

A Conceptual Harmonization between the SSA Disability Determination Process  
and ICF and DOT Frameworks: A Guide to Assessing the Mental Residual  
Functional Capacity of Individuals with Autism Spectrum Disorders  
An Expansion of an SSA ICF Crosswalk

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### Abstract

The aim of the current project is to create a useful product that cross-walks the Social Security Administration's (SSA) Mental Residual Functional Capacity Assessment (MRFCA) with the International Classification of Functioning (ICF) and the Dictionary of Occupational Titles (DOT) applied to a population of individuals with Autism Spectrum Disorders (ASD). SSA's MRFCA was previously cross-walked with the ICF in order to allow for a more in depth and functional breakdown of the purposefully more generic categories of the MRFCA. The current project expands upon that methodology by adding Worker Functions derived from the DOT to the previous SSA/ICF crosswalk in order to better operationalize the functional manifestations associated with disability states as they occur in a natural (work) environment. A decision tree was developed from the crosswalk to increase the ease of use of the product, titled the MRFCA Decision Tree. ASD was chosen as an exemplar to test this process. Finally, the inter-rater reliability of the MRFCA Decision Tree was assessed. The outcomes are the following: (a) A MRFCA Decision Tree that will allow a disability adjudicator to derive a more reliable disability decision when assessing individuals with ASD, and (b) A narrative review of how coordinating the DOT with the ICF can provide a deeper understanding of how functional manifestations of a disability relate to job demands. Plans for future research aimed at enhancing the applicability of the decision tree to the Disability Determination Process (DDP) are also discussed.

*The research reported herein was performed pursuant to a grant from Policy Research, Inc. as part of the U.S. Social Security Administration's (SSA's) Improving Disability Determination Process Small Grant Program. The opinions and conclusions expressed are solely those of the author(s) and do not represent the opinions or policy of Policy Research, Inc., SSA or any other agency of the Federal Government.*

## **Background**

### **Previous Work**

The current project is an expansion of a crosswalk between the Social Security Administration's (SSA) Disability Determination Process (DDP) and the International Classification of Functioning (ICF), titled the SSA/ICF Crosswalk. The SSA/ICF Crosswalk broke down the individual work-related "abilities" that comprised the Mental Residual Functional Capacity Assessment (MRFCA) used by SSA. This was performed in order to allow for a more thorough understanding of the functions and activities (derived from the ICF) involved in each ability, therefore allowing for a more accurate and reliable assessment of an individual's residual functional capacity in terms of ability to perform work. In order to demonstrate this process, the disability of Autism Spectrum Disorder (ASD) was used as an exemplar.

### **Problem Statement**

Although the functional assessment component of disability evaluation was elaborated on, the DDP still lacks relevant environmental data incorporated into SSA's sequential evaluation process that could enhance the reliability of disability decisions. Evaluation of workplace demands and essential job functions compared with an assessment of a claimants' functional capacity may aid in the accurate completion of disability evaluations (Barron, 2001). The inclusion of work data helps to distinguish the difference between impairment and disability, the latter being influenced by both personal and environmental variables (Mitra, 2006). By comparing the claimants functional capacity with job demands, a disability adjudicator may be able to more accurately conclude if the claimant is able to perform their past work, or any work in the economy, Steps 4 and 5 of the sequential evaluation process respectively (20 CFR 416.920). In order to accomplish this, the current project involved 1) The addition of an environmental component to the SSA/ICF Crosswalk derived from the Dictionary of Occupational Titles' (DOT), and 2) The conversion of the SSA/ICF crosswalk into a decision tree; the MRFCA Decision Tree. The conversion of the crosswalk into decision tree form aimed at increasing the ease of use of the original crosswalk. The addition of the DOT component, the Worker Functions of Data, People, Things, aimed at allowing comparison between functional demands of jobs with functional limitations experienced by those with ASD. Enhancing the accuracy and reliability of the MRFCA completion by these methods, especially for those with ASD, is important due to the large unemployment rate with this population, the extreme fiscal burden Social Security benefits place on the federal budget, and the demonstrated effectiveness of person-environment matching on predicting employment.

### **The Social Security Expenditures**

The Social Security Administration provides benefits to those with disabilities under Title II and Title XVI of the Social Security Act Amendments (SSR-81-53). In order to receive these benefits, individuals must undergo a sequential evaluation process, the DDP, where disability adjudicators assess degree of impairment and its impact on ability to perform work (SSA, 1980; CFR 416.920). For those with mental disabilities, such as ASD, the MRFCA is vital in terms of determining a conclusion in this process (SSA-4734-F4-SUP MRFCA; SSR96-8p; 20 CFR 416.920). The MRFCA is frequently used during disability decisions as a large percentage of individuals who apply for disability benefits experience mental disabilities. In fact, mental impairments showed to be the most consistent health-related variable resulting in disability allowances (Hu, Lahiri, Vaughan, & Wixon, 2001). This large number of individuals with mental

impairments (along with other disabilities) relying on disability benefits has resulted in an increased monetary demand from SSA.

The National Bureau of Economic Research (2006) found that from 1985-2005, the number of working age adults (25-65) who were receiving Disability Insurance (DI) nearly doubled (2.2%-4.1%). This has huge repercussions on the Federal budget. For instance, in FY2002 working age adults with disabilities consumed \$87.3 billion in Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) and \$82.1 billion in Medicare and Medicaid programs. Once other federal expenditures such as housing, food assistance, income assistance, and rehabilitation services were included, the total federal spending on assistance for people with disabilities summed \$226 Billion, 11.3% of the federal budget (Stapleton, O'Day, Livermore, & Imparato, 2006). In recent years these numbers have increased drastically. The Center on Budget and Policy Priorities (2014) found the sum of Social Security benefits including Medicare and Medicaid to be 46% of the federal budget. The budget for these expenditures is expected to continue growing as SSA is accepting applications much faster than terminating them. For example, in FY2013, 33.52% of benefit applications were accepted while only 8.17% of existing benefits were terminated. This is predicted to be a result of people living longer and impairments with lower mortality rates being accepted for benefits (Social Security Administration, 2013).

### **Employment of People with Disabilities**

One predicted reason for the large number of individuals with disabilities receiving Social Security benefits is the assumption held by society that jobs in the U.S. are requiring increasingly skilled workers and that many individuals with disabilities, especially mental disabilities, are not capable of possessing these skills (Handel, 2000). During a study examining Quality Employment Surveys and the Panel of Income Dynamics, researchers found that many believe there is a discrepancy between the skills workers possess and the skills employers demand due to new developing technologies. However, when examining job education and training requirements with a tool derived from the DOT, the researchers found that reports of skill mismatch were exaggerated, with little increase in job skill requirements (Handel, 2000). These results support the notion that individuals with mental disabilities who are believed unable to perform work due to lack of specific skills, may still be qualified for various positions. In order to assess if an individual is able to perform work their functioning level must be compared with work demands (Heron, 2005; Ahmad, 2012). Although the current MRFCA measures an individual's functioning in terms of broad work-related abilities, the newly developed Worker Functions Decision Tree allows for a more direct comparison of how impairments in MRFCA abilities relate to specific job characteristics. This may provide a more accurate and reliable assessment of whether or not the claimant possesses the capacity to perform work.

The work environment can seem daunting not only for those with disabilities who are unemployed, but also for those with disabilities who hold employment. For example, in a study assessing environmental barriers for individuals with disabilities currently employed, a majority of individuals endorsed an incongruent work environment as a barrier to their functioning (Whiteneck, Harrison-Felix, Mellick, Brooks, Charlifue, & Gerhart, 2004). The mismatch between the individuals' abilities and their work environments (incongruent work environment) was assessed as detrimental to their work performance. This easily can result in employment termination, creating the illusion of inability to perform work and resulting in the request for disability benefits. Although it is not the responsibility of the Social Security Administration to provide job matching services, during Step 4. "Past Work Test" and Step 5. "Any Work Test" of

the sequential evaluation process, the disability adjudicator is required to assess if the claimant is able to perform past or any work (20 CFR 416.920). During Step 4, the claimant's description of past work is used to determine whether they may return to that work. During Step 5, the DOT is referenced. By using a system that compares a claimant's functioning (ICF categories) to relevant job characteristics (DOT descriptions) at both steps 4 and 5, the decisions may be able to be made more accurately and reliably, decreasing the probability of the individual being considered disabled due to "failing" at a job that was incongruent to their functional capabilities.

Although the assessment of all mental disabilities may benefit from the improvement of the disability determination process, as evident by a large number of those receiving SSA benefits experiencing mental disabilities, ASD was the focus of the current project due to its unique presentations and its particularly high unemployment rate (Hu et al., 2001). In the results of a 12 year longitudinal study of 343 individuals, the employment rate of individuals with ASD ages 10-52 working more than 10 hours-per-week was found to be 12.6%-24.1% (Taylor & Seltzer, 2013). These results are consistent with the results of the National Longitudinal Transition Study-2 that reported ASD as having the highest rate of unemployment among disability groups (assessed by the study) with only 53.4% of adults ages 21-25 ever holding paid employment (Roux, Shattuck, Cooper, Anderson, Wagner, & Narendorf, 2013). However, although the overall employment rate for this population is low, the presentations of the disorder vary in terms of ability to perform work. For instance, individuals with ASD who have less impairment in communication abilities have been found to have higher rates of employment (Roux et al., 2013). Individuals with ASD who partake in employment training and placement programs also have shown to experience drastically higher rates of employment compared to those who do not (87.5% vs. 6.25%) (Wehman, Schall, McDonough, Kregel, Brooke, Molinelli, Ham, Graham, Riehle, Collins, & Thiss, 2014). These results demonstrate the variability with this population, and reiterate the importance of thorough, work-related assessments of the individuals' functioning capacity.

### **The Dictionary of Occupational Titles**

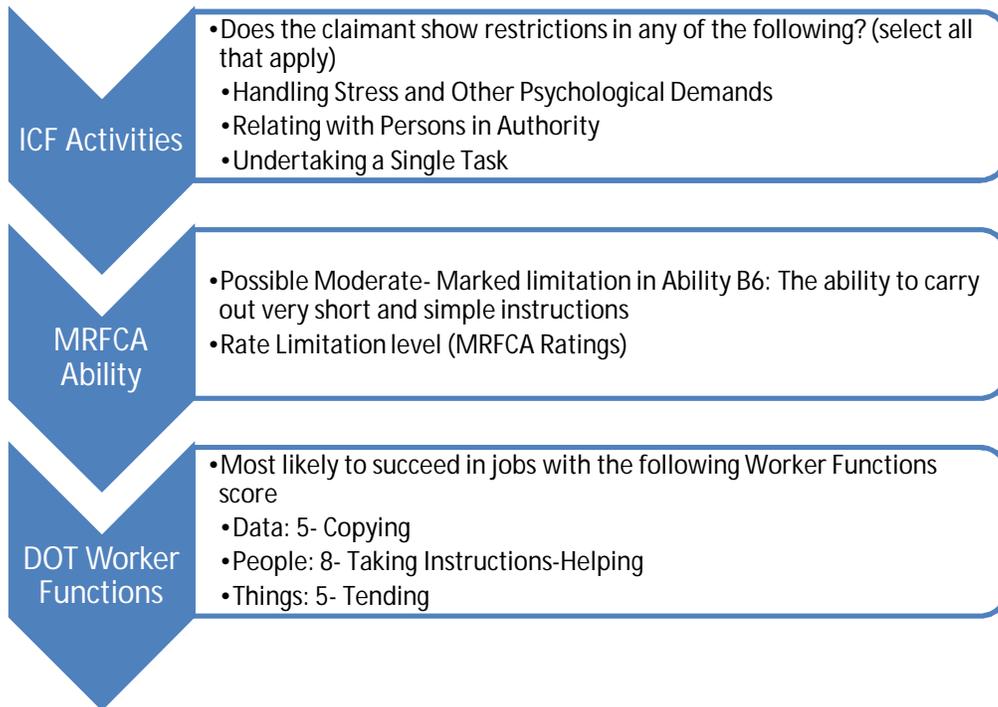
The Dictionary of Occupational Titles provides definitions of jobs in the economy based on job analyses. The Worker Functions of the DOT were chosen to assist in determining ability to perform work at steps 4 and 5 of the DDP due to the high reliability of the tool for measuring necessary worker functions for over 12,000 occupations (Cain, 1983). The job matching process, or in this case determining if an individual is able to perform past or any work, requires detailed information about both the person with the disability and jobs in the economy (Heron, 2005). The ability scores given in MRFCA Decision Tree provides information about the individual's functional capacity level, while the Worker Functions provided at the end of the decision tree details work characteristics the individual may show the most success with given their specific limitations.

## **Methodology**

### **The MRFCA Decision Tree**

The methodology of this project involved the addition of an environmental (work) data component derived from the DOT to the SSA/ICF Crosswalk and the transformation of the crosswalk into the MRFCA Decision Tree. The work-data component was added by defining each "Data, People, Things" Worker Function from the DOT. Based on the definitions, the Worker Functions were matched to the corresponding ICF Function and Activity and Participation Categories of the crosswalk. The Worker Functions were then matched to the

MRFCA abilities based on shared ICF Function and Activity and Participation categories. The procedures used in cross-walking these three systems (MRFCA, ICF and DOT) are consistent with the validated “ICF Linking Rules” set forth by Cieza, Geyh, Chatterji, Kostanjsek, Usten, & Stucki (2005) which provide basic instructions for linking standard assessments with the ICF based on shared definitions. Due to the majority of MRFCA abilities in each section relating to the same Worker Functions, the Worker Functions were collapsed across MRFCA sections. The ICF Function categories were then dropped from the crosswalk as it was felt that they were best served to allow for “matching” between MRFCA, ICF Activity and Participation, and DOT domains, but when in use in the crosswalk they were redundant of the ICF Activity and Participation categories and were more difficult to identify in a claimant’s case report than the Activity and Participation categories. This process is outlined in Appendix A: Methodology. The crosswalk was then transformed into a decision tree using the Qualtrics program provided through the University of Pittsburgh. This program was chosen due to its clear and easy-to-use interface and ability to collect data that could be sent back to the researchers for analysis. The end result is a web-based decision tree that assesses a claimant’s restrictions in ICF Activity and Participation categories and then relates those restrictions to limitations in corresponding MRFCA abilities. Based on the assessment ratings of each MRFCA ability, work characteristics (Data, People, Thing scores) that an individual may show the best outcomes with based on their specific limitations are provided. An example of the MRFCA Decision Tree format is provided below in Figure 1: MRFCA Decision Tree Structure.



**Figure 1: MRFCA Decision Tree Structure**

## **Participants**

The participants consisted of two former Social Security Disability adjudicators who were recruited by faculty members of the research team. They were contacted via email and asked to participate in the study. Once the participants consented to the study, they were sent the link to the web-based MRFCA Decision Tree and the simulated SSA cases via email. No demographic information was collected on the participants and no compensation was provided.

## **Simulated Application Packets**

Each participant was asked to complete the MRFCA Decision Tree on three simulated Social Security applications for disability benefits. The researchers created three simulated applications (cases) based on a sample application packet provided by Policy Research Inc. (Appendix B: Simulated Social Security Application Packets). Each simulated application packet included an SSDI Application (SSA-16-BK), a Disability Report (SSA-3368-BK), and a Medical Summary Report reflecting an individual with ASD. Ideally, a Supplemental Security Income (SSI) application would have been included in the packet due to its greater applicability to an ASD population than an SSDI application; however hard copy SSI forms are not made available and the researchers did not have access to the electronic forms used by SSA. The simulated applications (cases) were sent to the participants via email.

## **Protocol**

The participants of the study were informed via email on the nature and background of the study. They were instructed to review the simulated applications before and during completion of the MRFCA Decision Tree. After completion of all three cases they were asked to complete a usability questionnaire (in decision tree form). The questionnaire contained 8 items reflecting ease of use of the product on a 1-5 Likert Scale. General feedback in the form of open responses was also collected. The participants were given one week to complete these tasks. Once completed, the results of the MRFCA and Usability Decision Trees were sent back to the researchers via the Qualtrics program.

## **Analysis**

The participants' ratings of each simulated case or "individual with ASD" are compared to determine the consistency of ratings between each participant. The two participants of this study scored three separate cases using the MRFCA Decision Tree, creating a 2x3 inter-rater reliability study. An Intra-class correlation coefficient was derived in order to determine consistency between the scores of the participants. A percent agreement between participant scores for each case was also calculated. The statistics were run using SPSS software, and the statistician at the University of Pittsburgh, School of Health and Rehabilitation Sciences was consulted during the analysis phase. Descriptive statistics were also analyzed including participants' average usability ratings of the decision tree. The results are displayed in narrative and graph form.

## **Results**

The results include a statistical analysis reflecting the reliability of the MRFCA Decision Tree when used to assess the same individuals across multiple raters. An intraclass correlation coefficient and a percent agreement were calculated for each of the three cases on all items in the MRFCA Decision tree (ICF and MRFCA items) and on only the MRFCA ability items. A comparison of Worker Functions outputs derived for each case was also evaluated. Finally a usability rating from each participant on the MRFCA Decision Tree was calculated.

An intraclass correlation coefficient (ICC) was calculated in order to determine the consistency of ratings between the participants for each case. A two-way mixed model was used to assess if a case's score remained the same regardless of the rater/participant. The Average Measure produced was referenced as the ICC over the Single Measure due to an Average Measure regarded as a more accurate estimate of the true score, decreasing the error variance. Each ICC was calculated at a 95% confidence interval with the variables of rater (2) and Items (58). The 58 items included the Worker Functions output provided at the end of the MRFCA Decision Tree. The Worker Functions output was not included in the items used to generate the percent agreement, therefore the number of items used in determining percent agreement was 52.

For Case 1, the intraclass correlation coefficient model (3, 2) was .888. The percent agreement between the participants/raters on the 52 items was 61.4%. For case 2, the intraclass correlation coefficient model (3, 2) was .936. The percent agreement between participants was 50%. The intraclass correlation coefficient was unable to be computed for case 3. This was due to a pattern of inverse answering between participants when a discrepancy existed. In other words, the pattern between participants' answers "switched" such as participant 1 rating an ability as markedly limited and participant 2 rating the ability as not limited, but then on the next ability question the participants "switched" answers, with participant 1 rating the ability as not limited and participant 2 rating it as markedly limited. However a percent agreement was calculated for case 3 reflecting a 76.92% agreement between participants.

An intraclass correlation coefficient model (3, 2) and a percent agreement were also computed for each case using just the MRFCA ability items. The ICC for case 1 using just the MRFCA items was .716, for case 2, .951, and again the ICC could not be calculated for case 3 due to the inverse pattern of responses during discrepancies. The percent agreement for case 1 using just the MRFCA ability items was 35%, for case 2, 10%, and for case 3, 60%. The tables below present the intraclass correlation coefficients and percent agreement for each case.

A "Usability Rating" was also derived from the Usability Questionnaire for each participant by calculating their average 1-5 rating across the 8 questions. The average usability rating for participant 1 was 3.78, and for participant 2, 3.63 (Table 8: Usability Ratings). Lastly a comparison of Worker Functions outputs derived from each case between participants was evaluated. It was found that for each case the participants arrived at the same Data, People Things (Worker Functions) scores with 100% agreement.

**Table 1: Intraclass Correlation Coefficient Case 1**

	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Average Measures	.888	.407	1.000	8.936	1	57	.004

**Table 2: Intraclass Correlation Coefficient Case 2**

	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Average Measures	.936	.660	1.000	15.577	1	57	.000

**Table 3: Percent Agreement per Case**

Case	Percent Agreement: All Items	Case	Percent Agreement: MRFCA Items Only
1	61.4%	1	35%
2	50%	2	10%
3	76.92%	3	60%

**Table 4: Intraclass Correlation Coefficient Case 1, MRFCA Items Only**

	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Average Measures	.716	-.683	1.000	3.519	1	19	.076

**Table 5: Intraclass Correlation Coefficient Case 2, MRFCA Items Only**

	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Average Measures	.951 <sup>c</sup>	.709	1.000	20.366	1	19	.000

**Table 6: Average Usability Ratings**

<b>Participant</b>	<b>Average Usability Rating (1-5)</b>
1	3.78
2	3.63

## **Discussion**

### **Data Analysis**

The intraclass correlation coefficient (ICC) reflects the consistency of ratings or answers between participants for each case. An ICC > 0.75 indicates “excellent” reliability, between 0.40 and 0.75 “fair to good” and <0.40 “poor” reliability (Fleiss, 2011). When assessing ICC on all items in the MRFCA Decision Tree, cases 1 and 2 both reflected excellent reliability (>.75) of scores between raters. This supports the notion that the MRFCA Decision tree may be effective at increasing the inter-rater reliability of scores on the MRFCA when referencing the same claimant. This is of particular importance in terms of decreasing discrepancies between initial and hearing level verdicts, as two different adjudicators are required to assess the same claimant at different time points. With the MRFCA Decision Tree, they may be more likely to derive the same decision.

The MRFCA Decision Tree reliability was good and excellent on cases 1 and 2 respectively when only the MRFCA items were assessed. This is important because the rationale behind incorporating ICF items to the MRFCA Decision Tree was to create a better understanding of what constituted a limitation in each MRFCA ability. These high ICC scores show that participants not only agreed on what constituted a restriction in each MRFCA Activity and Participation category, but also on how those restrictions related to limitations in the MRFCA abilities. This once again provides the preliminary support for the incorporation of the MRFCA Decision tree into the DDP process in order to increase reliability of disability decisions.

The percent agreement computed for each case describes the number of items the two participants answered identically. This was computed due to the inability to compute the ICC for case 3. It is important to note that the percent agreement does not take into consideration the level of discrepancy between participants’ answers. For example, if participant 1 rated Ability A1 “No Limitation” but participant 2 rated Ability A1 “Markedly Limited”, this would be coded the same as participant 1 rating Ability A1 “Moderately Limited” and participant 2 rating Ability A1 “Markedly Limited”, despite the clear level of discrepancy difference. For this reason, the ICC tends to be higher than the percent agreements as the ICC model used considers consistency not exact agreement.

The percent agreement was considered efficient for cases 1, 2, and 3 (61.54 %, 50%, and 76.92% respectively) when all items were analyzed. The ICC could not be computed for case 3 due to the inverse patterns of responding on discrepancies by participants. In other words, the participants had exact agreement on many answers, but when a discrepancy existed it was either

a large discrepancy or a dysregulation in the pattern of responding between participants. However a high percent agreement for case 3 when analyzing all items and when analyzing just the MRFCA items (76.92% and 60% respectively) is reflective of the high degree of exact agreement on answers between the participants. The percent agreement was lower than expected for case 1 and 2 when only the MRFCA items were analyzed (35% and 10% respectively). However, it was found that when a discrepancy existed between participants' ratings of the MRFCA abilities it tended to be a very small discrepancy (e.g. moderately limited vs markedly limited; no limitation vs not ratable on available evidence). Due to the percent agreement not incorporating the size of the discrepancy between participants' answers, the percent agreement for cases 1 and 2 (MRFCA items only) was low. The ICC for cases 1 and 2 better reflect the consistency of participants' ratings on the MRFCA items (.716 and .951 respectively) as it incorporates discrepancy size into the calculation. It was also found that the MRFCA items were rated similarly enough between participants on each case to result in the same Worker Functions score.

The average usability rating for participant 1 was 3.38, and for participant 2 was 3.63. This is interpreted as the MRFCA Decision Tree being at least moderately easy to use. Some of the problems reported were technical in nature, which was expected with use of novel program software.

The Worker Functions of Data, People, Things that were outputted for each case based on the limitation level of each "individual" in the cases were also compared. For each case, both participants arrived at the same Worker Functions output. This means that both participants assessed the same individual (case) as able to perform the same type of work. This is highly significant in terms of increasing the reliability of disability decisions at stages 4 and 5 (Past Work and Any Work test respectively) of the DDP. By consistently identifying work characteristics that an individual may be most likely to succeed with, the chance of an individual failing at work and reentering the DDP may decrease. This would relieve a large financial burden placed on SSA.

### **Functional Limitations of Disability and Related Job Demands**

Possessing a thorough understanding of the functional manifestations of disability and associated work implications is necessary in order to determine if an individual is eligible for disability benefits. However, it is not possible for a disability adjudicator or ALJ to possess extensive background knowledge on every disability state they are required to assess. It also is not possible for an adjudicator to hold extensive knowledge on the characteristics and associated demands of all jobs readily available in the economy. Lacking extensive knowledge in these domains may create a challenge in determining the relationship between the functional limitations of a disability and how those limitations affect the ability to perform work related tasks. This difficulty can result in individuals being assessed as "disabled" when in actuality they are capable of performing some work, or vice versa. This is a concern for the federal government due the large fiscal and time demands disability programs place on government resources (Stapleton et al., 2006).

In order to enhance the process by which a disability adjudicator assesses work-related functional limitations of disability, the MRFCA Decision Tree was created. The first goal of the decision tree was to provide a better understanding of what a limitation in an MRFCA ability "looks like" when assessing a claimant for disability benefits. This was done by expanding upon the work-related abilities of the MRFCA using ICF categorization. The ICF categories elaborate on the functions underlying each MRFCA ability in order to allow an adjudicator to more easily

identify a limitation based on the information provided in the claimant's case report. Generating an accurate assessment of an individual's disability severity is vital, but also vital is the ability to accurately determine how one's impairment relates to ability to perform work. The MRFCA assesses an individual's disability according to their capacity to perform work-related abilities. However, as the MRFCA holds a small number of general abilities, not all work-related tasks/functions are encompassed by the tool. Furthermore, an adjudicator is not only required to determine if the claimant experiences limitations in the 20 work-related abilities of the MRFCA, but also is required to use the results of the Residual Functional Capacity (RFC) evaluation (section III of the MRFCA, the RFC) to determine if the claimant is capable of Past Work or Any Work that exists in substantial numbers in the economy (20 CFR 416.920). The inclusion of the DOT component in the MRFCA Decision Tree assists in this process.

Although it is not the role of SSA to provide job matching services, it is in their interest to thoroughly and accurately identify if an individual is able to perform work that exists in the economy. The DOT component of the decision tree assists in this process by providing the adjudicator with a Data, People, Things code that reflects functions the individual is expected to be able to perform. Data, People, Things (Worker Functions) codes are included in every DOT job code, and therefore an adjudicator is able to reference the DOT in order to locate jobs that contain the same Worker Functions code that is given to the claimant. The matching jobs are then a reference point for an adjudicator to decide if the claimant is able to perform Past Work or Any Work.

Identifying Worker Functions that an individual may most likely be able to perform given their RFC should be of interest to SSA not only for the purpose of determining an accurate and reliable decision at steps 4 and 5 of the DDP, but also to decrease the probability of claimants "failing" at a job and then reentering the DDP system. For instance, most models of personnel selection involve analyzing job demands, defining abilities required to meet those demands, and then hiring individuals that possess those abilities. Ensuring that an individual's abilities are compatible with the demands of the environment/job has shown to increase the likelihood of the individual remaining successfully employed at that job (Greguras & Diefendorff, 2009). In fact, even if the individual does not "fit in" with the organizational culture associated with a job but they assess themselves as having the ability to meet the job demands, they are more likely to experience an affective commitment to the job and demonstrate higher levels of job performance (Greguras Diefendorff, 2009; Ahamad, 2012). The same principles hold true for individuals with disabilities.

The relationship between worker abilities and job demands becomes increasingly significant when the worker experiences a disability. For example, when assessing environmental barriers for people with disabilities, Whiteneck et. al. (2004) found that even for individuals with disabilities who currently held employment, the work environment was still a barrier to their functioning. Environmental demands in the work place influence the discrepancy between an individual's capability (potential to do) and their actual functioning (what they do do) (Mitra, 2006). In other words, an individual with a disability may have the capacity to perform work/fulfill work demands, however if they are presented with demands that do not meet their abilities they may experience a decrease in functioning, or the perceived incapacity to perform work. This perceived inability to perform work due to failed past work experiences can result in the individuals relying on federal disability benefits. Therefore, the DDS should be concerned with the degree of compatibility between the claimant's abilities and the job demands of work that the

claimant is assessed as able to perform in order to prevent the claimant from “failing” and reentering the DDP system.

Incorporating more detailed information about an individual’s functional capacity and related job demands into the DDP serves to not only allow a disability adjudicator to better determine a claimant’s ability to perform work, but also could serve as a guide for claimants to identify what information may be important to incorporate in their case report. For instance, if a claimant is attempting to demonstrate that they have a significant impairment in maintaining attention and concentration, they could reference the decision tree to identify the ICF Activity and Participation categories related to MRFCA ability B6: “The ability to maintain concentration and persistence for extended periods”. The claimant would recognize that the ICF categories of Watching, Listening, and Solving Problems are all related to the function of “attention”. Therefore, by including school or work reports that signify impairments in any of these ICF Activity or Participation categories, the claimant may be able to more easily prove a limitation in “maintaining attention”. This could in turn ease the assessment process for the disability adjudicator, as he/she will be better provided with information that proves/disproves a limitation in specific areas of functioning.

### **Limitations**

Although the results of the study support the reliability and usability of the MRFCA Decision Tree, the study is not without limitations. The main limitation of this study is the small sample size, with only two former disability adjudicators acting as participants. A larger sample size would allow for more data to be collected on the reliability and usability of the tool, producing more convincing and sound results. Another limitation is the fact that the participants were not adjudicators currently employed by SSA. Participants who are well-versed in the current DDP procedures may have further informed the applicability and reliability of the tool. However, due to stipulations placed on the project from SSA, requesting participation from current DDS employees was not possible. The final limitation recognized in this study is the use of simulated SSA disability application packets. Originally the researchers anticipated using de-identified disability applications provided by SSA which would have enhanced the external validity of the results. However, SSA was unable to provide the researchers with that information. In replace they provided a sample application for SSA disability benefits that was used as a guide to form the “Simulated Application Packets”. It is suggested that future research be conducted in order to control for these limitations.

### **Future Research**

The current project could benefit from future research elaborating on the reliability, usability and applicability of the MRFCA Decision Tree to the DDP. A research plan would include implementing the decision tree into DDP field offices and comparing the reliability of decisions made across adjudicators, as well as time spent in the sequential evaluation process among claimants, to offices using the standard MRFCA. This data would further inform the reliability and usability of the tool and could provide input on adaptations to be made in order to increase its efficiency and applicability to the DDP. Once the tree’s applicability to the DDP is confirmed, researchers could work to generalize the decision tree to mental impairments other than ASD. Due to ASD being a disability with varying presentations and symptoms, a majority of the ICF Functions and Activity and Participation categories were used in order to “match” the symptom variations of ASD. Furthermore, all the ICF categories that directly related to the MRFCA abilities were included due to them also reflecting ASD symptomology. However, some ICF categories that were not directly related to an MRFCA ability and did not reflect ASD

symptomology were excluded from the tree. For this reason, the decision tree could still be expanded upon to include ICF Activity and Participation categories that reflect all mental functions, therefore reflecting the broad array of mental disorders. Lastly, an elaboration of the ways in which this product could be adapted and provided to claimants in order to assist them in including relevant functional information in their case files could also be addressed.

### **Conclusion**

The current project has produced a preliminary product that is sufficiently methodologically sound for consideration by SSA for further study to determine its potential for use as a resource in the disability determination process with the ASD population. The product uses ASD as an exemplar of complex mental disorders, but could eventually be expanded upon for assisting in the disability determination process for other complex mental disorders. This project may also serve to enhance the understanding and use of functional/vocational conceptualizations in the field of rehabilitation counseling. In addition to the key outputs above, this project will allow for the identification and engagement in an emerging area of study that has significant value and need.

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**Appendix A: Methodology**

**SSA/ICF Crosswalk Table**

<b>Information from literature review on features of ASD</b>	<b>Related MRFCA Ability</b>	<b>Related ICF Functions</b>	<b>Related ICF Activity/ Participation Categories</b>
Impairments in attention and concentration	B6. The ability to maintain attention and concentration for extended periods	b160 Thought Functions b140 Attention Functions	d160 Focusing Attention d163 Thinking d175 Solving Problems

**Explanation**

Information from the literature review was used to determine what ICF Function and Activity and Participation categories were reflective of ASD symptomology. These categories were then matched to MRFCA abilities based upon definition. As evident, the ICF Function and Activity and Participation categories were redundant. Therefore only the Activity and Participation categories were included in the decision tree as evidence for or against impairment in these categories were more easily identified in a claimant’s case report than the ICF Function categories.

**Addition of DOT Component**

**Limitation in this MRFCA Section = May show best outcomes in jobs involving these worker functions**

<b>MRFCA Assessment Area</b>	<b>Data</b>	<b>People</b>	<b>Things</b>
Section A: Understanding and Memory	5- Copying 6- Comparing	7- Serving 8- Taking Instructions- Helping	Things: 5- Tending 6- Feeding- Off Bearing 7- Handling
Section B: Sustained Concentration and Persistence	5-Copying 6- Comparing	7- Serving 8- Taking Instructions-Helping	Things: 4- Manipulating 5- Tending 6- Feeding- Off Bearing 7- Handling
Section C: Social Interaction	5- Copying 6- Comparing	8- Taking Instructions- Helping	Things: 4- Manipulating 5- Tending 6- Feeding-Off Bearing 7- Handling

Section D: Adaptation	5- Copying	5- Persuading 7- Serving 8- Taking Instructions- Helping	Things: 5- Tending 6- Feeding-Off Bearing 7- Handling
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**Explanation**

This chart was created by matching the definitions of each Worker Function with corresponding ICF Activity and Participation categories. The Worker Functions that were considered not reliant on the corresponding ICF activity and Participation categories in order to be performed were then matched to the MRFCA abilities based on corresponding ICF categories. Due to the abilities in each MRFCA section relating to the same Worker Functions, the Worker Functions were collapsed across MRFCA Sections. This methodology is consistent with the guidelines set forth by Cieza, et.al. (2005).

**Final Product: The MRFCA Decision Tree**

Restrictions in ICF Activity and Participation =

Limitation in related MRFCA ability =

Best employment outcome in jobs with DOT Worker Functions not reliant on restricted ICF categories