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Initial Validity and User Experience of a Dynamic Assessment of Occupational Performance for Transitional Age Youth

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Abstract

Background: The Double OT (DOT) assessment is occupation-based and dynamic, designed with a client-centered format requiring skill demonstration. It was developed to support youth transitioning into the workplace. This research intended to analyze initial validity and users’ experience.

Method: This study includes qualitative and quantitative analyses of data collected from surveys from 169 client participants (APs) and 30 recipient participants (ARRs) from eight sites in the USA and Europe. AP were 14 to 25 years of age and engaged in residential, educational, and vocational settings. The ARRs comprised partners who had received DOT assessment summaries about APs with whom they worked.

Results: The APs showed high engagement and learning; average ratings for each item fell between 4.24–4.54 on a 5-point Likert scale. The ARRs agreed on the validity and usability of the DOT; average ratings for each item fell between 3.75 and 4.53 on a 5-point Likert scale. Qualitative themes indicated that the DOT is: “fun and engaging,” “vocationally informative and applicable,” and that there is an absence of commonly used assessments informing vocational transitions.

Conclusion: The results support initial validity of the DOT. Users find it to be highly engaging, with good usability, and indicate that it facilitates participant learning.

Keywords
adolescent, mental health, transitions, work skills

Cover Page Footnote
Dr. Chi-Kwan Shea is a professor at Samuel Merritt University and serves on the board of OTTP-SF. The authors were awarded a $5,000 Samuel Merritt University Faculty Research Grant in support of this research. Christine Haworth and Genevieve Cyrs are the authors of the Double OT (DOT), the assessment tool on which this research article is based. Christine and Genevieve developed the DOT while working for Special Service for Groups, Inc. (SSG) and Occupational Therapy Training Program-San Francisco (OTTP-SF), a division of SSG. Both authors are contractually partnered with the test publishing company Western Psychological Services (WPS) and the intellectual property of the assessment is currently held by WPS. At the time of this writing, neither the authors nor OTTP-SF have benefited financially or otherwise from the tool, however, there is a potential for financial gain should WPS continue to develop and eventually market the assessment.

Credentials Display
Christine Haworth, MA, OTR/L; Genevieve Cyrs, MS, OTR/L; Chi-Kwan Shea, PhD, OTR/L

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Occupational therapists often balance the competing needs of practicing with a client-centered, occupation-based lens and operating within the constraints of existing funding sources. This balance can present a challenge to therapists, especially when selecting and administering assessments. Yet occupational therapists have long recognized that “the basic concepts of a profession should be reflected through the tests and measurements used in its practice” (Gillette, 1991, p. 565). In the last two decades, there has been an increase in valid assessment measures that more distinctly reflect the scope and practice of occupational therapy (Asaba et al., 2017). However, more meaningful, occupation-based assessment tools are needed (Gillen, 2013; Brown & Bourke-Taylor, 2014; Moore, 2021).

Of particular interest in the realm of occupational therapy assessments is the desire to better understand which individual skills combine to impact occupational performance, as they are foundational to occupational engagement. Occupational performance, defined as “the ability to choose, organize, and satisfactorily perform meaningful occupations that are culturally defined and age appropriate for looking after one’s self, enjoying life, and contributing to the social and economic fabric of community” (Canadian Association of Occupational Therapists, 2002, p. 30), is contextual, considers the demands of the occupation, and is dynamically transactional (American Occupational Therapy Association [AOTA], 2020). Therefore, to best determine which skills and factors facilitate or hinder occupational performance, it is helpful to assess the relevant individual components that inform functionality using a format that is meaningful, interactive, and can reasonably represent context.

In a client-centered occupational therapy framework, assessment is also considered an integral part of the therapeutic process (AOTA, 2020). The assessment tools selected and administered should reflect the individual client’s needs, as they are impacted by its administration (Gillen & Hinojosa, 2015; Tuersley et al., 2018; Velozo, 2021). In addition, if an assessment allows for reflection and dynamic interaction between the client and the therapist, it can enhance therapeutic rapport (Bradford & Rickwood, 2012). Optimally, assessment outcomes should be explicitly relevant and practically useful for the client (Velozo, 2021). Assessments are most useful when they provide specific, client-centered recommendations for interventions (Hasson, 2007). Holistic assessments are a particularly beneficial form of assessment, as they inform client-centered strategies by gathering a more complete picture of the client’s difficulties and circumstances (Bradford & Rickwood, 2012). Furthermore, when an assessment uses a framework and language understood across disciplines, such as the International Classification of Functioning, Disability and Health (ICF) (World Health Organization [WHO], 2001), the results can benefit clients who may transition into, within, among, and out of various systems of care through clear communication of individual client characteristics, preferences, and participation goals (Kraus de Camargo, 2011).

A dynamic assessment of occupational performance, the Double OT (DOT), was developed based on the aforementioned characteristics of being performance-based, client-centered, and holistic (Alotaibi et al., 2009). Initially conceived and developed in 2014 to evaluate work skills for youth who had been involved in the justice system and were transitioning to employment, the DOT has since been piloted across settings with diverse populations. This study intended to begin the process of determining the initial psychometric properties of this new assessment.

**Meaning in Assessment**

Occupational therapists supporting clients’ transitions through systems of care often use assessments to measure baseline occupational performance to inform attainable goals, identify relevant supports, and measure change over time. The data provided by such assessments inform interventions and are frequently required by regulatory bodies, such as insurance providers. However, these assessments...
frequently carry little or no meaning to those being assessed, which can result in decreased effort exerted by individuals during evaluation (Wise & DeMars, 2005; Velozo, 2021). Research spanning over two decades related to assessment performance shows that low motivation to perform correlates with poorer test performance (Wigfield & Eccles, 2000). Therefore, the values, expectations, and motivations of those being assessed have an impact on the outcomes of assessments, potentially undermining the reliability and credibility of the assessment itself (Wise & DeMars, 2005).

An assessment’s ability to facilitate disclosure and engagement between the client and the therapist can impact the assessment tool’s efficacy (Bradford & Rickwood, 2012). Wong and Fisher (2015) found that assessments grounded in occupation allow for a more holistic evaluation. Assessments that consider occupations most relevant and meaningful to a client in tandem with their needs, experiences, and expectations can best establish the foundation from which to support clients’ occupational performance (Cordier et al., 2016). In a study conducted by Eklund et al. (2008), occupation-based assessments were found to influence client satisfaction with their assigned service providers and with the intervention provided. Ougrin et al. (2011) also found that a brief therapeutic intervention included as part of an initial assessment improved client engagement with treatment. These studies suggest that the use of occupation-based, client-centered principles in assessment administration can motivate clients’ participation and engagement in the assessment, potentially leading to an increase in the validity of assessment outcomes.

**Dynamic Principles**

For an assessment to be optimally effective, the tool ideally facilitates a supportive therapeutic context that allows the client both to engage with and disclose to the clinician (Bradford and Rickwood, 2012). Assessments that include strategic prompts and guidance allow administrators to discover how a client responds to different forms of assistance. The knowledge about the client’s processing strategies and extent of self-awareness gained from the assessment may potentially impact the subsequent interventions provided to the same client (Toglia & Foster, 2021).

Dynamic assessments allow clients to experience therapeutic intervention while participating in an assessment process in which they have the opportunity to learn more about the constructs being assessed and their own related competency. Embedded in a dynamic assessment are intervention techniques intended to effect possible changes in performance, allowing the administrator to observe these changes in real-time (Toglia & Cermak, 2009). In this interactive process, informed by the cognitive development scholarship of Lev Vygotsky (1978) and Reuven Feuerstein (1979, 1987), the administrator provides guided support in the form of prompts, strategies, and feedback. This assessment process intends to measure systematically and objectively how clients respond to the tasks presented during evaluation and identify potential modifications needed to enable the completion of the tasks (Hasson, 2007; Katz et al., 2012). Dynamic assessment methods have the potential “to create a situation in which the client is eager, motivated to perform and able to perceive the therapist as a helping partner in the learning process” (Missiuna, 1986, p. 19). Subsequently, the assessment outcomes can be more representative of real-life performance, increasing the validity of findings. As the intent of dynamic assessment is to showcase the client’s ability to learn, this “process can be used to effectively and efficiently guide treatment planning to enhance occupational performance” (Toglia & Cermak, 2009, p. 570).

In a dynamic assessment testing situation, the administrator is the facilitator of increased independence and learning for the client (Vygotsky, 1978). Specific skills are explicitly taught in real-time throughout the dynamic assessment process, potentially increasing a client’s awareness of their occupational performance. Therapists can build on this approach by using prompts that encourage the
client to generalize how a skill could be applied in another context, fostering the transfer of learning that transcends the given environmental constraints (Toglia & Foster, 2021). This practice honors the history and locality that clients bring to the interaction (Ramugondo, 2018), an important consideration in client-centered practice grounded in the ecological Person-Environment-Occupation-Performance model (Baum & Christiansen, 2005).

The dynamic process can also encourage the client to evaluate their own performance, fostering greater self-awareness. Use of these methods shifts the interaction from static assessment, which often carries an imbalanced power dynamic, to a more responsive measurement promoting greater equity in the therapist and client relationship. These practices are aligned with the American Occupational Therapy Association’s Vision 2025, whose guideposts of accessibility, collaboration, effectiveness, and leadership are reflected in practice that “maximizes health, well-being, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday living” (AOTA, 2017). In this way, the dynamic assessment process can promote greater equality in the therapist and client relationship as it recognizes and attends to the dynamics of hegemony. This conscious therapeutic practice, therefore, promotes the thoughtful counteraction of the inequities inherent in the predominant modes of health care delivery services (Kathard & Pillay, 2013; Ramugondo, 2015).

**Design and Composition of the DOT Assessment**

The DOT assessment was developed using an occupation-based, client-centered, and dynamic approach. The purpose of the assessment is descriptive, in that it provides information about the client’s current functional status to best inform intervention (Brown & Bourke-Taylor, 2014). The assessment design aims to engage the assessment participant in a fantastical plot, prompting them to solve a mystery using developmentally appropriate intrigue to stimulate motivation. Each of the 11 discrete tasks facilitates the participants’ demonstration of a specific skill (see Figure 1). Twelve additional skills can be observed throughout the assessment process by the therapist administering the tool. As the participant moves through the stand-alone non-sequential assessment tasks, they are expected to become increasingly engaged in the plotline and corresponding task demands.

**Figure 1**
*Photo of the Double OT Assessment Tool*
In the initial step of assessment development, skills that would operationally define “work readiness” were identified, because of the initial application of the tool as part of a vocational support program. The composite included 23 skills determined to holistically reflect occupational performance related to work (see Table 1). Once assembled, these composite skills were presented to a group of occupational therapists who worked with transitional-aged youth for review. This group concluded that those selected skills indeed comprised the concrete elements of the construct of work readiness. It should be noted that subsequent academic consultation later shifted the goal to drop the concept of “readiness,” as best practice suggests all people who want to work are ready (Frederick & VanderWeele, 2019). As this change in terminology was identified after the research had already begun, the survey questions remained unaltered and refered to “work readiness.” For consistency, this term remains in use in this article.

### Table 1
**Skills Assessed by the Double OT**

<table>
<thead>
<tr>
<th>Skill Category</th>
<th>Area</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-care</td>
<td>Insight</td>
<td>Direction following</td>
</tr>
<tr>
<td>Community mobility</td>
<td>Judgment</td>
<td>Clarification</td>
</tr>
<tr>
<td>Financial management</td>
<td>Problem-solving</td>
<td>Initiation</td>
</tr>
<tr>
<td>Generalization</td>
<td>Attention</td>
<td>Sequencing</td>
</tr>
<tr>
<td>Organization</td>
<td>Emotional regulation</td>
<td>Social interaction skills</td>
</tr>
<tr>
<td>Planning</td>
<td>Confidence</td>
<td>Conflict management</td>
</tr>
<tr>
<td>Time management</td>
<td>Impulse control</td>
<td>Coping</td>
</tr>
<tr>
<td>Cognitive flexibility</td>
<td>Motor skills</td>
<td></td>
</tr>
</tbody>
</table>

The plotline of the DOT is intended to align with the goal of offering an assessment that is diverse, trauma-informed, playful, and comprehensive. The assessment’s development was guided by the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014) to minimize cultural bias. At the completion of each task, the administrator offers the assessment participant several brief guided processing questions to facilitate dynamic interaction in terms of reflective performance appraisal and learning in real-time. This dynamic feature aims to offer the participant benefits similar to those received through intervention while the participant’s strengths and necessary supports are determined. These processing questions are posed directly in relation to each task as it is completed, as “self-appraisal immediately following task performance may provide valuable information for treatment planning” (Zlotnik & Toglia, 2018, p. 8).

Scoring is criterion-referenced, with each skill evaluated by the administrator and placed into one of the following categories: area for growth, functional, or independent. Since dynamic assessment processes focus more on variations in individual performance and change versus static assessment that compares individual performance to normative or typical performance (Toglia & Cermak, 2009) the scoring of the DOT reflects dynamic administration practices. A client-centered and trauma-informed lens was also a factor in the development of this scale with consideration of this population’s potentially negative experiences with evaluations. The criterion for each skill is aligned with the corresponding definition according to either the Occupational Therapy Practice Framework: Domain and Process.
(OTPF) (AOTA, 2014) or the ICF (WHO, 2001), which represented the industry standards at the time of development.

The DOT assessment concludes with a certificate of completion for each participant presented by the administrator to foster a sense of achievement while providing another opportunity for reflection and goal setting. The administrator then transfers the assessment outcomes to a report that includes recommendations for supporting the participant’s skill development (see Appendix A). Recommendations can be written independently by the administrator based on the participant’s unique performance and/or can be drawn from the DOT manual, which offers a list of recommendations written in line with the definitions of skills drawn from the OTPF and ICF. Since the development of the DOT, the tool has been used routinely by the authors and research partners with their transitional-aged clients.

This study intended to serve as an initial examination of the psychometric properties of the DOT and an exploration of the users’ experience with the tool. The initial psychometric properties being examined include face and construct validity, as defined by Grampurohit and Mulcahey (Kramer & Grampurohit, 2020). The exploration of the users’ experience focused on the concepts of participant engagement, usability as defined by Rubin and Chisnell (2008), and the impact of the dynamic assessment process.

Method

Analysis was conducted on data from surveys completed by three distinct groups of research contributors. The study was approved by the Institutional Review Board of the university where the principal investigator (PI) is employed.

Participants

The three groups of contributors to this study were assessment administrators, assessment participants, and assessment report recipients. Assessment administrators (AAs) were therapists who agreed to administer the DOT to their youth clients and complete the study survey. Assessment participants (APs) were existing clients of AA who agreed to participate in the DOT assessment and complete a study survey. Assessment report recipients (ARRs) were affiliates of the AAs who received the DOT assessment report as part of their work with a given participant and agreed to complete the study survey. The report focus on describing the findings from the APs and the ARRs, which highlight face and construct validity as well as the users’ experience with the DOT. While the content validity of the tool can be determined from data from the AAs, as they are content specialists, that is the subject of a separate manuscript.

Inclusion and exclusion criteria were as follows. For the AAs, therapists were included in the study if they were licensed occupational therapists trained in the administration of the DOT and completed the administration of the assessment on at least five individuals. In addition, a single marriage and family therapist (MFT) was included because of their graduate-level training in clinical observation skills and their work experience in a relevant setting. The APs were included if they were between 14 and 25 years of age, agreed to participate in the study, and were administered the DOT by a trained AA. As for the ARRs, they were included in the study if they received an Assessment Summary for at least one of their existing clients agreed to complete a survey. AAs, APs, and ARRs were excluded from the study if they did not meet one of the above criteria or if they did not complete the survey. As an aside, it is relevant to note that given that the authors of the DOT worked in a community-based mental health setting, some of the research partners (both AAs and ARRs) are representative of professions not often included in occupational therapy research.
The recruitment process consisted of a two-pronged internal and external approach. Internally, two authors recruited APs from their existing occupational therapy clients at a community-based mental health organization. These APs completed the DOT as part of their clinical services to support their success in transitioning to work. These APs voluntarily participated in the assessment and agreed to complete the survey. Neither participation in the assessment nor completion of the survey impacted the clinical services the APs were eligible for or received. The ARRs were recruited internally from established community partners affiliated with the organization where the authors were employed. The ARRs were professionals who received and used individual APs’ DOT assessment summaries to provide job training and support to sustain the APs’ employment. The ARRs primarily consisted of case managers, probation officers, and staff from job training programs. After receiving a DOT assessment summary for an AP, the ARRs were provided the option to complete a survey.

Externally, the AAs were recruited through the authors’ professional connections, primarily through the American Occupational Therapy Association’s Annual Conference & Expo (2016), the World Federation of Occupational Therapy Congress (2018), and an article published in OT Practice (Haworth & Cyrs, 2017). A formal research partnership with an interested AA was established through a signed memorandum of understanding (MOU), which outlined the parameters of the use of the DOT, training, support, and data collection through survey responses. In line with each AA’s unique setting, each AA gave the assessment to existing clients as a routine part of their work. This allowed for the DOT to be introduced seamlessly into clinical services, facilitating supports in residential, educational, and vocational settings. The DOT Assessment Summary outcomes supplemented assessment findings from other tools, bolstered advocacy efforts, and informed treatment planning to varying degrees depending on the site. Clinical services offered to external APs and ARRs were not contingent on participation in the DOT or completion of the survey. All APs’ and ARRs’ surveys and assessment summaries shared with the authors were de-identified.

This study includes survey data from seven distinct clinical sites outside of the authors’ place of work (eight in total when including the authors’ workplace). These clinical sites include diverse settings, such as a school for children with disabilities in New Jersey, an alternative high school in Los Angeles, a juvenile detention facility in Pennsylvania, and a workforce development program for teens in Latvia (see Appendix B). This paper only focuses on the analyses of survey data collected from the APs and ARRs.

Material and Data Collection

The DOT was administered to the APs by the AAs. The AAs were provided a complete DOT assessment tool kit and received in-person or online video training in assessment administration. The training included administration for each item, scoring, use of results, and frequently asked questions. The AAs also received ongoing support from the authors as requested and needed on topics such as APs’ performance evaluation and tips on writing the assessment summaries.

The information gathered on the surveys provided to the APs and ARRs was developed to identify the initial validity and nature of the users’ experience with the DOT. The APs’ survey included demographic information, four statements rated along a Likert Scale pertaining to the APs’ experience with the DOT, and a space to write additional comments (see Appendix C). The ARRs’ survey included demographic information, four questions related to the services provided and clients served by the organization, five statements rated along a Likert Scale pertaining to the ARRs’ experiences with and perceptions of the DOT Assessment Summary, and a text space for additional written comments (see Appendix D).
The surveys were accessible to the study contributors via both hardcopy and online (www.surveymonkey.com). The APs were provided with access to the survey directly after completing the DOT assessment, while the ARRs were provided access after having received the DOT assessment summaries. The anonymous hardcopy surveys were completed by the APs and ARRs out of view of the AAs and placed in a sealed confidential envelope, which was later delivered to the authors by the AAs for data analysis. The online surveys were anonymous and collected directly by the authors.

**Data Analysis**

The survey data collected from the APs and ARRs were extracted, compiled, and stored in spreadsheets using the software program Microsoft Excel. The quantitative data were analyzed using descriptive statistics, including means and confidence intervals. The written text comments by the APs and ARRs were compiled into two separate documents and analyzed by the authors using qualitative content analysis, commonly used for analyzing a variety of text data (Lindgren et al., 2020). The authors independently read through and coded the APs and ARRs documents, each with collective text responses extracted from the surveys. An inductive approach was employed focusing on the text content in search of common patterns in the data, which were then categorized into themes (Graneheim et al., 2017). Subsequently, the authors met on several occasions to share and discuss identified themes supported by evidence from the text content to reach final consensus.

**Results**

Data from eight different clinical sites in five US states and Latvia were analyzed. All eight sites provided data from the APs, while four of the sites provided survey data from the ARRs.

**Demographic Information**

**The APs’ Demographics**

A total of 169 APs completed surveys. This group represented a variety of races and ethnicities, including African American (29%), Hispanic (17%), Latvian (18%), and mixed race (16%). While nearly a third of the participants were between 16 and 17 years of age, 25% were between 18 and 19 years of age, 15% between 22 and 23 years of age, and 11% in both the 14–15 and 20–21-year-old categories. The participants were primarily male, with 35% of the respondents identifying as female. Geographically, most of the participants were recruited from two sites in San Francisco (66%), followed by the site in Latvia (18%), with relatively equal smaller portions coming from the five remaining sites in Los Angeles, Pennsylvania, New Jersey, Connecticut, and Ohio (between 2%–4% each). Information on their general diagnostic categories was collected separately as part of the AA surveys, which indicated that while some of the APs did not have specific diagnoses, many had mental health, developmental, or intellectual disabilities (see Appendix C).

**The ARRs’ Demographics**

Thirty ARRs completed surveys. Regarding career tenure, 36% had been in their current role for 1 to 3 years, 27% for 4 to 10 years, and 20% and 17%, respectively, for less than 1 year and more than 10 years. Nearly half (48%) had a bachelor’s degree and 31% had a master’s degree, while the remaining 21% was split between those who had completed high school (14%), an associate’s degrees (4%), and certificate programs (3%). Job titles were primarily case managers (37%), probation officers or program leadership (each 17%), employment specialists (13%), or teachers or various other therapists (comprising shares of the remaining 16%). The vast majority of the recipients reported not having a professional license (73%), while the remaining 27% indicated having licenses in occupational therapy, speech and language pathology, social work, teaching, or “other” (3%–7% each).
Quantitative Data Analysis

The APs and ARR respondents to statements, each rated with a 5-point Likert scale: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. The response “don’t know” was also an option, but instead of being scored as 0, this response was removed from the data set so as to not skew the calculations. The ratings were analyzed using descriptive statistics, including means and frequencies.

**AP Survey Results**

The participants indicated agreement on all four of the statements, with the average score for each item between 4.24 and 4.54. The results indicate that the APs agreed that the DOT’s assessment activities were interesting (Item 1), increased self-awareness of work skills (Item 2), included skills necessary for work-readiness (Item 3), and helped prepare them to be work-ready (Item 4). Confidence intervals were then calculated at the 95% level of significance for each of the means, and the results are depicted in Figure 2.

**Figure 2**
Assessment Participants’ (APs) Survey Results (n = 169)
**The ARRs’ Survey Results**

Similar results were found when calculating the ARRs’ responses for the first four of five statements, with the last statement showing a wider range of scores. Average ratings for the first four statements ranged from 4.04 to 4.53, indicating that the ARRs agreed that the tool provided useful information (Item 1), the skills assessed were good indicators of work readiness (Item 2), the results accurately represented the youth’s skills (Item 3), and the results from other relevant assessments provide accurate results (Item 4). Slightly less agreement was indicated by the ARRs’ response to the last survey question regarding the similarity of the DOT’s results to those of other relevant assessment tools (Item 5). In a similar fashion to the APs data, 95% confidence intervals were then calculated for each of the means, and the results are depicted in Figure 3.

**Figure 3**
*Assessment Report Recipients’ (ARRs) Survey Results*

![Graph showing recipient means with 95% confidence intervals (n=30)]

**Qualitative Data Analysis**

Both the APs’ and ARRs’ surveys included open-ended questions that allowed for short-answer responses. Of the total surveys received, 95 completed by the APs and 23 by the ARRs contained text responses. Short sentences or phrases represented all of the responses from both the participants and recipients. The responses to the question “How do you use the information provided in the Double OT Assessment Summary?” yielded more lengthy responses from the recipients (mostly 15 to 25 words) in comparison to other questions and comments (mostly three- to 10-word responses). Three major themes about the DOT assessment emerged from qualitative analysis of the text data collected from the comments and feedback section of the surveys. These themes are (a) fun and engaging, (b) vocationally informative and applicable, and (c) absence of standard assessments.
Fun and Engaging

The comments and feedback about the DOT assessment offered by the APs and the ARRs overwhelmingly indicated that the assessment is perceived as fun and engaging. Both groups frequently used the word “fun” in the comments section of the survey. While the APs seemed to emphasize that the game-like nature of the assessment is engaging, the ARRs seemed to focus on how the DOT engaged the participants in discovering salient information about themselves. One AP commented: “It was really fun and silly,” and even made a recommendation: “You guys should make them a little bit harder, but it was really interesting.” An ARR commented: “Engaging youth in a game is a much more enjoyable way for them to learn about their strengths and areas for growth.”

Vocationally Informative and Applicable

In addition, many of the APs and ARRs pointed to the usefulness of the assessment. For example, one comment from an AP specifically acknowledged the purpose of the assessment: to identify participants’ existing skills and areas for growth. This AP stated, “I would totally recommend this to others. Before, I lack[ed] the knowledge of my work skill.” The text data collected from surveys completed by the ARRs reflect the usefulness of the assessment, specifically the assessment summaries, in more detail. The ARRs reportedly used the information from the summaries to plan interventions, make referrals to training programs and/or work sites, supplement information for case management, and support the APs in their life development. When prompted to indicate how they used the information from the assessment summary, one ARR reported, “Planning interventions to increase vocational skill development, making recommendations for collateral work with other clinicians, vocational exploration based on results.” Another ARR commented, “I integrate it into the knowledge and understanding of how to best work with the young person.”

Absence of Standard Assessment

The responses to the survey question, “What other assessments do you commonly use with your clients?” varied vastly among the ARRs. Among the 18 responses to this question, not a single assessment was named by two or more ARRs. The types of assessments mentioned included drug screens, interviews, specific institutional or governmental assessments, psychosocial assessments, and a number of standardized aptitude assessments. Moreover, standardized assessments were only named in six responses. There does not appear to be a standard vocational assessment identified among the responses of the ARRs. The DOT assessment and complementary Assessment Summary appear to be the only common standardized assessment used by these ARRs as a way in which to measure their youth participants’ vocational skills.

Discussion

This report focused on the initial validity and user experience of the DOT by exploring the perceptions and experiences of the APs who completed the DOT assessment and the ARRs who received DOT assessment summaries. While the data gathered are insufficient to establish the tool’s validity on its own, the data do provide clear support for establishing two specific types of validity: face and construct. In terms of the user experience, the data indicates that the DOT fosters high AP engagement, has high usability among the ARRs, and fosters the APs’ learning through the dynamic assessment process.

Validity

Face Validity

Face validity of the DOT, defined as “the appearance of test items in relationship to the purpose of the test” (Kramer & Grampurohit, 2020), is supported through the quantitative analysis of the survey
Construct Validity

Construct validity of the DOT, defined as the “relationship between the underlying theory of the construct and the scores on an instrument” (Kramer & Grampurohit, 2020), is supported by quantitative analysis of the ARRrs’ surveys. The ARRrs indicated significant agreement with the statement, “the results in the Assessment Summary are accurate representations of the youth’s work readiness skills.” Although this in and of itself is insufficient to establish construct validity of the DOT, it does provide an initial indication of the alignment of the clients’ DOT scores with the underlying construct of occupational performance related to work readiness.

User Experience

Participant Engagement

Both the APs’ and ARRrs’ surveys indicated high participant engagement with the DOT. In the quantitative analysis of the APs’ surveys, there was strong agreement with the statement, “the activities are interesting to me.” In addition, the qualitative analysis of both the APs’ and ARRrs’ surveys identified a theme of the respondents categorizing the DOT as fun and engaging. Incorporating meaningful occupation into assessment or treatment has been found to benefit the client’s engagement in and satisfaction with services (Eklund et al., 2008; Wong & Fisher, 2015; Ougrin et al., 2011). Therefore, it is particularly noteworthy that both the quantitative and qualitative analyses of the survey responses strongly suggested that the DOT assessment is engaging and meaningful for the APs. Furthermore, if a participant finds the assessment relevant, meaningful, and engaging, the effort being put forth in completing the assessment may lead to a more accurate assessment outcome (Bradford & Rickwood, 2012; Wigfield & Eccles, 2000; Wise & DeMars, 2005). Therefore, the fun and engaging nature of the DOT assessment can potentially increase test validity. Lastly, the varied demographics of the participants in this study bolster confidence in this outcome by reducing the potential biases that may skew the results of a more monolithic sample.

Usability

It is understood that various factors contribute to the term “usability,” including usefulness, effectiveness, satisfaction, and efficiency (Rubin & Chisnell, 2008). While all of these components were not fully explored through this study, the themes of the usefulness and effectiveness of the DOT were identified through both the quantitative and qualitative analyses of the ARRrs’ surveys. These surveys indicated strong agreement with the statement “the information provided in the Assessment Summary is useful,” thereby supporting its usefulness. This was bolstered by the identification of the theme that the DOT was both vocationally informative and applicable, thereby supporting its effectiveness.

Impacts of Dynamic Process

Specific benefits of the dynamic assessment process were identified through the AP responses to the statements, “Double OT increases my awareness of my own work skills” and “what I learned from Double OT would prepare me to be work-ready.” The APs were in strong agreement that they became better prepared for work through participation in the assessment. This suggests that the DOT’s dynamic
nature may accurately assess clients’ work skills and also encourage greater awareness of and development of these skills (Missiuna, 1986). An assessment that holds the potential to advance participant knowledge and skill development directly through participation in the process could be revelatory for assessment processes as a whole, shifting an often-uneven power dynamic in favor of the client (Kathard & Pillay, 2013; Ramugondo, 2015).

**Limitations**

The data from this study are heavily weighted by the AP and ARR participants from San Francisco (66%). This indicates that the samples are not geographically representative of the entire U.S. population. In addition, many of the APs from San Francisco had the DOT administered directly by the authors of the assessment. Although the APs were not informed of this fact prior to their completion of the survey, the researchers’ familiarity with the DOT could have influenced the APs’ experience with the tool.

Furthermore, it is important to note that the APs vary significantly in terms of diagnoses, culture, and services being provided. In addition, the topic of language is relevant, given that one of the sites (Latvia) required a translated version of the assessment. This variety can be interpreted as a limitation because of the limited amount of information gained on any specific group, while it can also serve as an indication of the tool’s applicability across settings, given that each group of the APs and ARRs shared similar levels of satisfaction with the DOT.

The logistics of the survey administration may have also influenced this study. While most of the ARRs’ surveys were completed online via Survey Monkey, the majority of the APs’ surveys were completed on paper upon completion of the assessment, despite the Survey Monkey option that was provided to all contributors. Although additional security measures were applied to assure anonymity of these data, the presence of the AAs could have potentially influenced the APs’ responses. It should also be noted that there were fewer ARRs than APs who were eligible to participate in this study, resulting in a smaller sample size of the ARRs.

**Future Study**

Future studies addressing psychometric properties should include data to establish such properties as interrater reliability, test-retest reliability, and predictive validity. In addition, APs for future studies may include individuals across a wider age range and with different life challenges, abilities, and disabilities to determine better the scope of potentially meaningful applications of the assessment tool. Data collected from the AAs and assessment summaries will be analyzed to examine content and construct validity of the DOT tool. Construct validity of the DOT could be further explored through a study comparing and correlating the tool with other similar, preferably gold standard, measures, as well as with measures that theoretically vary, to identify if and/or how strongly the measures are associated or not.

**Conclusion**

The results of this study support the continued research of the DOT assessment. Given the preliminary results described above, it seems the DOT assessment may potentially serve as a useful and engaging assessment to measure both the vocational skills currently possessed by clients and the skills they are still in the process of developing. Furthermore, although the DOT assessment was originally designed to measure skills related to “work-readiness,” the understanding of its application has evolved to recognize that these skills are indicative of occupational performance related to transitions more generally. More research is needed to determine the myriad potential applications of the DOT across settings both in and outside of the profession of occupational therapy.
More generally, the results indicate that clients assessed by the DOT may learn from their real-time engagement and participation in the dynamic assessment process. This hypothesis requires additional research to determine the specific benefits clients receive from engaging in the dynamic process of the DOT. In addition, more research is needed to explore further the potential role of dynamic assessments in general within the scope of occupational therapy, determining whether they can serve as a way to balance the power dynamics inherent in the therapeutic relationship.

References


## Initial Validity and User Experience of a Dynamic Assessment

### Table of Assessment Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Skills</td>
<td>Ability to express ideas clearly and effectively in both written and spoken forms</td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>Capacity to analyze and resolve complex issues with logical thinking</td>
<td></td>
</tr>
<tr>
<td>Decision Making</td>
<td>Competence in making informed choices based on available information</td>
<td></td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>Capability to evaluate information critically and make well-informed decisions</td>
<td></td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>Understanding and managing one's own and others' emotions in interpersonal interactions</td>
<td></td>
</tr>
<tr>
<td>Social Skills</td>
<td>Proficiency in interacting effectively and building rapport with others</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>Capacity to guide and motivate teams, representing diverse perspectives</td>
<td></td>
</tr>
<tr>
<td>Collaboration</td>
<td>Skill in working efficiently with others towards achieving common goals</td>
<td></td>
</tr>
<tr>
<td>Adaptability</td>
<td>Flexibility and willingness to adapt to changing circumstances</td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td>Ability to generate innovative and original ideas and solutions</td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
<td>Commitment and determination to achieve long-term goals despite challenges</td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Confidence in personal abilities and accomplishments</td>
<td></td>
</tr>
<tr>
<td>Information Retrieval</td>
<td>Ability to efficiently gather and interpret data for decision-making</td>
<td></td>
</tr>
<tr>
<td>Risk Management</td>
<td>Capacity to anticipate and mitigate potential hazards and uncertainties</td>
<td></td>
</tr>
<tr>
<td>Time Management</td>
<td>Effectiveness in managing time and resources to achieve goals</td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td>Capacity to respond effectively to unexpected opportunities and challenges</td>
<td></td>
</tr>
<tr>
<td>Adaptability (continued)</td>
<td>Ability to adjust plans and strategies to fit different environments and contexts</td>
<td></td>
</tr>
</tbody>
</table>

---

**Note:** The table format above represents an excerpt from the Double OT Assessment Summary. Each category and corresponding score are meant to reflect the assessment outcomes in various dimensions of competence and development.
Figure A.2  Second Page of the Double OT Assessment Summary

Occupational Therapy Setting: [Space for Figure]

Summary:

In the performance of daily living tasks, the client demonstrated a need for support. The client's difficulty in performing tasks independently was attributed to limitations in manual dexterity, endurance, and cognitive abilities. The client was provided with modified tools and adaptive equipment to assist with daily activities. The client's motivation and engagement in therapy sessions were noted to be variable. The client's ability to adapt to new environments and perform tasks independently was observed to be progressive. The client's progress in tasks was recorded in the treatment plan. The client's progress was noted to be consistent with the client's stated goals.

Assessment:

The client's performance in daily living tasks was assessed in the occupational therapy setting. The client's ability to perform tasks independently was observed to be limited. The client's difficulty in performing tasks independently was noted to be attributed to limitations in manual dexterity, endurance, and cognitive abilities. The client was provided with modified tools and adaptive equipment to assist with daily activities. The client's motivation and engagement in therapy sessions were noted to be variable. The client's ability to adapt to new environments and perform tasks independently was observed to be progressive. The client's progress in tasks was recorded in the treatment plan. The client's progress was noted to be consistent with the client's stated goals.

The client's performance in daily living tasks was assessed in the occupational therapy setting. The client's ability to perform tasks independently was observed to be limited. The client's difficulty in performing tasks independently was noted to be attributed to limitations in manual dexterity, endurance, and cognitive abilities. The client was provided with modified tools and adaptive equipment to assist with daily activities. The client's motivation and engagement in therapy sessions were noted to be variable. The client's ability to adapt to new environments and perform tasks independently was observed to be progressive. The client's progress in tasks was recorded in the treatment plan. The client's progress was noted to be consistent with the client's stated goals.
## Appendix B

### Table of Research Sites Used in Study

<table>
<thead>
<tr>
<th>Setting</th>
<th>AP Population</th>
<th>Practical Application of Assessment Summaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charter High School Los Angeles, CA</td>
<td>High school students Trauma-impacted youth</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed supports included in individualized education plans (IEP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed transition planning to higher education</td>
</tr>
<tr>
<td>Mental Health Organization San Francisco, CA</td>
<td>Transition-aged youth (TAY) Mental health diagnosis Intellectual disability</td>
<td>Employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed supports for sheltered job training program</td>
</tr>
<tr>
<td>Re-Entry Program Pittsburgh, PA</td>
<td>Justice system involved Transition-aged youth (TAY)</td>
<td>Employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed work preparation curriculum</td>
</tr>
<tr>
<td>Community-Based Mental Health Organization San Francisco, CA</td>
<td>Transition-aged youth (TAY) Trauma-impacted youth Mental health diagnosis Justice system involved</td>
<td>Employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed supports for job training program or workplace participation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Independent Living Skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed interventions for mental health treatment</td>
</tr>
<tr>
<td>Special Education School Trenton, NJ</td>
<td>Learning disability Autism</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed supports included in individualized education plans (IEP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Independent Living Skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed transition planning</td>
</tr>
<tr>
<td>Community-Based Outpatient Mental Health Clinic Hartford, CT</td>
<td>Transition-aged youth (TAY) Mental health diagnosis</td>
<td>Independent Living Skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed treatment and transition planning</td>
</tr>
<tr>
<td>Juvenile Correctional Facility Columbus, OH</td>
<td>Justice system involved Behavioral health Trauma-impacted youth</td>
<td>Independent Living Skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Self-regulation, executive functioning, transition support</td>
</tr>
<tr>
<td>Workforce Development Program Riga, Latvia</td>
<td>Trauma-impacted youth</td>
<td>Employment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Informed supports for transition to workplace</td>
</tr>
</tbody>
</table>
Appendix C

Assessment Participants’ Survey

Figure C1

First Page Of Assessment Participants’ (APs’) Survey

Number: ____________________

Double OT Survey (PARTICIPANT)

By completing and submitting this survey, you agree to assist us in finding out how this assessment may be useful in determining your job skills. You completing this survey is voluntary and anonymous. You have the right NOT to respond to any or all parts of this survey. Whether you complete the survey or not, it DOES NOT in any way affect your participation in the current or any future programs. Thank you.

1. City where you live:

2. Age:
   a) 14-15
   b) 16-17
   c) 18-19
   d) 20-21
   e) 22-23
   f) 24 and older

3. Race/Heritage:
   a) African American
   b) Asian
   c) Caucasian
   d) Hispanic
   e) Middle Eastern
   f) Mixed Race
   g) Native American
   h) Pacific Islander
   i) Choose not to disclose

4. Gender:
   a) Female
   b) Male
   c) Transgender
   d) Other

5. Current level of education:
   a) Middle school
   b) Currently in high school/GED program
   c) Completed high school or GED/Certificate
   d) Currently in college/trade school
   e) Completed associate degree
   f) Completed bachelor’s degree
   g) Other (please specify ____________________)

PLEASE CONTINUE ON BACK
6. The Assessment: Double OT
   Please rate the usefulness of the Double OT assessment based on your experience of participating in it.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The activities are interesting to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double OT increases my awareness of my own work skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The skills reviewed are necessary in order to be work-ready</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>What I learned from Double OT would prepare me to be work-ready</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Optional] Please provide other comments and feedback:

7. What are other skills necessary to be work-ready?
Appendix D

Assessment Report Recipients’ Survey

Figure D1
First Page of Assessment Report Recipients’ (ARRs’) Survey

Double OT Survey (RECIPIENT)

This survey aims to collect information in order to determine the extent in which content of this assessment matches its primary objective, identifying the participant’s job skills. By completing and submitting this survey, you are consenting to participate in validating the Double OT assessment. Your contribution is much appreciated.

1. Recipient information
   Job title:
   City where you work

2. Highest degree/education received:
   a) High school
   b) Associate
   c) Bachelor
   d) Master
   e) Doctoral
   f) Other (please specify ___)

3. Professional license:
   a) MSW
   b) LCSW
   c) MFT
   d) OT
   e) None
   f) Other (please specify ___)

4. Length of time at the current position:
   a) Less than a year
   b) One to three years
   c) Four to ten years
   d) More than ten years

5. Client information:
   a) Number of Double OT Assessment Summaries received:
   b) Age range of youth for whom you received reports:
   c) Primary services received from your organization:
   d) Other relevant information

PLEASE CONTINUE ON BACK
Figure D2  
Second Page of Assessment Report Recipients’ (ARRs’) Survey

6. The Assessment Summaries:  
Please rate the usefulness of the Double OT Assessment Summaries

<table>
<thead>
<tr>
<th>The information provided in the Assessment Summary is useful</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The work readiness skills assessed by Double OT are good indicators of work readiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The results in the Assessment Summary are accurate representations of the youth’s work readiness skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The results from the work readiness tools I am currently using (other than Double OT) provide accurate representations of the youth’s work readiness skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[If applicable] The results of Double OT are similar to other work readiness assessment tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Optional] Please provide other comments and feedback:

7. Additional information:

a) What other specific work readiness skills should be included in the Double OT assessment?

b) What other assessments do you commonly use with your clients?

c) How do you use the information provided in the Double OT Assessment Summary?