Exploring the Use of an Occupational Interests Card Sort with Young Adults with Intellectual Disability: A Preliminary Study

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Transition planning is the foundation for addressing post-secondary goals leading to improved outcomes. Transition assessments guide the transition planning process. Given the importance of transition assessment results, practitioners need access to measures supporting the active involvement of young adults with intellectual disability. One such method is the occupational interests card sort. This study investigated the use of an occupational interests card sort with young adults with intellectual disability, assessing its impact on career decision self-efficacy. Results indicated that the occupational interests card sort influenced young adults' ability to select career goals, as well as identify career themes beyond occupational interests.

Keywords: qualitative career assessment; card sort; career decision-making; intellectual disability

In the years following high school, all young adults aspire to pursue a range of personally relevant experiences related to postsecondary education, employment, and independent living. Young adults with intellectual disability, who experience limitations in both intellectual functioning and adaptive behavior (Schalock et al., 2010), share similar aspirations (Newman et al., 2011). Yet, having an intellectual disability continues to be a predictor of the degree to which desired adult outcomes are achieved (Carter et al., 2012). For most young adults with intellectual disability, valued outcomes often remain unattained.

To support young adults with disabilities, including those with intellectual disability, in progressing towards achieving post-school goals, the Individuals with Disabilities Education Act of 1990 mandated the provision of transition services (IDEA, 1990). These services are to be based on the individual student's needs, taking into account their strengths, preferences, and interests (IDEA, 2004). Individualizing transition services and supports requires the use of age-appropriate transition assessments, which support the development of measurable post-secondary goals and the identification of needed transition services (Neubert & LeConte, 2013). Indeed, it is widely acknowledged that

meaningful assessment should serve as a cornerstone for the design and delivery of transition services (Neubert, 2012).

To support meaningful transition planning, research points to the importance of involving young adults throughout the assessment process (Landmark et al., 2010). In fact, youth involvement is recognized as an evidence-based predictor of improved post-school outcomes (Test et al., 2009). Such engagement leads to improved understanding of strengths, preferences, interests, and support needs (Martin & Williams-Diehm, 2013). Furthermore, active engagement in transition assessment prepares young adults to meaningfully discuss their transition plans with others (Collier et al., 2014).

Despite the importance of youth involvement, few transition assessments are designed within a strengths-based framework, as they often focus on identifying and classifying deficits (Walker et al., 2013). Furthermore, few transition assessments are accommodating of the diverse needs of young adults with intellectual disability, which prevents their active involvement throughout the transition assessment process. To more effectively involve young adults with intellectual disability in the transition assessment process, new assessment methods are needed, such as informal assessments (Erickson et al., 2013) and assessment methods from outside of special education (Carter et al., 2014).

Qualitative Career Assessments

One promising approach that can be used with young adults with intellectual disability is qualitative career assessment. Originating in the fields of career counseling and vocational psychology, qualitative career assessments encourage assessment-takers to tell their own career stories and uncover subjective career and life themes (Brott, 2004). When qualitative career assessments are used, assessment-takers are more involved in the assessment process, as it is grounded in their lived experience (McMahon & Patton, 2002).

Incorporating qualitative career assessments throughout the transition assessment process is particularly relevant given recent calls from the field of secondary special education and transition services for the adoption of new career development theories (i.e., career construction and life design) to guide the conceptualization of transition services (Wehmeyer et al., 2018) Theories of career development have served and continue to serve as a frame of reference for conceptualizing transition services. Considering that qualitative career assessments are one way of actualizing these career development theories, this assessment method can be seen as even more promising for use with young adults with intellectual disability.

Card Sorts

A variety of qualitative career assessments are promoted throughout the literature base. One type of qualitative career assessment that holds particular promise for young adults with intellectual disability is the card sort. Card sorts are used to explore various aspects of career and work from the perspectives of assessment-takers. When completing a card

sort, assessment-takers are provided with a stack of cards. Each card addresses a unique aspect of the career or work construct under investigation. Assessment-takers sort cards according to selected reference points, such as level of interest or perceived ability. Sorted cards, along with observations and conversations, provide professionals with insight into assessment-takers' understanding of career and work (Osborn & Zunker, 2012). Dialogue is an essential aspect of the card sort, as it generates narrative information about specific thought processes and encourages open-ended investigation (Butler, 2004). Card sorts can be used in conjunction with formal assessments or as a stand-alone informal assessment (Osborn et al., 2015).

Card sorts offer numerous benefits to assessment-takers. The process of sorting the cards requires assessment-takers to organize their choices into meaningful patterns and define the reasoning behind those patterns. Doing so enables assessment-takers to clarify, reflect upon, and evaluate their current career situation and to arrive at new understandings (Brott, 2001). Through choice, reflection, and decision-making, card sorts promote a stronger sense of personal involvement (McDivitt & St. John, 1996), providing immediate results and enhancing assessment-takers' satisfaction with the process (Osborn & Zunker, 2016).

Cards Sorts and Young Adults with Intellectual Disability

Although card sorts have been used extensively with assessment-takers without disabilities, there have been limited investigations in their use with those with disabilities, including intellectual disability. Given their focus on storytelling and meaning-making, card sorts have been recognized as an effective practice for marginalized populations, such as young adults with intellectual disability (Storlie & Byrd, 2016). Card sorts offer a flexible design, diminishing structural barriers present in standardized assessment strategies (Yang et al., 2005). Furthermore, card sorts have been recommended for use with assessment-takers who present language and communication difficulties, as they support the development of shared terminology and discussion (Soresi & Nota, 2009). This benefit is enhanced through the incorporation of visual aids, which support assessment-takers to verbalize and discuss complex topics (Moreno & Mayer, 2002). The structure of the card sort supports professionals and assessment-takers to determine results and implications together, a need identified by researchers in the field of transition services (Sitlington, 1996). Given such benefits, card sorts appear to be a promising method for assessing the career interests of young adults with intellectual disability.

Card Sorts and Self-Efficacy

Occupational interests card sorts offer the potential to influence assessment-takers' career decision self-efficacy, or the degree to which a person believes they can successfully complete the tasks necessary to make significant career decisions (Crites, 1978). A strong sense of career decision self-efficacy contributes to the attainment of career success as well as an awareness of expanded career opportunities (Bandura, 1986). In contrast, low career decision self-efficacy constrains career options and lessens chances of success (Bandura, 1997). Self-efficacy is developed through performance experiences, vicarious learning, verbal persuasion, and physiological and affective states

(Bandura, 1977). Occupational interests card sorts address self-efficacy through the use of mediated discussions. Researchers hypothesized that the narrative dialogue generated throughout the card decision-making interview would address the self-efficacy mechanism of verbal persuasion (i.e., encouragement provided by significant others to support young adults' beliefs that they possess the skills needed to engage in effective career decision-making activities), supporting young adults' career decision self-efficacy. Career decision self-efficacy has been identified as a relevant and influential career development construct for people with disabilities (Klein et al., 1997). Specifically, it has been identified as a useful framework for rehabilitation counseling with college students with disabilities (Conyers et al., 1998).

Research Questions

To support meaningful and effective transition planning, researchers in the field of transition services have called for new assessment methods that support the involvement of young adults with intellectual disability throughout the transition assessment process (Carter et al., 2014; Erickson et al., 2013). One type of assessment that shows promise for supporting the involvement of young adults with intellectual disability and enhancing their career decision self-efficacy is the card sort, an informal qualitative career assessment. Currently, limited investigations have been conducted that utilize this assessment approach with this group. Therefore, the purpose of this study was to implement an occupational interests card sort with young adults with intellectual disability, assessing the impact of this approach on participants' career decision self-efficacy. Specifically, the study addressed the following research questions:

1. Do occupational interests card sorts influence the career decision self-efficacy of young adults with intellectual disability?
2. What career themes are revealed through the completion of the occupational interests card sorts?
3. Do young adults with intellectual disability believe occupational interests card sorts to be socially valid?
4. Do transition practitioners believe occupational interests card sorts to be socially valid?

Method

To address this study's research questions, researchers applied a convergent parallel design, a type of mixed-methods research. The convergent parallel design was selected "to obtain different but complementary data on the same topic in order to fully understand the research problem" (Morse, 1991, p. 122). In the following section, participants, settings, materials, measures, procedures, and data analysis techniques are described.

Participants and Settings

This study included two groups of participants: young adults with intellectual disability and transition practitioners. A total of two females and five males with intellectual disability participated, all of whom attended a two-year inclusive post-secondary education

program (IPSE) at a large public university located in the midwestern United States. Young adult participants ranged in age from 19 to 23 years old. Six of the seven young adult participants were white, and one was Asian. All of the young adult participants had a primary diagnosis of intellectual disability and six had a secondary diagnosis, including: autism (n=4), Down syndrome (n=1), and OCD (n=1).

A total of four transition practitioners participated in this study. Two were associated with the IPSE, and two were affiliated with a Project Search program located at the same university. All four transition practitioners were female. Three practitioners were Caucasian, and one was Hispanic. Two practitioners worked as job coaches, having between seven and eight years of experience. One practitioner worked as an employment specialist. She held a master's degree and had three years of experience. The fourth practitioner worked as a Project Search Coordinator. She held a master's degree and had 20 years of experience.

Recruitment

Prior to recruitment, researchers received approval from the university's Institutional Review Board. To recruit young adults, IPSE staff distributed recruitment materials, including a flier and email describing the project. Young adults with intellectual disability and their parents/guardians then contacted researchers if they were interested in participating. To recruit transition practitioners, researchers emailed information to staff at the IPSE and Project Search. Transition practitioners contacted researchers if they were interested in participating. Upon expressing interest, all participants completed formal consent documents and scheduled meetings with the researchers.

Materials and Measures

Materials

Study materials included a modified Knowdell Occupational Interests Card Sort. All sessions were video- and audio-recorded.

Knowdell Occupational Interests Card Sort

The Knowdell Occupational Interests Card Sort, an established card sort used by career counselors, is designed to elicit an assessment-taker's occupational interests (Knowdell, 2005). The Knowdell Occupational Interests Card Sort was initially developed in 1977 and updated in 2005 to reflect a changing job market (Knowdell, 2005). It contains two decks of index-sized cards, consisting of 110 occupational titles. For this study, occupational title cards were modified by incorporating occupational pictures displayed on the back side of each card. Additionally, five cards are included as reference points for sorting the occupational title cards into groups. Reference points include interested, probably interested, unsure, probably not interested, and definitely not interested. To support young adults' decision-making and reduce decision-fatigue, researchers in this study only used three of the five reference points: definitely interested, unsure, and definitely not

interested. When completing the card sort, young adults were asked to consider each occupational card and then sort it by their level of interest.

Measures

Study measures included: (a) the Career Decision Self-Efficacy Scale: Short-Form (Betz & Taylor, 1994); (b) a career decision-making interview protocol; (c) a young adults social validity questionnaire; and (d) a transition practitioner social validity questionnaire.

Career Decision Self-Efficacy Scale: Short-Form

The Career Decision Self-Efficacy Scale: Short Form (CDSE:SF) was used to assess changes in career decision-making. Based on the theories of self-efficacy (Bandura, 1977) and career maturity (Crites, 1978), the CDSE:SF measures the degree to which a person believes they can successfully complete tasks necessary to make significant career decisions. CDSE:SF scale development was strongly influenced by self-efficacy theory because of its utility in understanding and promoting career development (Hackett et al., 1992). The theory of career maturity was used to actualize career decision self-efficacy. Crites' five career choice competencies were used to develop the CDSE:SF's sub-scales: (a) accurate self-appraisal, (b) gathering occupational information, (c) selecting goals, (d) making plans for the future, and (e) problem-solving. The CDSE:SF consists of five-item sub-scales within these five domains, resulting in a 25-item scale in which respondents rate level of confidence using a 5-point Likert-type scale (1=no confidence at all, 2=very little confidence, 3=moderate confidence, 4=much confidence, 5=complete confidence). The CDSE:SF has a coefficient alpha value of 0.94 with sub-scales coefficient alpha values ranging from 0.73 (self-appraisal) to 0.83 (goal selection), indicating an acceptable level of reliability (Betz et al., 1996).

The CDSE:SF was used in this study because of its frequent use as a pre/post-dependent measure when examining career development interventions (Bergeron & Romano, 1994; Betz & Luzzo, 1996; McAuliffe, 1991). Although the CDSE:SF measure has not previously been used with young adults with intellectual disability, it has been used with college students with disabilities in past research (Luzzo et al., 1999).

Career Decision-Making Interview

Young adults engaged in a semi-structured interview designed to generate narrative and reveal understandings related to career-decisions made throughout the card sort. An interview protocol, which consisted of nine questions and 27 follow-up probes, was developed using the Occupational Interests Card Sort Career Planning Kit (Knowdell, 2005). Interview questions were organized based upon the category into which young adults sorted occupational cards: (1) definitely interested, (2) definitely not interested, and (3) unsure. Questions such as, "What similarities are present in this group of cards?" and "Why do you want to work in these jobs?" were included.

Young Adult Social Validity Questionnaire

Young adults completed a social validity questionnaire eliciting their experiences in completing the card sort, as well as levels of satisfaction with card sort results. The questionnaire consisted of eight items, seven of which used a 4-point Likert-type scale (1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree) with questions such as "The occupational interests card sort helped me identify jobs that I want to have in the future." and "I feel more confident about my future career plans after completing the occupational interests card sort." An open-ended item asked the young adults to describe what they learned about themselves from completing the occupational interests card sort.

Transition Practitioner Social Validity Questionnaire

Transition practitioners completed a social validity questionnaire addressing card sort procedures and results, as well as perspectives toward using the occupational interests card sort as a transition assessment. The questionnaire included 13 items, seven of which used a 4-point Likert-type scale (1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree) and six of which were open-ended. The questionnaire included statements such as, "The occupational interests card sort would provide me with valuable information about my student's career interests." Open-ended items included, "How could you use assessment results to support your students' career development?"

Procedures

During the first meeting, young adults completed the CDSE:SF as a pre-test measure. At this meeting, the researcher reviewed the purpose of the measure and provided young adults with directions. After administering the CDSE:SF, the occupational interests card sort was administered. Prior to the assessment, the purpose of the card sort was introduced. Young adults were then instructed to review each occupational title and corresponding picture and consider which pile they would place it into (i.e., definitely interested, unsure, definitely uninterested). In this way, the young adults sorted all 110 cards into the three categories. After young adults completed the card sort, a second meeting was scheduled within one week.

During the second meeting, young adults completed the career decision-making interview. At the beginning of the interview, young adults reviewed the cards placed in the "definitely interested" category. The researcher then asked the associated interview questions, thereby eliciting their career narratives. A similar process was followed for cards placed in the "unsure" and "definitely uninterested" piles. At the completion of the interview, young adults completed a second CDSE:SF as well as the social validity questionnaire.

When meeting with transition practitioners, the researcher reviewed card sort materials and procedures, including the modified Knowdell Occupational Interests Card Sort and the career decision-making interview protocol. Additionally, the researcher conducted a demonstration card sort and played a video recording of a sample card sort meeting. Finally, the researcher reviewed an example card sort report. Transition practitioners then completed the social validity questionnaire.

Data Analysis

Adhering to a convergent parallel design, the quantitative and qualitative findings were analyzed separately and brought together for comparison (Fetters et al., 2013). Quantitative results derived from the CDSE:SF results were analyzed using the Wilcoxon Rank Sum Test. Tests were run to determine changes in composite scores (i.e., overall degree of career decision self-efficacy) and goal selection sub-scale scores, chosen for further analysis because of its direct relevance to the card sort activity (i.e., young adults' degree of belief that they can select a career goal).

Qualitative results obtained from career decision-making interview transcriptions were analyzed using qualitative analysis to identify career themes. Transcriptions were coded according to a constant comparative approach, using a combination of open coding to identify initial codes and axial coding to construct a set of final codes and definitions (Corbin & Strauss, 2008). Researchers coded interviews in three stages. First, after reading three transcripts, an initial set of codes were identified. These codes were then applied to the remaining four transcripts with additional revisions applied after reaching consensus. In the final stage, all coded data were extracted by unique codes, and a final set of summative themes was considered. Throughout each stage, researchers made decisions through consensus. For any disagreement about codes or definitions, researchers shared their rationale and critiqued decisions until an agreement was reached. Disagreements were minor and became less frequent as researchers progressed to the later stages of coding. An online qualitative analysis software, Dedoose (8.1.21), was used to facilitate coding, aggregating, synthesizing, and evaluating qualitative data.

Social validity questionnaires were analyzed using descriptive statistics. Specifically, researchers summarized social validity questionnaire ratings across young adults and transition practitioners.

Results

An occupational interests card sort was implemented to answer four research questions. In the sections below, researchers describe both quantitative and qualitative results associated with each research question.

Influence on Career Decision Self-Efficacy

Research question one asked, "Do occupational interests card sorts influence the career decision self-efficacy of young adults with intellectual disability?" Researchers used the Wilcoxon Rank Sum Test to analyze differences between young adults' CDSE:SF composite scores and CDSE:SF goal selection sub-scale scores. Results from the Wilcoxon Rank Sum Test of the pre/post administration of the CDSE:SF revealed that a significant difference was not found between the pre- and post-test composite scores ($p=.237$). Analysis of the goal-selection sub-scale did reveal a statistically significant difference ($p=.027$), suggesting a change in young adults' ability to select career goals

before and after the occupational interests card sort. See Table 1 for a summary of CDSE: SF results.

Career Decision-Making Themes

The semi-structured interview answered research question two, "What career themes are revealed through the completion of the occupational interests card sorts?" A total of 17 career decision-making themes were identified and then condensed into six categories: (a) interests/disinterests, (b) strengths/weaknesses, (c) values, (d) preferences, (e) knowledge/experience, and (f) connections to career role models.

Interests and Disinterests

One of the most frequently identified career themes addressed young adults' interests and disinterests. All seven young adults identified career interests. Young adults identified occupational interests broadly. For example, when discussing mathematics occupations, Shanna explained that she "loves math," but did not elaborate on what aspects of math interested her. Young adults also identified specific occupational interests. For example, Rob expressed an interest in physical education, stating, "I kind of want to do physical education because it's like I want to teach kids how to be active and not just sit on the couch."

Along with describing their interests, all young adults described their disinterests. Young adults identified disinterests in specific industries. For example, Trevor stated, "I would not work in fashion. I would not." Young adults' disinterests also related to specific occupations. Nick expressed a disinterest in medicine, stating, "Like when someone is performing surgery, they have to like do stuff in order for them to survive. One could be in a coma." Comments identifying disinterests frequently co-occurred with concerns about weaknesses. For example, Mary explained, "I know math, certain math. But there are certain skills that I don't know."

Young adults also expressed uncertainty about specific careers. Uncertainty often related to a lack of understanding or knowledge. When asked why he was unsure about being a pharmacist, Trevor stated, "uh, I don't know. I am not sure." Uncertainty also related to young adults' perceived abilities toward certain occupations. For example, Mary shared, "I mean I am good with working with people on like class stuff. But, I am not sure I would be good in other situations." Some young adults justified their uncertainty by describing the ongoing nature of their career development. For example, Nick noted, "I mean it probably wouldn't be my first ideal job. I guess I am still kind of exploring jobs and stuff like that."

An interesting theme associated with young adults' interests and disinterests were boundaries. Boundary comments addressed young adults' interests alongside their disinterests. Often, boundary comments addressed work environments and conditions. Shanna shared this about being a forest ranger, "I like the forest, but umm I don't like all the rocks. I don't. I don't. Because sometimes I just fall on the rocks." Boundary comments also addressed work tasks, such as "I wouldn't mind working on computers, but wouldn't

want it to be my whole job." Young adults also expressed personal values associated with occupational interests/disinterests. When describing his disinterest in politics, Jake stated, "I am kind of interested because I want to serve my community. But I want to serve them in a different way."

Strengths and Weaknesses

Young adults identified both strengths and weaknesses as reasons for categorizing occupations; however, strengths were identified less frequently. Four young adults identified strengths in relation to specific work tasks. When describing an interest in journalism, Mary noted, "I am a good writer, and that is no problem." Nick justified one of his occupational interests, stating, "I choose it because I am interested in organizing. It is one of my strengths." Strength comments also related to young adults' personalities. When describing his interest in psychology and social work, Jake explained, "I want to help people with their mental health. I feel like I connect with people and can make them happy."

Interestingly, young adults frequently commented on their weaknesses. Young adults identified weaknesses in relation to specific work tasks. For example, Nick explained, "I don't mind using the computer, but sometimes it is hard like it is like hard to like uh use like certain difficult apps." Weaknesses also focused on specific occupations. When discussing her disinterest in technology, Shanna noted, "I am not capable of it. I don't have the skills." Limited knowledge of certain subjects were noted as reasons for disinterest in certain occupations. For example, Nick noted, "I mean some sort of math I can do, and I can pretty much handle, but like if it's like algebra it's kind of hard." Finally, young adults identified specific skill deficits. When discussing a disinterest in management occupations, Jake noted, "I may not be a good leader."

Values

Although not as common as other career themes, four young adults described specific values or core beliefs they wanted to experience in their future occupations. Overwhelmingly, young adults identified a desire to help others, with 10 of 18 comments addressing this value. When asked about her interest in fitness training, Shanna shared, "I would like to help help other people or students." Young adults also described a desire to be creative or take on leadership roles. For example, Jake shared that he enjoys "leading people" when describing an interest in food service management. Value comments frequently co-occurred with comments addressing interests and boundaries. When describing a disinterest in health careers, Mary noted, "I like helping other people, just not sick people."

Preferences

Another frequently identified career theme addressed young adults' preferences. Many young adults revealed preferences for certain work environments. For example, Nick explained, "I am definitely interested in that job because uh because I uh hmmm because like I like I like working outdoors." Also, Trevor shared, "I would enjoy working with people

in an office." All young adults commented on non-preferred environments. For example, a disinterest in office settings was explained: "It is not my type having to sit there all day," or "Sometimes it is really gross out and I wouldn't work outside then."

Young adults also revealed preferences for certain work tasks associated with specific occupations. When describing an interest in business, Shanna shared, "I like the PowerPoints. It is awesome to give the PowerPoints whether to students or peers or to teachers or anybody." Young adults also noted more general work tasks they preferred. For example, Rob stated, "I like to just do stuff that are like hands-on and those kinds of things." Similarly, young adults described non-preferred work tasks. When discussing air travel occupations, Trevor explained, "I wouldn't do that. Because it would have heavy lifting and that I would not want to do." As would be expected, young adults often described non-preferred work tasks that aligned to occupations they were not interested in and for which they noted personal weakness. For instance, Rob noted a disinterest in nursing and dentistry, stating, "I just don't want to deal with blood or anything."

Knowledge and Experience

Young adults frequently made comments revealing their occupational knowledge. Comments exposed young adults' understandings of specific industries. When describing a disinterest in technology, Trevor noted that the field "keeps on changing all the time." Comments illuminated their knowledge of prerequisites for certain occupations. For example, Jake noted a disinterest in science, commenting, "Unfortunately, I want to be a veterinarian or a vet tech, but that requires those things." Notably, only one young adult commented on the impact of their disability in relation to an occupation. When describing his disinterest in law enforcement, Seth stated, "You can't have a disability and be a police officer. It is against the rules. I mean some disabilities you can have, but not all of them. Like you can have ADHD, but not like an intellectual disability. For like safety reasons."

Young adults' comments also revealed a lack of occupational knowledge, mainly through asking questions. When discussing health-related careers, Trevor asked, "What would I do if I did (these jobs)?" Young adults also made statements that revealed limited understanding. For example, when asked what accountants do, Shanna responded, "They do science." Finally, some young adults had only a vague understanding of an occupation. When discussing accounting, Trevor noted, "It's like with math and something. But I don't really know what math they do."

Several young adults commented on previous experiences when making occupational choices. A few comments related to previous paid or unpaid work experiences. One young adult attributed her interest in childcare to past work at her aunt's daycare. Another young adult described a time he helped a friend's family work cattle, stating, "the worst thing ever to do is to separate the mothers from their babies." Comments also revealed young adults' prior exposure to specific occupations. When discussing health-related occupations, Trevor shared, "I took that in high school." Although less frequently, young adults made comments regarding their lack of experience, particularly regarding specific work tasks. When describing uncertainty about jobs involving writing, Mary shared, "Ummm, like

papers and essays, that might be a little more harder. I've never really experienced that stuff."

Connections to Career Role Models

Although not as common as other career themes, a few young adults attributed their occupational interests to career role models. Career role models included immediate and extended family members. When asked about her interest in working with children, Mary said, "I think it's uh uh it is because of my aunt." Professionals were also identified as career role models. When describing his interest in teaching, Rob noted the influence of a former teacher, stating, "I had P.E. class with a very good coach of mine. He was my P.E. teacher, my physical education teacher. He was a really good guy."

Social Validity

Research questions three and four focused on the social validity of the occupational interests card sort. Overwhelmingly, the young adults endorsed the occupational interests card sort. All of the young adults reported that the card sort was easy to complete and helped them clarify their interests in future occupations. Additionally, all of the young adults noted they preferred the occupational interests card sort to traditional paper/pen transition assessments. Similarly, transition practitioners endorsed the occupational interests card sort. All four transition practitioners believed the card sort was accommodating of students' individualized needs. Additionally, all of the transition practitioners thought their students would enjoy completing the occupational interests card sort, and all strongly agreed the card sort was preferred to traditional transition assessments. Transition practitioners indicated that the occupational interests card sort would provide information about their students' career interests not provided by traditional paper/pen transition assessments.

Discussion

The impact of the occupational interest card sort on young adults' career decision self-efficacy showed some promise. Of most interest to practitioners is the potential importance of how these young adults navigated career decision-making. In the following sections, researchers discuss the most relevant findings, while noting limitations and implications for future research.

Impact on Career Decision Self-Efficacy

One aim of this study was to examine the impact of the occupational interests card sort on young adults' career decision-making. Relatively little is known about the career decision-making processes of people with intellectual disability (Luzzo et al., 1999). The current research base reveals that people with disabilities appear to exhibit attitudes and beliefs toward career decision-making that may prevent optimal career development (Hitchings et al., 1998; Smith, 1997).

Researchers in this study hypothesized that the occupational interests card sort would lead to increased career decision self-efficacy because of its use of dialogue and narrative. Unfortunately, the results indicated the occupational interests card sort did not significantly impact young adults' overall levels of career decision self-efficacy. However, it did appear to improve one of the sub-scale scores, goal setting, suggesting a change in young adults' ability to select career goals before and after the occupational interests card sort. These findings are likely attributed to a somewhat circumscribed focus of the card sort intervention. As noted previously, career decision self-efficacy is influenced by five competencies (e.g., self-appraisal; occupational information; goal selection; planning; and problem-solving). Not all of these career decision competencies were addressed by the occupational interests card sort, thereby limiting the influence on overall levels of career decision self-efficacy. In addition, the approach used during the career decision-making interview may not have sufficiently targeted verbal persuasion (i.e., encouragement provided by significant others to support young adults' beliefs that they possess the skills needed to engage in effective career decision-making activities), a noted mechanism for improving self-efficacy (Bandura, 1977). Although the young adults engaged in discussions addressing concepts relevant to career decision-making, researchers did not provide specific feedback, limiting the card sort's impact on young adults' career decision self-efficacy.

Career Decision-Making Themes

Narrative explanations generated by young adults throughout the semi-structured career decision-making interviews yielded rich information. Despite the card sort's singular focus on occupational titles, career decision-making themes illuminated a number of concepts relevant to the young adults' career decision-making. The variety of themes was not surprising, as research has shown that dialogue associated with card sorts generates substantive narrative information about an assessment-taker's specific thought processes (Stineman et al., 2008). Further, these results support previous research showing that people with disabilities reveal individual patterns of specific characteristics, personal values, and work and life roles through career narratives (Ferrari et al., 2015).

Although congruent with previous research, establishing similar patterns for young adults with intellectual disability was a significant outcome of this preliminary study. Qualitative results revealed that a card sort procedure can contribute to better understanding young adults career decision-making thought processes and experiences. This is likely the result of the cards sort's use of visual aids and concrete response options (i.e., placing the cards into piles based on preferences). Previous research has noted the role of visual cues in supporting meaning-making during interviews and increasing the quality of understanding among the interviewer and participant (Moreno & Mayer, 2002). Researchers found that using the cards as a visual aid to support the interview process was effective in helping young adults verbalize and discuss their career decision-making thought processes, as well as to help the researcher make sense of young adults' narratives. This resulted in a higher quality of knowledge construction than might have been obtained otherwise.

Social Validity

The extent to which a particular intervention is perceived to be socially valid plays a significant role in whether the approach is adopted and implemented (Kern & Manz, 2004). Thus, without social validation, it is perhaps less likely that a practice will be used by practitioners (Bodfish, 2004; Carter, 2010). As a result, a final aim of this study was to assess the social validity of this assessment approach.

Overwhelmingly, both young adults and transition practitioners endorsed the occupational interests card sort. Young adults reported that it was easy to complete, while transition practitioners indicated that it would be accommodating of their students' individualized needs. Both young adults and practitioners commented on the type of information provided by the occupational interests card sort. Young adults shared that results would help them select a future job. Transition practitioners indicated that it would provide valuable information about their students' career interests. Finally, young adults and transition practitioners unanimously recommended this method, reporting that they preferred the occupational interests card sort to traditional paper/pen transition assessments. This high degree of social validity is a positive finding, suggesting that the occupational interests card sort is likely to be implemented by practitioners and well-received by young adults.

Limitations and Future Research

When interpreting this study's findings, several limitations must be considered. First, the CDSE:SF was administered twice within one week. The short duration between CDSE:SF administrations may have impacted results. Second, this study included a small convenience sample at one midwestern ISPE program, threatening the significance and generalizability of findings. Third, responses to quantitative measures were self-reported. The accuracy of self-reported data is a concern; however, research indicates that it can be valid (Emerson et al., 2013). Despite these limitations, this study provides preliminary evidence regarding the use of an occupational interests card sort with young adults with intellectual disability.

Because this exploratory study provided only preliminary evidence regarding the use of occupational interests card sort, future research is needed to address limitations. First, this study's procedures should be replicated with a sufficient sample size to better understand the impact of the occupational interests card sort on young adults' career decision self-efficacy. To broaden the scope of findings, this study should be carried at different types of educational institutions, such as high schools and traditional transition programs, as well as in different regions of the United States. Future research should also consider expanding the scope and approach of the career decision-making interview to more effectively address the self-efficacy mechanism of verbal persuasion. Finally, it may well be that expanding the focus beyond the theory of career self-efficacy may allow different measures to be used to evaluate occupational interests card sorts on career decision-making. More specifically, researchers should consider assessing the impact of occupational interests card sort on young adults' career decision-making attributional style, which vocational psychologists recognize as particularly critical to career

development (Luzzo & Jenkins-Smith, 1996). Outside of addressing study limitations, researchers should also consider exploring the use of other types of qualitative career assessments, such as life lines, life roles circles, and goal maps (Brott, 2004). Furthermore, the authors recommend that future studies utilize transition practitioners to implement the occupational interest card sort to further enhance social validity.

Conclusion

Continued research attention is needed to ensure high-quality, youth-centered transition assessment methods that can accommodate the diverse needs of young adults with intellectual disability and support their involvement in the assessment process are available. Qualitative career assessments, such as the occupational interests card sort, appear to be a promising assessment method for involving young adults in the transition assessment process and gathering youth-centered information to inform transition planning. Despite this study's findings, much more work is needed to address ways to meaningfully include young adults with intellectual disability in the assessment process.

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Table 1 - *Summary of Career Decision Self-Efficacy Scale: Short Form Results*

	Jake	Mary	Nick	Rob	Seth	Shanna	Trevor
Pre/Post Composite Scores	3.4/4.4	3.8/3.6	3.6/3.3	1.8/1.7	4.4/4.1	3.4/3.2	2.8/2.0
Change	+1.0	-0.2	-0.3	-0.1	-0.3	-0.2	-0.8
Wilcoxon Rank Sum Test: Composite				p=0.237			
Pre/Post Goal Selection Sub-Scale	4.8/4.8	3.6/4.0	3.2/3.4	1.2/1.4	4.0/4.6	2.6/4.2	2.6/4.0
Change	+0.0	+0.4	+0.2	+0.2	+0.6	+1.6	+1.4
Wilcoxon Rank Sum Test: Goal Selection Sub-Scale				p=0.027*			

*Statistically significant finding