-determination, creating a self-report assessment, and exploring lived experiences of self-advocacy in employment trajectories.

CHAPTER 2: LITERATURE REVIEW

The concepts of self-determination, self-report, and self-advocacy all have varied relationships to the study of transition to employment for young adults with intellectual disabilities. This dissertation addresses these concepts through three related studies and as such, a literature review, rationale for the study, significance of the research, and relation to the field of occupation and rehabilitation science will be provided for each.

Self-determination takes the prominent role in transition research, and we first review pertinent theories of self-determination to gain a grounding in the literature and understand the unique contribution of Study 1 (Chapter 3), which aims to explore the construct of self-determination in the context of employment.

Secondly, there is a current onus on self-report in the health sciences, but self-report for young adults with intellectual disabilities remains relatively novel in research and practice. To properly situate Study 2 (Chapter 4), we trace dominant models of disability that lead to today's focus on PROMs and the need to develop accessible, self-report instruments of "vocational fit" for young adults transitioning to employment.

Lastly, as self-advocacy has been essential to disability rights movements and disability studies, it has taken a back seat to self-determination when it comes to the transition to adulthood and employment. We explore the nuances of self-advocacy and make a case for its importance during transition years. Study 3 (Chapter 5) explores the lived experience of young adults with intellectual disabilities who want to work as they navigate employment support programs beyond the bounds of educational systems. This study espouses barriers to self-advocacy experienced by families due to complex and overlapping systems of support.

Self-Determination in Intellectual Disability

The concept of self-determination has long been studied by philosophers, sociologists, and psychologists. For individuals with intellectual disabilities, the process of deinstitutionalization, starting in the late 1960s, provides the contextual foundation for much of the modern work in self-determination. In the United States, there has been a 70% reduction in the number of individuals with intellectual disability living in institutions over a three decade span (1977 to 2007; Alba et al., 2008). But, as individuals moved from institutions to community-based settings, they mostly still lacked control over basic life decisions.

In the late 1980's and early 1990's, self-determination was adopted by civil rights activists to describe the right to self-governance for people with disabilities (Wehmeyer et al., 2017). Not coincidentally, comprehensive transition-related requirements were added to a reauthorized IDEA in 1990 to address abysmal educational outcomes for students with disabilities (Cleary & Persch, 2020; Wehman, 2012). At that time, promoting self-determination became a primary focus in the education, and particularly, transition of students with disabilities. In fact, the U.S. Department of Education's Office of Special Education Programs (OSEP) funded 26 model demonstration projects focused on self-determination promotion among youth with disabilities from 1990 to 1996 (Wehmeyer et al., 2003). Subsequently, a need for theoretical knowledge on the construct of self-determination arose, and several theoretical models grounded in sociology, psychology, and education emerged (Wehmeyer et al., 2003).

Over the course of 30 years, researchers have examined the role of self-determination on the lives and trajectories of students with disabilities (Wehmeyer et al., 2017). Multiple studies have demonstrated that students with higher levels of self-determination are more likely to have a job one year after high school (Wehmeyer & Schwartz, 1997; Wehmeyer & Palmer, 2003;

Shogren et al., 2015). Shogren et al. (2006) report 66 different articles researching intellectual disability from 1975-2004 that address essential characteristics of self-determination, as defined by the functional model of self-determination (Wehmeyer et al., 2003). Yet, there remains an impetus to "better understand the factors that contribute to positive outcomes for people with intellectual disabilities" (Shogren et al., 2006, p.334).

The Functional Model of Self-Determination

Wehmeyer (1992) proposed the functional model of self-determination by describing self-determined behavior as "the attitudes and abilities required to act as the primary causal agent in one's life and to make choices regarding one's actions free from undue external influence or interference" (p.305). The empirically derived "essential characteristics" of self-determination became the domains of *The Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995) which measured personal self-determined behavior and was validated for use with youth and young adults with intellectual disabilities (Shogren et al., 2008). *The Arc's Self-Determination Scale* was superior to other assessments of its time because it measured global self-determination in the context of a theoretical framework, while many others simply measured student mastery of self-determination curricula (Shogren et al., 2008).

Refinements to Wehmeyer's functional model were proposed over time to combat misinterpretations about the self-determination construct. Poignantly, to address misunderstanding related to individuals with more severe intellectual disability. In 2005, Wehmeyer emphasized the critical element of volition, advising self-determined behaviors are "volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one's quality of life" (p.117). This refinement served to highlight the element of "conscious choice" and distinguish it from simply "having control" (Shogren et al., 2017b).

Important distinctions such as this followed trends in special education, disability studies, and rehabilitation science, that disability is not inherent to an individual, but rather disability is a function of the interaction between an individual and their environment (World Health Organization, 2002).

Causal Agency Theory

Causal Agency Theory is partially derived from the functional model of self-determination and is the current iteration of the Wehmeyer theoretical framework (Shogren et al., 2017b). Through a positive psychology lens, Causal Agency Theory adopts the emphasis of volition from the Wehmeyer (2005) definition but also intends to explain how people become self-determined, with a grounding in human agentic theories (Shogren et al., 2017b). In Causal Agency Theory, self-determination is defined as

> a dispositional characteristic manifested as acting as the causal agent in one's life. Self-determined *people* (i.e., causal agents) act in service to freely chosen goals. Self-determined *actions* function to enable a person to be the causal agent in his or her life. (Shogren et al., 2017b, p. 60)

Shogren et al. (2017b) emphasize several essential elements to this definition of self-determination.

First, a **dispositional characteristic** is an "enduring tendency" and while we assume self-determined people have the tendency to behave in a certain way, there is also "a presumption of contextual variance (i.e., environmental opportunities and threats)" (p. 60). Thus, self-determination can be measured, as a dispositional characteristic, and we will observe variance both "across individuals and within individuals over time, particularly as the context changes (e.g., supports and opportunities are provided for self-determined action)" (p. 60-61).

Secondly, both **volitional action**, "the initiation and activation of *causal* capabilities– the capacity to cause something to happen" (p. 61) and **agentic action**, "the initiation and activation

of *agentic* capabilities–the capacity to sustain action toward a goal" (p. 62) contribute to the notion of "**causal agency,**" that not only does the individual make things happen in their own life, they act "with an eye toward *causing* an effect to *accomplish* a *specific end* or to *cause* or *create change"* (p. 61).

Lastly, through the application of volitional and agentic action, individuals "develop adaptive **action-control beliefs**" in which "they believe they have what it takes to achieve freely chosen goals" (p. 62). The connection between one's action and the experienced outcome leads to beliefs about (1) the link between person and goal, or "control expectancy beliefs" (2) the link between person and their means for achievement, or "capacity beliefs", and (3) beliefs about usefulness of means for achievement, or "causality beliefs" (p. 62). Thus, a sense of empowerment begins to form with self-determined actions and behaviors (Shogren et al., 2017b). Figure 1 illustrates these elements of Causal Agency in one's development of self-determination.

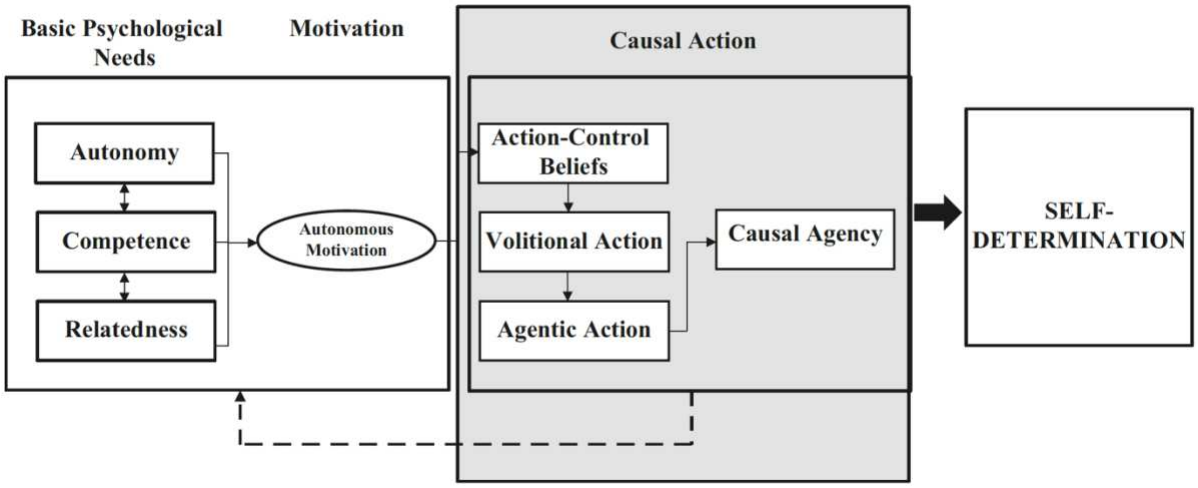

Figure 1. Causal Agency Theory in the development of self-determination.
Note: Figure is from Shogren et al., 2017, Causal Agency Theory. in *M.L. Wehmeyer et al. (eds.), Development of Self-Determination Through the Life-Course,* (pp. 55-67). Reprinted with permission.

Causal Agency Theory is intended to provide a theoretical framework for supports designed to help youth engage in agentic action to influence their self-determination (Shogren et al., 2015). As such, *The Self-Determination Inventory: Student Report* (SDI:SR) was designed for self-report for youth of all abilities aged 13-22 as an expansion of existing assessments (e.g., *The Arc's Self-Determination Scale*) and to align with Causal Agency Theory (Shogren et al., 2017a). Since its inception, the SDI:SR has been examined for effects of disability, race-ethnicity, and socioeconomic status on scores (Shogren et al., 2018b), explored personal factor (i.e., age and gender) effects on scores (Shogren et al., 2018a), and compared impacts of computer-based versus paper-and-pencil versions (Raley et al., 2020). The SDI:SR has been adapted and empirically validated in Spanish language (Mumbardó-Adam et al., 2018a, 2018b), investigated for adaptation in American Sign Language (Millen & Luckner, 2022), and paralleled as a teacher/proxy respondent version (Shogren et al., 2021). Structural equation modeling and item response theory have been employed to iteratively refine the SDI:SR to a core set of 21 items (Shogren et al., 2020). Not surprisingly, the SDI:SR has quickly become the gold standard assessment of self-determination for transition-age youth.

The first study of this dissertation (Chapter 3) seeks to further explore the construct of self-determination specifically as it pertains to the context of employment through psychometric evaluation of The Vocational Fit Assessment (VFA; described in detail in Chapter 3; see also Appendix A; Persch et al., 2015) . In Study 1, The Self-Determination Inventory (SDI) will be used as a measure of concurrent validity.

Rationale for Study 1

Competitive, integrated employment (CIE), defined by WIOA as full or part time work that is reflective of the same compensation, benefits, and opportunities for advancement as peers

without disabilities at a location that involves interactions with individuals without disabilities, is an obtainable postsecondary goal for young adults with intellectual disabilities (Wehman et al., 2020). Self-determination is a well-established characteristic of successful employment outcomes (Mazzotti et al., 2021). The work achieved by the Shogren group on the SDI and in examining self-determination in young adults with intellectual disabilities is the result of considerable investment by government agencies (e.g., the U.S. Department of Education and the U.S. Department of Health and Human Services) for more than ten years. Yet, there is a need to examine the construct of self-determination as it relates to an employment environment in the context of transition planning for young adults with disabilities. As Shogren et al., (2017b) described contextual variance in the environment, there is a need to explore how variable opportunities and threats in a given environment might affect an individual's self-determined behavior.

Significance of Study 1

Study 1 employs an inventive approach of using psychometric techniques to attempt to build an empirical understanding of a construct using real world data. Not only will this study lay a foundation for better understanding the relationship between young adults with intellectual disabilities self-determination in the context of employment, but we will also be well primed to design future reliability and validity studies of the VFA.

Study 1 Relation to Occupation and Rehabilitation Science

As a profession, occupational therapists are uniquely qualified to address areas crucial to successful transition to adulthood, like self-determination (American Occupational Therapy Association, 2020; Simões & Santos, 2016; Wehmeyer & Abery, 2013). Although we know self-determination is an essential ingredient for quality of life and an important area of consideration

for occupational therapists (Angell et al., 2019; Dean et al., 2015), only 7.5% of IEP-eligible students with disabilities receive occupational therapy during their transition to adulthood years (Eismann et al., 2017) despite a quarter of occupational therapy practitioners (22% of occupational therapy assistants; 25% of occupational therapists) working within school systems (American Occupational Therapy Association, 2023). As a profession, occupational therapists are uniquely qualified to address self-determination and other areas (i.e. self-care/independent living skills, inclusion in general education, social skills) crucial to the successful transition of individuals with intellectual disability to employment and adulthood (Mazzotti et al., 2021).

The Vocational Fit Assessment was designed by occupational therapists to assist transition teams with quantifying the (1) employment interests and pursuits (2) employment seeking and acquisition, and (3) job performance and maintenance for youth with disabilities– three important components of the occupation of work as outlined by the *Occupational Therapy Practice Framework: Domain and Process–4th Edition* (American Occupational Therapy Association, 2020). This proposal seeks to tie the construct of self-determination to the occupation of work. Defining a construct of employment related self-determination can help occupational therapists in identifying clear ways of meaningfully contributing to transition teams.

As Benevides et al. (2022) has found, a critical gap exists in occupational therapy services provided to individuals with intellectual and developmental disabilities when reaching adulthood. Johnson et al. (2019) share how occupational therapists can play a critical role in transition planning for young adults with intellectual disabilities, but conclude the profession is not sufficiently addressing the needs of the population. Integrating our professions' unique understanding of the environmental role in occupational performance to the prominent construct

of self-determination is a lucrative pathway for improving and increasing occupational therapists' role in the transition to employment for young adults with intellectual disabilities.

Self-Report in Intellectual Disability

Though more commonplace now, self-report measures for individuals with disabilities were not always a targeted consideration in theory or in practice. Reductionist models of health that dominated 20th century medicine and rehabilitation emphasized the lessening of one's impairment through a focus on body structures (e.g., anatomical parts) and functions (i.e., physiology; Persch & Parsons, 2020) and presented challenges for pioneers of the occupational therapy profession (Reed, 2018). The view that disability was a feature of a person requiring treatment by a medical professional prevailed (World Health Organization, 2002). Contrarily, a social model of disability (Shakespeare, 2006) asserts disability as a complex social phenomena resulting from a disobliging public environment (World Health Organization, 2002).

Elements of both the medical model and the social model of disability persist in today's health and political climates; we understand disability as an interaction between features of the person and their contextual environment (World Health Organization, 2002) thus gathering information through self-report is now critical. This understanding of function and disability is collectively understood through the theoretical framework of *The International Classification of Functioning, Disability, and Health (ICF)*. The ICF Model of Disability and Functioning is provided in Figure 2.

The ICF is intended to classify health conditions beyond morbidity and mortality, and can aid stakeholders in the process of outcomes assessment, or the integration of relevant individual outcomes (Persch & Parsons, 2020). As the ICF supports movement away from a binary (e.g., "disabled" or "not") framework, the emergence of patient reported outcomes (PROs) has helped

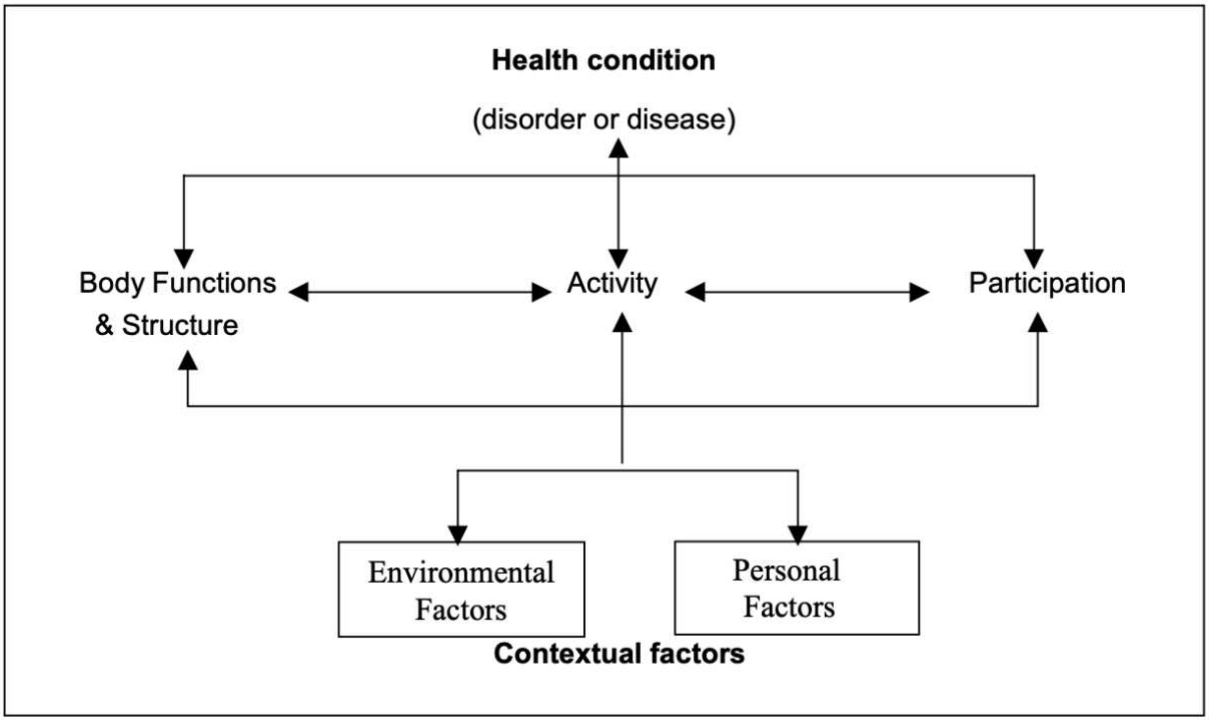

Figure 2. ICF Model of Disability and Functioning.
Note: Figure is from "Towards a Common Language for Functioning, Disability, and Health," by the World Health Organization, 2002, p. 9. Reprinted with permission.

to ensure individuals and families are actively engaged in plans of care (Centers for Medicaid and Medicare Services [CMS], 2021). PROs are defined by CMS as the status of a person's health behavior or condition, which are measured by tools or instruments called patient reported outcome measures (PROMs; 2021).

Authorized by Congress in 2010, the Patient-Centered Outcomes Research Institute (PCORI) is a nonprofit research organization with the mission of empowering individuals with actionable information about their own health (PCORI, 2021). Since its inception, PCORI has awarded more than $3 billion in research funding and when reauthorized in 2019, individuals with intellectual and developmental disabilities were prioritized in its funding of outcomes data (PCORI, 2021), demonstrating in dollars the importance of self-report tools for this population.

To date, young adults with intellectual disabilities have been disproportionately underrepresented in the development of PROMs (Schwartz et al., 2021). As a result, PROMs available for use with the general population of young adults fall short in relevance to young adults with intellectual disabilities (Kramer & Schwartz, 2018). Additionally, because of a persistent assumption that young adults with intellectual disabilities cannot reliably provide information due to their cognitive impairments (Walmsley & Johnson, 2003), proxy report by parents, teachers, therapists, and other support persons is often used in place of self-report by young adults with intellectual disabilities. Proxy report remains common practice despite research documenting that information from proxy reporters, namely parents, fails to reflect all aspects of information relevant to the corresponding youth with intellectual disability (Irwin et al., 2012). As such, there is a need for the development of quality self-report instruments for young adults with intellectual disabilities that are contextually relevant to their life experiences.

The second study of this dissertation (Chapter 4) describes processes to thoughtfully include young adults with intellectual disabilities in the development of a self-report version of The Vocational Fit Assessment, for use in planning the transition to employment.

Rationale for Study 2

Young adults with intellectual disabilities tend to interpret information in a literal way. Kramer and Schwartz (2017) found that young people with intellectual disabilities' literal interpretation of assessment items resulted in both 'unintended interpretation' and inconsistencies between performance descriptions and rating selection. Given these findings, it was crucial to pilot candidate items for the Vocational Fit Assessment Self–Report (VFA–SR) with young adults with intellectual disabilities during early stages of development. Further, by involving

youth and young adults in early stages of refinement of the VFA–SR, we capitalize on opportunities to co-design accessibility features of the tool.

Significance of Study 2

All-too-often, young adults with disabilities are passive partners in their transition processes due to a lack of opportunities to engage as a member of the team (Kucharczyk et al., 2022). The design and refinement of the VFA–SR offers an avenue for young adults with intellectual disabilities to actively participate in their own transition planning through self-report of their preferences and abilities. There are currently no PROMs designed for young adults with intellectual disabilities to report their own employment related skills and abilities.

Study 2 Relation to Occupation and Rehabilitation Science

Outcomes assessment using accessible self-report measures is a crucial way to operationalize the commitment to client-centeredness in the science and practice of occupational therapy (Stern, 2022). Without accessible PROMs, occupational therapists demonstrate uncertainty about the accommodations they might employ during administration negatively impacting the psychometric properties of an assessment (Kramer et al., 2012).

Occupational scientists from the University of Southern California understood the importance of personal voice as it relates to occupation. Doris Pierce defined occupation as "a person's personally constructed, one-time experience within a unique context" (2001, p.138). That is, occupation is distinctive to the person, not a proxy respondent. Mary Reilly famously states: "That man, through the use of his hands as they are energized by mind and will, can influence the state of his own health" (1962, p.81). This quote captures the essence of an occupational approach to health and well-being, with the person at the center; the same should be true in assessment, as in practice. Elizabeth Yerxa, in a seminal paper for the field of

occupational science, declares: “By identifying and articulating a scientific foundation for practice, occupational science could provide practitioners with support for what they do, justify the significance of occupational therapy to health, and differentiate occupational therapy from other disciplines” (1990, p. 3). It is our task as researchers to lay the evidence-base for client-centered assessment and practice, to further our understanding between occupation and health. We can work towards equity and inclusive excellence for young people with disabilities by building accessible PROMs to ensure active participation towards goals.

Self-Advocacy in Intellectual Disability

The concept of self-advocacy is interdependent with that of self-determination. In fact, definitions of self-advocacy generally include phrases such as “making choices” that can overlap with our understanding of self-determination. Still, self-advocacy is distinguished by the critical elements of “standing up” or “speaking up.” In fact, individuals with intellectual disabilities who stand up and speak for themselves are colloquially called “self-advocates.” Paradiz et al. (2018) describes self-advocacy simply as effectively communicating one’s needs and wants. The ideas of “being independent” and “having responsibility” are also common across self-advocacy definitions. It can be stated succinctly that self-determination skills of decision-making and acting are fundamental to the subsequent communication necessary for self-advocacy (Paradiz et al., 2018).

Self-advocacy in disability movements has been largely under researched and studies on intellectual disability self-advocacy have mainly focused on organizations as the main context of advocacy (Petri et al., 2020). It is true, a substantial rise in self-advocacy groups for people with intellectual disabilities has taken place over the last 30 years (Beart et al., 2004). Advocacy groups have been found to serve as a means for building positive identities by providing

opportunities for work, skill development, and friendship (Anderson & Bigby, 2017), as well as feelings of "empowerment," "increased confidence," and "belonging" (Fenn & Scior, 2019). A systematic review by Tilley et al. (2020) reports the benefits of participating in self-advocacy groups outweigh the disadvantages for the well-being of people with intellectual disability. Still, the inclusion of self-advocates in disability organizations has been criticized as being "tokenistic" and "lacking real participation" (Petri et al., 2017).

In the year 2000, Wehmeyer et al. referred to self-advocacy within disability rights as the "third wave" behind the advocacy of professionals and parents. This author group described a balance of building skills and providing opportunities to target one's capacity for self-determination and self-advocacy. Following, Test et al. (2005) published a *Conceptual Framework of Self-Advocacy for Students with Disabilities* that emphasized four components: knowledge of self, knowledge of rights, communication, and leadership. This *Framework* chronicles 25 different definitions of self-advocacy cited in literature from the years 1977-2002 and maps 20 data-based intervention studies, available at that time, onto its four components (Test et al., 2005). The authors stated that, similar to how "people can progress through the components of self-determination, our conceptual framework suggests that self-advocacy can occur at various levels of complexity throughout an individual's life" (p. 51) and that the *Framework* "suggests that students need to have knowledge of themselves and know that they have rights before they can self-advocate effectively" (p. 51-52).

One component of the *Framework*, **knowledge of rights**, is particularly tricky during the transition to adulthood and employment. Test et al. (2005) provide sample subcomponents including "personal rights, community rights, human services rights, consumer rights, educational rights, steps to redress violations, steps to advocate for change, and knowledge of

resources" (p. 49). Transition-aged students with employment goals and their families are often working with multiple professional stakeholders, across different government agencies, offering a variety services, enacted under different federal laws (Parent-Johnson et al., 2020). It can be challenging for professionals and families alike to understand rights and available resources across differing systems and how they may pertain to a student as an individual. For example, for students with disabilities who want to work to obtain knowledge of what resources may be available to them through entities such as The Social Security Administration (SSA), they first need to possess and effectively communicate their beneficiary status, or involvement with programs like Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI). These programs are historically laden with bureaucratic jargon, involvement in programs is likely to be considered personal and private information, and it is unclear which member of a transition team might have the knowledge and skills to help this student understand what resources they may be eligible to access.

Study 3 of this dissertation (Chapter 5) investigates the importance of having a "knowledge of rights" for young adults with intellectual disability who want to work. We learn about the lived experiences of young adults with intellectual disabilities and their families who've attempted to navigate employment support programs (i.e., "work incentives") through SSA.

Rationale for Study 3

Through interviews with transition work stakeholders, Sadler (2020) found that waitlists, administrative red tape, and a lack of dissemination of information acted as barriers to connecting young adults with intellectual disabilities to SSA programs. By understanding the lived experience of young adults with intellectual disabilities navigated SSA employment

supports (i.e., “work incentives”) we are well-positioned to provide recommendations for SSA to improve its outreach efforts and increase participation in employment support programs among young beneficiaries. Supporting young adults with intellectual disabilities in accessing programs designed to help them get and maintain employment will serve them well as they age and potentially experience greater financial burdens.

Significance of Study 3

Young adults with disabilities are underserved by SSA programs designed to support them (Anand & Ben-Shalom, 2018). With a dramatic rise in the number of young adults with disabilities requiring social security support, as evidenced by a 44% increase in individuals under age 18 receiving SSI benefits from 2000 to 2016 (Government Accountability Office [GAO], 2017) the GAO was commissioned to examine SSA’s efforts to encourage employment among transition-age youth in 2017. At that time, GAO made two recommendations relative to this current study: that SSA (1) analyze why youth on SSI did not benefit from the Student Earned Income Exclusion (SEIE), and (2) improve communication about SSA-administered work incentives and rules (GAO, 2017).

Since that time, two actions have been taken on those GAO recommendations. First, in November 2020, SSA updated an annual brochure mailed to the parents and guardians of all SSI recipient ages 14 through 17 and instructed its personnel on how to respond to beneficiary questions about it. Second, in June 2021, SSA issued an Administrative Message to its field office technicians reminding them to properly screen for and apply the SEIE to ensure that those eligible for the SEIE incentive benefit from it.

The issue of SSA employment support program access is relevant and timely for the population of young adults with intellectual disabilities and results of this study inform SSA in

further addressing the recommendations of the GAO, and ultimately better preparing young adult beneficiaries as they enter into the workforce.

Study 3 Relation to Occupation and Rehabilitation Science

When we view humans as occupational beings, we believe that people develop through doing (Wilcock & Townsend, 2000). The idea of occupational justice is to acknowledge that the action of "doing," through engagement in meaningful occupation, forms the basis for health (Wilcock & Townsend, 2000). In addition to being associated with health and quality of life, employment is a meaningful occupation related to self-esteem and identity (Jakobsen, 2001; Magnus, 2001). Work is the primary arena for an individual to make use of their skills and talents, contribute to a workplace community, and better society (Jakobsen, 2004). Plainly, a job provides a source of income, social connectedness, and opportunities for personal growth and development (Jakobsen, 2004). Unfortunately, young adults with intellectual disabilities may be disincentivized from working by a fear of losing Social Security benefits (Mann et al., 2015; Nind, 2017), an issue of occupational justice. Young-Southward et al. (2017) hypothesize that elements of the transition to adulthood, such as leaving the structure, supports, and routines of school, navigating new adult roles, and moving from pediatric to adult health services negatively impact the health and well-being of transition-age people with intellectual disabilities. This work contributes to a needed body of literature on how the complexities of work incentive programs affect young adults with intellectual disabilities work trajectories, and ultimately, their health and quality of life.

CHAPTER 3: EMPLOYMENT RELATED SELF-DETERMINATION: CONSTRUCT VALIDATION THROUGH PSYCHOMETRIC EVALUATION OF THE VOCATIONAL FIT ASSESSMENT – SELF DETERMINATION (VFA–SD)

Self-determination is a recognized predictive factor in postsecondary outcomes for students with disabilities (Mazzotti et al., 2021; Test, Mazzotti, et al., 2009). Literature in this space is widespread (Karvonen et al., 2004), with a majority of scientific works published in the 1990s (Wood et al., 1999). Unfortunately, much of this work is theoretical, with few studies empirically assessing self-determination in young adults with disabilities (Algozzine et al., 2001; Shogren et al., 2008). For young adults with intellectual disabilities, self-determination has become increasingly underscored as necessary to their success beyond high school. It is paramount that we have an empirical understanding of self-determination of young adults with intellectual disabilities in transition.

Of course, young adults with disabilities who are finishing high school transition to a number of different settings, including but not limited to employment, higher education, and community-based opportunities (Wehman, 2020). In this current study, we focus on young adults with intellectual disabilities who have employment goals. Young adults with intellectual disabilities can get and keep jobs when supported in doing so (Wehman, 2020), yet outcomes remain poor (Hiersteiner & Butterworth, 2018). The latest data from the American Community Survey tells us that, of the over 1 million unemployed Americans with a disability, 57% have a cognitive disability (U.S. Census Bureau, 2022). In young adults with intellectual disability, data from the National Longitudinal Transition Study–2 (NLTS–2) indicates that only 41% report having paid employment after high school, despite high frequencies of employment services in school (Park & Bouck, 2018). Agran and Krupp, (2011) summarize some literature that suggests

young adults with intellectual disabilities have not been presented with opportunities for self-determination and choice making in employment decisions. Gaining a better understanding of the role of self-determination on the path to employment may help improve employment outcomes for young adults with intellectual disabilities transitioning out of high school. Thus, we're examining a group of young adults with intellectual disability who have goals of employment and have been assessed in an employment environment to preliminarily explore how the context of employment interacts with the construct of self-determination.

As a construct, self-determination has long been studied by philosophers, sociologists, and psychologists (Wehmeyer et al., 2017) with more recent contributions from the field of education, as described above. The following sections will briefly explain recent educational theory of self-determination and assessments designed to measure it, as well as a description of an assessment for measuring self-determination in an employment context. This will provide the necessary background for the purpose of this current study.

Theoretical Models of Self-Determination and Associated Measures

Over the last few decades, several models of self-determination relevant to the education of young adults with intellectual disabilities have been proposed. Most prominently, the functional model of self-determination was introduced in the late 1990s with its accompanying measure, the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995; Wehmeyer, 1999). Wehmeyer (1999) posited self-determination as a dispositional characteristic of an individual, defined by the elements of autonomy, self-regulation, psychological empowerment, and self-realization.

The more recently introduced Causal Agency Theory builds upon the functional model of self-determination with insights from the field of positive psychology (Shogren et al., 2015).

With an expanded definition of self-determination to involve an individual acting as a causal agent in their life, Shogren et al., (2020) developed the Self-Determination Inventory (SDI) to align with Causal Agency Theory. The SDI has been validated for students with and without intellectual disabilities (Shogren et al., 2020) and intervention studies have shown changes in students' self-determination skills using the SDI (Shogren et al., 2019).

Though self-determination has been framed within larger theories of human agency, wherein individuals, acting as their own agents, behave in a goal-directed manner (Wehmeyer et al., 2017), we believe the context in which this behavior is executed has been overlooked in theory. The purpose of the present study is to empirically examine how the context of employment interacts with the construct of self-determination for young adults with intellectual disabilities.

The Vocational Fit Assessment

There are few assessment tools specifically designed with the employment goals of young adults with intellectual disabilities in mind. Developed by occupational therapists, the Vocational Fit Assessment (VFA) was designed to assist with the transition to post-secondary employment by identifying a student's skills and abilities as well as demands of a potential job to determine best fit (Persch et al., 2015). Professionals from Project SEARCH, a prominent business-led internship model of transition to employment for young adults with intellectual disabilities, were instrumental in the development of this tool (Persch et al., 2015), and the VFA is used widely by Project SEARCH programs all over the world.

The VFA is an algorithm-driven, web-based assessment tool with a simple rating scale ("Low" = 0; "Some" = 1; "High" = 2) and 11 domains (Physical Abilities, Self-Determination, Work Structure, Cognitive Abilities, Computer Skills, High Task-Related Abilities, Lower Task-

Related Abilities, Communication Skills, Interpersonal Skills, Safety, and General Work Attributes). Each domain is designed to measure separate constructs and assist transition teams with identifying pros, cons, and areas for intervention when considering a job, internship, or work-based experience. The VFA has been validated for use with young adults with intellectual disabilities (Persch et al., 2015; Persch et al., 2017) and is the first assessment in the field of transition to systematically assess the abilities of an individual whilst equally weighing the demands of the environment. Thus, the VFA is an ideal assessment to examine for empirical evidence of employment related self-determination, or the work environment's impact on young adults with intellectual disabilities' demonstrated self-determination skills.

Methods

Research Design

This cross-sectional study used psychometric evaluation methods to explore the construct of employment related self-determination. To do so, we primarily used the Vocational Fit Assessment–Self-Determination (VFA–SD) subscale. First, we examined construct validity of the VFA–SD through exploratory factor analysis. Examining the factor structure of the VFA–SD builds upon prior work establishing validity of the VFA and its subscales. Second, we assessed internal consistency within the VFA–SD using mean inter-item correlations and ordinal α. Determining the interrelatedness among VFA–SD items contributed to the parsing out of self-determination factors that may be more specifically related to employment. Third, we inspected concurrent validity of the VFA–SD with the Self-Determination Inventory: Parent/Teacher Report (SDI–PTR; Shogren et al., 2021) by means of Spearman's correlation. Investigating the agreement between the VFA–SD and a "gold-standard" inventory of self-determination (i.e.,

SDI–PTR) aids in our understanding of the construct measured by the VFA–SD. The following research questions guided this work:

1. What is the underlying structure of the VFA–SD?
2. What is the degree of interrelatedness among VFA–SD items?
3. What is the amount of agreement between the VFA–SD and the SDI–PTR?

Taken together, these complementary psychometric methods form a foundation for theorizing elements of self-determination within an employment context.

Data Sources and Sample

As part of a larger study, young adults with mild to moderate ID, ages 18-25, engaged in structured, dyadic interviews with support from someone who knows them well such as a parent, teacher, sibling, or job coach, referred to as a "partner reporter". In addition to being of transition age, young adults needed to meet the following inclusion criteria: have an employment goal, have work or volunteer experience, and be receiving employment services (described in Results). Interviews were designed to collect detailed information about the young adults' demographic, disability-related, and support systems pertinent to their employment goals. Partner reporters were asked to complete both the SDI–PTR and the VFA–SD as part of the young adults' record.

Measures

The Vocational Fit Assessment was designed by occupational therapists to assist transition teams in matching young adults with disabilities to potential work experiences. The VFA–SD is a subscale containing 11 items with prior research indicating factor loadings ranging from .67 to .92 (Persch, 2014). The VFA–SD has previously demonstrated good internal consistency, ordinal $\alpha = 0.95$ (Persch et al., 2015). Research with a small sample (n=46) also

indicated test-retest reliability of 0.70 [0.52, 0.82] (Persch et al., 2017). VFA–SD items are rated on an ordinal scale of "high, some, or low" ability.

Table 1.

Theoretical structure of Causal Agency Theory with SDI:SR and SDI:PTR example items

Essential Characteristic	Component Construct	Example SDI:SR item	Example SDI:PTR item
Volitional Action	Autonomy	I choose activities I want to do.	This student chooses activities he/she wants to do.
	Self-Initiation	I look for new experiences I think I will like.	This student looks for new experiences he/she thinks he/she will like.
Agentic Action	Pathways Thinking	I think of more than one way to solve a problem.	This student thinks of more than one way to solve a problem.
	Self-Direction	I think about each of my goals.	This student thinks about each of his/her goals.
Action-Control Beliefs	Control-Expectancy	I have what it takes to reach my goals.	This student has what it takes to reach his/her goals.
	Psychological Empowerment	I keep trying even after I get something wrong.	This student keeps trying even after he/she gets something wrong.
	Self-Realization	I know my strengths.	This student knows his/her strengths.

SDI:SR = Self-Determination Inventory: Student Report; SDI:PTR = Self-Determination Inventory: Parent/Teacher Report.

Note: From "Exploring the Relationship between Student and Teacher/Proxy-Respondent Scores on the Self-Determination Inventory" by Shogren et al., 2020, *Exceptionality*, 29(1), p. 48. Reprinted with permission.

The SDI–PTR is a 21-item assessment that mirrors the Self-Determination Inventory: Self-Report with language changed for use by proxy respondents (see Table 1; Shogren et al., 2021). The 21 items on the SDI–PTR reflect three highly discriminative items for each of seven component constructs (i.e., Autonomy, Self-Initiation, Pathways Thinking, Self-Direction, Control-Expectancy, Psychological Empowerment, and Self-Realization) which in turn are aligned with the three essential characteristics of self-determination according to Causal Agency Theory (Volitional Action, Agentic Action, and Action-Control Beliefs; Shogren et al., 2015). The SDI–PTR uses a sliding scale of scores ranging from 0 to 99 (Shogren et al., 2021) and the factor structure of the original self-report version has been validated using multiple group confirmatory factor analysis, ($\chi^2(n = 4165, 372) = 940.13$, comparative fit index (CFI) = .983;

Tucker-Lewis index (TLI) = .981; root mean square error of approximation (RMSEA) = .086 [.079, .092] (Shogren et al., 2020).

Data Analysis

We used targeted psychometric evaluation techniques to examine the construct of self-determination in an employment context. First, we wanted to explore patterns underlying our VFA–SD dataset. To do this, we employed exploratory factor analysis to model the covariance structure of observed data in terms of unobserved variables (i.e., factors). We used exploratory factor analysis to reveal how different items and constructs relate to one another (DeCoster, 1998; Knekta et al., 2019). Second, we looked at the degree of interrelatedness among VFA–SD items using mean inter-item correlation. We expected the average inter-item correlation to be between 0.20 and 0.40, suggesting reasonable homogeneity among items with sufficient variance as to not be redundant (Piedmont, 2014). Finally, we sought to quantify the amount of agreement between the VFA–SD and the SDI–PTR with Spearman's rank correlation. The SDI–PTR was chosen for comparison on the basis of its researched use among young adults with ID, as well as its confirmed factor structure aligned with Causal Agency Theory (Shogren et al., 2020). Due to the SDI–PTR's conceptually similar, but more generalized, construct of self-determination, we expected a good (R= 0.50-0.75) correlation between the SDI–PTR and VFA–SD. We theorized the VFA–SD's focus on employment would prevent correlation statistics greater than R = 0.75.

Results

To aid our understanding of the construct of self-determination in the context of employment, we used psychometric evaluation techniques on existing proxy-report data completed about young adults with intellectual disabilities transitioning to employment. For inclusion in this study, a sample of 309 young adults met the criteria of having a completed

VFA–SD with no missing data for any items. Of these, 233 young adults also had a completed SDI–PTR for use in answering the third research question of concurrent validity. Demographic information about the samples is displayed in Table 2.

The larger sample of young adults with only a completed VFA–SD was very comparable to the subset sample of young adults with both assessments completed. The majority of the samples were male (65% and 66%, respectively), with an average age of about 20 years old. High percentages identified as White (47% and 45%) and Black (34% and 35%) with 1% of both samples reporting Hispanic ethnicity. Individuals identifying as Asian/Asian American, Native Hawaiian or Other Pacific Islander, and American Indian or Alaskan Native represented less than 1% of the samples and were collapsed into "other" category with those whose race/ethnicity was not listed and those who preferred not to answer.

As expected, when asked their primary disability, most of the participants identified Intellectual Disability (51% for both samples) and a large proportion identified autism spectrum disorder (34% for both samples). Other disability types represented less than 1% of the samples. The majority of participants were their own legal guardian (68% and 73%). Project SEARCH was the predominant employment support program in both samples (35% and 43%), followed by special education (34% and 30%) and vocational rehabilitation (19% and 23%). Smaller percentages of both samples (12% and <1%) reported other employment services such as post-secondary education programs with vocational services or community-based programs with employment support. This research was approved by Colorado State University's Institutional Review Board.

Construct Validity

In pursuit of research question 1, "What is the underlying structure of the VFA–SD?" we

Table 2.

Young Adults with Intellectual Disabilities Demographics

	VFA–SD Sample $N = 309$		VFA–SD + SDI–PTR Sample $N = 233$	
Characteristic	*n*	%	*n*	%
Gender				
Male	202	65	154	66
Female	103	33	77	33
Transgender Male	1	<1	0	<1
Transgender Female	1	<1	1	<1
Prefer Not to Answer	2	<1	1	<1
Age				
M (*SD*)	20.17 (*1.83*)		20.06 (*1.75*)	
Race/Ethnicity [a]				
White/Caucasian	146	47	104	45
Hispanic/Latinx	27	1	21	1
Black/African American	104	34	82	35
Other [b]	41	13	33	14
Primary Disability [c]				
Specific Learning Disability	22	<1	15	<1
Other Health Impairment	5	<1	5	<1
Autism Spectrum Disorder	105	34	80	34
Speech or Language Impairment	5	<1	2	<1
Orthopedic Impairment	3	<1	3	<1
Intellectual Disability	158	51	119	51
Traumatic Brain Injury	3	<1	3	<1
Multiple Disabilities	7	<1	6	<1
Missing	4	<1	0	0
Guardianship Status				
Own Guardian	209	68	169	73
Has a Legal Guardian	99	32	63	27
Support Programming [d]				
Special Education	106	34	71	30
Vocational Rehabilitation	58	19	54	23
Project SEARCH	108	35	101	43
Other services	37	12	7	<1

Note. [a] Participants could select more than one race/ethnicity; [b] Race/ethnicity categories representing <1% of samples were collapsed into "Other" category; [c] Participants were asked to select one primary disability category; [d] Participants were purposively recruited from these programs.

conducted an exploratory factor analysis on a sample of 309 completed VFA–SD assessments. As the VFA–SD contains a Likert-type response scale, data are ordinal and a polychoric correlation matrix was used for its accuracy and robustness against assumptions (Emanuelsson, 2021; Holgado–Tello et al., 2010; Kiwanuka et al., 2022).

There are several methods or rules for determining the number of factors for use in factor analysis. We used two rules with complementary results. First, Catell's scree plot provided visualization of a strong argument for selecting one factor, shown in Figure 3. As illustrated by the scree plot, the first factor's eigenvalue is 8.124 and all subsequent factors are less than 1. This leads to satisfaction of the second rule for factor selection, that only factors greater than 1 be chosen.

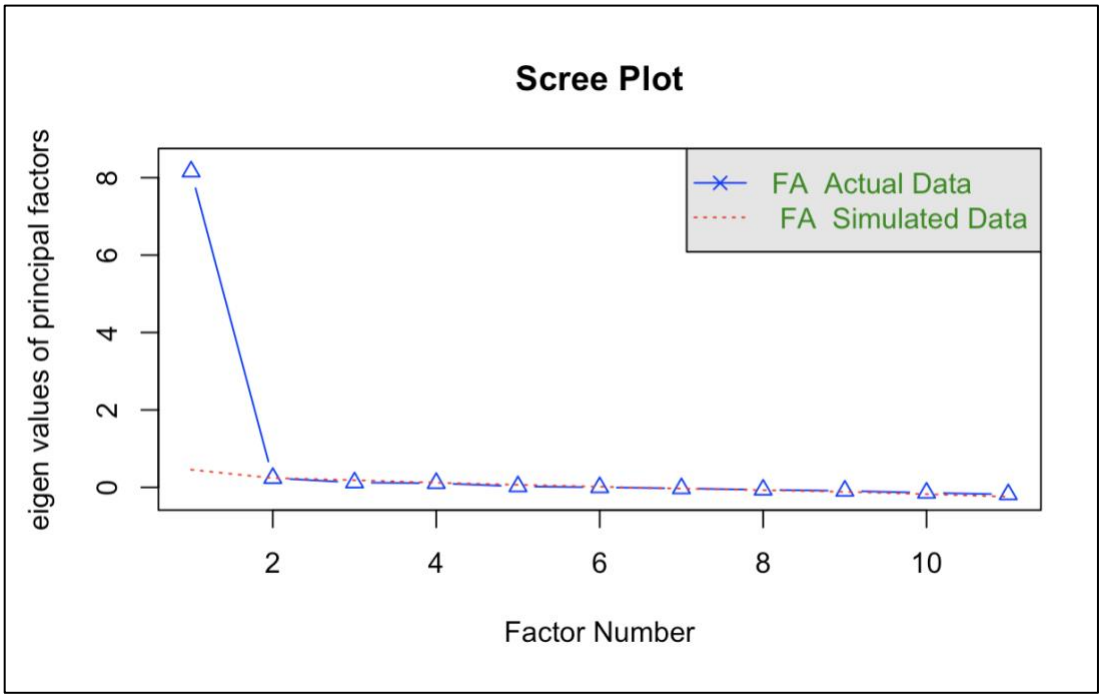

Figure 3. Cattell's Scree Plot of Vocational Fit Assessment Self-Determination (VFA–SD; *n*=309)

We conducted the exploratory factor analysis with maximum likelihood estimation (MLE) as the specified method of factor extraction. With no severe violations of normality in our

data, MLE was selected for its consistency and allowance for later fit statistics (Costello & Osborne, 2005; Fabrigar et al., 1999). We were prepared to use an oblique rotation if more than one factor emerged for selection, as theoretically we would have needed to allow for correlation.

Table 3 shows the factor loadings in the current model and provides a comparison to prior findings (Persch, 2014). We observed high correlations (> 0.70) between all items and the latent factor, with three items explaining more than 90% of the variance of the factor. The sum squared loading of the factor was 8.124, proportionally accounting for 73.9% of the variance in the observed data. A cluster analysis plot is provided in Figure 4 for a visual representation of the relatedness of the data.

Table 3.

Factor Loadings for Vocational Fit Assessment Self Determination Subscale (VFA–SD) in Current Study and Findings from 2014 Study

VFA Item	Factor 1 Loading (*n*=309)	2014 Factor Loading (*n*=166)
To what degree does the worker…		
1. make choices, decisions, and plans to meet own goals?	0.930	0.916
2. take action to complete own plans successfully?	0.932	0.891
3. determine priorities?	0.908	0.788
4. set personal goals that satisfy own interests and needs?	0.899	0.877
5. evaluate the results of own actions to determine effectiveness?	0.870	0.873
6. change actions or plans to meet work goals?	0.880	0.852
7. make decisions independently?	0.822	0.787
8. determine customers' needs?	0.815	0.769
9. determine work activities?	0.832	0.688
10. identify and express own strengths and weaknesses?	0.744	0.771
11. anticipate the thoughts/actions of others?	0.802	0.675

When compared to previously reported factor loadings, all items on the VFA–SD demonstrated higher correlations with the latent factor, with the exception of item 10: “identify

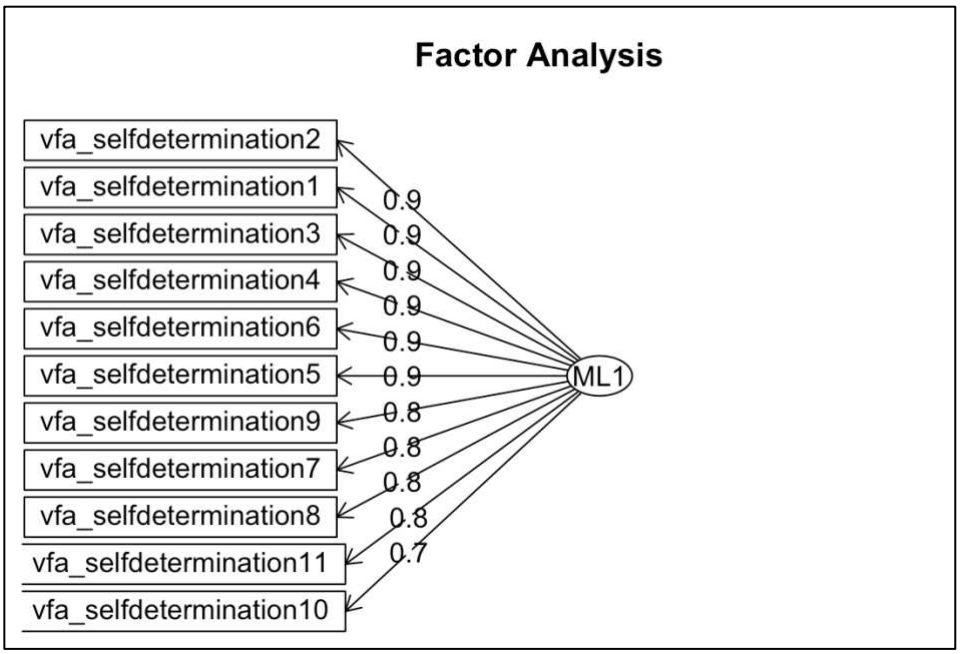

Figure 4. Cluster Analysis Plot

own strengths and needs." Item 9: "determine work activities" and item 11: "anticipate the thoughts/actions of others" demonstrated markedly increased correlations (from 0.688 to 0.832 for item 9; from 0.675 to 0.802 for item 10).

Internal Consistency

As a measure of internal consistency, we used mean inter-item correlation and ordinal α to examine the degree of interrelatedness among VFA–SD items. As stated earlier, we had hoped the average inter-item correlation would be between 0.20 and 0.40, suggesting reasonable homogeneity among items with sufficient variance as to not be redundant. With knowledge from the factor analysis, we realized items appeared to have a stronger relationship to one another than is ideal for an assessment tool. We found the mean inter-item correlation to be 0.61 using the Spearman method, an appropriate non-parametric test for our sample of ordinal-scale data. Ordinal α, an additional nonparametric measure of internal consistency, was found to be 0.97, a slight increase from previously published ordinal α of 0.95 for the VFA–SD (Persch et al., 2015).

Concurrent Validity

We were interested in examining the relationship between the VFA–SD and the SDI–PTR, a well-validated measure of self-determination in young adults with intellectual disability. Spearman's correlation was selected, again, due to the ordinal nature of VFA–SD data. A sample of 233 respondent's data for both the VFA–SD and the SDI–PTR were used. As anticipated, Spearman's rank correlation between the VFA–SD and the SDI–PTR was found to be positively and moderately correlated, as well as statistically significant, R=0.61, $p < 0.001$. Figure 5 shows a scatterplot of the correlation.

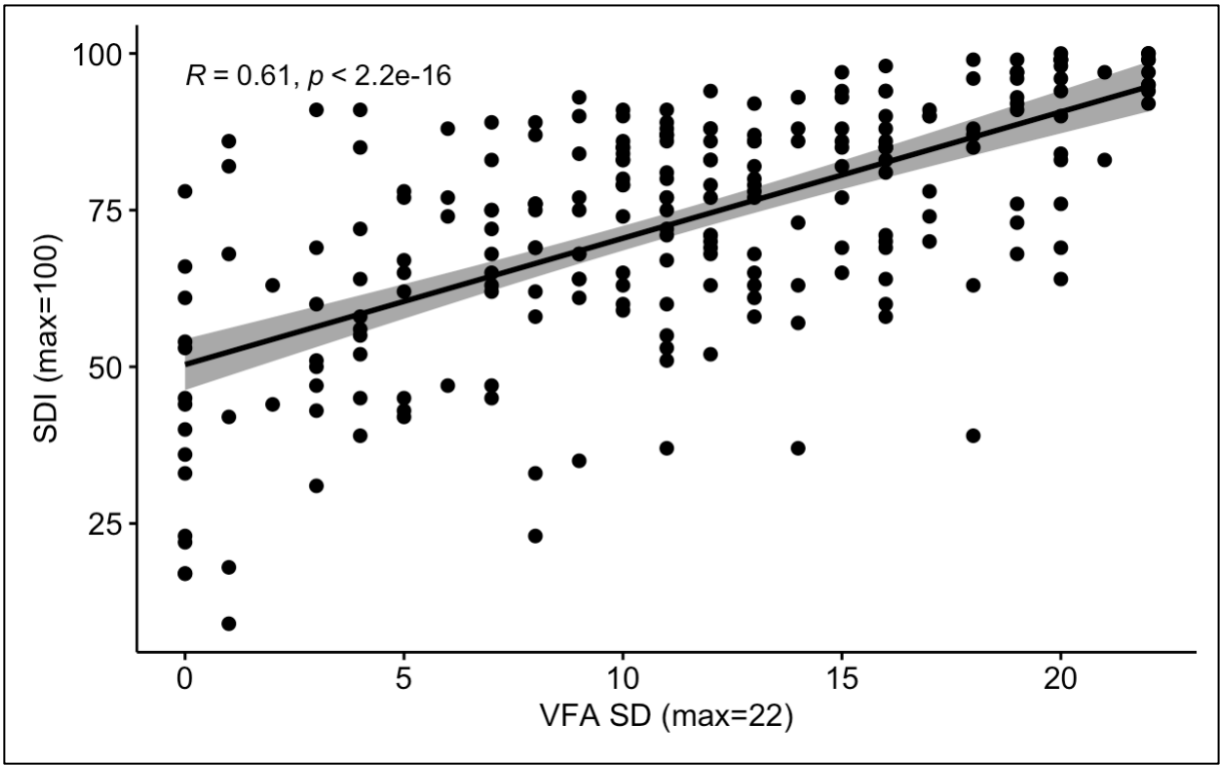

Figure 5. Scatterplot of Spearman's Rank Correlation

Discussion

"Human beings can be proactive and engaged or, alternatively, passive and alienated, largely as a function of the social conditions in which they develop and function" (Ryan & Deci, 2000, p.68). For young adults with intellectual disabilities, these social conditions described by

Ryan and Deci are of paramount importance to the development of self-determination skills. This study sought to examine self-determination under the "social condition" of employment, theorizing that the context or environment where self-determination skills may be demonstrated is as important as the skills themselves.

This notion of the importance of the environmental context has been substantiated by young adults with intellectual disabilities themselves. In 2011, Shogren and Broussard interviewed 17 young adults with intellectual disabilities about their perceptions of self-determination. They reported that a major theme was environmental opportunities and supports for self-determination. Young adults described how the environment supports or inhibits their self-determination (Shogren & Broussard, 2011). While researchers in psychology and education understandably direct attention to the personal skills, attitudes, and supports needed to be a self-determined young adult, we as researchers in the field of occupational therapy understand the vital role of the environment (American Occupational Therapy Association, 2020; Law, 1991).

The idea that psychometric techniques could be used as a starting point for theorizing has also existed within this space. For example, in 2008, Shogren et al. used structural equation modeling (SEM) to examine the relationship between two prominent measures of self-determination, the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995) and the *American Institutes for Research (AIR) Self-Determination Scale* (Wolman et al., 1994). They found that the two scales appeared to be measuring different elements of the construct of self-determination (Shogren et al., 2008) and cautioned others in selecting the most appropriate measure for research and practice. The same can be said with preliminary results presented in this current study. SEM is a powerful technique that can specify relationships between latent constructs and could be a valuable tool in furthering this theory building research.

Our exploratory factor analysis strongly suggested that VFA–SD items are measuring one unidimensional construct. As Knekta et al., (2019) states, "exploratory factor analysis can elucidate how different items and constructs relate to one another and help develop new theories" (p. 6). While one latent factor is great evidence for the VFA–SD as an instrument designed to measure one unidimensional construct, it unfortunately leaves little room for interpretation in theory building. Item 10: "identify own strengths and needs" was interestingly the only item that demonstrated a lower correlation to the latent construct than previously reported in Persch, 2014. This item also had the lowest correlation to the latent factor, though still strong at 0.744. Future research using Rasch analysis would give item fit statistics and allow for more interpretation.

The internal consistency of the VFA–SD was judged to be high, with a mean inter-item correlation of 0.61. Clark and Watson (1995) suggest that mean inter-item correlations above 0.50 indicate redundancy among items. This finding is consistent with the high factor loadings (>.70) indicating VFA–SD items likely share too much variance. We might also be concerned, with a high inter-item correlation, that items on the VFA–SD may only be capturing a small range of the intended construct (Piedmont, 2014). VFA items were originally developed through an iterative process involving data from the National Longitudinal Transition Study–2 (NLTS–2) and the Occupational Information Network (ONET; Persch et al., 2015). Perhaps there are additional elements of self-determination in employment that were not adequately captured in the original development process.

Our final finding, that the VFA–SD was positively and moderately correlated to the SDI–PTR, provided perhaps the most convincing evidence of a difference in measuring self-determination in the context of employment. If both assessments were purely measuring self-determination in young adults with disabilities, we would expect to see a stronger correlation.

For example, the AUTODDIS is a test of self-determination that recently demonstrated correlations as high as 0.77 to the conceptual constructs of self-determination in Causal Agency Theory (Verdugo et al., 2023). The statistically significant correlation we found of R=0.61 suggests a slight enough difference in the way the VFA–SD and the SDI–PTR are measuring self-determination skills in the same individual. We believe this difference is due to the VFA–SD being situated within a larger, employment focused assessment. In this way, the respondent is already primed to be thinking about matching the individual to a job, and the items are reflective of self-determination skills necessary to be successful in the workplace.

Limitations and Future Directions

This research was not without limitations. Most notably, in a study concerned about the self-determination of young adults with intellectual disability, we had the unfortunate reality of relying on proxy report. The VFA was designed for use by a person who knows the young adult with a disability, not the person with a disability themselves, and the data for this study were bound by these terms. A self-report version of the VFA is currently in development .

Additionally, the purpose of this paper was to empirically explore a construct of employment-related self-determination, yet the findings limited our ability to extrapolate much beyond the quantitative results. Items loading onto one single factor meant we were unable to explore any differences in multiple factor loadings (i.e., additional latent constructs). There is great potential for future research using SEM or Rasch analysis to continue empirically deriving the influence of a work environment on our understanding of the self-determination construct.

Conclusion

We used psychometric techniques on measures of self-determination to explore how a context of employment might interplay with the construct of self-determination. Factor analysis

of the VFA–SD indicated the items are measuring one latent construct with high factor loadings (> 0.70) for all items. VFA–SD items are likely too similar and share too much common variance. The VFA–SD was found to be positively and moderately correlated to the SDI–PTR, providing preliminary empirical evidence of the difference in measuring self-determination situated in the context of employment and work skills.

CHAPTER 4: INCLUSION OF YOUNG ADULTS WITH INTELLECTUAL DISABILITIES IN THEIR OWN TRANSITION TO EMPLOYMENT: DESIGNING THE VOCATIONAL FIT ASSESSMENT – SELF REPORT (VFA–SR)[1]

In both education and employment settings, young adults with disabilities are expected to navigate complex systems with self-determination and advocacy skills. Unfortunately, young adults with intellectual disabilities (ID) are all-too-often passive partners in their own transition process, with a lack of opportunities to engage as a member of the team despite years of federally-mandated involvement in their own transition planning (Kucharczyk et al., 2022).

Successful transition outcomes for young adults with ID include these active ingredients: the use of appropriate assessment, youth involvement in transition planning, and the integration of technology (Wehman, 2012). Reimagining technology-based assessment tools as patient reported outcome measures (PROMs) is a critical way to address the urgent need for meaningful involvement in transition planning. Henceforth, we describe the steps we've taken to redesign an assessment of vocational skills in partnership with young adults with ID and their families.

Background

The Vocational Fit Assessment (VFA) is an algorithm-based evaluation tool designed to support customized employment decisions for people with ID (Persch et al., 2015; see Appendix A). While valid and reliable from the perspective of a parent or teacher, there is currently no accessible, employment-focused assessment tool available for young adults with ID to report for themselves. To address this critical gap, the purpose of this study is to engage young adults with ID in the redesign of the VFA into a self-report tool (VFA–SR).

[1] This research has been supported in part with the Dr. Gary Kielhofner Doctoral Research Scholarship in Occupational Therapy funded by the American Occupational Therapy Foundation.

Using the principles of universal design for learning (UDL; Rose & Meyer, 2002) which posits that variability in learners is normal and expected (Meyer et al., 2014) we prepared a prototype VFA–SR for use in this current study (see Thum, 2021 for a detailed description).

The VFA was refined from 133 to 102 items, adapting both item structure and language to improve appropriateness for young people with ID. As outlined by Schwartz et al. (2021) the VFA rating scale of "demonstrates High, Some, or Low ability" needed to be easier to understand, so it was reconceptualized to "Yes, A little, No, or Skip." Structurally, VFA–SR candidate items were built to have adequate white space with one item per page, provide information in more than one representational mode (e.g., written language and visual support), and share a consistent layout throughout. Language was simplified, personalized, clarified and phrased positively. For example, VFA items "work with a co-worker in a group or team" and "cooperate with others to accomplish work activities" were adapted to "I can work on a team to meet a goal." Figures 6 and 7 illustrate all changes made with this item adaptation as exemplar.

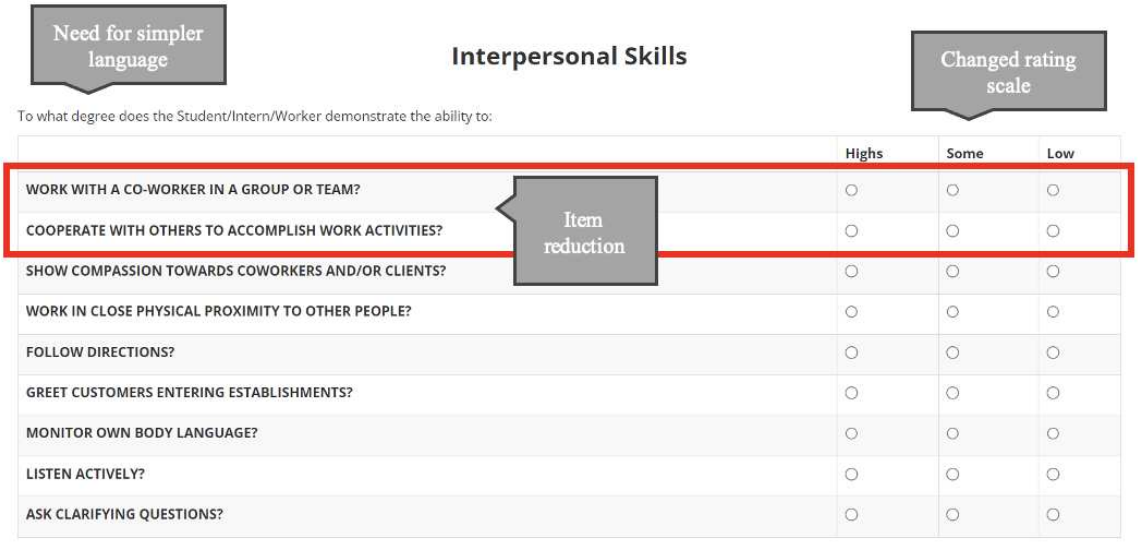

Figure 6. Exemplar Original VFA Items

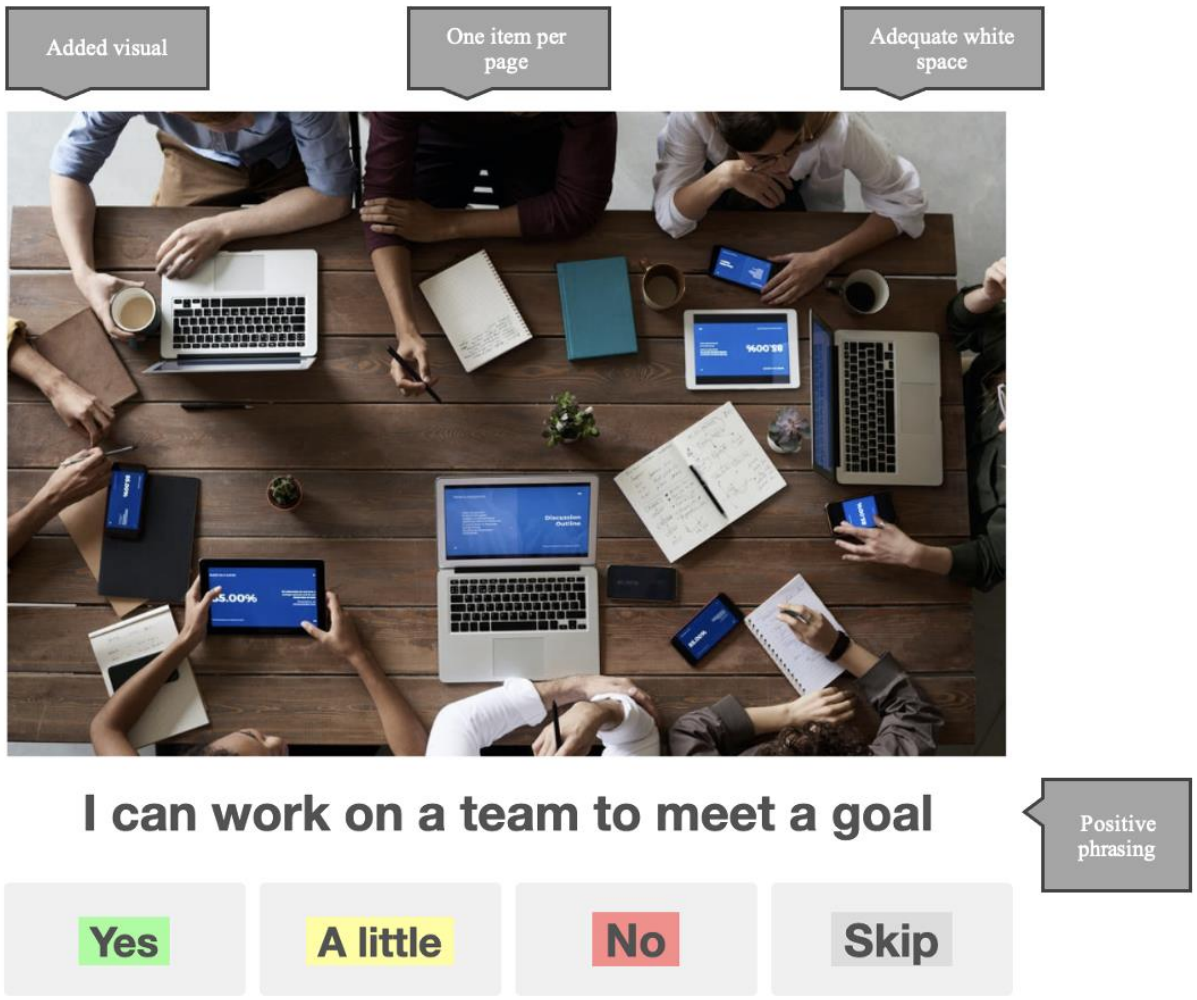

Figure 7. Exemplar Adapted VFA–SR Item

Additionally, we created a short learning module with directions, examples, and practice items to assist the young adult in understanding how to use the simplified rating scale. Directions set the stage for the administration of the VFA–SR by introducing the young adult with an intellectual disability to the format of the assessment, previewing the categories of questions, and explaining how to use the rating scale. Figure 8 shows all directions for the VFA–SR. The young adult moves through the learning modules by clicking the "Next" and "Back" buttons, exactly as they will later need to do when responding to VFA–SR items. Following directions, participants move through two examples using the same, now familiar item, "I can stand."

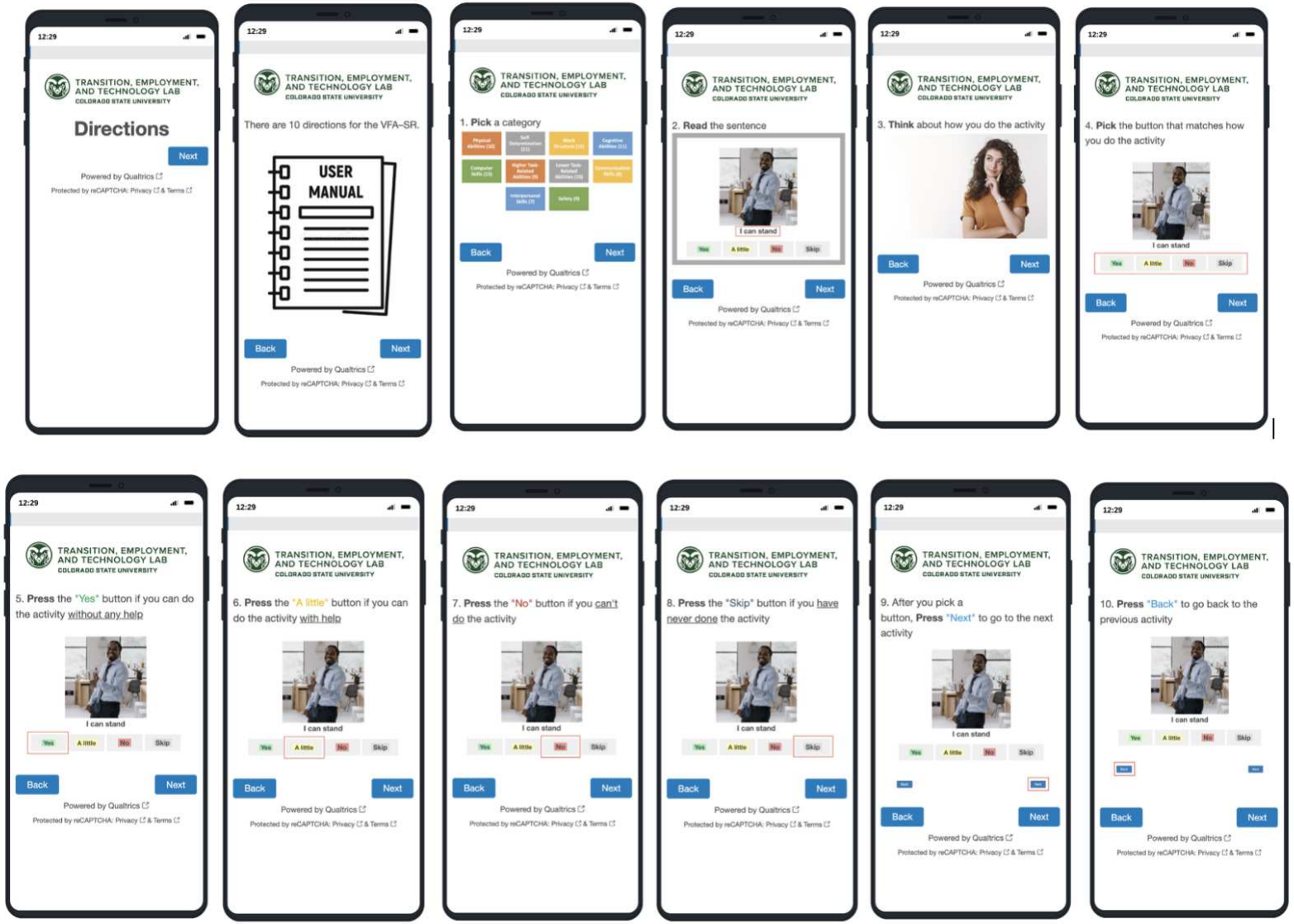

Figure 8. Directions in VFA–SR Learning Module

Examples serve to highlight how other individuals would follow the steps of the directions to respond to the item “I can stand” based on their abilities. The young adult participant is shown both a visual representation of the individual via stock images, as well as a description of how the individual performs the item. Finally, the participant is told what response choice is appropriate for the individual and asked to provide their own rationale. In this way, examples prepare the young adult to use the rating scale themselves. Figure 9 shows the second example in the VFA–SR learning module.

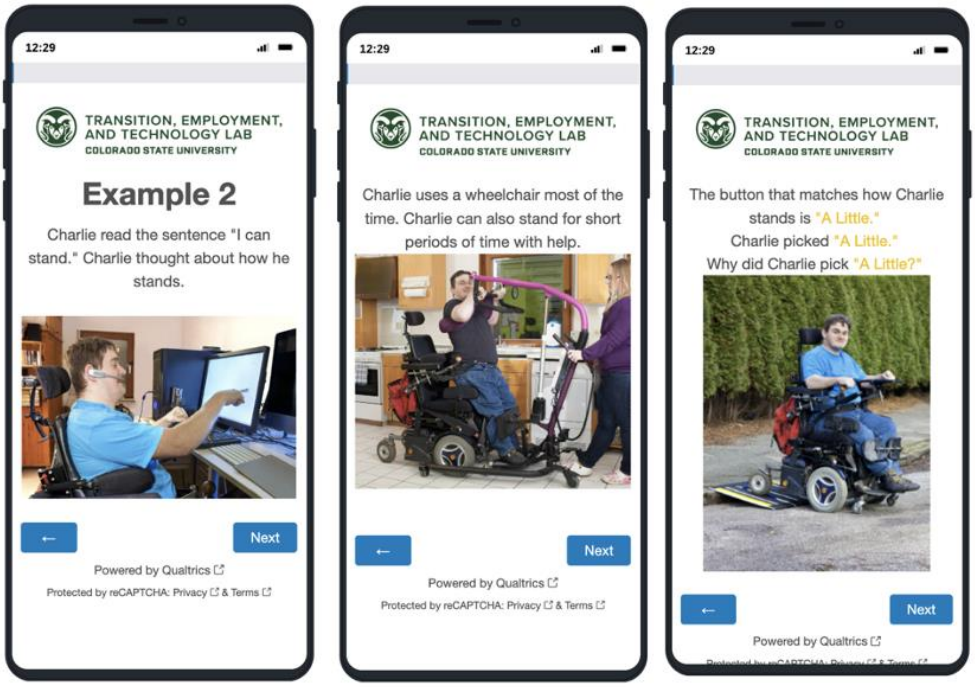

Figure 9. Example 2 from the VFA–SR Learning Module

The final step of the learning module contains three practice items. Similar to the examples, the participant is shown a VFA–SR item and how another individual would move through responding to the item by thinking about their own performance. The difference here is that the participant is prompted to select a response given the performance information. Young adults have the option to go “Back” and review. There is one “best” selection for each practice,

and if a different response is selected, the participant is prompted to “Try Again!” Figure 10 shows the third practice item and demonstrates a mismatched selection by a participant. The purpose of the three-part learning module is to ensure participants are familiar with and can demonstrate proper use of the rating scale prior to the administration of VFA–SR items.

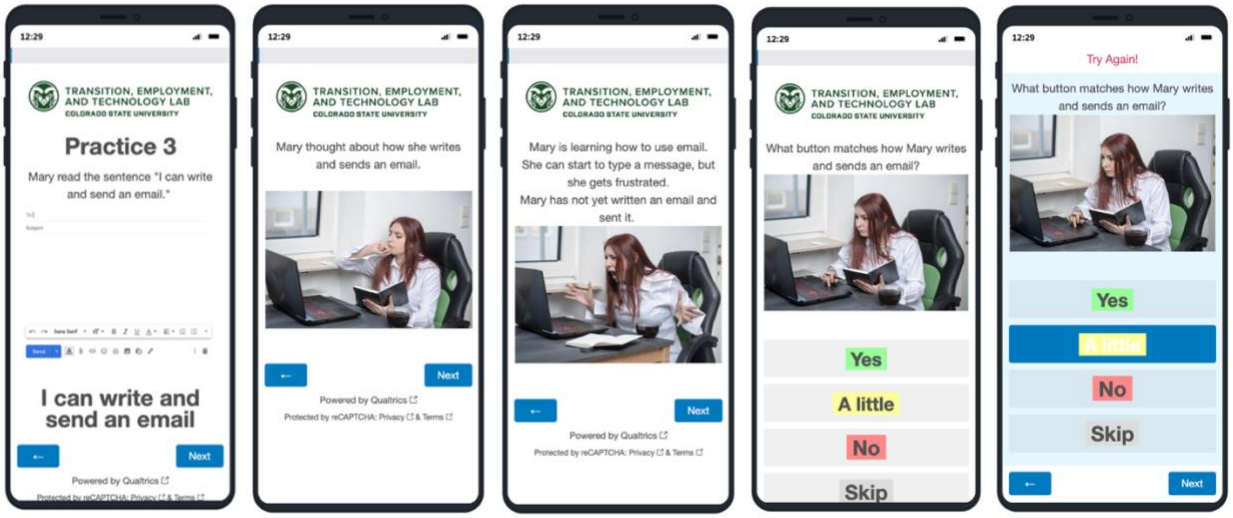

Figure 10. Practice 3 in VFA–SR Learning Module

Methods

Research Design

With the prototype VFA–SR in place, we operationalized a mixed-methods, competency-based approach to assessment and technology design with young adults with ID. The VFA–SR was administered during cross-sectional, structured cognitive interviews, guided by the following research questions:

1. To what extent do young adults with ID interpret VFA–SR item candidates as intended?
2. What design features of the VFA–SR are essential to optimize accessibility for young adults with ID?

Young adults with ID tend to interpret information in a literal way. In a similarly positioned project, Kramer and Schwartz (2017) described young people with ID's literal interpretation of assessment items resulted in both 'unintended interpretation' and inconsistencies between performance descriptions and rating selection. Given these findings, it was paramount to pilot VFA–SR candidate items with young adults with ID at the beginning stages of tool development.

Participants

Individuals with ID have varying cognitive, physical, sensory, and practical abilities, representing an ideal sample to involve in the design and refinement of the VFA–SR. For inclusion in the study, potential participants needed to have an ID, be between the ages of 14 and 25 years old, be able to communicate simple ideas in English, and maintain attention to a task for 15 minutes. Participants additionally needed to report having some work or internship experience. Young adult participants could choose to have a support person present during interviews. As this study includes people with diminished decision-making capacity and students enrolled in secondary or postsecondary programs, it was imperative to assess and document potential participants' capacity to provide informed consent (Horner-Johnson & Bailey, 2013). Thus, we employed an informed consent procedure that included multiple methods to assess capacity to consent and multiple means of providing informed consent, or assent in the case of the individual being under guardianship. This research was approved by Colorado State University's Institutional Review Board.

Procedures

Young adults with ID participated in structured interviews designed to collect qualitative and quantitative data for VFA–SR item refinement and accessibility considerations. Interviews explored the wording and relevance of VFA–SR item candidates, prompts to assess

comprehension of the intended construct, and a Likert-type scale of system usability. All interviews were conducted by the first author via teleconferencing (i.e. Zoom).

The prototype VFA–SR was built using Qualtrics software Version 2023 (Qualtrics, Provo, UT, USA) and administered between April 11th and September 20th, 2023. Qualtrics is an online survey platform that supports the creation and distribution of web-based surveys. This platform was chosen for its structural design features that allowed for adequate white space and a consistent layout. However, there were no audio read-aloud features integrated into the prototype, so for the purposes of this study, participants had the option of the interviewer reading aloud and were asked their opinion of a read aloud feature for future iterations of the tool.

The VFA–SR contained a learning module and 102 simplified candidate items in 10 domains: Physical Abilities, Self-Determination, Safety, Work Structure, Cognitive Abilities, Computer Skills, Higher Task Abilities, Lower Task Abilities, Communication, and Interpersonal Skills (see Appendix B for full learning module and VFA–SR candidate items).

The first author described each subsection with short, domain-relevant instructions to prime young adults' executive function skills in preparation for item response. She followed an open-ended interview guide with probing questions about comprehensibility ("Tell me in your own words what [item] is about?"), decision-making ("Why did you choose [response]?"), and/or performance ("How do you do [item]?"). From the perspective of the young adult, we wanted the interview to feel like a "true" administration of the VFA–SR. Therefore, the interviewer did not prompt discussion for every item administered.

The interviewer/first author maintained field notes about relevant conversation related to accessibility features including audio, visuals, repetitions, layout, and technology. After completing all VFA–SR candidate items, participants answered Likert-style questions on the

System Usability Scale (SUS; Brooke, 1995), followed by a short demographic survey. The SUS is a reliable, 10-item assessment of systems usability that's language was explained by the interviewer as necessary for young adults with ID. For example, the majority of participants required elaboration for the construct of feeling "cumbersome" in the SUS item "I found the VFA–SR very cumbersome to use." A general interview guide is provided in Table 4. Interviews were audio and video recorded and the young adults received a small gift card incentive for their participation.

Table 4

General Interview Guide

Content	Young Adult with ID Tasks	Researcher Questions
Learn to Use VFA–SR	Directions Examples Practice	Facilitate young adult's navigation of platform Probe for understanding: What button would you pick if you've never done a task? Tell me why [example] picked "a little"? How do you [complete task]?
VFA–SR	102 candidate items in 10 domains	Support young adult in making selections for items Probe for: Comprehensibility: ("Tell me in your own words what [item] is about?") Decision-making ("Why did you choose [response]?"), and/or Performance ("How do you do [item]?")
System Usability Scale	10-item assessment	-Support young adult in making selections
Quick Demographics	Basic demographic information	Support young adult in making selections
Closing	Opportunity to ask additional questions	Confirm information for gift card incentive

Data Analyses

Interpretability and accessibility of the VFA–SR was assessed with a convergent mixed method design (Creswell & Plano Clark, 2017). Interview recordings were transcribed using Otter.ai software Version 2023 (Otter.ai, Mountain View, CA, USA) and checked for accuracy by the second author. The dataset for this study includes qualitative and quantitative data components targeted at each research question.

To operationalize our goal of evaluating interpretability of VFA–SR item candidates (RQ 1), the first two authors engaged in independent coding of the data using a structured template created by the first author. For the qualitative component, we first coded open-ended responses for un/intended interpretation. Second, we coded the participants' descriptions of their performance for items as "positive, negative, or does not do." In analyzing both within and across cases, we expected a pattern to emerge in which positive descriptions of performance coincided with "Yes" ratings. Quantitatively, to aid in our understanding of item interpretability, we calculated percentages for intended/unintended responses, consistency between participants' performance and their rating selections on VFA–SR items, and inter-rater reliability.

Accessibility (RQ 2) was assessed using qualitative data from transcripts and field notes, and quantitative data from the SUS. Participants' comments and conversation related to accessibility were, again, independently coded by the first two authors into "positive" and "negative" categories. Qualitative data was captured in relation to VFA–SR items as well as broader accessibility features of the tool. Likert-style SUS survey responses were completed by all participants and organized by question for descriptive statistics. To integrate quantitative and qualitative findings for both research questions, we looked for common concepts to reach consensus (Creswell & Plano Clark, 2017).

Author Positionality

All authors are occupational therapy professionals currently working in an academic research setting. The first author was familiar with most of the young adult participants in this study from prior research projects. The second author has lived experience as a family member of someone with ID. The third author is a mentor to the first two authors.

Trustworthiness

Purposive sampling techniques ensured that participants were appropriate to our research questions (Portney, 2020). The first author re-engaged with participants for member checking as necessary to confirm credibility and she maintained an audit trail throughout the project (Creswell & Poth, 2018). Two raters independently engaged in coding of the data add to this study's rigor and validity. The thoughtful triangulation of data safeguards that findings are reflective of multiple perspectives and protects against the bias of any one singular data source (Portney, 2020).

Results

The participants for this study were a convenience sample of 11 young adults with mild or moderate ID between the ages of 19 and 23. Table 5 displays relevant characteristics of the participants. Most of the participants were male (*n*=7, 64%), and a majority of the participants identified as either Black/African American (*n*=5, 45%) and/or White/Caucasian (*n*=4, 36%), with one participant identifying as both. Over half of the participants reported they were currently supported through programs such as vocational rehabilitation (*n*=5, 45%), Project SEARCH (*n*=3, 27%), or other services (*n*=2, 18%). Project SEARCH is a business-led internship program which young adults can participate in during their final year of high school eligibility. Vocational rehabilitation programs are federally funded, state-run services to help

Table 5

Participant Demographics

Participant Pseudonym	Age	Gender	Race	Current Program(s)	Work Experience	Geographic Region	Support Person	Survey Method
JJ	19	Male	Black/African American	PS, VR	Unpaid internship	Midwest	No	Desktop
MR	23	Female	Black/African American	PS	Unpaid internship	Midwest	No	Mobile
DS	19	Male	White/Caucasian	PS,VR	Unpaid internship	Midwest	No	Desktop
JD	20	Female	White/Caucasian, Black/African American	None	Paid job	Midwest	Yes	Desktop
KM	20	Female	White/Caucasian	VR, OS	Paid job	Midwest	Yes	Desktop
MW	20	Male	Prefer not to answer	None	Paid job	Midwest	Yes	Desktop
CH	19	Male	Black/African American	None	Paid job	Southeast	No	Mobile
KC	20	Male	Asian/Asian American	None	Paid job	Southeast	No	Mobile
JG	21	Male	Black/African American	VR	Paid job	Midwest	No	Desktop
MK	23	Female	White/Caucasian	VR	Paid job	West	No	Desktop
NC	22	Male	Asian/Asian American	OS	Paid job	Midwest	No	Mobile

Note. N=11. Average age = 20.5 (± 1.5). PS = Project SEARCH, VR = vocational rehabilitation, OS = other services

individuals prepare for and maintain employment. Of note, two participants were participating in more than one employment program. Four participants, all of whom had paid jobs, reported no longer receiving any additional employment supports.

Most of the participants had paid work experience (*n*=8, 73%) and the others were participating in unpaid internships through Project SEARCH *(n*=3, 27%). Eight participants (73%) were located in the Midwest, two in the Southeast (18%) and one in the West (9%). Three participants (27%) had their mothers present during the interviews. There was a good mix of methods of technology used to access the VFA–SR, with seven participants using a computer or laptop to access the desktop version of the survey (64%) and four participants using their cell phones to access the mobile version (36%).

Item Interpretability

To assess item interpretability, priority was given to qualitative data involving the voice of young adults with intellectual disabilities. As such, we first present the five items that routinely sparked discussion amongst the participants and the interviewer, due to conceptualization discrepancies as well as language choices.

"I can pick up heavy things"

The first item to present difficulties in interpretation was part of the Physical Abilities subscale: "I can pick up heavy things." The operative word "heavy," being subjective, often required explanation from the interviewer. One approach of the interviewer was to provide examples, such as lifting jugs of milk, or groceries, or a heavy backpack. Another attempt to clarify the concept of "heavy" was to ask the young adult to compare with what they thought other people could reasonably lift. Still in other instances, the interviewer chose to give an actual number, as specified in the parent item of the VFA, "lift heavy materials (i.e. 40 pounds)." While

all of these approaches seemed to help participants get closer to answering in a way that matched their ability, we believe a change to item language may help mitigate confusion. We recommend "I can pick up things that are a little heavy."

More than one participant alluded to safety when discussing this item with the interviewer. For example, MK said, "I might need like another person to help lift but I could do a little bit, with a little bit of help," and DS reported, "I need someone there to help me, because, help me learn how to pick things up that are heavy." We believe the visual used with this candidate item invoked thoughts of more weight than intended and perhaps even poor body mechanics, leading to the idea of needing help to avoid injury. Instead, we had hoped to invoke more of a requirement that might be found in a job description such as, "must be able to lift 30 pounds." Herein, we suggest a more suitable visual for this item in Figure 11. This new visual, coupled with the adjusted language, better aligns with what one might be expected to perform as a job task.

Figure 11. The Original VFA–SR Candidate Visual (*left*) and the Proposed Visual (*right*)

"I can work for at least 30 minutes without a break"

There was much discussion between the interviewer and the participants about the item "I can work for at least 30 minutes without a break." This was adapted from VFA parent item "work for prolonged periods (e.g. 30 minutes) without a break." Using the unit of "minutes" seemed to

be creating confusion. During several interviews, there was discussion about the benefit of switching the language from “minutes” to “hours,” and it was generally agreed upon that the change in unit may help. However, the intent of the item is to discern if a young adult requires more frequent breaks than would be expected of the general population. Therefore, we’re recommending removing references to the abstract concept of time and changing item language to “I can work without extra breaks.”

“I can guess what someone will say or do before it happens”

The item “I can guess what someone will say or do before it happens” arguably created the most confusion amongst participants. The parent item on the VFA was “anticipate the thoughts/actions of others.” To clarify the concept, the interviewer used phrases like “anticipate” and “read a room,” as well as providing context for “picking up on social situations.” With KC, the interviewer provided the example, “Maybe if you were talking to a customer and you're looking at your surroundings trying to think about what their question is.” However, this concept described by the interviewer is measured with a different item on the same Self-Determination subscale, “I can figure out what a customer needs.” Similarly, anticipating what an internal stakeholder, such as a coworker, might say or do is addressed in the Interpersonal skills subscale relative to working on a team.

The visual accompanying this item seemed to offer little in the way of clarification. As KM stated, “I think a little, uh, to me, uh, looking at the picture even it was a little bit confusing because I’m like, that’s kind of a given.” The first author coded this item with negative accessibility for five out of the 11 participants. Only three participants were judged to interpret the item as intended. When examining this item in the context of the entire assessment and

considering the high degree of unintended interpretation and inaccessibility, we are recommending deletion of this item.

"I feel okay when plans change"

Adapted from its parent VFA item "deal with change" the candidate item "I feel okay when plans change" also sparked conversation between participants and the interviewer. MK responded in this way, "Um, at work, yes. It's different at home, but if we're talking about work, I'm totally good with that." We observed that the interviewer often needed to steer the participants back to thinking about a work environment.

We considered adapting the language to be closer to the parent item, such as "I can deal with changes at work," but we wanted to convey both minor changes in work tasks, like when you go to work and have a different task list than you expected, but also larger changes in the workplace, such as employee turnover or changes in a work schedule. For these reasons, we're recommending changing the item language to "I feel okay when my work routine changes."

"I can work in a place that could make me get sick"

The item "I can work in a place that could make me get sick" was simplified from the VFA's "work exposed to potential disease or infection." A few participants conflated the notion of being able to work in a place where they might get sick with just plain not wanting to get sick. During interviews, the first author drew from her knowledge of participants' work experience to probe. For instance, several participants had interned at a hospital. Here's an example of the interviewer attempting to refocus the conversation in line with the subscale topic of Safety,

> "These questions are about safety. So, you know how to keep yourself safe without getting sick and you can work in a hospital just fine without getting sick every day or getting other people sick…you are showing that you can work in a hospital where there are people who are sick, but you can follow the rules to keep yourself healthy." (interview, transcript, 5/2/2023)

There was a disconnect in understanding *where* you could get sick that affected participants' selections. This idea should have been particularly salient given that many of these young adults worked during the height of the COVID-19 pandemic, but only two participants were able to make this connection right away. To mitigate confusion, we thought it important to add language to describe working in a setting where other people might be sick, leading to the idea that they could get sick from exposure. We recommend item language be changed to "I can work in a place with other people who might be sick."

Quantitative Interpretability Findings

As stated previously, it was important to the goals of this study that the interview felt close to a true administration of the VFA–SR, therefore the interviewer was selective about which items to probe, and analyses codes are reflective of that, with only about a quarter of the total items administered being assigned codes. We did not allow for short responses without elaboration (e.g., "Yes, I can do that") to be coded, which further restricted the quantitative sample. Still, there were between 200 and 300 item responses coded for each construct of interest, out of the 1,122 total administered items (102 items across 11 participants).

To measure interpretability, we coded for "intended" or "unintended" interpretation if a participant elaborated on their response selection. On average, between two raters and across participants, we assigned interpretability codes to 24% of the items administered (n=274 ± 11.3). Of these, we found participants interpreted items as intended 85% of the time (n=233 ± 38.2). There was variability found between the raters, with the first author coding 21% more items as intended interpretation than the second author. This is likely due to the first author's familiarity with participants leading to more confidence in coding for their interpretability. Additionally, the second author coded more items as unintended, being attuned to the support provided by the first

author during interviews and, rightfully, coding more conservatively. Overall, despite differences between the raters, we found that participants did appear to interpret VFA-SR items as intended.

As anticipated, participants were likely to answer "Yes" to items for which they positively described their performance. On average, between raters and across participants, we assigned performance codes to 25% of the items administered (n=285 ± 6.4). For these items, we found the average alignment between "Yes" selections and positive performance was 97% (± 5%). Participants demonstrated a solid understanding of selecting "Yes" for items they could do and provided excellent examples when probed. The average alignment between "No" selections and negative performance was found to be 86% (± 23%). Variability here was likely due to performance codes for two specific participants – JJ and MW. Between the two raters, their alignment between "No" selections and negative performance codes was 42% and 50% respectively, while the other participants fell within the range of 88%-100% alignment.

We anticipated that deciding when to select "A Little" and when to select "Skip" would be more challenging, and the data reflects that. On average, the alignment between "A Little" selections and positive performance was 73% (± 22%). Participants often qualified their selections of "A Little" with positive statements like "I'm working on that" or "I think I still need a little help." The average alignment between "Skip" selections and reports of no experience was 68% (± 38%). Selections of "Skip" were conceptually trickier and even higher variability was observed. Two participants did not select "Skip" at all. Four participants demonstrated particularly low alignment (<50%) and the other half of the sample (n=5) had excellent alignment (between 90-100%). Misalignment most often occurred when participants shared they had experience, but then selected "Skip," usually due to a lack of personal preference for the activity.

Inter-rater reliability was assessed by calculating the percentage of agreement in performance and interpretability codes across all participants. Agreement occurred when the authors either a) coded the same interpretability/performance for a participant on a given item or b) both chose not to code interpretability/performance. Disagreement occurred when the authors either a) coded different interpretability/performance for a participant on a given item or b) one coded interpretability/performance and one did not. The average total agreement across all participants was 85% (± 8%) and 84% (± 7%) for performance and interpretability respectively.

Accessibility Considerations

To determine design features of the VFA–SR necessary to optimize accessibility for young adults with ID, we considered both qualitative data from interviews and researcher field notes and quantitative data from the Systems Usability Scale (SUS). Priority in analysis was placed on young adult participant's contributions during interviews, and as such, qualitative findings are presented first.

Minor Accessibility Changes

There were some minor changes that were realized during interviews that would aid in accessibility if addressed. Firstly, the interviewer used consistent language to introduce the subscales to participants and prime them to form responses. For example, with the Self-Determination subscale the interviewer used the exact same phrase, "How you make choices for yourself" with five of the eleven participants. Outside of this study, it would be beneficial to write short instructions when new subscales are presented.

Similarly, there were times when the interviewer pointed out the progress line at the top of the screen to help participants understand how far along they were in the survey. Explicit instructions explaining a progress line would aid in accessibility of the tool. Lastly, we learned

we must consider the size of the visual and its ability to fit in a screen regardless of modality (desktop or mobile version). In this study, we observed that the mobile version seemed to be intuitive for participants to scroll down and select the next button when ready, but on the desktop version, the interviewer prompted "You can hit Next" quite a bit in the beginning of interviews. We believe this difference was due to the visuals appearing fairly large on the desktop version, requiring a user to scroll down in order to see the next button.

Major Accessibility Changes

All participants were asked about both their preference for reading during the interview (i.e., reading it themselves or having the interviewer read aloud) and their opinion of an integrated read aloud feature for future iterations of the VFA–SR. This iteration of the VFA–SR was built using Qualtrics and a read-aloud function was not integrated. For the most part, we all agreed a read aloud feature would be advantageous for accessibility of the tool, but participants shared that providing some contextual support is what would really help;

> Um, reading it would not be the problem. But like the questions I've been asking, I might just get confused and not pick the right answers because I'm unsure, something like that. (interview, transcript, 4/22/2023)

Other assessment tools concerned about accessibility for young adults with disabilities provide supports like defining words if a cursor is hovered over them. Based on the interviews conducted for this study, we found the participants had an easier time understanding when the interviewer provided examples. Much like the participant quoted above alludes to, young adults asked clarifying questions throughout their interview when they just needed reassurance. In this way, providing a definition or words wouldn't help. Three participants consistently asked the interviewer and/or their support person for feedback on their response selections. A method for accessing a few examples may help with confidence in interpretation of items, knowing a support person may not always be available during administration.

Quantitative Accessibility Findings

Aggregate data from the SUS is summarized in Table 6. Participants answered ten SUS items, rating usability on a Likert scale of one (strongly disagree) to five (strongly agree).

Table 6
Descriptive Statistics of Participant Responses to the Systems Usability Scale (SUS)

SUS Item	Descriptive Statistics				
	Min [a]	Max [a]	Mean	SD	Variance
I think that I would like to use the VFA–SR frequently	3	5	4.18	0.83	0.69
I found the VFA–SR unnecessarily complex	1	3	1.45	0.66	0.43
I thought the VFA–SR was easy to use	4	5	4.64	0.48	0.23
I think that I would need the support of a technical person to be able to use the VFA–SR	1	4	1.73	1.14	1.29
I found the various functions in the VFA–SR were well integrated	3	5	4.45	0.78	0.61
I thought there was too much inconsistency in the VFA–SR	1	3	1.27	0.62	0.38
I would imagine that most people would learn to use the VFA–SR very quickly	3	5	4.45	0.66	0.43
I found the VFA–SR very cumbersome to use	1	5	2	1.21	1.45
I felt very confident using the VFA–SR	3	5	4.55	0.78	0.61
I needed to learn a lot of things before I could get going with the VFA–SR	1	5	2.18	1.19	1.42

Note. N=11. SD = standard deviation. [a] Items were rated on a Likert scale from 1-5, with 1 indicating “strongly disagree” and 5 indicating “strongly agree.”

Globally, participants positively rated VFA–SR usability immediately after completing it. All participants either "agreed" or "strongly agreed" that the VFA–SR was easy to use. Participants mostly felt VFA–SR features were well-integrated and consistent, with nine participant responses aligning with those constructs. Nine participants reported they either "agreed" or "strongly agreed" that they felt very confident using the VFA–SR, with two participants feeling neutral about confidence. We observed variability in responses to items with confusing language (e.g., "cumbersome") where the interviewer had to try to define the word or explain the construct. Participants also asked questions about "needing a technical person," comparing that to their experience with the interviewer, as well as "needing to learn a lot of things before they could get going", considering they did complete a learning module before starting the VFA–SR.

Additional Findings

Though this study's research questions aimed at assessing the interpretability of item candidates and the tool's accessibility, there were additional themes discovered from qualitative data salient to the improvement of this PROM. Here we present findings related to improvements to the VFA–SR learning module and special considerations for the Computer Skills subscale.

Improvements to the Learning Module

Participants asked some thoughtful clarifying questions about how to answer questions from their lived experience. Broadly, young adults showed some confusion around if they should be answering based on their current job or any of their relevant work history. For example, JD asked,

> "So can it be not just like [current job] like can it also be like [volunteering] too because I work there, it's just voluntary work, I do it on Saturdays. So does this have to be about [current job]? Or can it be like anywhere?" (interview, transcript, 5/8/2023)

The interviewer told this participant and others that yes, they are responding based on their skills and abilities, so they can think about any of their work or volunteer experience. Based on these conversations, we determined it would be beneficial in the learning modules to explicitly define "work" as any job, internship, or volunteer experience the individual can draw from.

Along similar lines, we found that participants may benefit from instruction on the purpose of completing this assessment, which is to match with a potential new job or internship. So, respondents should weigh their past experiences and abilities, but also their desire to perform a particular task in a work setting. Their preferences were found to be particularly salient in response to items having to do with working outdoors in variable temperature, working in cramped spaces, and working in uncomfortable positions. In this way, even if young adults may not have had much experience working under these conditions, they can communicate, through their selection, whether a job that required such elements would be a good match for them or not. During interviews this topic was addressed by the interviewer validating their preferences with a statement like: "A job where you had to do this a lot would not be a great match for you." In the future, it would be best to explain this concept before the young adult begins the assessment.

Participants seemed to implicitly understand that if they needed extra time to complete a task or could only perform it for short periods, then "a little" would be an appropriate selection, but one participant asked explicitly if "a little" could also mean "for a little while" not just with help, as depicted in the learning module. For this reason, we recommend expanding the definition of "a little" within the learning module to include the caveat of requiring extra time, not just assistance. Part of the trade-off for having a simple rating scale is more room for interpretation within this middle category of "a little," so additional guidance on the use of this response category is warranted.

Computer Skills Subscale

The original VFA items were created in 2014 based on data available at that time (Persch, 2014). However, over the past decade, how we conceptualize computer technology in the workplace has undoubtedly changed. We observe this subtly in VFA language, such as “navigate to a specific web address,” “access an email system,” and “use an online search engine.” We simply don’t talk about computer skills concepts like this anymore. Instead, we’d ask “can you Google it?” or “have you checked your email?” When simplifying VFA–SR item candidates we updated the language for todays’ context. These changes are illustrated in Table 7 (next page), which shows participant responses for all VFA–SR Computer Skills item candidates.

Young adult participants overwhelmingly selected “Yes” and “A Little” for Computer Skills item candidates. In fact, all eleven participants reported “Yes” for six of the fifteen candidate items. This leads us to believe that while this subscale was winnowed from 17 items to 15 items, there is still room to delete or combine items. With KM, the interviewer even joked, “These all could have been one question for you." Participants also commented on the irony of answering questions about computer skills whilst being interviewed on Zoom. For example, when prompted with the item “I can click on a link” NC laughed, saying, “I just clicked on a link this meeting.” JG snarked about the computer skills subscale, “After all, I’m using one right now!” Across the board, the interviewer felt the need to rationalize why items on this subscale seemed redundant or overly simple.

The items on this subscale that did receive “No” or “Skip” responses were “print from a computer,” “find a program on the computer,” and “attach a file to an email.” There was more discussion during interviews around items that had to do with files or emails. For instance, with JD and her mother, the young adult described the difference between emailing casually and

Table 7

Participant Responses to Items in the Computer Skills Subscale

VFA Item: To what degree does the worker…	VFA-SR Item Candidate: I can...	Participant Responses *n* (%)			
		Yes	A Little	No	Skip
Navigate to a specific web address	Go to a website	11(100)	0(0)	0(0)	0(0)
Save a file/document to a specific location	Save a file in the right place on the computer	6 (55)	5 (45)	0 (0)	0 (0)
Locate and open a saved file/document	Find and open a file on the computer	8 (73)	3 (27)	0 (0)	0 (0)
Click on a desired web link	Click on a link	11 (100)	0 (0)	0 (0)	0 (0)
Type text to create a document; Enter text applying basic key functions (e.g., space bar, enter/return, shift, delete, backspace) [a]	Use a keyboard to type	11 (100)	0 (0)	0 (0)	0 (0)
Scroll through a web page to find specific information	Scroll on a webpage to find information	11 (100)	0 (0)	0 (0)	0 (0)
Access an email system using a username and password	Log into an email account using a username and password	11 (100)	0 (0)	0 (0)	0 (0)
Print a file/document	Print from a computer	4 (36)	5 (45)	1 (9)	1 (9)
Reply to an email message	Reply to an email	8 (73)	3 (27)	0 (0)	0 (0)
Recognize and start a software program	Find a program on the computer	9 (82)	1 (9)	1 (9)	0 (0)
Close a software program; Recognize and start a software program [a]	Open and close a program on the computer	11 (100)	0 (0)	0 (0)	0 (0)
Read a received email	Read an email	9 (82)	2 (18)	0 (0)	0 (0)
Use an online search engine	Search online	10 (91)	1 (9)	0 (0)	0 (0)
Attach a file to an email	Attach a file to an email	9 (82)	1 (9)	1 (9)	0 (0)
Compose and send an original email message	Write and send an email	7 (64)	4 (36)	0 (0)	0 (0)

Note. N=11; [a] Two VFA items were combined into one VFA-SR item.

emailing in a work setting,

> Sometimes, like, if I don't know what to say, I'm not gonna, I'm not gonna lie, I get stressed out, because sometimes I'm just like, well, what, what do I say? Like, especially if I have never sent an email to a certain person before? Like, what is, what is the right way? (interview, transcript, 5/8/2023)

The interviewer validated this young adult's point of view by adding that it has a bit to do with how she may want to present herself in a professional setting. Ultimately, JD felt like it was something she still needed help to do because of spelling and grammar. Her mother reported that she is really trying to facilitate her daughter feeling confident enough to send emails without needing them proofread. This was one example of an instance where it was clear during the interview that the support person likely would have answered differently on the VFA than how the young adult was choosing to answer for themselves on the VFA–SR.

Discussion

The goal of this study was to team with young adults, and their support person if chosen, to build a self-report version of the VFA in a way that made sense and felt accessible to young adults with ID. Too often, proxy report by parents, teachers, therapists, and other support persons is used in place of self-report by young adults with disabilities (Walmsley & Johnson, 2003). We recognized this shortcoming in the original conception of the VFA and view this study as a step forward in improving the clinical utility of the tool. Further, we envision integration between the VFA and the VFA–SR that supports dynamic engagement of young adults with ID as leaders of their employment transitions.

It was essential to include young adults with ID in these early development stages of the VFA–SR and quickly became clear that we would have missed simple, and important aspects of successful implementation if we had not asked young adults for their opinions. For example, in our attempts to simplify the process of learning to use the VFA–SR, young adults with ID made

it clear we had neglected to share with them the purpose of completing the assessment. When armed with the knowledge that the assessment was to be used to match them to prospective work opportunities, we found that young adults with ID naturally integrated their preferences in with their perceived abilities when responding to items. This simple correction yields a more meaningful self-report tool, and would have been overlooked by the academic research team, indicative of the value added by young adults with intellectual disabilities (Walmsley et al., 2018). The importance of the administration procedures, not just the content and layout of PROMs designed for individuals with cognitive impairments, is described well by Kramer and Schwartz, (2017). They put forth a definition of cognitive accessibility for the design of PROM that states:

> Cognitive accessibilty is present when assessment design anticipates respondent variability in cognitive abilities and, to the greatest extent possible, reduces cognitive demands and/or supports cognitive processes to enable respondents with a range of cognitive abilities to interpret and respond to assessment items as intended (p. 1705)

This definition mirrors the use of UDL principles in designing the VFA–SR and validates the aims of this study (interpretability and accessibility) as logical next steps in PROM development.

To support our understanding of item interpretability, we calculated that, overwhelmingly, when young adults described how they do a particular item (i.e. their performance), their response selection aligned with what we would expect, this was especially true for “Yes” selections and positive performance (97% alignment ± 5%). We have great confidence in these findings, as our degree of inter-rater reliability was high and our thresholds for what constituted agreement/disagreement were robust. Not only does this aid in the iterative refinement of the VFA–SR, it makes a meaningful contribution to the body of literature suggesting that young people with ID can reliably report for themselves when barriers to accessing assessments are

reduced (Irwin et al., 2012; Kramer & Schwartz, 2018; Schwartz et al., 2021; Walmsley & Johnson, 2003).

There were several concrete recommendations made as a direct result of our findings from participant interviews. We recommended changing the language of four items across three subscales, changing a supporting visual on one of those items, and deleting one item on another subscale. Figure 12 visualizes the iterative refinement of the VFA–SR to this point.

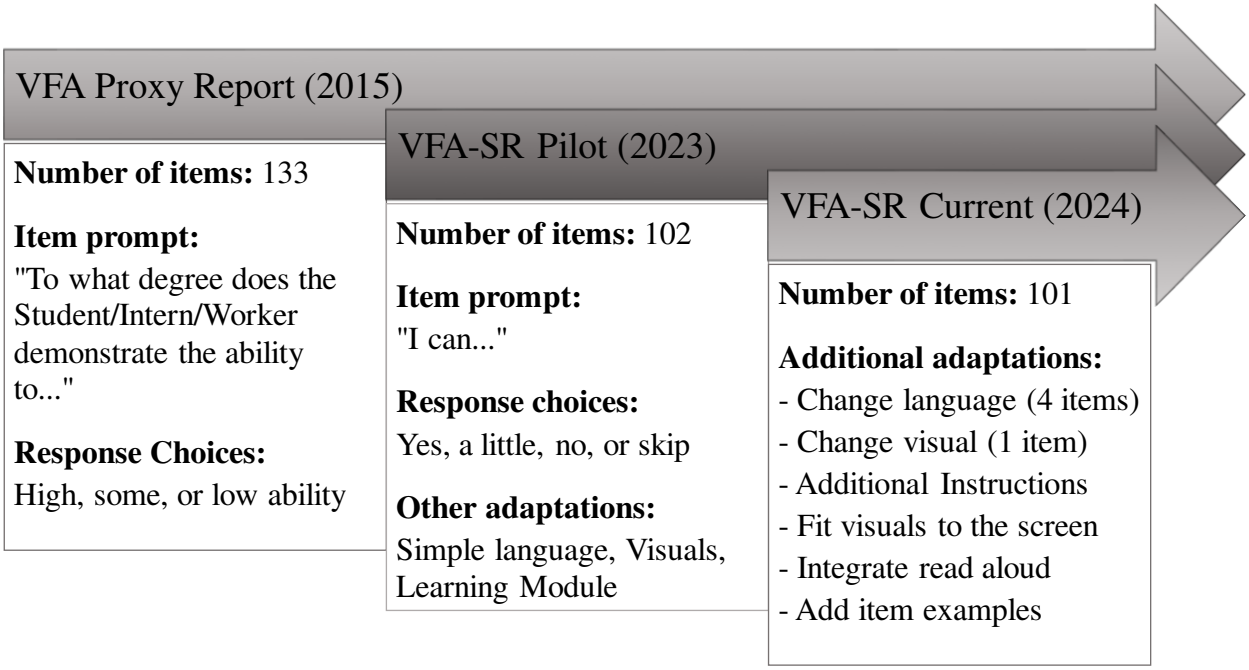

Figure 12. Iterative refinement of VFA–SR

These recommendations are a direct result of feedback given by young adults with ID. We appreciate that the process of attempting to improve item language without input from young adults with ID would have been futile (Jones et al., 2020; O'Brien et al., 2022).

Broad reactions from young adults during interviews convinced us to take a closer look at the Computer Skills subsection. In addition to modernizing language, we acknowledge that today's generation of young adults with ID use smartphones, tablets, and different operating

systems much more than previous generations (Anderson et al., 2022; Johnson et al., 2023). Our participants use email on their phones, access work email on computers, and quite frankly, demonstrated a lot of the skills measured by this subscale in preparation for their Zoom interview. Participants shared how they would respond differently to items like "write and send an email" in a work setting than in their personal lives. This prompted us to come back to both the purpose of completing this assessment (for young adults to share their preferences and abilities when considering potential work opportunities) and the purpose of this study (to ensure the items and interface are accessible). We realize now that young adults with ID may aspire towards jobs that didn't even exist when the VFA was first conceptualized in 2014. To address this issue and situate this subscale in the context of ever-changing technological advancements (i.e. artificial intelligence, two-factor authorization, etc.), further research is needed to improve the utility of this subscale.

Limitations and Future Directions

While a step in the right direction, this study is not without its limitations. First and foremost, we want to recognize that best practice in this space would have been to conceptualize this study with young adults with ID as co-researchers, instead of or in addition to the role of participants (Kramer & Schwartz, 2017; Kramer & Schwartz, 2016). This is a significant shortcoming in the design of this study and its contribution to the literature. We aspire to leverage the resources being disseminated right now, such as the Peer Support Toolkit (Pfeiffer et al., 2024), to improve our perceived capacity to team with young adults with ID in future studies.

In addition to improvements of inclusive research, we recognize this study was conducted with a small sample in a contrived environment with an interviewer. We strived to achieve interviews that closely resembled an administration of the VFA–SR in a "real world" setting. As

such, not every item was probed by the researcher or expanded upon by the participant. Doing so would have yielded more quantitative data to analyze and report, but we feel strongly that we struck an appropriate balance with our mixed method approach.

While improvements to the language of several items were explicated, we made only one recommendation for item deletion in the next iteration of the VFA–SR. Future studies aimed at item reduction are warranted. The computer skills subscale was identified as particularly primed for item reduction, though it is possible this convenience sample overrepresents young people with ID with ample skills for technology.

Conclusion

The goal of this study was to engage young adults with ID in designing the VFA–SR. Our hope is that in creating more self-report tools, we might support young adults with ID to act as transformative agents in their own transition to employment. Overall, young adults felt the current iteration of the VFA–SR was easy to use, and they largely used the rating scale as intended to respond to items. We gained valuable insights on how to present information about the assessment tool to young adults with ID, specific improvements to items, and considerations for accessibility in subsequent iterations of the tool.

CHAPTER 5: NAVIGATING SOCIAL SECURITY EMPLOYMENT SUPPORTS: THE EXPERIENCES OF YOUNG ADULTS WITH INTELLECTUAL DISABILITIES WHO WANT TO WORK[2]

Americans with disabilities are employed at rates significantly lower than those without disabilities (U.S. Census Bureau, 2022). People with intellectual disabilities (ID) experience even greater employment disparity than the general population of persons with disabilities and at a greater social cost (Anand & Ben-Shalom, 2018; Winsor et al., 2021). In fact, in a study examining the social cost of autism spectrum disorders (ASD), Buescher et al. (2014) report the lifetime cost of supporting an individual with an ASD and co-occurring ID during their lifetime to be $2.4 million, about 40% higher than the estimate for an individual with ASD without ID.

To mitigate social support costs, numerous provisions exist to empower people with disabilities in entering the workforce. For young adults with disabilities transitioning into adulthood, these provisions likely exist in educational, nonprofit, and vocational rehabilitation settings. Unfortunately, most employment services fail to meet the needs of young adults with ID in transition to employment (Wehman & Scott, 2013) and many rely on SSA benefits throughout adulthood (Agarwal et al., 2023).

The Social Security Administration (SSA) offers several ways of encouraging young beneficiaries to enter the workforce; Unfortunately, these programs are greatly underutilized. For example, Hanson et al (2019) found that in the Ticket To Work (TTW) program, of 9,963,114 "rolled out" tickets, only 64,000 tickets were used. Further, the U.S. Government Accountability

[2] The research reported herein was performed pursuant to a grant from Policy Research, Inc. as part of the U.S. Social Security Administration's (SSA's) Analyzing Relationships Between Disability, Rehabilitation and Work. The opinions and conclusions expressed are solely those of the author(s) and do not represent the opinions or policy of Policy Research, Inc., SSA or any other agency of the Federal Government.

Office (2017) reports only 1.5% of all transition-age youth benefitted from the Student Earned Income Exclusion (SEIE) between 2012 and 2015. Further, Domin et al., (2023) examined Supplemental Security Income (SSI) Annual Statistical Reports from 2000-2021 and found that while beneficiaries with ID work more than their counterparts with other types of disabilities, they have lower participation in work incentive (i.e. employment support) programs. There is a paucity of research examining the barriers to accessing these programs. As such, this study seeks to answer the following research questions:

1. How do young adults with ID become aware of, and receive accurate information about employment support programs for which they are potentially eligible?
2. What barriers have young adults with ID encountered to accessing appropriate employment support programs?
3. How does the complexity of employment support programs affect young adults with ID's willingness to go to work?

By understanding the lived experience of young adults with ID navigating SSA employment supports, we'll learn how to improve outreach efforts, increase program participation, and better prepare young adults with ID for maintaining employment.

Background

A young adult with ID may be eligible for Supplemental Security Income (SSI), Social Security Disability Insurance program (SSDI), or both. (Social Security Administration, 2020). We know that barriers to accessing these programs exist for young adults with ID and their families. Sadler (2020) found that waitlists, administrative red tape, and a lack of dissemination of information acted as barriers to connecting young adults with ID to SSI and SSDI. Similarly, we hypothesized that a lack of dissemination of information about SSA's employment support

programs, coupled with the complexity of these programs, act as barriers for young adults with ID and their families in accessing these supports. In recent years, SSA has emphasized the importance of supporting youth and young adults in their efforts to transition to adult life. Table 8 highlights three employment support programs of interest to young adults with ID. A complete list can be found in the Red Book (https://www.ssa.gov/redbook/index.html).

Table 8

Social Security Administration (SSA) Employment Support Programs of Interest to Young Beneficiaries with Intellectual Disability (ID) Transitioning to Employment

Employment Support Program	SSA Program Eligibility	Red Book's Brief Description
Student Earned Income Exclusion (SEIE)	SSI Eligible	This provision allows a person who is under age 22 and regularly attending school to exclude earnings from income. The amounts that are excluded are usually adjusted every year. (p. 37)
Plan to Achieve Self-Support (PASS)	SSDI and SSI Eligible	Under an approved PASS, you may set aside income and resources over a reasonable time that will enable you to reach a work goal to become financially self-supporting. You can use the income and resources that you set aside to obtain training or education, purchase equipment, establish a business, etc. We do not count the income and resources that you set aside under a PASS when we decide SSI eligibility and payment. (p. 53)
Ticket to Work (TTW)	SSDI and SSI Eligible	Participation in the TTW program increases your available choices when obtaining employment services, vocational rehabilitation services, and other support services you may need to get or keep a job. It is a free and voluntary service. (p. 54)

Note. Social Security Administration. (2020). The Red Book—A summary guide to employment supports for people with disabilities under the social security disability insurance (SSDI) and supplemental security income (SSI) programs (SSA Publication No. 64-030).

In general, programs are designed to exclude beneficiary's earnings when calculating their cash payments (to increase the cash payment amount), increase access to employment

services, and ease the transition away from receipt of cash payments as the beneficiary works more and their earnings increase.

Methods

Research Design

Our three research questions were pursued using phenomenological methods. We recruited young adults with ID and their family members to learn about their experiences navigating SSA employment support programming through semi-structured interviews led by the first author. If the young adult was consenting for themselves as their own legal guardian, they participated in an extra step to assess their capacity to consent and prevent coercion. This research was approved by Colorado State University's Institutional Review Board (IRB).

Sample

The participants for this study were recruited in dyads including young adults with ID aged 18-25 and their chosen support person. Recruitment and data collection for this study took place between October 2022 and February 2023. All six young adults with ID enrolled in the study elected their mothers as their support person for the interview. To be eligible, young adults with ID needed to have work experience or want to work, and receive either SSI, SSDI or both. Potential participants were additionally screened for their level of engagement in employment support programs and functional communication skills prior to interviews. Table 9 depicts relevant participant demographics. Participants were between the ages of 20 and 23 years old at the time of the interview. All participants were beneficiaries of SSI and none were beneficiaries of SSDI. Interestingly, all families initiated SSI applications close to the young adult's 18th birthday, so these experiences were relatively easy to recall during interviews. Families reported mild and moderate intellectual disability, with three participants disclosing diagnoses of Down

Table 9

Demographic Characteristics of Participants

Participant Pseudonym	Age	Gender	Race/ Ethnicity	Guardianship Status	Disability	Range of ID	High School Status	Work Experience
JL	20	Male	Prefer not to answer	Parents have full guardianship	ID and OHI	Moderate	Currently Enrolled	Sponsored work experience
NC	21	Male	Asian	Own Guardian	ASD and ID	Mild	Graduated with Diploma	Part Time Job
CS	23	Female	White	Guardianship [a]	ID and SLI	Moderate	Graduated with Diploma	Sponsored work experience
KS	21	Female	Asian	Own Guardian	ID and SLI	Moderate	Other	Sponsored work experience
JD	20	Female	White and Black	Parents have full guardianship	ID and OHI	Mild	Graduated with Diploma	Part Time Job
KM	20	Female	White	Parents have full guardianship	TBI	Moderate	Graduated with Diploma	Part Time Jobs

Note. ID = intellectual disability; OHI = other health impairment; ASD = autism spectrum disorder; SLI = speech or language impairment; TBI = traumatic brain injury. [a] Unable to distinguish between limited or full guardianship

syndrome. All young adults lived with their parents, in primarily English-speaking households in the Midwestern United States. Notably, two participants were adopted as toddlers and both families maintained adoption subsidies until the participants reached adulthood. Annual household income varied, but all families reported annual incomes above $50,000.

All participants chose their mothers as support persons for the interviews. Support persons were all female, ranging in age from 49-61 years old. The majority identified as White, with one identifying Asian and one preferring not to answer. All indicated education levels above 16 years.

Measures

A detailed screening questionnaire was used to help determine eligibility for the study and identify appropriate supports needed for the interview. We followed an iterative process to develop interview guides. First, a general interview guide was created by the first author with additional, potential employment support program specific questions. For example, if the participant reported experience with Ticket to Work, the interview guide contained additional questions to ask about their employment network and timely progress review. The first author consulted with an SSA expert to refine the interview guide, which aimed to engage both the support person and the young adult with ID with questions of how they learned about programming, who helped them, and what their experiences were like.

Procedures

Potential participants were contacted by the first author via email and screened for appropriateness for the study using the screening questionnaire. The first author interviewed the participant and their support person via Zoom using a customized interview guide. Interviews were audio/video recorded for transcription and averaged 44 minutes in length. The first author

completed field notes within 4 hours of each interview encounter to aid in interpretation. Interviews continued until data saturation was achieved through consensus between the authors. The dataset for this study was comprised of interview transcriptions and researcher notes.

Data Analysis

Textual data from interviews were checked for accuracy and cleaned. Once data were verified, qualitative analysis was performed both within each case and across cases using the principles of phenomenology (Creswell & Poth, 2018). Purposive sampling recruitment techniques assured that participants were appropriate to our research questions (Portney, 2020). The first author re-engaged with participants for member checking as necessary to ensure credibility and also maintained an audit trail (Creswell & Poth, 2018). The thoughtful triangulation of data ensures that findings are reflective of multiple perspectives and protects against the bias of any one singular data source (Portney, 2020). Together, these strategies lend credibility and trustworthiness to the research findings.

Results

We sought to understand how young adults with ID and their families navigate SSA employment supports. The following sections describe the themes elucidated from interviews in response to these research questions. Most quotations are from the participant's support person sharing the experience of their family.

Informal and Non-SSA Information Sources

Families reported overwhelmingly that information about SSA employment support programs came from sources other than employees or representatives of SSA. Namely, other parents were reported as a good source of information for most participants, as well as third-party entities.

Other Parents

The most common way families became aware of SSA employment support programming was other parents. In fact, in four instances, other parents were referred to as the best source of information: “my best information comes from other moms actually,” “all the best resource is other parents who've gone through it… word of mouth type things,” “other parents by far! 9,000%,” and “other parents” when asked pointedly. Moms also reported a sense of reliance on other parents to navigate these systems. JL’s mom told us “I kind of relied on parents because I knew that they had just done it, so I said, ‘Hey, how did you do this?’” She explained that other parents told her about programs and how to get started. Another mom echoed this sentiment by sharing how much of the process required finding out the right information and steps to take. She described it as, “really kind of learn as you go.” Most participant’s parents found it helpful to learn from other parents just a few steps ahead of them.

Other Entities

Most participants were also connected with a third-party entity that not only helped them to navigate potential SSA employment support programs, but also handled much of the necessary paper pushing. These third-party professionals worked for a variety of different agencies; representative of the variance found in different locales all over the country.

KS was connected with a benefits analyst from their council of governments, a consortium of seven different county boards of developmental disabilities in their area. The benefits analyst provides information about the impact of earning wages on public assistance programs, like SSI. In KS’s mom’s words: “I mean, she just knows what she's doing and comes over and tells me ‘Find me this, find me this,’ and I get it, and she punches it in.” KS’s mom

described the utility of having this benefits analyst as “lifesaving,” due to the overwhelming nature of employment support programs:

> You know, because with work and stuff… we have to do so much stuff with Social Security that, you know… sometimes, I mean, it's overwhelming all the time, every letter… every month, I get a letter either saying we owe something or are back paid and we have to go figure it out. (interview, transcript, 2/20/23)

Most parents used some variation of the word “overwhelming” at one point during their interviews and in KS’s experience, having an expert to help had made all the difference. Previously, with her older son, KS’s mom reported having to drive about an hour away from their home to visit an SSA field office in person.

Another participant, KM, first heard about SSA programs from a rehabilitation services transition specialist. KM and her mom felt that this woman was a helpful resource they encountered in high school, but getting specific information in the right window of time would be the most useful. KM’s mom said it like this:

> So, and yeah, there's a lot of stuff looking back that I'm thinking if, because people will tell me, “Oh, your, your school district should have told you this, you know, back in elementary school” and it's like, well, if they did, I completely forgot. I mean, I, or else I just didn't think it would pertain to her, I guess. So here we are. (interview, transcript, 2/20/23)

Not making the connection that certain programs would be applicable to their young adult with ID was hinted at by multiple moms throughout this study. There was a general sense of confusion around terminology and the intersection of different agencies with SSA.

Coordinated Effort

NC had recently initiated a subsidy, which is support provided by his employer while he maintains the same pay as other workers doing the same job. His mom described the process of getting started:

> Our DDS (Developmental Disabilities Services), they had talked to us about a subsidy, and they just asked me to go reach out to his manager at work. And so, his manager, his

> people at work, did turn in a form to Social Security, but when I had called them [SSA] to talk to somebody, they had not seen it yet and didn't know what I was talking about. (interview, transcript, 11/15/22)

NC's mom was frustrated by this experience attempting to coordinate between NC's employer and SSA on behalf of her son. She explained that she still wasn't even sure what a subsidy was and found it difficult to ensure all boxes were being checked.

KM's mom mentioned several different agencies involved in coordinating KM's transition to employment and adulthood, "Well it's just, finally, it's like it's taken… I feel like three years, since 2020, for things to really, finally come together for her. We've tried a whole bunch of different things and it's just yeah… it took a while." While they described that other pieces were coming together for KM, like for potential future housing situations, they felt a significant lack of awareness for what SSA supports KM could or should be accessing.

SSA Specific Barriers

When families were connected with professionals from other entities, they generally had positive experiences, but SSA and its representatives were predominantly perceived as barriers. Moms reported issues such as long wait times when calling, perceived staff shortages, inaccurate information related to their young adult's situation, and confusing communications with SSA.

Wait time and Personnel Issues

NC's mom described her struggles with reaching out on the phone to both the national customer service line and their local office:

> There's like the national number, and I think on average, I wait about 30 minutes to talk to a live person. And, out of maybe five times I call, I'll probably only hang on for twice because its just too long, and I have something else to do. And then the other option is to call your local office, like your representative, like the person assigned to your case. And that person. I've, I mean, every time I've called, I've never gotten a live person, I always had to leave a voicemail… so I think that's why the information is not getting there. And I'm like, you know, like, it's only so much I can do. (interview, transcript, 11/15/22)

I asked mothers during their interviews if sometimes coordinating for their young adults in transition felt like a full-time job, and most replied with some variation of "yes, it can feel that way." Most of these moms maintained employment themselves and/or had other young adults with disabilities in their care.

JL's mom described her last interaction with their local SSA field office and reported her perception of staffing concerns:

> I know the last time I dealt with the local agency. I mean, they're, they're very nice. But he said something like, "We are so overwhelmed right now. I'm going to pass your message along." And, and he did, because I noticed, like I had asked for a hearing, it was about that whole mess with the SSI, and I check again, like online and it was fixed. You know, he didn't, like have time to call me. I think he just went ahead and fixed it. (interview, transcript, 10/14/22)

This mom's overall impression of her local office was that there just wasn't enough personnel, "I think they need, they just need more people." JD's mom echoed this sentiment in a broader context, "You know, I think SSA is… I think everybody's short staffed, and I think the SSA is a big one." These concerns are substantiated in reports of recent years' cuts to SSA's budget leading to closed field offices, issues with phone lines, and staffing shortages (Romig et al., 2023).

Unclear Roles and Communications

All families reported confusion during communications with SSA about their young adult beneficiary. A couple families described feeling like they got "the run around" between SSA and other entities. Parents were overall confused by the terminology and formulas used. Three families discussed their struggles with inaccurate information about their young adult being reported to them from SSA and the laborious steps they took to attempt to remediate the issues on behalf of their young adult.

As KM's mom explained in an earlier quote, there were times she simply didn't think that certain employment supports were really applicable to her daughter or their situation. It's probable that the broad messaging used to reach out to all people with disabilities who experience an inability to work led these moms to exclude their children from that category. KS's mom explains her impression of the target population for employment supports:

> I've heard of like, in Ohio, we have, it's like "right to work" or something like that, but I guess I never apply it to my kids. I always think that's something for somebody that's not disabled, or like just people having a hard time finding a job or lower income. I've never I guess we've never gone through it. As far as like Social Security. We've gone through BVR (Bureau of Vocational Rehabilitation), which in Ohio was OOD (Opportunities for Ohioans with Disabilities). But some of those things that you sent me [Red Book] like, I don't know what that means. I'm not sure. (interview, transcript, 2/20/23)

As we discussed more, KS's mom thought they did have more involvement with certain supports like subsidies because the concepts started to sound familiar with some of the paperwork she had completed with her benefits analyst. The issue for KS's family, among others, was that they did not have a good understanding of what SSA terms meant or what supports they were actually getting.

It was particularly troublesome for most families to make sense of fluctuations in SSI cash payments. Four participants reported regular fluctuations in earned wages, which they were able to correlate to fluctuations in their SSI cash payments, but their participation in employment support programs complicated matters. JL worked in a paid position for a few weeks one summer while in high school, but his family struggled to communicate with SSA that JL was still a student enrolled full time,

> You had to just explain to them he's a student doing a summer job… but I had to, like I sent in letters, and I called. And then I had to, I got people from the high school to write letters… and it was just, I don't know, I couldn't quite figure. (interview, transcript, 10/14/22

JL's mom explained that it was about a six-month long process to resolve the issue and get JL's SSI cash payments he should have received over that summer.

SSA Program Complexities

Young adults relied heavily on their mothers to coordinate employment support program requirements such as reporting wages or attempts at communicating with SSA. Unfortunately, as alluded to earlier, moms lacked the understanding of the mechanics of SSA programs to confidently advocate for their young adult. Despite complex programs, young adults maintained their vigor towards work goals like making more money, working more hours, and even training junior interns. While SSI cash payments were appreciated, it was clear to all families that the payments were not enough to sustain their young adults' livelihoods while their income fluctuated.

Terminology and Advocacy

At a basic level, the complexity of employment support programs coupled with unclear communication from SSA led families to be unsure of exactly what programs their young adults were or were not participating in or eligible for. This was true in instances where a professional had been guiding families through the process. For example, I asked JL's mom about SEIE because he likely met eligibility criteria, but I needed to provide a detailed explanation of the program and towards the end of our discussion, she shared, "Okay, so he probably, he maybe is getting that student earned income exclusion," but she couldn't be sure. Despite having organized systems and folders with every letter they've received from SSA, families were uncertain. As NC's mom puts plainly, "I don't even know what kind of questions to ask." To further this point, JD's mom works professionally in the field as a vocational rehabilitation counselor, and this is what she had to say about helping her daughter with TTW,

> Okay. I'm not gonna lie to you, I work in—I told you I'm a counselor in vocational rehabilitation—I do not understand the Ticket to Work. And we've had like, seminars, and we've had people come and talk and I'm just like, "Oh my gosh… could this be any more confusing?" Her [ticket] is assignable… so I guess she can assign it to whatever network… I don't really understand. Because I always had told her, you know, if she wants to work, some other different kinds of employment, you know, perhaps we don't have to open another voc rehab case, we can just find an employment network to work with… but I'm not really sure what they are. (interview, transcript, 2/20/23)

In this situation, despite professional training on how to support others in using their ticket, this mom does not understand the basic tenants of the program. With this level of reported confusion among parents, it's challenging to grasp how much time it likely takes families to attempt to break down tasks into manageable parts for their young adult to start to be able to navigate these programs with any level of independence.

Pivotal Time for Independent Skills Acquisition

Issues with SSI payment limitations and program complexities have a greater felt impact on young adults with ID as they work on independent living skills and attempt to become more self-sufficient. Families describe attempts to have their young adult more involved in communications with SSA and the impact of a low threshold of payments on their expectations of their young adult.

JD and her mom spoke about reporting JD's earnings:

> Since JD has been working, she does report her income to the SSA, I have told her that she needs to learn how to do it herself. So, I'm helping… it's a monthly thing and it's a little bit more difficult for JD because she gets paid weekly, so she has to download her pay stubs off her center for [the hotel where she works], get her pay stubs and then… go on the app… and then upload the pay stubs. It's a process… there's a lot of steps to it… but my goal, and JD's goal too—right JD? — is for her to do it independently. (interview, transcript, 2/20/23)

I asked JD what her experience using the SSA app was like, and she told me, "it's fun in some ways, but there are some ways that are just a little bit harder." Particularly, she told me about having to use a computer to access the system to download her paystubs, but then get the

paystubs onto her phone so that she could upload them through the app. Overall, she felt like the app was fairly easy to navigate and use, but the constant transfer of files was tedious. This was a nice example of working towards independence in program management, but the reality was that most participant's moms handled much of the legwork for their SSA program requirements.

As far as working towards financial self-sufficiency, parents expressed their concerns with both insufficient funds for their young adult to reasonably pay necessary expenses and the subsequent frustration over feeling as though they were backtracking on their road to independence. This is how NC's mom describes the impacts on their family:

> I mean, we would like him to pay his rent, which is what he did before with SSI. You know, we really tried to set him up as if he's independent, because, you know, that's like a true test to see if he can live on his own, you know, not under our roof, but like the expenses should reflect that. (interview, transcript, 11/15/22)

NC's mom was aware that many rules that govern SSI hadn't been updated in over 30 years, and NC provides a good example of a young person who is falling into that open gap, where he wouldn't be able to afford necessities like food or rent based on his earnings and SSI calculation. NC's mom said abashedly, "So now, I don't know, to be honest, like, since he doesn't get the SSI, we're just like, okay, don't pay us any rent. Like, let's go back to you're a child and we take care of you." The reality for this family was that even as their young adult works more and earns more, he's not getting his SSI cash benefit, but he's not earning quite enough to pay for necessities, so they're lowering the expectation of his independent living skills.

Discussion

We interviewed young SSI beneficiaries with ID and their parents to figure out how SSA's employment support programming aligned with their work goals and needs. Our findings indicated that families were largely unfamiliar with SSA resources and terminology, citing outside sources and other parents as the primary way they got linked to and navigated SSA

employment supports. This finding aligns with current literature that even disability service providers for people with ID are sometimes unable to locate needed information and resources (Carter et al., 2022), relying on internet searches or conferences and workshops, tools that seemed out of reach for parents involved in this current study.

The informal ways in which families learned about and got started with SSA employment supports present several concerns. First, other parents are likely only able to speak to their own experiences with their own young adults. Other parents lack the expertise necessary to modify for a different young adult's situation, so while it is likely very helpful to be directed to resources by other parents, completing the necessary steps was better assisted by a professional.

When guided by a professional from a third-party entity, parents liked that the expert knew just what steps to complete and what information was needed, however, they themselves were then not equipped with the tools necessary to understand these processes. This was problematic downstream when families needed to coordinate efforts between SSA and other agencies or employers because they often became disconnected from the professional that first helped them. One participant's mom reported working with nine different caseworkers during her son's transition years. Whether the family moves to a different county, the professional changes roles, or they get disconnected for some other reason, beneficiaries and their families need to be better included from the start so that they can successfully advocate for their needs.

Family perspectives on the complexity of service systems as a barrier to the employment for people with ID is well documented by Carter et al. (2023) who interviewed 60 parents and caregivers about the breadth of barriers on the road to employment for their family member with ID. The participants in that study identified 64 different barriers to integrated employment for their loved ones, revealing extensive issues across support systems (Carter et al., 2023).

All participants in this study expressed frustrations with some aspect of SSA systems, giving voice to known issues within SSA (Romig & Nunez, 2022). Parents were frustrated in their attempts to get a hold of SSA. Once they did connect with an SSA representative, they found they didn't have the right words to convey their message and things moved slowly. It was clear to multiple participants that SSA was under-staffed. Many parents had heard of SSA employment support terms but didn't understand their meaning or how they may relate to their young adult. Parents took notes during our interviews, and asked specific questions about different employment support programs and where they could find more information. Parents reported that information they received from SSA was confusing and they weren't sure what did or did not apply to their family situation. Parents focused their efforts on communicating with SSA and this left little room for teaching or preparing their young adult to advocate for themselves.

Implications for the Social Security Administration

It was clear that official letters and outreach resources from SSA were insufficient to reach young adults who want to work. It would be useful to have resources written in plain, accessible language. Parents were quick to dismiss programs as not intended for their young adult; a self-help guide to spread awareness about programs to beneficiaries of working age may help. It was also tricky for parents to identify if their young adult was participating in an employment support program. Written communication that is more personalized, clear from jargon, and occurs more frequently would help to mitigate these issues. It is important to establish a common language among all stakeholders, including beneficiaries and their parents, so that more may be accomplished with less.

Senator Ron Wyden, (Democrat, Oregon), says a lot of SSI's problems come down to money (Emanuel, 2023) and the results of this study support this claim. SSI's operating budget fell 17% between 2010 and 2023 after accounting for inflation (Emanuel, 2023) and it's staffing has shrunk to the lowest level in 25 years (Romig et al., 2023). Participants in this study give voice to the growing concerns that staff shortages and chronic underfunding create real-life problems for beneficiaries. Administering the complex rules of SSI programs consumes an overwhelming 35% of SSA's administrative budget (Romig et al., 2023) and administrative mistakes are still common. Updating SSI resource limits may greatly reduce the administrative burden of SSI programs and help prevent overpayments. This study adds to the growing interest in popular news that SSI systems desperately need updating to stop the crisis of overpayments (Hilzenrath & Fleischer, 2023) and prevent recipients from living on the edge of poverty due to savings restrictions (Hyatt, 2023).

Limitations and Future Research

We are grateful to the small cohort of families who gave of their time to participate in this research and we recognize several study limitations. First, the sample represented only young adults with ID who received SSI, none of which received SSDI, and all of whom lived in the Midwest. Therefore, generalizability beyond these parameters should be exercised with caution. Second, this study was completed with a small cohort that, while relatively homogenous in terms of disability, public support, age, and location, had large variance in lived experience. Participants described vastly different ways they learned about and navigated employment supports, barriers they encountered, and how their work goals and experiences changed. We suggest that for future research involving more participants, the research questions and design be adjusted accordingly.

Conclusion

Families of six young adults with ID who work or want to work and receive SSI benefits were interviewed about their attempts at participating in SSA employment support programs. We found the most common way families became aware of SSA employment support programming was "other parents." Local and state resources were used and perceived positively, but SSA and its representatives were predominantly perceived as barriers. Young adults relied heavily on their mothers to coordinate employment support program requirements. More personalized and plain language communication is recommended to improve SSA's impact and reach. Updates to the SSI program are considered essential to improving the experience of young beneficiaries with ID who work and want to support themselves through adulthood.

CHAPTER 6: IMPLICATIONS AND FUTURE DIRECTIONS FOR ADVANCING THE TRANSITION TO EMPLOYMENT FOR YOUNG ADULTS WITH INTELLECTUAL DISABILITIES

The preceding three chapters offered results from distinct, yet related research projects aimed at advancing the transition to employment for young adults with intellectual disabilities. Each study was designed and carried out with careful consideration of larger contexts relevant to self-determination, self-report, and self-advocacy. The next section reviews findings from each study and expounds implications for occupation and rehabilitation science.

Implications for Occupation and Rehabilitation Science

Study 1 Implications

In Chapter 3 (Study 1), we learned through psychometric techniques that items on the self-determination subscale of the Vocational Fit Assessment (VFA–SD): (1) measure a unidimensional construct, (2) are too similar to one another, and (3) are likely measuring self-determination skills of young adults with intellectual disability with respect to their employment environmental context. These results suggest that further psychometric testing is warranted to improve the assessment tool, but also to gain a better understanding of the influence of the employment environment to the construct of self-determination. The occupational therapy profession is well-positioned to promote self-determination in service of its clients (Dean et al., 2015). Researchers in occupational therapy have been creative in integrating existing self-determination theory into occupational therapy practice. For example, Bolton and Dean, (2018) embedded components of Self-Determination Theory with professional reasoning curriculum for students of occupational therapy. Also, Dean et al. (2017) put forth the Self-Determined Career development Model, which supports providers (occupational therapists included) in assisting job

seekers with intellectual disabilities to benefit from a self-regulated, problem-solving process in career-oriented goal setting. Yet, these approaches miss the distinct value an occupational therapy lens brings to current theories of self-determination, our unique understanding of the role of the environment (Angell et al., 2019);

> Although the self-determination literature recognizes that opportunities afforded by the environment play a key role in shaping students' self-determination, existing self-determination models focus primarily on students' skills rather than environmental barriers and provide minimal direction for professionals and students to identify and address environmental barriers to self-determined behavior (Wehmeyer et al., 2011, as cited in Angell et al., 2019, p. 4).

Study 1 of this dissertation addresses this critical gap in understanding by attempting to integrate occupational therapy's understanding of the environment, in an employment context, with existing theory in self-determination. This need is explored further in the Future Theoretical Directions section below.

Study 2 Implications

Chapter 4 (Study 2) addressed the need to develop self-report versions of available assessment tools for young adults with intellectual disabilities (Kramer and Schwartz, 2017). Young adults with intellectual disabilities confirmed that our prototype of the Vocational Fit Assessment–Self Report (VFA–SR) was easy to use and offered their expert opinions for improving accessibility and interpretability of the tool. We gleaned specific improvements to be implemented in the next iteration of the VFA–SR. In practice, Greenberg et al. (2021) found occupational therapy practitioners experience a number of barriers to adopting the use of PROMs in everyday practice. These findings speak to the infancy of the development of such tools, as well as the research-to-practice gap. In order to keep pace with the demands of value-based health care, we must work to close the gap in integrating PROMS into occupational therapy

practice (Stern, 2022), for researchers, that means carefully integrating best practices to PROMS, as we've demonstrated.

Study 3 Implications

Beyond assessment, Chapter 5 (Study 3) explores how young adults with intellectual disabilities and their families experience barriers to engagement in self-advocacy to navigate complex systems of the Social Security Administration (SSA). It became clear to us that young adults with intellectual disabilities and their families lacked a basic understanding of (1) social security terms and programs, and (2) their own situational eligibility and program participation. These findings indicate clear violations of two components in the *Conceptual Framework for Self-Advocacy for Students with Disabilities*, a knowledge of self and a knowledge of rights. These most basic building blocks of self-advocacy are voided by the complexities of Social Security, leaving young adults with intellectual disabilities at a major disadvantage during a pivotal time of transitioning to employment.

Johnson et al. (2019) call for occupational therapists to join in advocacy efforts of individuals with intellectual disabilities at both the client and policy levels. Study 3 demonstrates the complex interplay between families of young adults with intellectual disabilities and programs intended to assist with the transition to work. It is essential that occupational therapy practitioners and researchers alike, develop an appreciation for the complex mix of support systems individuals with intellectual disabilities encounter when attempting to work. For example, in an attempt at collaborative research with people with developmental disabilities (DD), Kim et al. (2022) reported issues with co-researchers losing Social Security benefits due to their paid employment as a member of the research team. They state: "Had our research team been more knowledgeable about [work incentives], we could have found ways to address this

barrier without inserting a standardized number of hours per month for the researchers with DD" (p.412). Even attempts at best practice with inclusive research sometimes fall short in meeting the needs of people with disabilities due to a lack of understanding of complex systems.

The research presented in Chapters 3, 4, and 5, and summarized above, represent the focus of this dissertation. Chapter 5 (Study 3) was funded by the SSA and recommendations based on study findings were directed to SSA as the commissioner of the project. Future directions for improvements to the VFA following the results from Chapters 3 and 4 (Studies 1 and 2) are presented next.

Future Psychometric Directions

VFA–SD Future Psychometrics

The intent of Chapter 3 (Study 1) was to gain a better understanding of a construct by exploring the underlying structure of the VFA–SD. With that purpose in mind, we did not make attempts to make the model fit, as would be consistent with a confirmatory factor analysis approach. Still, results from our exploratory factor analysis all but confirmed a unidimensional construct was measured by the VFA–SD yet presented concerns of too much shared variance among the scales' items. Further item-level psychometrics using Rasch analysis is warranted to tease out item fit and contribute to a better understanding of construct validity.

VFA–SR Future Psychometrics

In Chapter 4 (Study 2), eleven young adults with intellectual disability provided responses to 102 VFA–SR candidate items. In parallel to the design of that study, eight of these young adults' support persons (e.g., parents and teachers) completed the original proxy-report VFA around the same time. Of course, a sample this small lacks sufficient power for psychometric analyses, but we suggest a similar design might be used to collect a larger sample

to determine if VFA–SR items comparably measure the same constructs as original VFA items. It would be interesting see if there are differences in latent means and correlations across the two measures, and if those are influenced by any relevant demographic characteristics. To achieve such an aim, a multi-group confirmatory factor analysis might be used, requiring a considerably large sample of responses.

Future Theoretical Directions

VFA–SR Implications for Self-Determination

Beyond psychometrics, there were some relevant observations made during interviews conducted for Chapter 4 (Study 2) that have implications for our understanding of self-determination in an employment context, or the goal of Study 1 in Chapter 3. There were several instances during the administration of the VFA–SR that young adults with intellectual disabilities alluded to differences in their self-determined behavior across different environments, namely, home versus work. Here, we'll describe three such occurrences from Chapter 4's study.

On a basic level, one participant (MK) responded to the VFA–SR item "I feel okay when plans change" by directly stating that she feels differently about plans changing at home than at work: "Um, at work, yes. It's different at home, but if we're talking about work, I'm totally good with that." She did not elaborate any further, but her response emphasized that she felt a positive difference in her ability to deal with change in a professional setting when she simultaneously did not feel the same way at home.

Another participant had her mother present as the support person during the VFA–SR interview. She responded "yes" to the item "I can prepare a dining area for a meal or snack." Her mother immediately joked, "Well then we need you to set the table more often!" This type of banter was common between young adults and their parents (when present) during interviews

and represents a mismatch between ability and performance across environments, in this case, likely with a motivation component involved.

A third and final example of differences in self-determined behavior at work and at home occurred when a participant (NC) responded to the item "I can clean work tools like equipment or dishes." This participant's immediate response was "Dishes… I can do it… do I do it? No. Because I have a mom and a dad." When furthered, he elaborated by saying "But I know how to do it. Sometimes I just don't feel like doing it, I'm just too lazy." He ended up selecting "yes" he can clean dishes, but his apathy towards doing any dishes at home was more than apparent.

Taken together, these examples lend some further evidence to a difference in self-determined behavior across home and work environments that aids in our understanding of self-determination as a construct for young adults with intellectual disabilities.

Model of Self-Determined Behavior

As previously mentioned, self-determination is strongly associated with human agentic action. Self-Determination Theory (SDT) is a macro-theory detailing the relationship between basic psychological need satisfaction (autonomy, competence, and relatedness; taken together as "regulation") and motivation (extrinsic or intrinsic; Adams et al., 2017). According to SDT, the satisfaction of the need for competence, autonomy, and relatedness are found in critical social environment supports (Deci & Ryan, 2000). Therefore, supportive environments yield positive growth in self-determination and environments lacking the support to satisfy basic needs thwart the development of self-determination. Models associated with SDT or it's "mini-theories" often depict a continuum towards self-determination (Adams et al., 2017).

We have argued the need for greater representation of the environment in models of self-determination. The examples provided in the previous section offer further support that self-

determined behaviors do change with environmental contexts, particularly employment. Based on theory in occupational therapy (Law et al., 1996), we propose that in addition to the environment, it would be beneficial to consider the types of occupations an individual is engaged in. Finally, rather than a continuum towards self-determination, we conceptualize that an individual might very well display self-determined behavior and non-self-determined behavior in the same day and even possibly in consideration of the same task, or occupation. We introduce here, a Model for Self-Determined Behavior (Figure 13), with elements of (1) the environment and (2) the occupation, weighed equally with elements central to SDT, (3) motivation and (4) regulation, all leading to an individual's self-determined behavior or lack thereof.

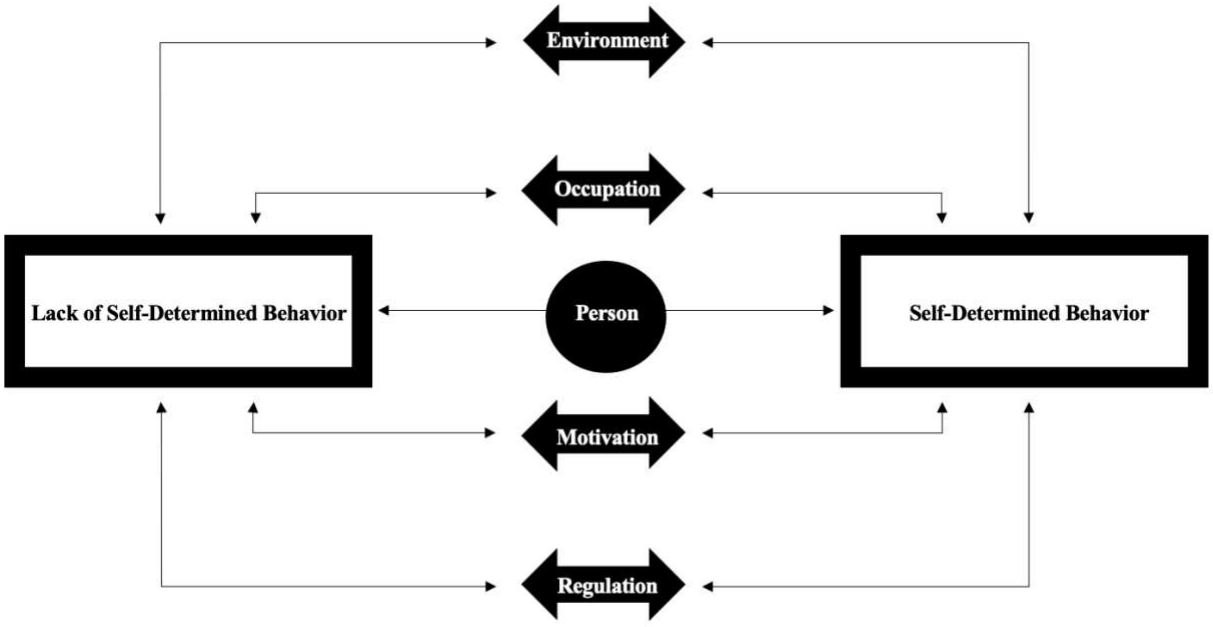

Figure 13. The Model of Self-Determined Behavior

This model is meant to break down the self-determined behavior of a young adult with an intellectual disability relative to an occupational example. Let's use the last example of NC responding to a question about washing dishes. His immediate response was that yes, he could

do it. Performing that occupation or task? Not a problem for NC, we'd use the model and make a mark to indicate that his occupational performance is supportive of self-determined behavior for this example (Figure 14). NC's next comment was that he does not wash dishes, because he has his mom and dad. We can assume that his home environment is not supportive of him exhibiting self-determined behavior when thinking about washing dishes and we'd make a mark accordingly. NC went on to say that sometimes he just doesn't feel like washing dishes and said that he's "too lazy". Let's transpose these comments onto the model as a lack of motivation and regulation with respect to washing dishes. Armed with this one example, we might presume that NC is not very self-determined.

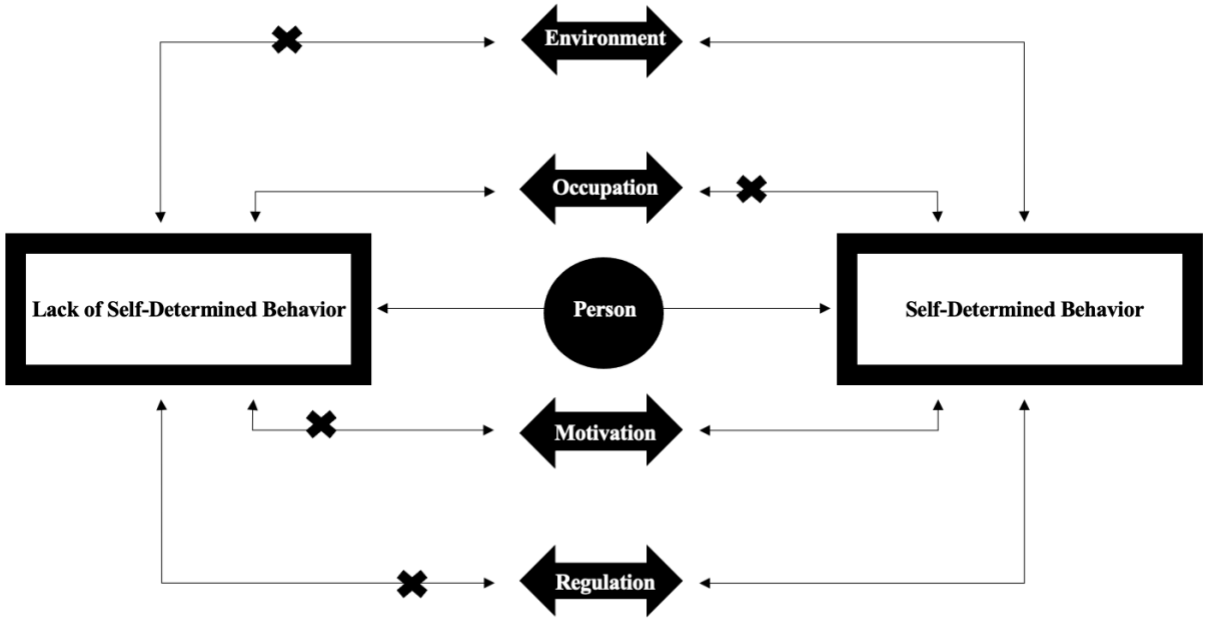

Figure 14. Model of Self-Determined Behavior. Example 1: NC Washing Dishes at Home.

But NC is a young adult with autism spectrum disorder and an intellectual disability who has successfully completed Project SEARCH, is employed almost full-time at a major children's hospital where he mentors other young adults with disabilities, has juggled seasonal work for a

professional soccer organization, and drives his own vehicle. He may not appear self-determined in the last example, but let's look at an example from work. NC has once described his process for managing his own paid time off at work. In Figure 15, we map that example onto the Model of Self-Determined Behavior.

NC describes his time management system as accessible to him after he was trained on it, we would mark that the relevant work environment is on the "supportive end" of self-determined behavior. He completes the occupation of entering his own time off into the system within the appropriate timeframe all on his own, again supportive of self-determined behavior, as he can manage all aspects of the task. Is NC motivated to enter vacation time? Absolutely. Further, we can reasonably assume that NC is choosing to enter his vacation days at a time when he's feeling regulated to do so. Figure 15 illustrates how all elements of the model lead to NC demonstrating self-determined behavior when requesting paid time off in the workplace.

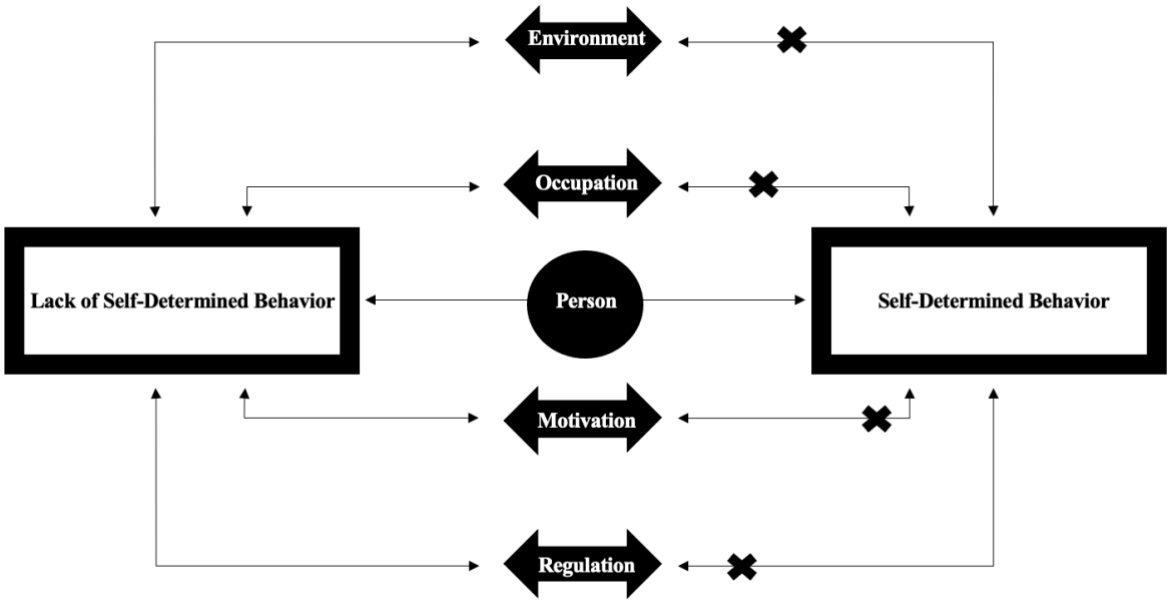

Figure 15. Model of Self-Determined Behavior. Example 2: NC Entering Time Off at Work.

We've shown two examples, for the same young adult with an intellectual disability, of how he might appear self-determined or not, given a change of environmental context, in addition to the understood elements of motivation and regulation. While in conceptual infancy, this model is an additional future direction of this work aimed at advancing the transition to employment for young adults with intellectual disabilities. We envision that this model may eventually be a helpful tool for professionals in the transition space to team with young adults with intellectual disabilities in visualizing elements of self-determination and strategizing ways to improve self-determined behaviors in the workplace through the identification of environmental barriers and supports.

Implications for Research and Practice

There are many implications from the three studies undertaken in this dissertation. Broadly, we've aimed to represent, through multiple methods, that young adults with intellectual disabilities are capable and should be characterized as such. In a recent critical review of the literature, Reparon et al. (2024) determined that within occupation-based discourses, individuals with intellectual disability were represented as incapable, yet the expectations that individuals with intellectual disability become productive members of society were simultaneously asserted. It is of critical importance that, as a field of study, we gain congruence in our expectations and our representation of individuals with intellectual disability. As researchers, there is still much to be learned about inclusive practices in research with young adults with intellectual disabilities (Cleaver et al., 2010; Garcia-Lee et al., 2024; Kim et al., 2022; Kramer et al., 2022; Pfeiffer et al., 2024)

Much of this dissertation was concerned with assessment, as is prominent in the field of occupational therapy relative to young adults with intellectual disability. In developing a self-

report tool of employment skills and preferences, we hope to have moved the needle closer to giving young adults with intellectual disability "a voice at the table" during transition planning. Future directions for uniting theory in occupational therapy with theories of self-determination are exciting, if still in infancy. Occupational therapists certainly have something to offer young adults with intellectual disability in the ways of self-determination and self-advocacy (Johnson et al., 2019). Finally, our exploration into the complex programs of Social Security left us with more questions than answers, as research often does. Notably, for occupational therapy practice, could occupational therapists be the transition team member that supports families in navigating work incentive programs? Our findings suggest that a professional who can support the building of self-advocacy skills in the transition off benefit rolls and into the workforce is warranted. Self-advocacy is at the heart of our profession (Schlaff, 1993; Schmidt et al., 2020) and who better to unite the complexities of school, public support, and health care systems in the interests of young adults with disabilities transitioning to meaningful employment.

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APPENDIX A: VFA ITEMS

Physical Abilities

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
STAND?	○	○	○
RUN?	○	○	○
TWIST THE BODY?	○	○	○
BEND THE BODY?	○	○	○
KEEP OR REGAIN BALANCE?	○	○	○
WORK LOW TO THE GROUND (E.G., CROUCH, STOOP, KNEEL)?	○	○	○
PERFORM PHYSICAL ACTIVITIES (E.G., WORKING ON AN ASSEMBLY LINE) REPETITIVELY?	○	○	○
LIFT HEAVY MATERIALS (I.E., 40 POUNDS)?	○	○	○
WORK IN AWKWARD POSITIONS?	○	○	○
WORK IN CRAMPED WORK SPACES?	○	○	○
WORK FOR PROLONGED PERIODS (E.G., 30 MINUTES) WITHOUT A BREAK?	○	○	○

Next

Self-Determination

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
MAKE CHOICES, DECISIONS, AND PLANS TO MEET OWN GOALS?	○	○	○
TAKE ACTION TO COMPLETE OWN PLANS SUCCESSFULLY?	○	○	○
DETERMINE PRIORITIES?	○	○	○
SET PERSONAL GOALS THAT SATISFY OWN INTERESTS AND NEEDS?	○	○	○
EVALUATE THE RESULTS OF OWN ACTIONS TO DETERMINE EFFECTIVENESS?	○	○	○
CHANGE ACTIONS OR PLANS TO MEET WORK GOALS?	○	○	○
MAKE DECISIONS INDEPENDENTLY?	○	○	○
DETERMINE CUSTOMERS' NEEDS?	○	○	○
DETERMINE WORK ACTIVITIES?	○	○	○
IDENTIFY AND EXPRESS OWN STRENGTHS AND WEAKNESSES?	○	○	○
ANTICIPATE THE THOUGHTS/ACTIONS OF OTHERS?	○	○	○

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General

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
HANDLES STRESS?	○	○	○
MAKES EYE CONTACT?	○	○	○
REFRAINS FROM UNNECESSARY SOCIAL INTERACTION (TALKING)?	○	○	○
ADMITS MISTAKES?	○	○	○
ACCEPTS PRAISE?	○	○	○
COOPERATIVE AND COURTEOUS?	○	○	○
LISTENS AND PAYS ATTENTION?	○	○	○
EXPRESSES PERSONAL NEEDS (RESTROOM BREAKS, DOCTOR VISITS)?	○	○	○
RESPECTS RIGHTS AND PRIVACY OF OTHERS?	○	○	○
ASKS FOR HELP AND CLARIFICATION WHEN NEEDED?	○	○	○
COMMUNICATES ADEQUATELY (INITIATES CONVERSATION, DOES NOT INTERRUPT)?	○	○	○
MAINTAINS CLEAN APPEARANCE?	○	○	○
DRESSES APPROPRIATELY FOR JOB?	○	○	○
BODY HYGIENE?	○	○	○
FOLLOWS DIRECTIONS?	○	○	○
ACCEPTS CONSTRUCTIVE CRITICISM/ FEEDBACK?	○	○	○
FOLLOWS RULES AND REGULATIONS?	○	○	○
MAINTAINS GOOD ATTENDANCE?	○	○	○
ARRIVES ON TIME FOR WORK AND LEAVES ON TIME?	○	○	○
ATTENDS TO JOB TASKS CONSISTENTLY?	○	○	○
COMPLETES TASKS ACCURATELY?	○	○	○
WORKS AT AN APPROPRIATE RATE?	○	○	○
INITIATES NEW TASKS?	○	○	○
WORKS WELL WITH CO-WORKERS?	○	○	○
FOLLOWS THE PROPER CHAIN OF COMMAND?	○	○	○

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Safety

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
WORK EXPOSED TO HAZARDOUS EQUIPMENT OR CONDITIONS?	○	○	○
WORK EXPOSED TO CONTAMINANTS (E.G., POLLUTANTS, GASES, DUST, ODORS)?	○	○	○
WORK EXPOSED TO MINOR BURNS, CUTS, BITES, OR STINGS?	○	○	○
WORK EXPOSED TO POTENTIAL DISEASE OR INFECTION?	○	○	○
MAINTAIN SANITATION, HEALTH, AND SAFETY STANDARDS?	○	○	○
WEAR COMMON PROTECTIVE OR SAFETY EQUIPMENT (E.G., SAFETY GLASSES, GLOVES, HARD HAT)?	○	○	○
FOLLOW INSTITUTIONAL HAND-WASHING STANDARDS?	○	○	○
MONITOR PERSONAL HYGIENE?	○	○	○
IDENTIFY SAFETY HAZARDS?	○	○	○

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Work Structure

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
MEET STRICT DEADLINES?	○	○	○
PACE WORK ACCORDING TO THE DEMANDS OF THE WORK (PRODUCTIVITY)?	○	○	○
FOLLOW ESTABLISHED PROCEDURES?	○	○	○
FOLLOW A REGULAR SCHEDULE OF TASKS AND WORK?	○	○	○
FOLLOW THE CHAIN OF COMMAND?	○	○	○
WORK A FULL WEEK (1 FTE; I.E., 32-40 HOURS PER WEEK)?	○	○	○
DEAL WITH CHANGE?	○	○	○
WORK OUTDOORS, EXPOSED TO ALL WEATHER CONDITIONS?	○	○	○
WORK OUTDOORS, UNDER COVER?	○	○	○
WORK IN VERY HOT (ABOVE 90 F DEGREES) TEMPERATURES?	○	○	○
WORK IN VERY COLD (BELOW 32 F DEGREES) TEMPERATURES?	○	○	○
WORK EXPOSED TO UNCOMFORTABLE SOUNDS/NOISE LEVELS?	○	○	○
WORK EXPOSED TO DISTRACTING SOUNDS/NOISE LEVELS?	○	○	○

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Cognitive Abilities

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
PERFORM MENTAL ACTIVITIES (E.G., CHECKING ENTRIES IN A LEDGER) REPETITIVELY?	○	○	○
COUNT, WEIGH, MEASURE, OR ORGANIZE MATERIALS?	○	○	○
SORT, ASSEMBLE, AND PROOF COMPLETED WORK?	○	○	○
COMPREHEND/READ INSTRUCTIONS?	○	○	○
BE VERY EXACT/VERY ACCURATE?	○	○	○
RECOGNIZE WHEN EQUIPMENT IS NOT WORKING?	○	○	○
RECOGNIZE WHEN SUPPLIES ARE RUNNING LOW?	○	○	○
ADD, SUBTRACT, MULTIPLY, AND DIVIDE?	○	○	○
CONCENTRATE ON A TASK OVER TIME WITHOUT BECOMING DISTRACTED?	○	○	○
SHIFT ATTENTION BACK AND FORTH BETWEEN TASKS OR SOURCES OF INFORMATION?	○	○	○
KNOW YOUR LOCATION IN RELATION TO THE ENVIRONMENT?	○	○	○

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Computer Skills

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
NAVIGATE TO A SPECIFIC WEB ADDRESS?	○	○	○
SAVE A FILE/DOCUMENT TO A SPECIFIC LOCATION?	○	○	○
LOCATE AND OPEN A SAVED FILE/DOCUMENT?	○	○	○
CLICK ON A DESIRED WEB LINK?	○	○	○
TYPE TEXT TO CREATE A DOCUMENT?	○	○	○
SCROLL THROUGH A WEB PAGE TO FIND SPECIFIC INFORMATION?	○	○	○
ACCESS AN EMAIL SYSTEM USING A USERNAME AND PASSWORD?	○	○	○
ENTER TEXT APPLYING BASIC KEY FUNCTIONS (E.G., SPACE BAR, ENTER/RETURN, SHIFT, DELETE, BACKSPACE)?	○	○	○
PRINT A FILE/DOCUMENT?	○	○	○
REPLY TO AN EMAIL MESSAGE?	○	○	○
CLOSE A SOFTWARE PROGRAM?	○	○	○
READ A RECEIVED EMAIL?	○	○	○
USE AN ONLINE SEARCH ENGINE?	○	○	○
RECOGNIZE AND START A SOFTWARE PROGRAM?	○	○	○
ATTACH A FILE TO AN EMAIL?	○	○	○
COMPOSE AND SEND AN ORIGINAL EMAIL MESSAGE?	○	○	○

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Higher Task-Related Abilities

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
LOAD MACHINES WITH OFFICE OR INDUSTRIAL MATERIALS (E.G., BLANK PAPER)?	○	○	○
DELIVER COMPLETED WORK?	○	○	○
STOCK OR RESTOCK SUPPLIES?	○	○	○
OPERATE OFFICE MACHINES (E.G., COPIERS, SCANNERS, FAXES)?	○	○	○
PLACE MATERIALS INTO STORAGE (E.G., FILE CABINETS, BOXES, BINS)?	○	○	○
PERFORM CLERICAL DUTIES (E.G., SORT MAIL, RUN ERRANDS, SEND FAXES, SCAN)?	○	○	○
SELECT MATERIALS NEEDED TO COMPLETE WORK TASKS?	○	○	○
SETUP AND ADJUST MACHINES?	○	○	○
SETUP WORK STATION?	○	○	○
MONITOR SYSTEM STATUS?	○	○	○

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Lower Task-Related Abilities

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
START AND STOP MACHINES USING LEVERS OR BUTTONS?	○	○	○
CLEAN WORK SURFACES (E.G., SHELVES, COUNTERS, TABLES)?	○	○	○
CLEAN WORK TOOLS (E.G., EQUIPMENT, TOOLS, DISHES)?	○	○	○
SELECT ITEMS FROM SERVING OR STORAGE AREAS AND PLACE THEM IN DISHES, ON TRAYS, OR BAGS?	○	○	○
CLEAN WORK AREAS (E.G., SWEEPING, MOPPING)?	○	○	○
PREPARE DINING AREAS FOR MEALS AND/OR SNACKS?	○	○	○
MOVE SUPPLIES (E.G., BY HAND, CART, DOLLY)?	○	○	○
SERVE FOOD ORDERS TO CUSTOMERS?	○	○	○
GATHER AND EMPTY TRASH?	○	○	○
SERVICE, CLEAN, AND SUPPLY RESTROOMS?	○	○	○

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Communication Skills

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
COMMUNICATE FACE-TO-FACE WITH OTHERS?	○	○	○
WORK WITH EXTERNAL CUSTOMERS OR THE PUBLIC?	○	○	○
DEAL WITH CONFLICT?	○	○	○
DEAL WITH UNPLEASANT, ANGRY, OR DISCOURTEOUS INDIVIDUALS?	○	○	○
COMMUNICATE WITH OTHERS ON THE TELEPHONE?	○	○	○
ANSWER QUESTIONS ABOUT ITEMS AVAILABLE FOR PUBLIC USE OR PURCHASE?	○	○	○
SPEAK CLEARLY SO THAT OTHERS CAN UNDERSTAND?	○	○	○
UNDERSTAND THE SPEECH OF ANOTHER PERSON?	○	○	○

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Interpersonal Skills

To what degree does the Student/Intern/Worker demonstrate the ability to:

	Highs	Some	Low
WORK WITH A CO-WORKER IN A GROUP OR TEAM?	○	○	○
COOPERATE WITH OTHERS TO ACCOMPLISH WORK ACTIVITIES?	○	○	○
SHOW COMPASSION TOWARDS COWORKERS AND/OR CLIENTS?	○	○	○
WORK IN CLOSE PHYSICAL PROXIMITY TO OTHER PEOPLE?	○	○	○
FOLLOW DIRECTIONS?	○	○	○
GREET CUSTOMERS ENTERING ESTABLISHMENTS?	○	○	○
MONITOR OWN BODY LANGUAGE?	○	○	○
LISTEN ACTIVELY?	○	○	○
ASK CLARIFYING QUESTIONS?	○	○	○

Submit

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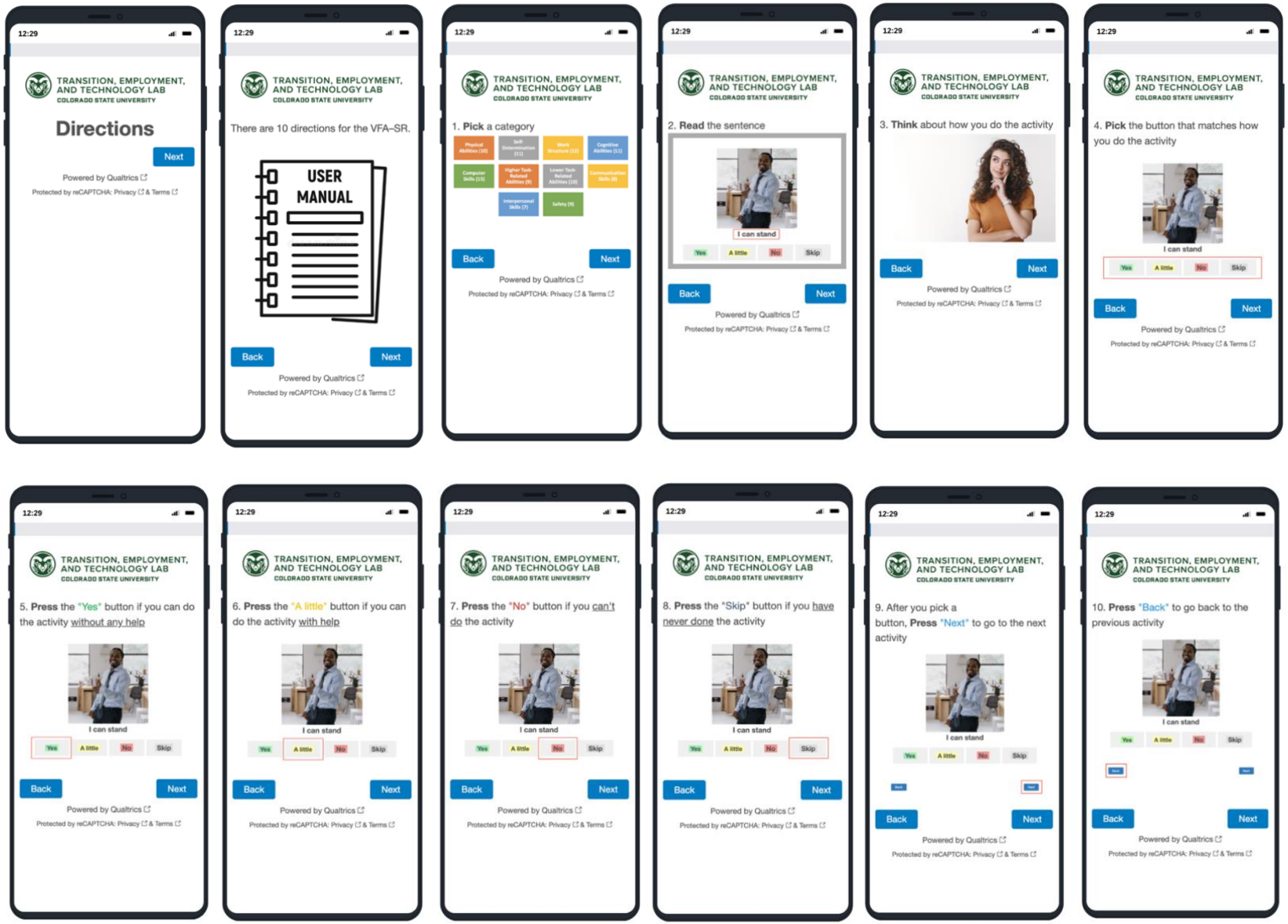
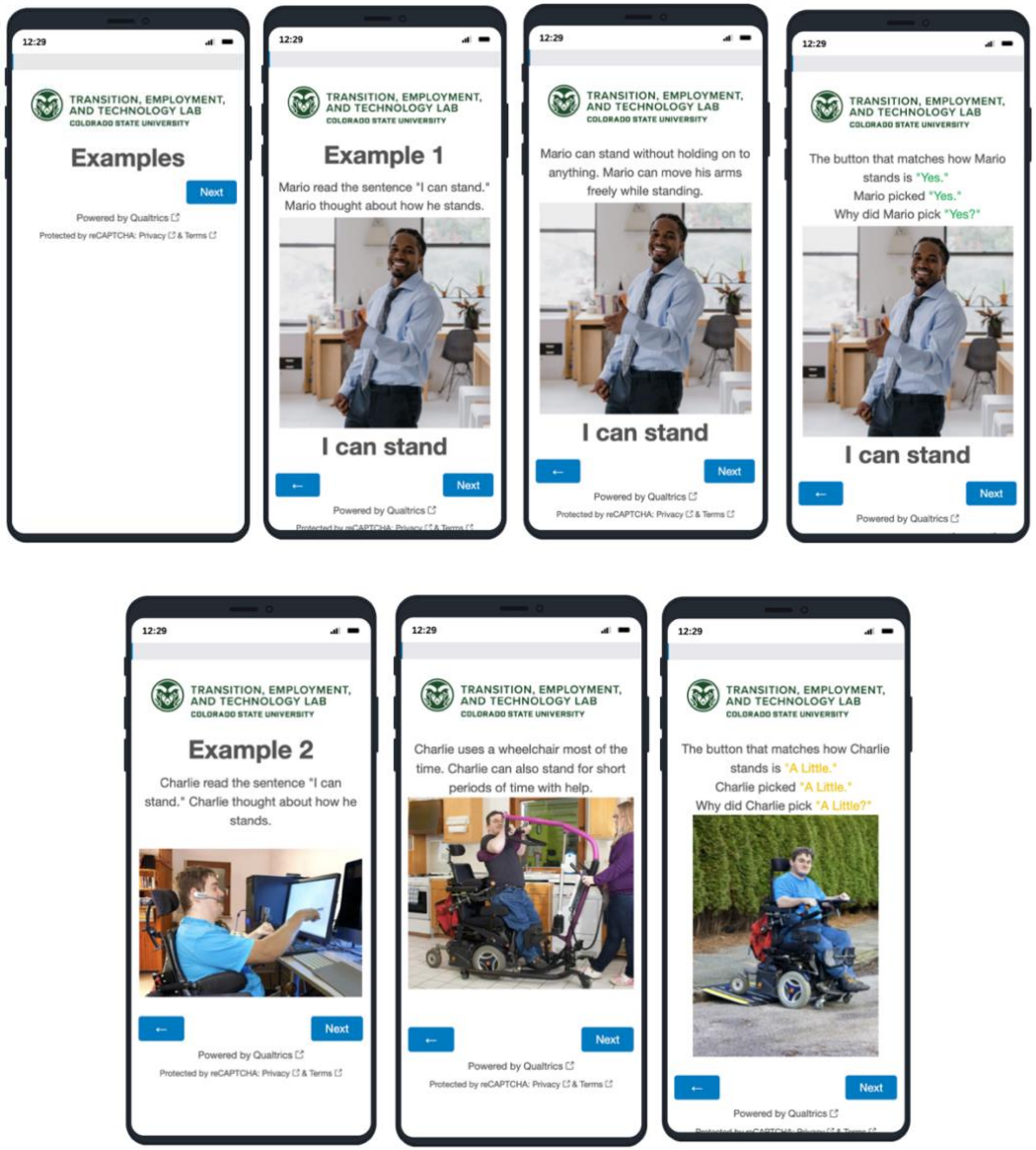
APPENDIX B: VFA SR LEARNING MODULE AND CANDIDATE ITEMS


12:29
TRANSITION, EMPLOYMENT, AND TECHNOLOGY LAB
COLORADO STATE UNIVERSITY
Directions
Next
Powered by Qualtrics
Protected by reCAPTCHA: Privacy & Terms
There are 10 directions for the VFA–SR.
USER MANUAL
Back
Next
1. Pick a category
2. Read the sentence
I can stand
Yes
A little
No
Skip
3. Think about how you do the activity
4. Pick the button that matches how you do the activity
5. Press the "Yes" button if you can do the activity without any help
6. Press the "A little" button if you can do the activity with help
7. Press the "No" button if you can't do the activity
8. Press the "Skip" button if you have never done the activity
9. After you pick a button, Press "Next" to go to the next activity
10. Press "Back" to go back to the previous activity


12:29
TRANSITION, EMPLOYMENT, AND TECHNOLOGY LAB
COLORADO STATE UNIVERSITY
Examples
Next
Powered by Qualtrics
Protected by reCAPTCHA: Privacy & Terms
12:29
TRANSITION, EMPLOYMENT, AND TECHNOLOGY LAB
COLORADO STATE UNIVERSITY
Example 1
Mario read the sentence "I can stand." Mario thought about how he stands.
I can stand
Next
Powered by Qualtrics
12:29
TRANSITION, EMPLOYMENT, AND TECHNOLOGY LAB
COLORADO STATE UNIVERSITY
Mario can stand without holding on to anything. Mario can move his arms freely while standing.
I can stand
Next
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The button that matches how Mario stands is "Yes."
Mario picked "Yes."
Why did Mario pick "Yes?"
I can stand
Next
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Example 2
Charlie read the sentence "I can stand." Charlie thought about how he stands.
Next
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Charlie uses a wheelchair most of the time. Charlie can also stand for short periods of time with help.
Next
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The button that matches how Charlie stands is "A Little."
Charlie picked "A Little."
Why did Charlie pick "A Little?"
Next
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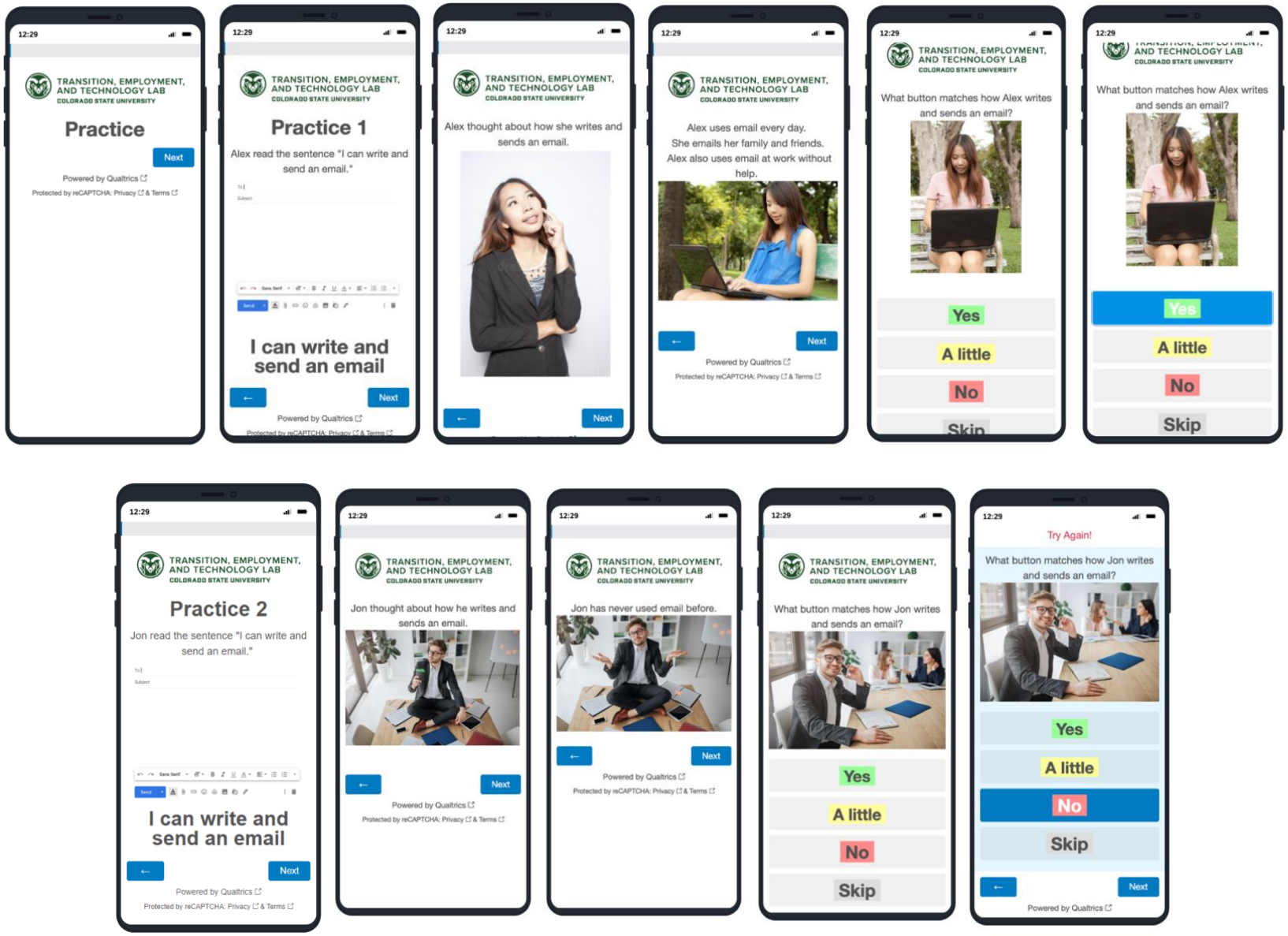
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Practice
Next
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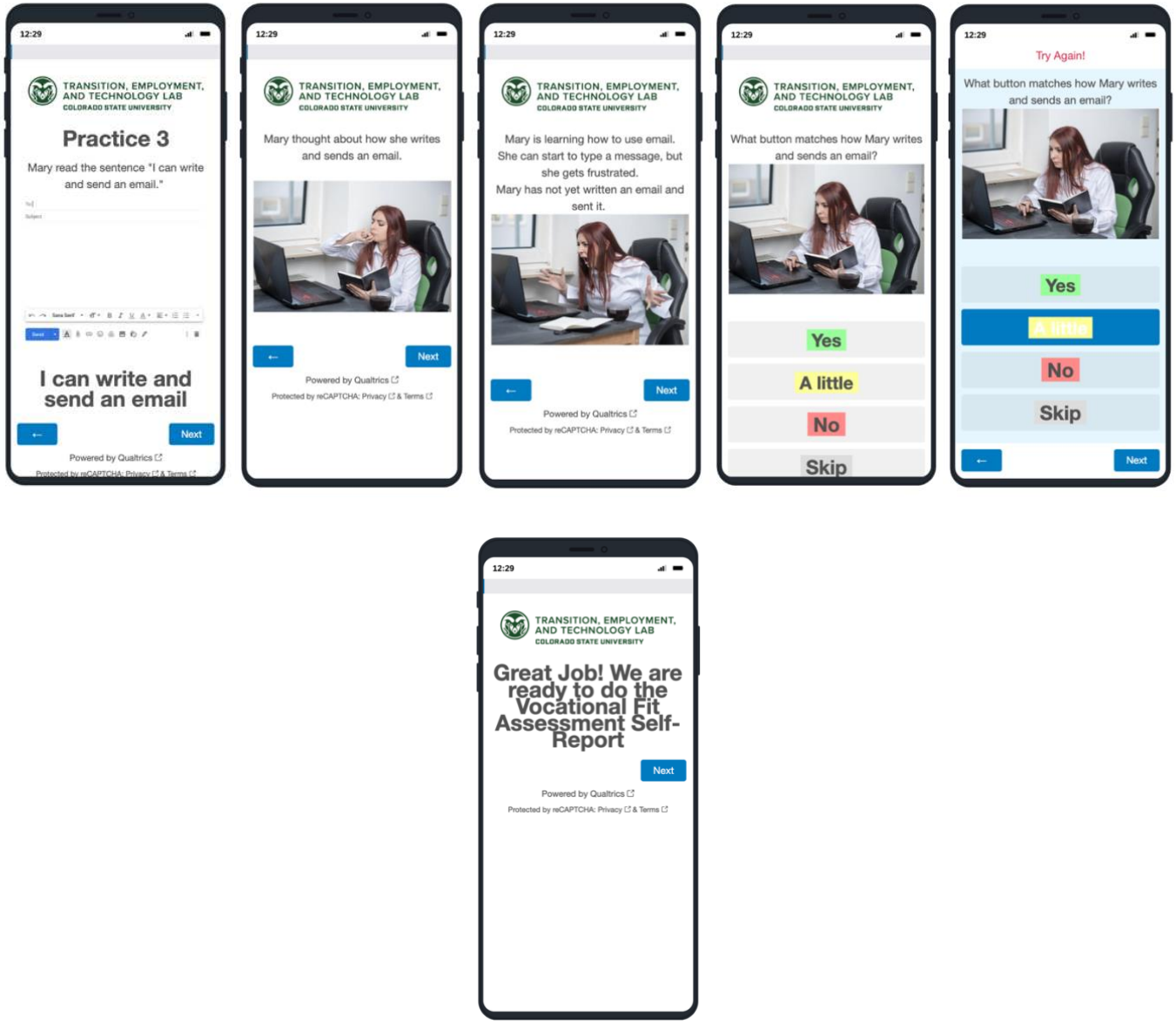
Practice 1
Alex read the sentence "I can write and send an email."
I can write and send an email
Next
Alex thought about how she writes and sends an email.
Alex uses email every day.
She emails her family and friends.
Alex also uses email at work without help.
What button matches how Alex writes and sends an email?
Yes
A little
No
Skip
Practice 2
Jon read the sentence "I can write and send an email."
Jon thought about how he writes and sends an email.
Jon has never used email before.
What button matches how Jon writes and sends an email?
Try Again!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Practice 3
Mary read the sentence "I can write and send an email."
I can write and send an email
Next
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Mary thought about how she writes and sends an email.
Next
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Mary is learning how to use email. She can start to type a message, but she gets frustrated. Mary has not yet written an email and sent it.
Next
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What button matches how Mary writes and sends an email?
Yes
A little
No
Skip
Try Again!
What button matches how Mary writes and sends an email?
Yes
A little
No
Skip
Next
Great Job! We are ready to do the Vocational Fit Assessment Self-Report
Next
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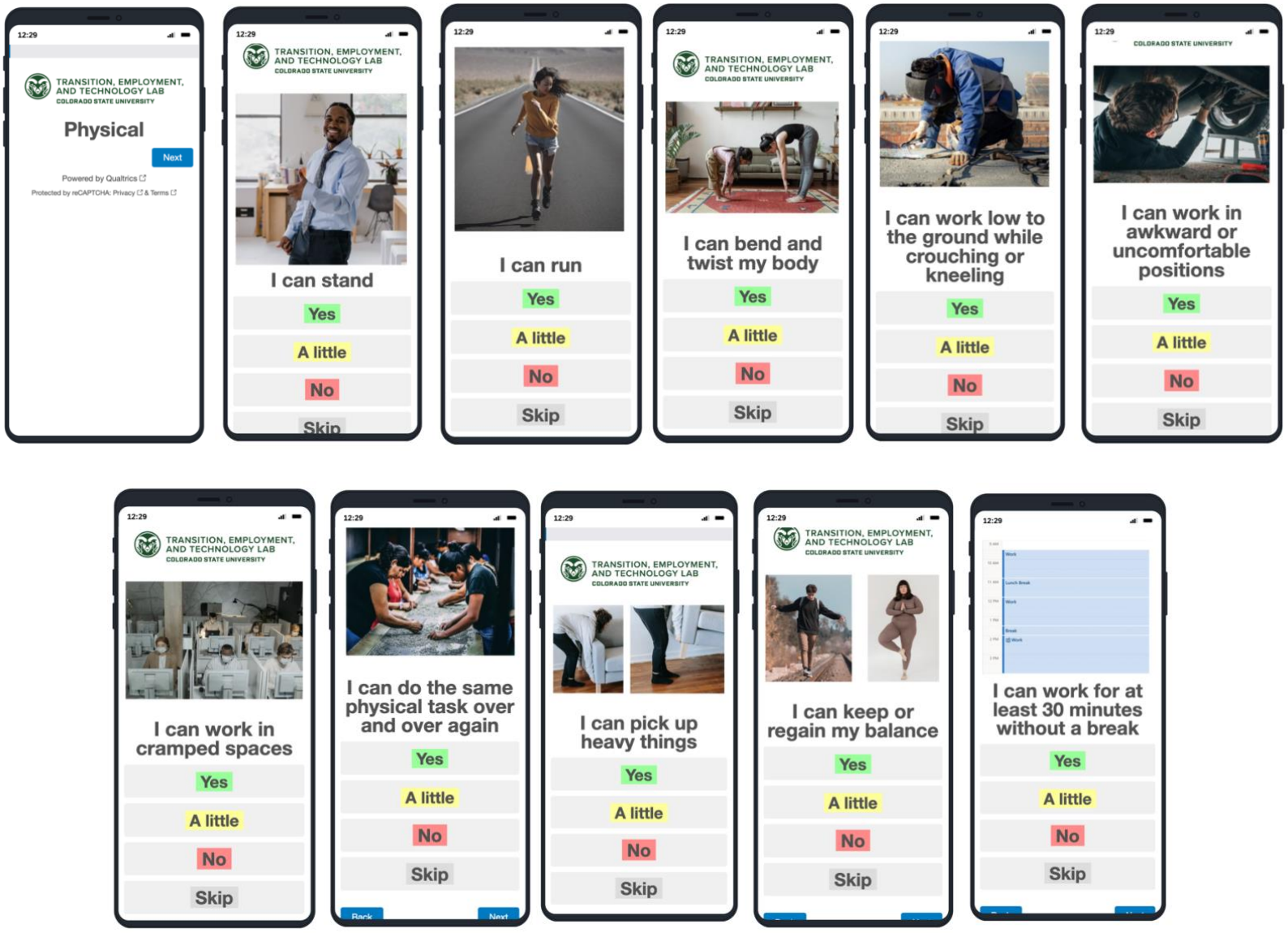
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Physical
Next
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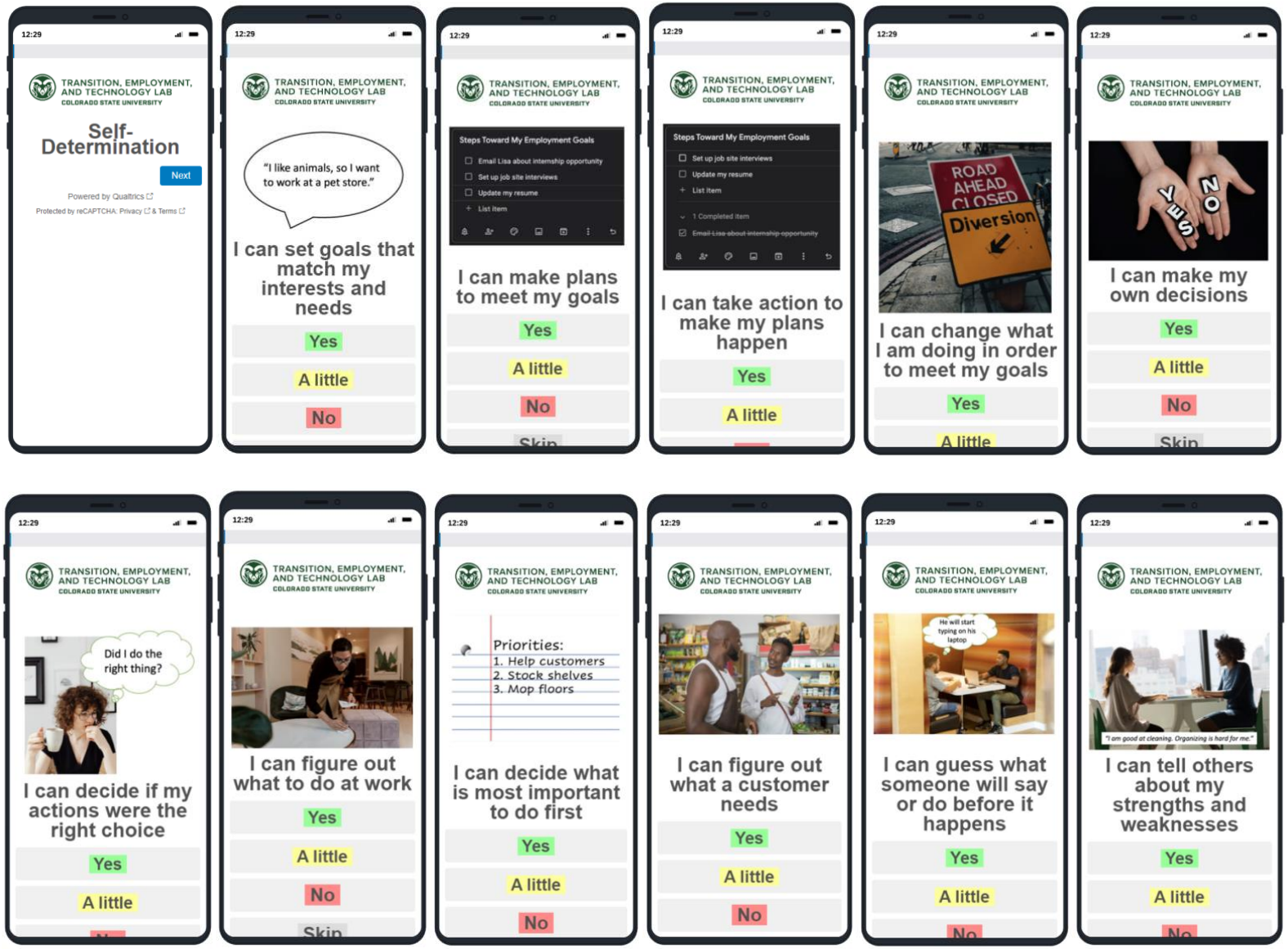
I can stand
Yes
A little
No
Skip
I can run
I can bend and twist my body
I can work low to the ground while crouching or kneeling
I can work in awkward or uncomfortable positions
I can work in cramped spaces
I can do the same physical task over and over again
Back
Next
I can pick up heavy things
I can keep or regain my balance
I can work for at least 30 minutes without a break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Self-Determination
Next
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"I like animals, so I want to work at a pet store."
I can set goals that match my interests and needs
Yes
A little
No
Steps Toward My Employment Goals
Email Lisa about internship opportunity
Set up job site interviews
Update my resume
List item
I can make plans to meet my goals
Yes
A little
No
Skip
Steps Toward My Employment Goals
Set up job site interviews
Update my resume
List item
1 Completed item
Email Lisa about internship opportunity
I can take action to make my plans happen
Yes
A little
ROAD AHEAD CLOSED
Diversion
I can change what I am doing in order to meet my goals
Yes
A little
YES
NO
I can make my own decisions
Yes
A little
No
Skip
Did I do the right thing?
I can decide if my actions were the right choice
Yes
A little
I can figure out what to do at work
Yes
A little
No
Skip
Priorities:
1. Help customers
2. Stock shelves
3. Mop floors
I can decide what is most important to do first
Yes
A little
No
I can figure out what a customer needs
Yes
A little
No
He will start typing on his laptop
I can guess what someone will say or do before it happens
Yes
A little
No
"I am good at cleaning. Organizing is hard for me."
I can tell others about my strengths and weaknesses
Yes
A little
No


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Work Structure
Next
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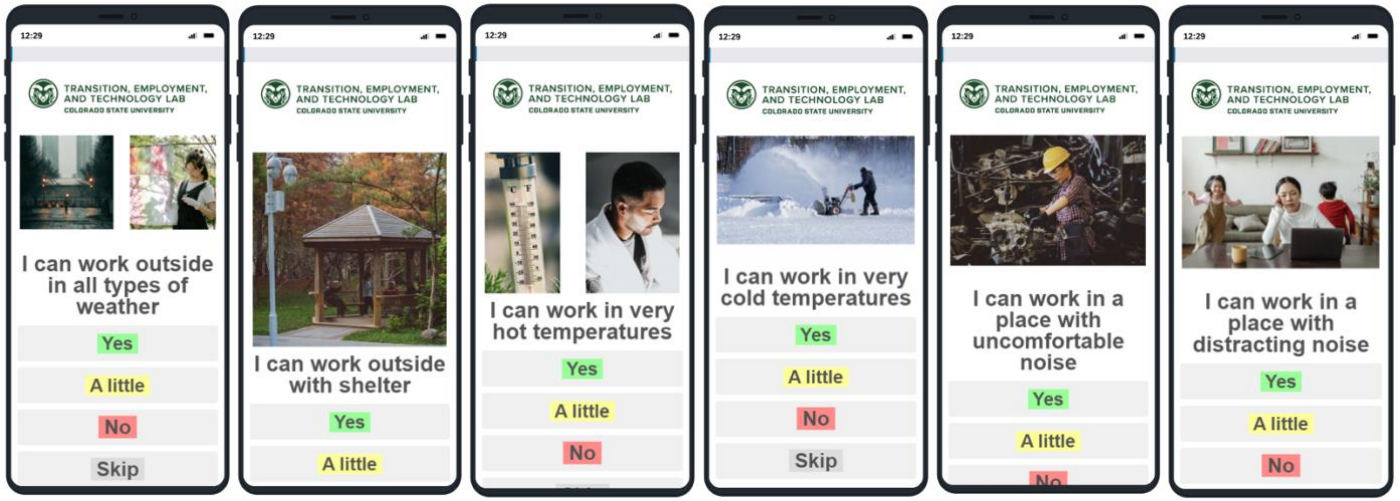
I can pace myself so that I get my work done on time
I can follow rules and plans at work
I can follow a regular schedule of tasks
I can listen to my boss's instructions
I can work more than 30 hours per week
I feel okay when plans change
Yes
A little
No
Skip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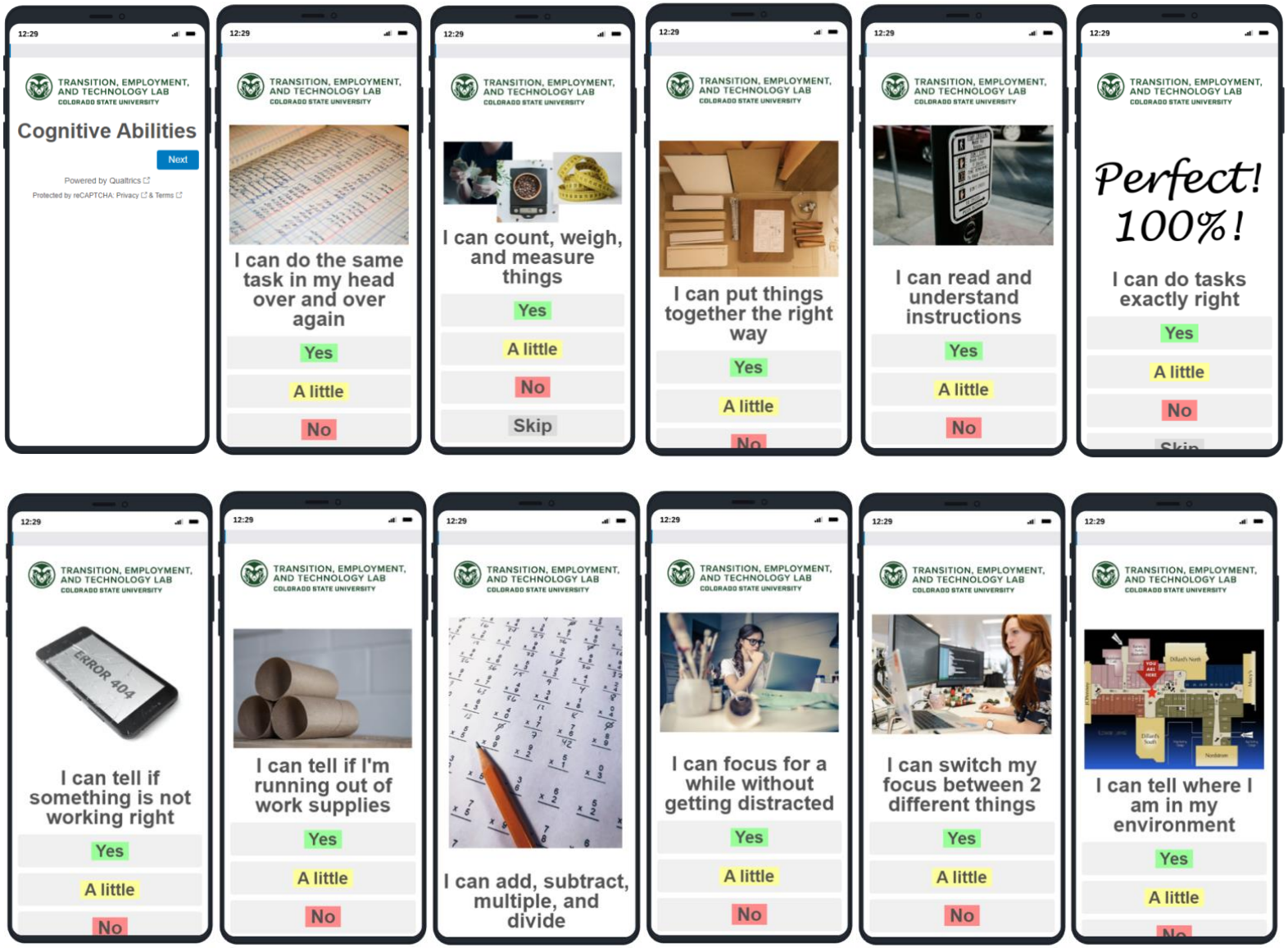
I can work outside in all types of weather
I can work outside with shelter
I can work in very hot temperatures
I can work in very cold temperatures
I can work in a place with uncomfortable noise
I can work in a place with distracting noise
Yes
A little
No
Skip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Cognitive Abilities
Next
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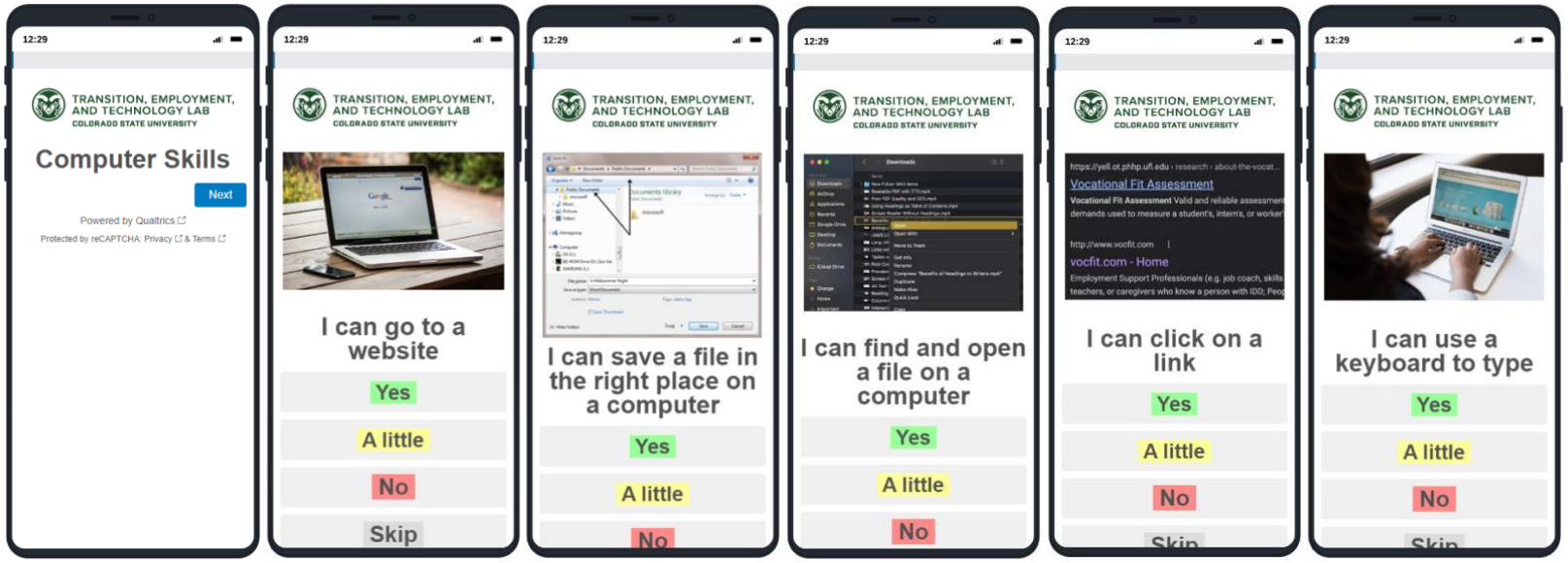
I can do the same task in my head over and over again
Yes
A little
No
I can count, weigh, and measure things
Yes
A little
No
Skip
I can put things together the right way
Yes
A little
No
I can read and understand instructions
Yes
A little
No
Perfect! 100%!
I can do tasks exactly right
Yes
A little
No
I can tell if something is not working right
ERROR 404
Yes
A little
No
I can tell if I'm running out of work supplies
Yes
A little
No
I can add, subtract, multiple, and divide
I can focus for a while without getting distracted
Yes
A little
No
I can switch my focus between 2 different things
Yes
A little
No
I can tell where I am in my environment
Yes
A little
No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Computer Skills
Next
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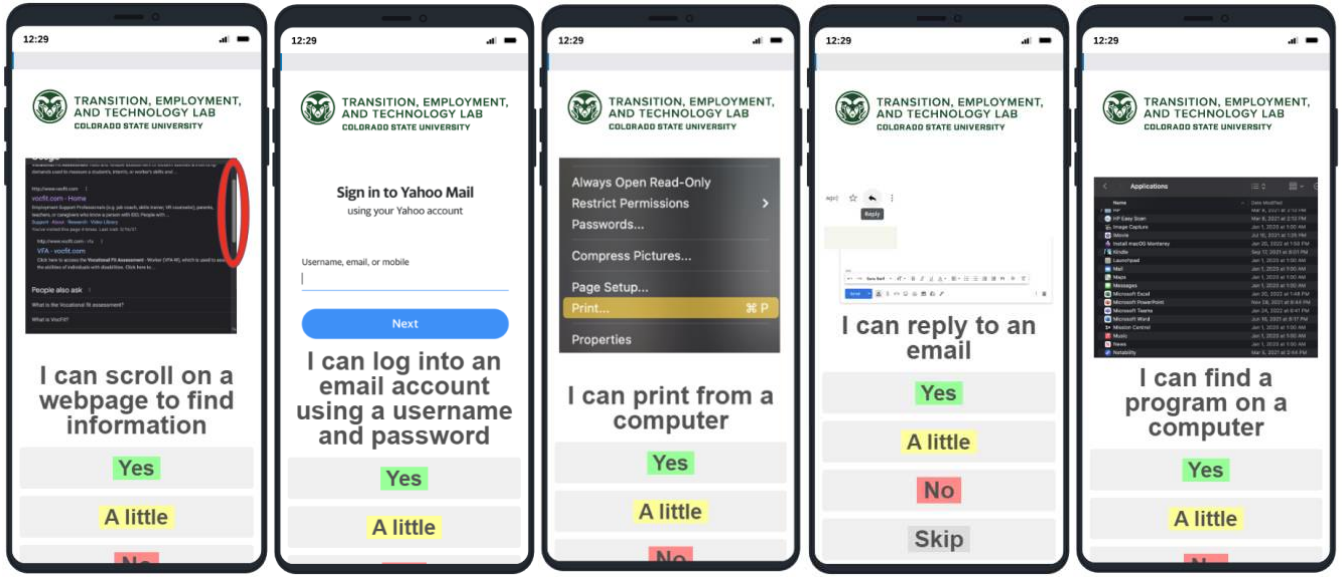
I can go to a website
Yes
A little
No
Skip
I can save a file in the right place on a computer
Yes
A little
No
I can find and open a file on a computer
Yes
A little
No
Vocational Fit Assessment
vocfit.com - Home
I can click on a link
Yes
A little
No
I can use a keyboard to type
Yes
A little
No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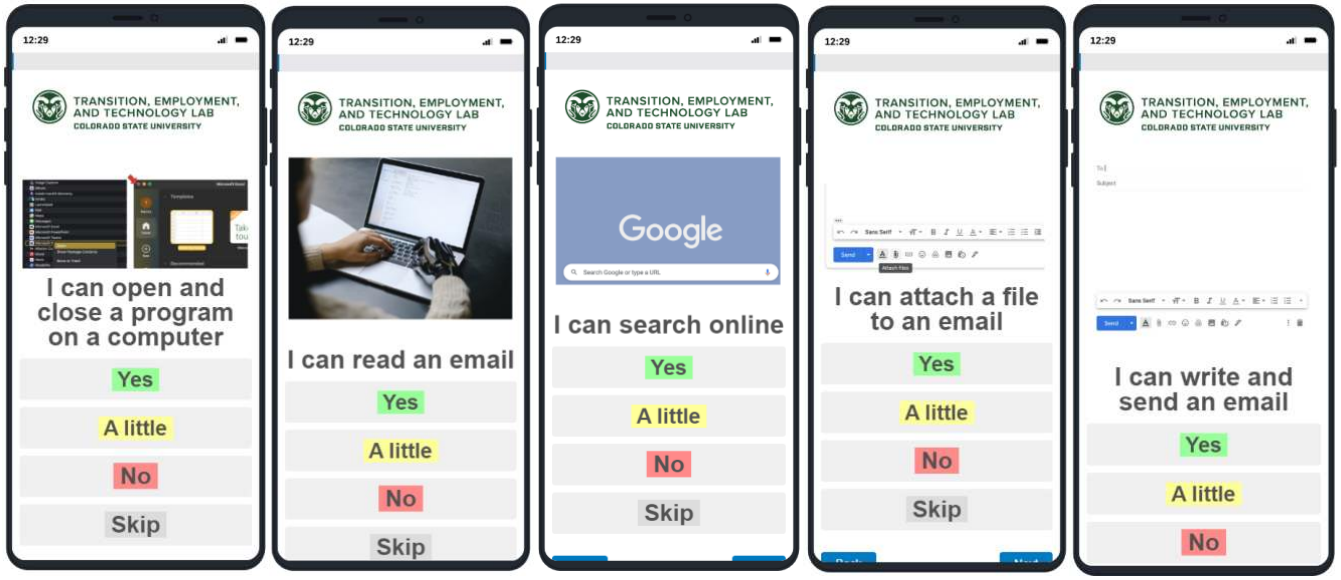
I can scroll on a webpage to find information
Yes
A little
Sign in to Yahoo Mail
using your Yahoo account
Username, email, or mobile
Next
I can log into an email account using a username and password
Yes
A little
Always Open Read-Only
Restrict Permissions
Passwords...
Compress Pictures...
Page Setup...
Print... ⌘P
Properties
I can print from a computer
Yes
A little
I can reply to an email
Yes
A little
No
Skip
I can find a program on a computer
Yes
A little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I can open and close a program on a computer
Yes
A little
No
Skip
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I can read an email
Yes
A little
No
Skip
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Google
I can search online
Yes
A little
No
Skip
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I can attach a file to an email
Yes
A little
No
Skip
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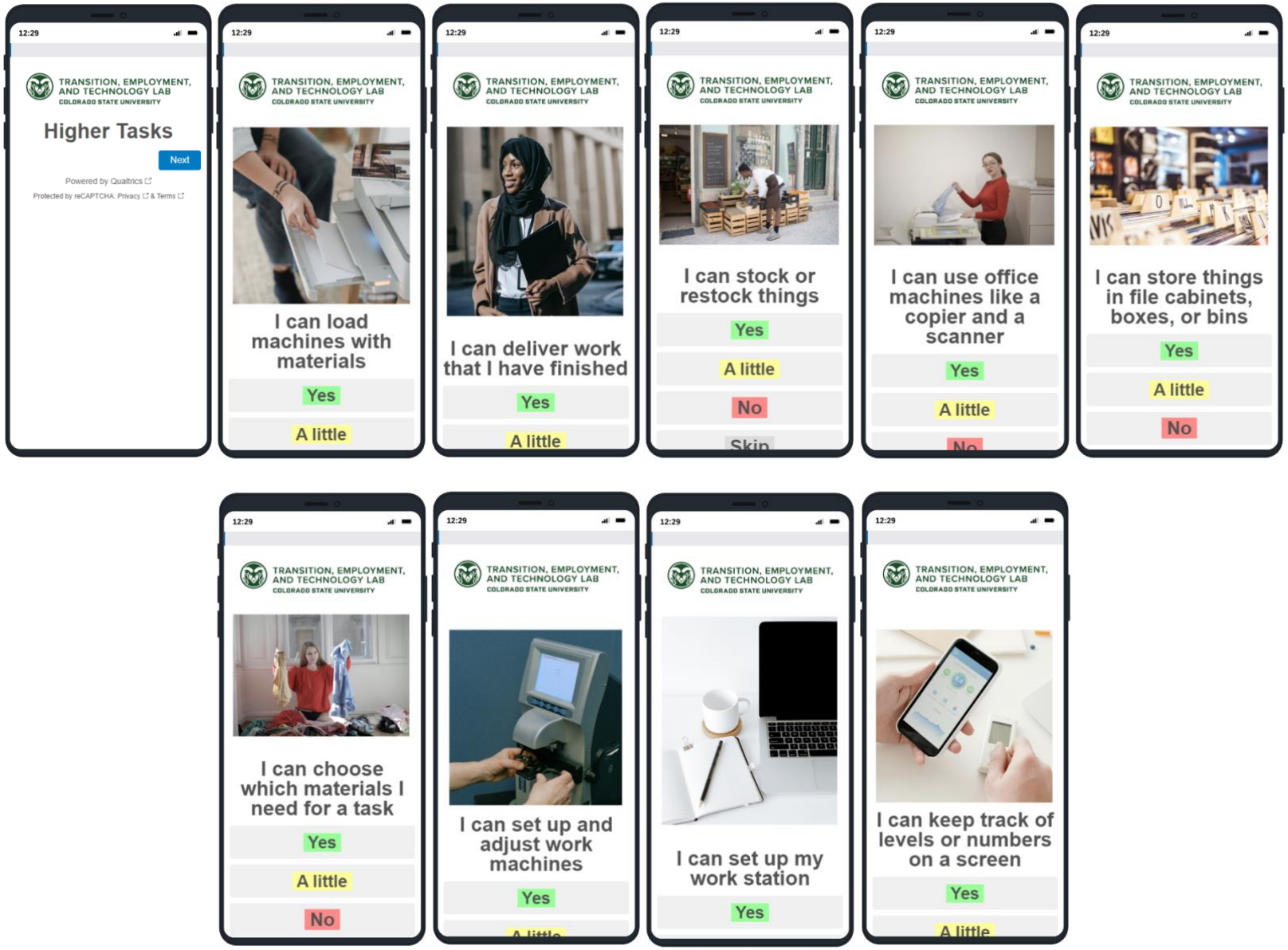
I can write and send an email
Yes
A little
No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Higher Tasks
Next
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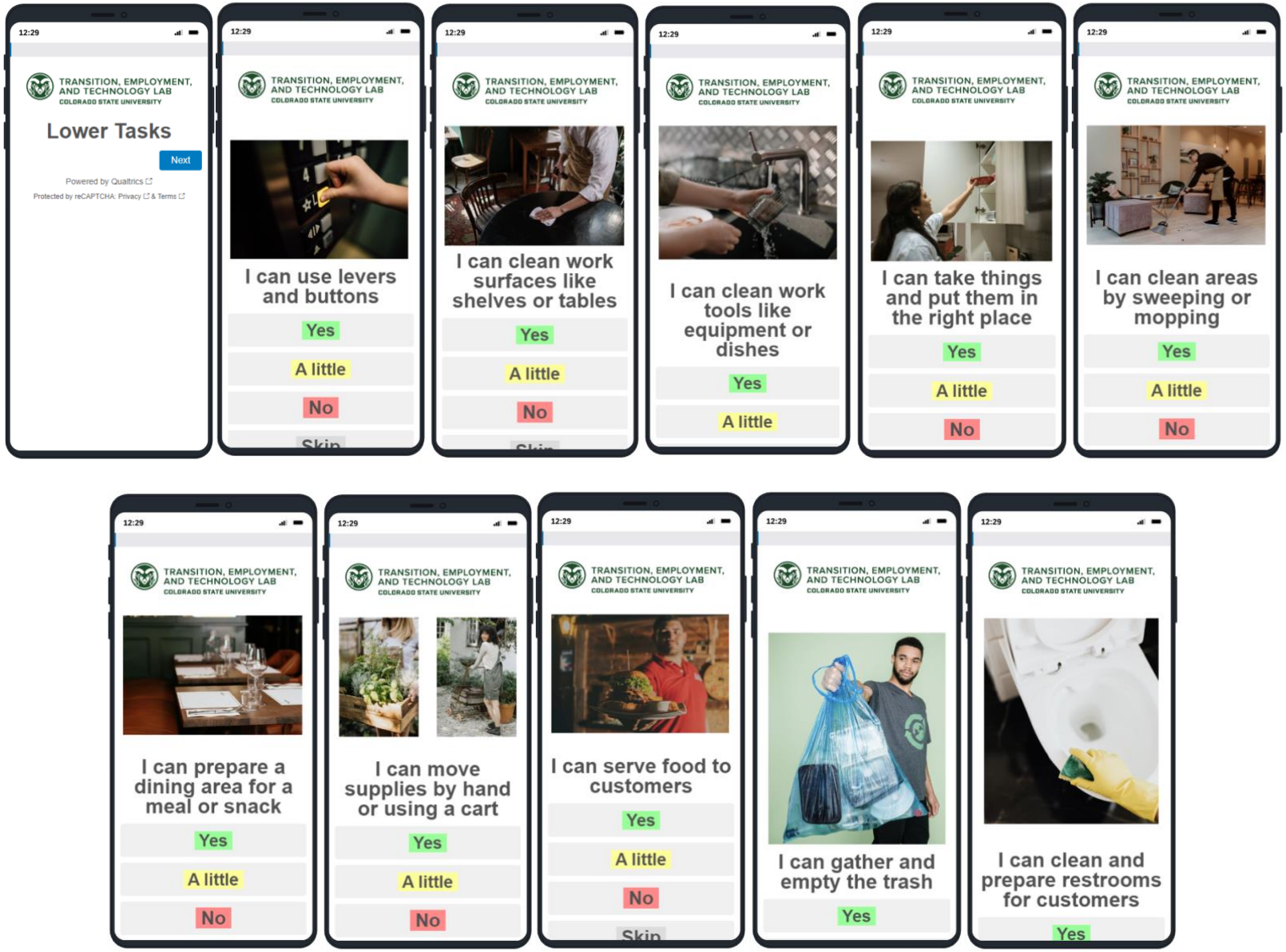
I can load machines with materials
Yes
A little
I can deliver work that I have finished
Yes
A little
I can stock or restock things
Yes
A little
No
Skip
I can use office machines like a copier and a scanner
Yes
A little
I can store things in file cabinets, boxes, or bins
Yes
A little
No
I can choose which materials I need for a task
Yes
A little
No
I can set up and adjust work machines
Yes
I can set up my work station
Yes
I can keep track of levels or numbers on a screen
Yes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Lower Tasks
Next
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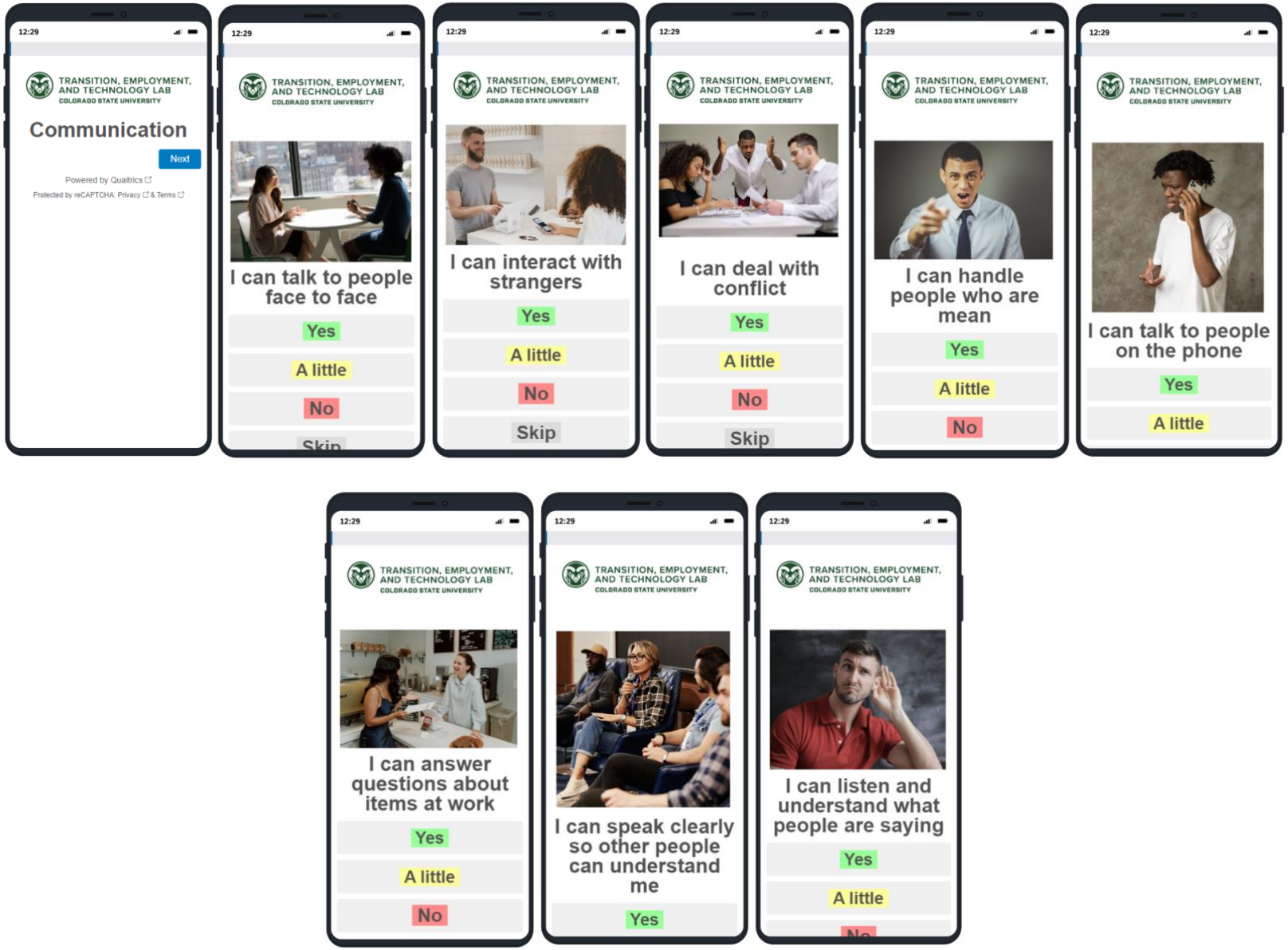
I can use levers and buttons
Yes
A little
No
I can clean work surfaces like shelves or tables
Yes
A little
No
I can clean work tools like equipment or dishes
Yes
A little
I can take things and put them in the right place
Yes
A little
No
I can clean areas by sweeping or mopping
Yes
A little
No
I can prepare a dining area for a meal or snack
Yes
A little
No
I can move supplies by hand or using a cart
Yes
A little
No
I can serve food to customers
Yes
A little
No
Skip
I can gather and empty the trash
Yes
I can clean and prepare restrooms for customers
Yes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Communication
Next
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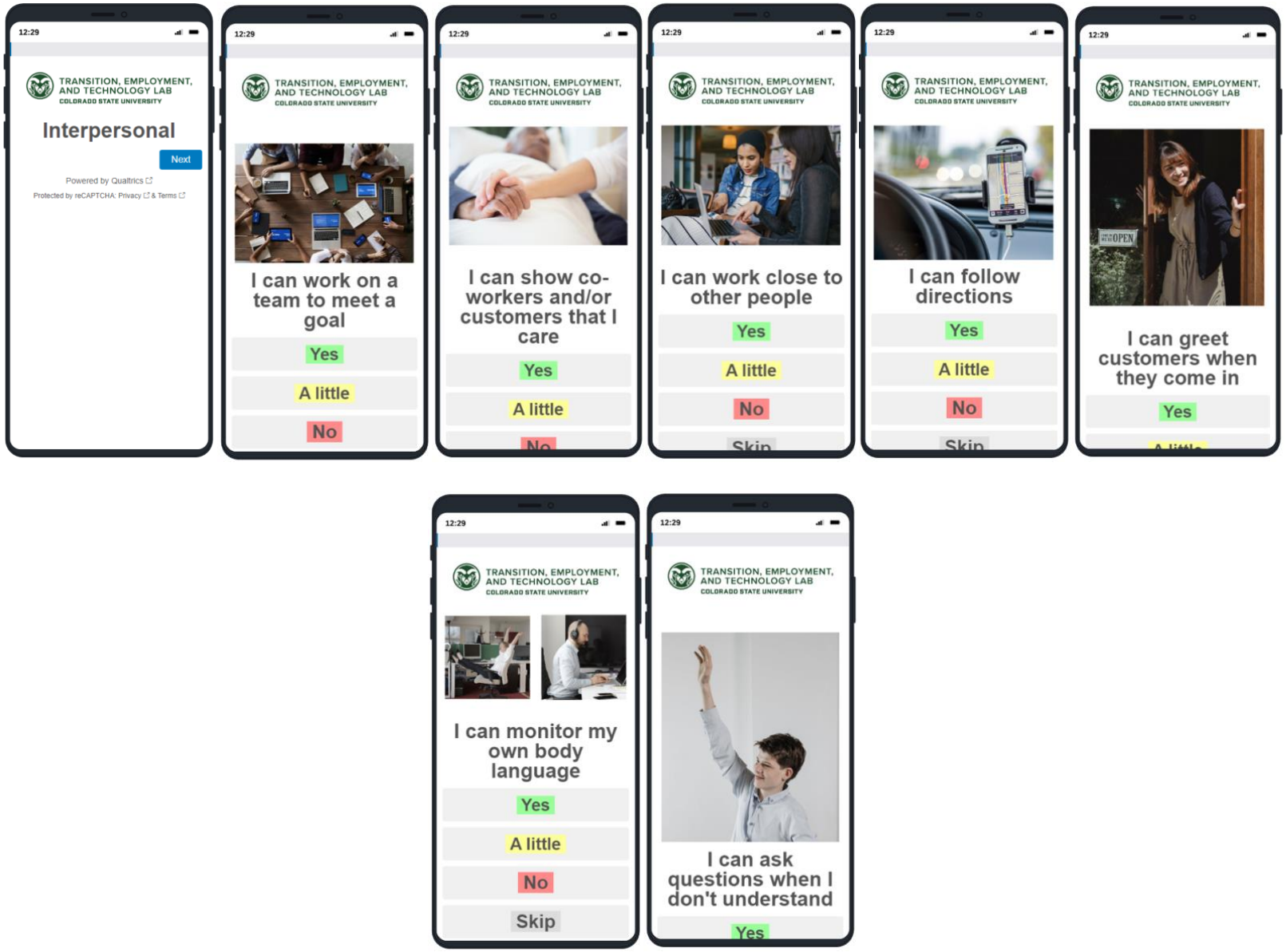
I can talk to people face to face
Yes
A little
No
I can interact with strangers
Yes
A little
No
Skip
I can deal with conflict
Yes
A little
No
Skip
I can handle people who are mean
Yes
A little
No
I can talk to people on the phone
Yes
A little
I can answer questions about items at work
Yes
A little
No
I can speak clearly so other people can understand me
Yes
I can listen and understand what people are saying
Yes
A little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Interpersonal
Next
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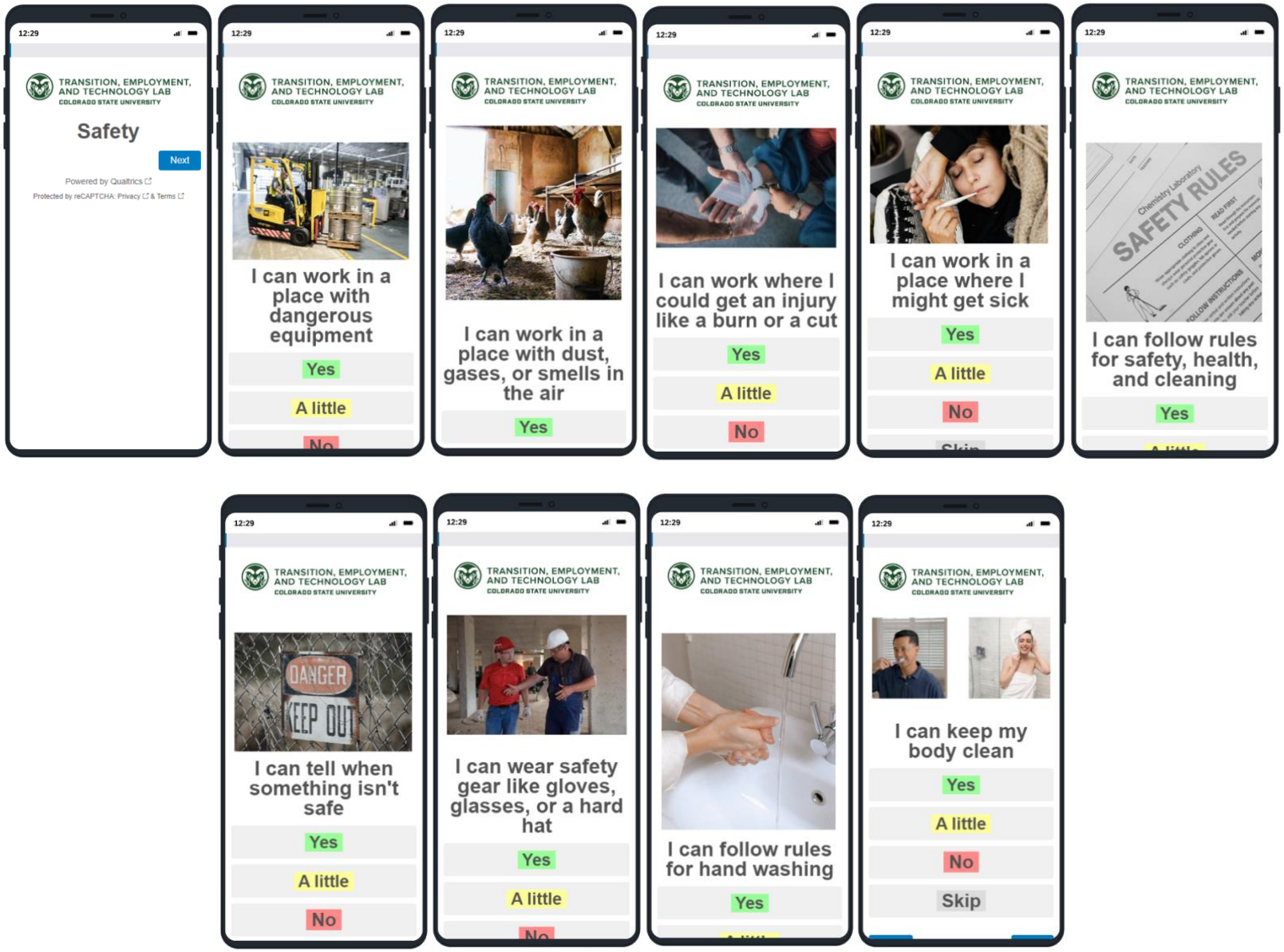
I can work on a team to meet a goal
Yes
A little
No
I can show co-workers and/or customers that I care
Yes
A little
No
I can work close to other people
Yes
A little
No
Skip
I can follow directions
Yes
A little
No
Skip
I can greet customers when they come in
Yes
I can monitor my own body language
Yes
A little
No
Skip
I can ask questions when I don't understand
Yes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Safety
Next
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I can work in a place with dangerous equipment
Yes
A little
No
I can work in a place with dust, gases, or smells in the air
Yes
I can work where I could get an injury like a burn or a cut
Yes
A little
No
I can work in a place where I might get sick
Yes
A little
No
Skip
Chemistry Laboratory
SAFETY RULES
I can follow rules for safety, health, and cleaning
Yes
DANGER
KEEP OUT
I can tell when something isn't safe
Yes
A little
No
I can wear safety gear like gloves, glasses, or a hard hat
Yes
A little
No
I can follow rules for hand washing
Yes
I can keep my body clean
Yes
A little
No
Skip