Severe Psychopathology

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Introduction

In the general population, schizophrenia and bipolar disorder are considered the most costly and arguably the most debilitating of all of the major psychological conditions (Goeree et al., 2005; Wu et al., 2005). Both conditions have high rates of personal, social, and occupational disability. The cost of treatment usually entails a lifetime of medication management, case management, and psychosocial therapies. Sadly, many have recurrent inpatient treatments to manage their symptom episodes. Even when persons with schizophrenia and bipolar disorder receive optimal treatments, many continue to experience substantial residual symptoms and impairments throughout most of their lives. For persons with dual diagnoses (co-occurring intellectual and psychiatric conditions), the social and occupational consequences are often more severe (Knapp, Mangalore, & Simon, 2004; Meadows et al., 1991). The cost of inpatient treatments for persons with dual diagnosis is often double compared to the general population (Lai, Hung, Lin, Chien, & Lin, 2011). One of the major challenges in working with dual diagnosis individuals is conducting a proper assessment for schizophrenia and/or bipolar disorder. Difficulties in language, insight, attention, and memory are barriers to a thorough diagnostic assessment, which makes many of the common measures ineffective. This chapter discusses relevant issues in the assessment of persons with intellectual deficits and symptoms of schizophrenia and bipolar disorder. Recommendations on useful scales and measures will be highlighted. First, we will examine how common these disorders are in the general population, diagnostic criteria for each disorder, and then how these are displayed in persons with dual diagnoses.

Prevalence Rates and Risk Factors

Similarly, across a number of population studies, the rate of schizophrenia and bipolar disorder is around 1% of the general population (as reviewed in Combs, Mueser, Morales, & Smith, 2018; Johnson & Miklowitz, 2018; Merikangas et al., 2012). In persons with intellectual disability, there is an increased risk of developing psychological conditions such as schizophrenia and bipolar disorders (Turner, 1989). Specifically, among persons with intellectual disability, between 15% and 40% show signs or symptoms of schizophrenia and/or bipolar disorder over their lifespan (Helps, 2015). Among this population, about 3.8% meet DSM diagnostic criteria

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for schizophrenia and 5.7% for bipolar disorder (Kendall & Owen, 2015). For both conditions, the presence of poverty, brain abnormalities, chronic stress, trauma and neglect, and lack of coping resources (mental health, educational, etc.) are believed to be major factors in the elevated risk for developing both of these conditions. Accurate statistics on psychosis in the intellectual disability population are scarce and have been clouded by the overlap between autism spectrum disorder, which is often interpreted as psychosis. Mood symptoms and especially mania are often misinterpreted as behavioral disorders related to intellectual disability. The presence of intellectual disability is often identified at birth or in early childhood, while the assessment of psychosis and bipolar often occurs between the ages of 15 and 24 in most cases. This time delay often leads to encompassing psychiatric symptoms as part of the intellectual disability condition.

General Symptoms of Schizophrenia and Bipolar Disorder

The diagnostic criteria for schizophrenia are similar across a variety of different diagnostic systems. In general, the diagnostic criteria specify some degree of impairment in work, social, or self-care, combined with psychotic lasting a significant duration (e.g., 6 months or more). According to the *DSM-5* (APA, 2013) a diagnosis of schizophrenia must include the presence of two or more of the following five symptoms: delusions, hallucinations, disorganized speech, grossly disorganized behavior, or negative symptoms. One of the symptoms must be delusions, hallucinations, or disorganized speech. The symptoms must have been present at least for a month, unless successfully treated.

The diagnosis of schizophrenia requires a clinical interview with the patient, a thorough review of all available records, and standard medical evaluations to rule out the possible biological factors. In addition, because many persons with schizophrenia are poor historians or may not provide accurate accounts of their behavior, information from significant others, such as family members, is often critical to establish a diagnosis of schizophrenia. The use of family and other informants is especially important in the assessment of prodromal or pre-psychotic states.

The diagnostic criteria for bipolar disorder (previously called manic depression) regardless of type consist of symptoms of mania or hypomania (i.e., elevated, expansive mood, and/or irritable mood) along with episodes of major depression. The presence of mania or hypomania symptoms was found to occur in about 25–30% of community-based samples (Johnson & Miklowitz, 2018). The DSM-5 describes two types of bipolar disorder. Bipolar type 1, the most severe, consists of manic and major depressive episodes with significant impairment in social and occupational functioning. Bipolar disorder, type 1 is often associated with inpatient treatment to control mood episodes and increased goal-directed activities and behaviors. Bipolar disorder, type 2 consists of hypomanic episodes with recurrent episodes of major depression. Persons with bipolar disorder, type 2 can often work and function socially and may not need inpatient treatment. Manic episodes last for 1 week or more while hypomanic episodes last at least 4 days. Significant irritability can be part of bipolar disorder, but the person must meet more symptoms for this to apply. Having one manic episode over the person's lifetime is sufficient to diagnose the person with bipolar disorder type 1, and it should be noted that current DSM-5 criteria do not require an episode of depression for this diagnosis. Associated symptoms of mania are increased self-esteem, decreased need for sleep, changes in appetite, hyperactivity, distractibility, rapid speech, flight of ideas, and reckless, impulsive behaviors. Major depressive episodes can last from 2 weeks to several months. Associated symptoms of depression include sadness, lack of interest in activities, psychomotor slowing, sleep problems, fatigue, changes in weight and/or appetite, guilt, poor concentration, and suicidal ideation.

Symptoms in Persons with Intellectual Disability

As mentioned previously, it is more difficult to derive a diagnosis in persons with intellectual disability due to the cognitive and language impairments often found in the condition (Kendall & Owen, 2015). Persons with mild intellectual disability who can verbalize some of their internal experiences can be assessed using common diagnostic interviews such as the SCID (Ryan, 1994). However, for persons with moderate to severe levels of intellectual disability, it is best to carefully document and observe their behaviors. A common diagnostic problem is determining what behaviors are part of the intellectual disability condition and what behaviors are part of the psychosis or bipolar condition. A study by Cherry, Penn, Matson, and Bamburg (2000) found that in persons with intellectual disability and schizophrenia, the psychotic symptoms exhibited were mainly behavioral disorganization, reality distortion, and there was less evidence for negative symptoms. Behaviorally, signs of hallucinations may include frequent staring, talking, or gesturing to people who are not present, covering their eyes and ears, brushing of their body (tactile), and facial grimaces when eating (gustatory). Of course, these may also be symptoms of autism spectrum disorder in the form of self-stimulation behaviors as well. Delusions such as paranoia may not be easily verbalized but may appear as hiding from certain people, avoidance of some situations, and odd emotional reactions to the presence of others. Disorganization may appear as wearing multiple layers of clothing, odd behaviors exhibited with no clear purpose, pacing, and poor grooming and hygiene. One of the most important issues to address is the presence of comorbid medical conditions in the intellectual disability population, as conditions such as partial complex seizures can appear similar to schizophrenia. For bipolar disorders, research and clinical observation has identified several key behaviors to note. These include sleep disturbance, agitation, and increased levels of activity. Again, the presence of intact language may facilitate a discussion of mood and behaviors, but this may not be possible in all cases.

General Assessment Measures

For persons with mild levels of intellectual disability who have intact language function, clinicians can use many of the common symptom and diagnostic measures. For persons with intellectual disability, it is more useful to do interview methods than to use paper and pencil tests. Most of these cover a specific period of time (e.g., last 2 weeks or last month) and ask standardized questions about symptom severity and presence. The Structured Clinical Interview for DSM-5 (SCID) is based on DSM-5 criteria and is the most useful in terms of diagnosing schizophrenia. To assess severity of psychotic symptoms, measures such as the Positive and Negative Syndrome Scale (PANNS; Kay, Fiszbein, & Opler, 1987), the Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962), and the Psychotic Rating Scale (PSYRATS; Haddock, McCarron, Tarrier, & Faragher, 1999) have good psychometric properties (As reviewed in Combs et al., 2018). Scales specific to positive (Scale for the Assessment of Positive Symptoms; Andreasen & Olsen, 1982) and negative symptoms (Scale for the Assessment of Negative Symptoms; Andreasen, 1982) can be used for a more in-depth assessment of these areas. Finally, the assessment of social skills and social/community functioning are important areas to examine in persons with schizophrenia. The Maryland Assessment of Social Competence (MASC; Bellack & Thomas-Lohrman, 2003) and the Social Functioning Scale (Birchwood, Smith, Cochrane, Wetton, & Copstake, 1990) and UCSD Performance-Based Skills Assessment (UPSA; Patterson, Goldman, McKibbin, Hughs, & Jeste, 2001) are widely used measures of social skills and community functioning.

For the assessment of bipolar disorders, the use of a structured clinical interview is the most reliable and valid method to examine this condition (Miller, Johnson, & Eisner, 2009). The SCID is the most common measure due to its link to the

current DSM-5 criteria. The Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978) has been used in many studies, but is based on the older Research Diagnostic Criteria (RDC) and may be less useful today. Once the clinical interview is conducted, there are several self-report scales that are commonly used to assess the manic and depression phases of the condition. Self-report instruments such as the General Behavior Inventory (Depue et al., 1981), Mood Disorder Questionnaire (MDQ; Hirschfeld et al., 2000), Altman Self-Rating Mania Scale (Altman, Hedeker, Peterson, & Davis, 1997), and the Brief Symptom Inventory (Derogatis & Melisaratos, 1983) may be useful. It may be more important to focus on the presence of mania and hypomania than depression to properly diagnose bipolar conditions. Clearly, the reliance on self-report measures is less than ideal when dealing with persons with intellectual disability as these persons may have problems completing the rating scales. We will now review several scales for the assessment of schizophrenia and bipolar that were specifically designed for persons with intellectual disability.

Assessment Measures Specific to Persons with Intellectual Disability and Schizophrenia

In general, there is a need to develop valid and useful assessment measures for persons with mental health conditions and intellectual disability (Beail, Mitchell, Vlissides, & Jackson, 2015). These measures are often behavioral in nature and can be completed using simple rating scales or with information from a knowledgeable informant.

Diagnostic Assessment for the Severely Handicapped-Revised (DASH-II)

The DASH-II (Matson, 1995) is an informant-based measure of psychopathology in people with severe and profound intellectual disabilities. This 84-item measure consists of 13 subscales: (1) Anxiety, (2) Depression, (3) Mania, (4) PDD/Autism, (5) Schizophrenia, (6) Stereotypies, (7) Self-Injury, (8) Elimination, (9) Eating, (10) Sleeping, (11) Sexual, (12) Organic, and (13) Impulse Control. The Schizophrenia subscale includes seven items focusing on behaviors consistent with psychotic disorders: (1) mood unrelated to surroundings; (2) talking to imaginary people or inanimate objects; (3) speech making no sense; (4) hearing things that are imaginary; (5) standing or sitting in bizarre positions; (6) experiencing touch or other sensations on the skin that are imaginary; and (7) seeing things that are imaginary (Bamburg, Cherry, Matson, & Penn, 2001). Each item on the DASH-II is scored as a 0, 1, or 2, and there are ratings for frequency over the previous 2 weeks, duration, and severity of behavioral symptoms (Bamburg et al., 2001; Thorson, Matson, Rojahn, & Dixon, 2008). Caretakers familiar with the individual rate each item. Previous studies have shown good levels of reliability and validity with the intellectual disability population (Bamburg et al., 2001; Matson & Malone, 2006; 1998; Myrbakk & Von Tetzchner, 2008a, 2008b; Paclawskyj, Matson, Bamburg, & Baglio, 1997; Sturmey, Matson, & Lott, 2004), and with intellectual disability and schizophrenia comorbidity (Bamburg et al., 2001; Cherry et al., 2000). Limitations of the DASH-II include that it is derived from the DSM-IV-R and is useful primarily with the severe and profound intellectual disability population. Another limitation is that some items require verbal information and nonverbal individuals' answers are scored as "0" (Thorson et al., 2008). Further, the standardization sample is limited and administration requires a trained interviewer (Aman, 1991; Mohr, Tonge, & Einfeld, 2005).

Assessment of Dual Diagnosis (ADD)

The ADD (Matson & Bamburg, 1998) is an informant-based measure of psychopathology in people with mild and moderate intellectual

disabilities. The ADD is a 79-item psychopathology screening instrument representing 13 diagnostic categories, which include (1) Mania, (2) Depression, (3) Anxiety, (4) PTSD, (5) Substance abuse, (6) Somatoform disorders, (7) Dementia, (8) Conduct disorder, (9) Pervasive developmental disorder, (10) Schizophrenia, (11) Personality disorders, (12) Eating disorders, and (13) Sexual disorders. Items are scored as a 0, 1, or 2 with ratings for frequency, duration, and severity of symptoms (Belva & Matson, 2015). Similar to the DASH-II, caretakers familiar with the individual rate each item. Previous studies have shown good reliability and validity with this population (Matson & Bamburg, 1998; Rojahn, Rowe, Kasdan, Moore, & Van Ingen, 2011). The ADD has been found to have high convergent validity with other psychopathology rating scales, specifically the Mini PAS-ADD, DASH-II, and RSMB (Myrbakk & Von Tetzchner, 2008a, 2008b). However, according to Matson, Belva, Hattier, and Matson (2012), research with the ADD is limited compared to the other measures of psychopathology in the population with intellectual disability and additional research is necessary. Rojahn et al. (2011) found adequate concurrent validity for the schizophrenia subscale compared with the ABC, but additional research is needed to further support the reliability and validity of the Schizophrenia subscale.

Psychopathology Instrument for Adults with Mental Retardation (PIMRA)

The PIMRA (Matson, 1988) is an informant-based measure of psychopathology in individuals with mild, moderate, or severe intellectual disabilities. The PIMRA was the first scale designed to assess dual diagnosis and is currently used as a screening instrument to aid in differential diagnosis of individuals with intellectual disability. Caretakers familiar with the individual rate each item and respond using a "yes" or "no" format. The PIMRA contains 56 items representing 7 classes of psychopathology based on DSM-III criteria: (1) Schizophrenia, (2) Affective disorder, (3) Psychosexual disorder, (4) Adjustment disorder, (5) Anxiety disorder, (6) Somatoform disorder, (7) Personality disorder, and one additional subscale measuring inappropriate adjustment. Studies have shown good levels of reliability and validity for the PIMRA (Balboni, Battagliese, & Pedrabissi, 2000; Belva & Matson, 2015; Gustafsson & Sonnander, 2005; Iverson & Fox, 1989; La Malfa, Notarelli, Hardoy, Bertelli, & Cabras, 1997; Masi, Brovedani, Mucci, & Favilla, 2002; Matson, Kazdin, & Senatore, 1984; Van Minnen, Savelsberg, & Hoogduin, 1994; Watson, Aman, & Singh, 1988), and the Schizophrenia subscale (Linaker & Helle, 1994; Swiezy, Matson, Kirkpatrick-Sanchez, & Williams, 1995). Limitations include that the PIMRA is based on DSM-III criteria and it contains fewer subscales compared to other measures of psychopathology. Along with the DASH-II, the standardization sample is limited and administration requires a trained interviewer (Aman, 1991; Mohr et al., 2005).

Psychiatric Assessment Schedule for Adults with Developmental Disability (PAS-ADD)

The PAS-ADD (Moss et al., 1993) is a screening measure to assess psychopathology in people with mild, moderate, or severe intellectual disabilities. There are three versions of the PAS-ADD which can be used depending on the clinical situation. The PAS-ADD checklist is often used as a screening tool, the PAS-ADD semi-structured clinical interview is used to derive a diagnosis, and the Mini PAS-ADD is used in situations requiring a briefer assessment. This family of scales contains 29 items encompassing 7 broad areas: (1) appetite and sleep, (2) tension and worry, (3) phobias and panics, (4) depression and hypomania, (5) obsessions and compulsions, (6) psychoses, and (7) autism (Moss et al., 1998). The PAS-ADD checklist and the Mini PAS-ADD are rated by a caretaker familiar with the individual, and the PAS-ADD semi-structured clinical interview utilizes parallel interviewing of client and an informant. It is designed to provide a

diagnosis under both ICD-10 and the DSM-IV-TR. Items are rated on a four-point Likert scale; if the symptom is not present a "1" is given, if the symptom is present to a mild degree a "2" is given, if the symptom is present to a moderate degree or severe for less than half the rating period a "3" is given, and if the symptom is severe for more than half the rating period a "4" is given. The Mini PAS-ADD is designed to be used by staff who do not have a background in psychiatry or psychology. The PAS-ADD was first described by Moss et al. (1993) and since then, research has demonstrated reliability and validity for the PAS-ADD (Beail et al., 2015; Moss et al., 1998; Sturmey, Newton, Cowley, Bouras, & Holt, 2005; Zeilinger, Weber, & Haveman, 2011), including the psychosis subscale (Cooper et al., 2007; Moss, Prosser, Ibbotson, & Goldberg, 1996) and the Mini PAS-ADD (Deb, Thomas, & Bright, 2001; Janssen & Maes, 2013; Myrbakk & Von Tetzchner, 2008a, 2008b; Prosser et al., 1998). According to Matson et al. (2012), the PAS-ADD has a large amount of supporting research and is the measure of choice for psychopathology in individuals with intellectual disability in the United Kingdom. However, has discussed issues with the PAS-ADD, such as (1) the sensitivity and specificity of the checklists and rating scales are largely unknown, (2) the diagnostic accuracy is unknown, and (3) standardization sample is mostly inadequate. Further, according to Mohr et al. (2005) there is disagreement in how to compute and apply cutoff scores for diagnosis.

Reiss Screen for Maladaptive Behavior (RSMB)

The RSMB (Reiss, 1988) is an informant-based measure of psychopathology in people with mild, moderate, severe, or profound intellectual disabilities. There are 36 items consisting of 8 subscales on the RSMB: (1) Aggressive disorder, (2) Autism, (3) Avoidant disorder, (4) Dependent personality disorder, (5) Depression-behavioral signs, (6) Depression-physical signs (7) Paranoia, and (8) Psychosis. Each item is scored as no problem, a problem, or a major problem in the individual's life, and the rater is instructed to consider severity, frequency, and the consequences of the behavior when making those ratings (Havercamp & Reiss, 1997). Caretakers familiar with the individual rate each item. The RSMB is one of the older, more established scales for measuring psychopathology in individuals with intellectual disability (Matson et al., 2012). Research has shown very good levels of reliability and validity for the RSMB (Gustafsson & Sonnander, 2002; Havercamp & Reiss, 1997; Kishore, Nizamie, & Nizamie, 2010; Prout, 1993; Reiss, 1997; Straccia, Tasse, Ghisletta, & Barisnikov, 2013; Sturmey & Bertman, 1994; Sturmey, Burcham, & Perkins, 1995; Van Minnen, Savelsberg, & Hoogduin, 1995; Walsh & Shenouda, 1999). However, Sturmey and Bertman (1994) noted limitations in the internal consistency of the RSMB and little research on the validity and reliability of the psychosis subscale. Noted the same limitations as with the PAS-ADD, DASH-II, PIMRA, and the ABC, namely that standardization is mostly inadequate, the sensitivity and specificity of the measure is unknown, and the diagnostic accuracy is unknown.

Aberrant Behaviors Checklist (ABC)

The ABC is an informant-based scale designed to measure treatment effects in individuals with moderate to profound intellectual disability (Aman, Singh, Stewart, & Field, 1985a, 1985b). The ABC has 58 items that are rated on a four-point Likert scale (0–3), from "not at all a problem" to, "the problem is severe in degree." The items are measured on five subscales: (1) irritability, agitation, and crying; (2) lethargy and social withdrawal; (3) stereotypic behavior; (4) hyperactivity and noncompliance; and (5) inappropriate speech, and only several items reflect possible psychosis symptoms. The ABC has been frequently studied, and Aman (2012b, June Update) listed an annotated bibliography of over 300 studies using the ABC. In addition, Shedlack, Hennen, Magee, and Cheron (2005) used the

ABC to assess treatment effects of atypical antipsychotic medication in individuals with schizophrenia and found that antipsychotics are effective for some symptoms in patients with intellectual disability and comorbid psychiatric disorders. Subscale scores are considered more useful in the intellectual disability population than the total score (Aman, 2012a).

Assessment Measures Specific to Persons with Intellectual Disability and Bipolar Disorder

Diagnostic Assessment for the Severely Handicapped-II (DASH-II)

The DASH-II contains two subscales specific to persons with bipolar disorder, depression, and mania. The scale allows the measurement of frequency, duration and severity over the last 2 weeks of time. Items from the mania subscale include "is restless or agitated," "has a decreased need for sleep," "is cranky or irritable," "is extremely happy or cheerful for no obvious reason," "talks loudly," and "talks quickly." Items from the depression subscale include "has difficulty getting to sleep," "wakes up frequently during the night," "is cranky or irritable," "is restless or agitated," lacks interest in a favorite activity or object," and "speech or sound production is slow or lacks emotion." Specific to persons with bipolar disorder, the DASH-II mania subscale correctly identified 90.0% of manic individuals using DSM-IV criteria (Matson & Smiroldo, 1997).

Assessment of Dual Diagnosis (ADD)

The ADD contains two subscales that can assist in the evaluation of bipolar disorder – mania and depression. Items from the mania subscale include "unusual weight loss" and "afraid of disease" Rojahn et al., 2011). Items from the depression subscale include "decreased energy," "appears sad," and "unhappy" (Rojahn et al., 2011). Matson and Bamburg (1998) found the ADD had good levels of internal consistency for the subscales ranging from 0.77 to 0.95. They also found interrater reliability ranging from 0.82 to 1.00 and test-retest reliability, with 2 weeks between assessments, above 0.80. A limitation of the scale is there have not been studies looking at mania or depression in samples of persons with intellectual disability and bipolar disorders. Also, the items in the mania subscale do not reflect the core features of mania, namely expansive or elevated moods.

Psychopathology Instrument for Mentally Retarded Adults

The PRIMA has an affective disorder subscale that can be used to help evaluate bipolar disorders in individuals with intellectual disability. Items from affective disorder subscale include "Mood swings and moodiness," "decreased energy; mental and/or physical fatigue," "unusual weight loss in the last four months," "statements or appearance of sadness, loneliness, unhappiness, hopelessness and/or pessimism," "social withdrawal evidence by the person being less outgoing and evidencing less group participation," and "initial insomnia and restless sleep." The PRIMA has two versions: informant based and self-report, both of which should be administered in an interview format (Gustafsson & Sonnander, 2005). Matson et al. (1984) found internal consistency on PRIMA self-report and informant-report with a coefficient alpha 0.85 and 0.83.

Anxiety, Depression, and Mood Scale (ADAMS)

The ADAMS (Esbensen, Rojahn, Aman, & Ruedrich, 2003) is an informant-based behavioral rating scale that assesses affective/emotional symptoms of individuals with intellectual disability that are ages 10 and older. The ADAMS contains 29 items that assesses frequency and severity ratings over the past 6 months. The scale contains a manic/hyperactive behavior and

depressed mood subscales which may be useful in assessing bipolar disorder. Items from the manic/hyperactive subscale include, "does not relax" and "distracted". Items from the depressed Mood subscale include, "sad" and "lacks energy". The manic/hyperactive and depressed mood subscales have good internal consistency ranging from 0.75 to 0.80 (Esbensen et al., 2003). The ADAMS and the ADD depressed mood subscales were found to be highly correlated (r = 0.72), suggesting good concurrent validity (Esbensen & Benson, 2006; see Rojahn et al., 2011 as well).

Young Mania Rating Scale (Y-MRS)

The Y-MRS (Gracious, Youngstrom, Findling, & Calabrese, 2002) is an interview-based scale designed to assess for the symptoms of mania in children and adolescents. The Y-MRS contains 11 items that are scored from 0 to 4; the higher the score the more severe the symptom. The Y-MRS typically takes 15–30 minutes to complete and is administered in a clinical interview format, and symptoms are rated based on the last 48 hours (Gracious et al., 2002). If the client cannot verbalize their answers, the Parent version of Young Mania Rating Scale can be used (Youngstrom, Gracious, Danielson, Findling, & Calabrese, 2003). Items from the Young Mania Rating Scale and the Parent version of the Young Mania Rating Scale include "Elevated mood," "increased motor activity/energy," "sleep disturbance," "irritability," "speech (rate and amount)," and "disruptive/aggressive behavior." Matson, Gozalez, Terlinge, Thorson, and Laud (2007) found that the mania items from the scale significantly predicted a diagnosis of bipolar disorder in a sample of persons with intellectual disability.

Conclusions and Future Directions

The assessment of schizophrenia and bipolar disorder in persons with comorbid intellectual deficiency is challenging on many levels. First, cognitive impairments in speech, memory, and attention may preclude the use of many of the most common assessment measures. In fact, there seems to be a dichotomy between measures that can be used with persons with mild levels of intellectual disability compared to those having moderate to severe levels. The lower the level of functioning, the more behavioral the measures need to be and the more important informants and direct observation become. Also, there are differences in how these disorders are expressed clinically in this population which makes using current DSM-5 criteria more difficult. Second, there are a number of assessment measures that can be used in this population, but many have limited sample sizes and were developed using previous editions of the DSM. Some measures have fewer items and may not reflect the symptoms expressed in this population. Moving forward, it would be useful to carefully document what types of symptoms and behaviors are expressed in these clinical populations and update the current scales with the newer DSM-5 criteria. In the end, improving these assessment measures will enhance treatment options for these individuals which will ultimately lead to a better quality of life.

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