Assessing Mental Health Concerns in Adults with Intellectual Disabilities

A Guide to Existing Measures

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Introduction

Mental health concerns are often under or misdiagnosed in individuals with intellectual disabilities (Gustafsson & Sonnander, 2004; Reiss, 1990). Diagnosing mental illness in this population can be difficult for a number of reasons. Challenging or disruptive behaviors may be attributed to an individual's intellectual disability instead of a potential mental illness (Reiss & Szyszko, 1983). Clinicians are seldom trained in diagnosing psychiatric disorders in individuals with intellectual disabilities (Moss, Emerson, Bouras, & Holland, 1997). Certain disorders may manifest differently across a range of intellectual ability (Richard Powell, 1999). Many diagnostic tools rely on individuals' ability to express their symptoms verbally (Moss, 2001). Finally, certain symptoms cannot be displayed at all in individuals who are nonverbal (Moss, Emerson et al., 1997). Because of these difficulties, the availability of valid and reliable diagnostic instruments is essential.

In selecting an assessment tool, the researcher or clinician must be guided by several factors: the purpose of test administration, the characteristics of the target individuals and test administrators, and the time or cost constraints. Also, it is important to examine carefully the psychometric properties of any measure before using it for research or clinical purposes. If the reliability and validity of a given assessment tool has not been established the usefulness of any information obtained from it is questionable.

This paper gives an overview of the measures used to assess mental health concerns in adults with intellectual disabilities. Information on where, how, and at what cost these measures can be obtained is also provided. Measures were selected based on a keyword search of PsyINFO, PubMed, and Medline. Only measures that have appeared in articles published since 1990 are included in this review. Measures developed prior to 1990 that have not appeared in published articles in the last 18 years were excluded from this review. Information concerning each measure's purpose, target population, and psychometric properties is also presented.

Description of Measures

ABC - Aberrant Behavior Checklist

The Aberrant Behavior Checklist (ABC) was originally developed by Aman, Singh, Stewart, & Field (1985a, 1985b) to assess drug or treatment effects in adults with severe or profound intellectual disabilities. It is completed by a caregiver who knows the target individual well, thereby circumventing potential communication problems. The 58 item scale assesses behavior over the previous month and has five subscales: (I) Irritability, Agitation, Crying; (II) Lethargy, Social Withdrawal; (III) Stereotypic Behavior; (IV) Hyperactivity, Noncompliance; and (V) Inappropriate Speech (Aman, Singh, Stewart, & Field, 1985a).

The ABC's subscales have high internal consistency (Cronbach's alpha ranged from .86 to .94) and test-retest reliability (Spearman coefficients ranged from .96 to .99). The whole scale had low inter-rater reliability with a mean correlation of .63 (Aman, Singh, Stewart, & Field, 1985b). The measure was found to have good criterion group validity. It was able to discriminate between individuals who had or had not attended a training session, and those who did or did not have Down's syndrome. The ABC displayed adequate discriminant and convergent validity. Scores on the ABC were moderately and negatively correlated with the Adaptive Behavior Scale (Nihira, 1976), but were not correlated with IQ (Aman et al., 1985b).

Since its development, over a hundred journal articles and book chapters have been published using the ABC. The factor structure has been replicated by other authors (Aman, Richmond, Stewart, Bell, & et al., 1987; Bihm & Poindexter, 1991). The ABC has been effective in describing different types of challenging behaviors and is sensitive to changes in these behaviors as a result of interventions (for a review see Zimbelman, 2005). The measure has been used successfully with and norms have been developed for children with developmental disabilities (Green, O'Reilly, Itchon, & Sigafoos, 2005; Marshburn & Aman, 1992; Rojahn, Aman, Matson, & Mayville, 2003). The ABC has also been effective in identifying mental health concerns in adults with mild or moderate intellectual disabilities (Rojahn, Warren, & Ohringer, 1994), as well as older adults with severe or profound intellectual disabilities (Katz, Berry, & Singh, 1997).

Publisher: Stoelting Co.
620 Wheat Lane
Wood Dale, IL 60191
www.stoeltingco.com

Cost: ABC Residential Kit: $109.00
ABC Community Kit: $125.00
ABC Manual: $45.00
ABC Residential and Community Forms/Score Sheets: $51.25

ADAMS – Anxiety, Depression and Mood Scale

The ADAMS was developed by Esbensen, Rojahn, Aman, & Ruedrich (2003) to assess anxiety, depression, and mania in adults with all ranges of intellectual disabilities. The 28-item scale is completed by an informant or caregiver who knows the target individual well. It has five subscales: Manic / Hyperactive behavior, Depressed Mood, Social Avoidance, General Anxiety, and Compulsive Behavior.

The internal consistency of each of the five subscales was satisfactory (Cronbach's alpha ranged from .75 to .83); as was test-retest reliability (correlation coefficients for subscales ranged from .72 to .83). Evidence was provided for the measure's construct validity and discriminant validity. The authors found that compared to a control group individuals with a clinical diagnosis of depression differed only on the Depressed Mood Subscale of the ADAMS (Esbensen, Rojahn, Aman, & Ruedrich, 2003).

Overall, the measure appears to be psychometrically sound, but its narrow scope limits usefulness to detecting symptoms of anxiety, mania, and depression only. As yet there are no other published studies using this measure.

Publisher: Anna J. Esbensen, Ph.D.
University of Wisconsin – Madison
1500 Highland Avenue
Madison, WI 53705
608-263-5609

Cost: None

ADD - Assessment of Dual Diagnosis

The Assessment of Dual Diagnosis (ADD) was developed by Matson & Bamburg (1998) to assess the full range of psychiatric disorders in adults with mild to moderate intellectual disabilities. Because it is administered to a caregiver who knows the target person well, the target person's verbal ability is not an issue. The 79-item scale has 13 subscales organized according to DSM-IV diagnoses: 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.

The authors found that the internal consistency was high for the entire scale (r = .93) and moderate to high for the subscales (Cronbach's alpha ranged from .77 to .95). Mean inter-rater reliability for the whole scale was .98 and for the subscales ranged from .82 to 1.00. Test-retest reliability was also good (.93 for the whole scale and ranging from .82 to 1.00 for the subscales). Although there is strong support for measure's reliability, no information was provided concerning the measure's validity (Matson & Bamburg, 1998).

Only one other published article was found using the ADD. McDaniel, Passmore, & Sewell (2003) examined correlations between subscales of the ADD and a shortened version of the MMPI-168(L) that had been adapted for use with individuals with intellectual disabilities. Subscales of the two instruments that measured similar psychological constructs were not correlated, suggesting the ADD lacks construct and convergent validity (McDaniel, Passmore, & Sewell, 2003). More research is needed to provide conclusive evidence in this regard.

Publisher: Disability Consultants
3333 Woodland Ridge Blvd
Baton Rouge, LA 70816
www.disabilityconsultants.org

Cost: ADD Complete Kit: $250.00
Additional Protocols and Score sheets: $3.50

BDI - Beck Depression Inventory

The Beck Depression Inventory was developed by Beck and his colleagues to assess depression in the general population (Beck, Rial, & Rickels, 1974). It is a 21 item, self-report scale that has been used by clinicians and researchers for decades (for a review see Beck, Steer, & Garbin, 1988). Normative data is available for the general population only.

Powell (2003) investigated whether the BDI was useful in detecting depression in a sample of 120 adults with mild to severe intellectual disabilities. Results indicated the BDI had adequate internal consistency , .86, (Powell, 2003). Although other researchers have used the BDI to identify depressive symptoms in individuals with intellectual disabilities (Helsel & Matson, 1988; Kazdin, Matson, & Senatore, 1983; Prout & Schaefer, 1985), no norms are available for this population. Further, with the exception of the measure's internal consistency, there is no other evidence of its reliability or validity in individuals with intellectual disabilities.

Publisher: Pearson Education, Inc.
19500 Bulverde Road
San Antonio, TX 78259
1-800-211-8378
www.PsychCorp.com

Cost: BDI Manual: $65.00
BDI Record Forms: $46.00
BDI Scannable Record Forms: $46.00
BDI Manual and 25 Record Forms: $99.00

BPI - Behavior Problems Inventory

The Behavior Problems Inventory was developed by Rojahn and his colleagues to assess self injurious, stereotypic, and aggressive/destructive behavior in adults with intellectual disabilities or other developmental disabilities (Rojahn, Matson, Lott, Esbensen, & Smalls, 2001). The semi-structured, 52-item measure is administered to a caregiver or informant familiar with the target person. The informants' responses are coded for frequency and severity by the test administrator, allowing for a more conversational style of test administration than other instruments.

The measure appears to have adequate reliability and validity. Its internal consistency was satisfactory for the full scale (Cronbach's alpha =.83) and low to moderate for the subscales, ranging from .64 to .76. Mean inter-rater agreement varied, ranging from .59 to .96. The developers found adequate support for the BPI's three factor structure as well as its construct validity. Individuals with pervasive developmental disorders (PDD) scored significantly higher on all three subscales than those without (Rojahn et al., 2001). Convergent validity was established by demonstrating correlation between scores on the BPI and the ABC (Rojahn et al., 2003).

Publisher: Johannes Rojahn, Ph.D.
10340 Democracy Lane, Suite 202
Fairfax, VA 22030
703-993-4241

Cost: **N/A**

BSI - Brief Symptom Inventory

The Brief Symptom Inventory is a 53 item, self-report measure of psychological distress developed by Derogatis & Melisaratos (1983) for use in the general, adult population. The measure assesses a broad range of symptoms experienced by adults with psychiatric disorders. It yields nine symptoms subscales: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. The BSI also produces three global indices of psychopathology: the Global Severity Index (GSI), the Positive Symptom Distress Index (PSDI), and the Positive Symptom Total (PST).

Kellett, Beail, Newman, & Frankish (2003) investigated the psychometric properties of the BSI in a sample of 200 adults with mild intellectual disabilities. For each of the subscales internal consistency and split half reliability was low to moderate (rs ranged from .63 to .78). Construct validity was examined by comparing mean scores on the subscales among three subgroups in the study: individuals living in the community, but referred for testing for intellectual disabilities (community group); individuals with an intellectual disability, referred for psychiatric assessment (clinical group); and individuals with an intellectual disability who had also been convicted of a crime (forensic group). Group means differed significantly on eight of the nine subscales and two of the three global indices. The community group displayed the fewest symptoms, followed by the forensic group, and the clinical group. The authors concluded that the BSI is a valid and reliable instrument for detecting psychological symptoms in individuals with mild intellectual disabilities (Kellett, Beail, Newman, & Frankish, 2003). However, without normative data for this population the usefulness of the BSI in detecting psychopathology in individuals with intellectual disabilities is limited.

Publisher: Pearson Education, Inc.
19500 Bulverde Road
San Antonio, TX 78259
1-800-627-7271
www.pearsonassessments.com

Cost: BSI Manual: 36.50
Test Booklets: $10.25
Compact Disc: $53.00

Scoring Options
- Q Local Scoring and Reporting Software: $3.70 - $250.00
- Mail-In Scoring Service: $6.70 - $68.00
- Hand-Scoring Materials $56.00 - $106.00

CBCPID - Clinical Behavior Checklist for Persons with Intellectual Disabilities

The CBCPID was developed by Marston, Perry, & Roy (1997) to assess the symptoms of depression and challenging behaviors in individuals with intellectual disabilities. The 30 item checklist is based on the ICD-10 diagnostic criteria for depression and the Disability Assessment Schedule (Holmes, Shah, & Wing, 1982). In the original paper, the checklist was completed by a mental health professional with or without assistance from the consumer and his/her caregivers (Marston, Perry, & Roy, 1997).

In terms of psychometric properties, the total scale has adequate internal consistency (Cronbach's alpha = .77), but the item-total correlation is low (median r=.33, range .26 to .65) suggesting that many of the items do not correlate adequately with the total scale (Tsiouris, Mann, Patti, & Sturmey, 2004). Marston et al. (1997) found that in individuals previously diagnosed as depressed, those with severe or profound intellectual disabilities scored highest on self injurious or aggressive symptoms by the CBCPID, suggesting the measure has some construct validity. The methodology for administering and scoring the CBCPID is vague, confusing, and inconsistent across published articles.

Publisher: N/A

Cost: N/A

DASH II - Diagnostic Assessment for the Severely Handicapped

The DASH-II was developed by Matson and his colleagues to assess psychopathology in individuals with severe or profound intellectual disabilities (Matson, Gardner, Coe, & Sovner, 1991; Sevin, Matson, Williams, & Kirkpatrick-Sanchez, 1995). The 84-item, informant-based measure consists of 13 subscales based on the DSM-III-R: 1) Impulse control, 2) Organic problems, 3) Anxiety, 4) Mood disorders, 5) Mania, 6) Pervasive developmental disorders/autism, 7) Schizophrenia, 8) Stereotypic behavior, 9) Self injurious behavior, 10) Elimination of disorders, 11) Eating disorders, 12) Sleep disorders, and 13) Sexual disorders. Frequency, duration, and severity of each symptom are assessed.

Evidence has been found for the measure's reliability. Two-week test-retest reliability was .84 for frequency, .84 for duration, and .91 for severity ratings (Sevin et al., 1995). However, Paclawskyj, Matson, Bamburg, & Baglio (1997) found that the internal consistency of the DASH-II subscales was poor to moderate (Cronbach's alphas ranged from.53 to .84). There is some disagreement as to the factor structure of the DASH-II. Matson et al. (1991) found a six factor structure relating to emotional liability, aggression/conduct disorder, language disorders, social withdrawal/stereotypic behaviors, eating disorders, and sleep disorders. A similar factor structure was found by Sturmey, Matson, & Lott (2004), although the analysis yielded only a five factor solution consisting of emotional liability, language disorders, sleep disorders, psychosis, and anxiety.

In an examination of the concurrent validity of the DASH-II, Paclawskyj et al. (1997) found that the depression, mania, organic disorders, and impulse control disorders subscales all correlated highly with the irritability and hyperactivity subscales of the ABC. Further, the PDD/autism and stereotypic behavior subscales all correlated strongly with the stereotypic behavior subscale of the ABC. Additional evidence has been found for the validity of the depression, mania, and PDD/autism subscales (Matson et al., 1999; Matson & Smiroldo, 1997; Matson, Smiroldo, & Hastings, 1998). However, Matson et al. (1997) found that only behavioral symptoms associated with anxiety could be assessed in individuals with severe or profound intellectual disabilities. Consequently, many of the symptoms associated with the disorder could not be examined in this population.

Nevertheless, dozens of studies have been published using the DASH-II, including studies examining psychiatric disorders in older adults (Cherry, Matson, & Paclawskyj, 1997) and in adolescents and young adults with severe and profound intellectual disabilities (Bradley, Summers, Wood, & Bryson, 2004). The reliability of the measure has been well established, but more research is needed to demonstrate the construct validity of the DASH-II's subscales.

Publisher: Disability Consultants
3333 Woodland Ridge Blvd
Baton Rouge, LA 70816
www.disabilityconsultants.org

Cost: DASH II Complete Kit: $250.00
Additional Protocols and Score sheets: $3.50

DBC-A - Developmental Behavior Checklist for Adults

The DBC-A is a comprehensive measure of emotional and behavioral problems in adults with all levels of intellectual disabilities (Mohr, Tonge, & Einfeld, 2005). The scale consists of 107 items dealing with emotional and behavioral disturbances not attributable to developmental delay. The scale yields a total problem behavior score. It is completed by someone who knows the consumer well.

The test-retest reliability of the DBC-A was found to be good for family members (r = .85) and adequate for paid caregivers (r = .75). Inter-rater reliability for family members was acceptable (r = .72). Significant correlations were found between total scores on DBC-A and those on the Aberrant Behavior Checklist and the PAS-ADD Checklist (r = .63 and r=.70, respectively). To our knowledge, no other studies using this measure have been published. Further research is needed to establish the validity of the DBC-A.

Publisher: Centre for Developmental Psychiatry and Psychology
Monash Medical Centre
246 Clayton Road
Clayton VIC 3168
Australia
Phone: +61 3 9594 1301
www.med.monash.edu.au/psychmed/units/devpsych/dbc.html

Cost: DBC Manual: $72.38
DBC-A Checklist: $8.04
Scoring Software and Scoring Manual: $88.46

GAS-ID - Glasgow Anxiety Scale for People with Intellectual Disabilities

This scale was developed by Mindham & Espie (2003) to assess anxiety in individuals with mild to moderate intellectual disabilities. This 27-items measure is administered to consumers by a healthcare professional. Consumers are asked to rate the frequency with which they experience a variety of symptoms (never, sometimes, and always). The scale yields a total anxiety score and three subscale scores: worries, specific fears, and the physiological symptoms.

Mindham & Espie (2003) also examined the Glasgow's psychometric properties. The test-retest reliability and internal consistency of the measure were high ($r = .95$ and $r = .98$, respectively). Split half reliability was also high ($r = .93$). The internal consistency of each subscale was moderate to high (ranging from .80 to .92). Scores on the GAS-ID discriminated between different groups of anxious and non-anxious individuals with and without intellectual disabilities (criterion validity). The correlation between scores on the GAS-ID and the Beck Anxiety Inventory was moderate, but significant ($r = .72$), demonstrating concurrent validity. Further, the developers examined the relationship between scores on the GAS-ID and a physiological indicator of anxiety (pulse rate) in anxious and non-anxious individuals who were exposed to photographs of anxiety producing stimuli. Higher GAS-ID were associated with a higher pulse rate ($p =.52$), although the sample size was very small, seven anxious and eight non-anxious (Mindham & Espie, 2003).

Because the GAS-ID is administered directly to the respondent, it may have limited usefulness in individuals who have communication impairments. Also, although the items were developed using focus groups comprised of individuals with mild and moderate intellectual disabilities, the validation studies primarily used individuals with mild intellectual disabilities. Further research is needed to determine whether the GAS-ID is valid and reliable in individuals with moderate intellectual disabilities. To our knowledge, no other published studies have used this measure.

Publisher: N/A

Cost: N/A

InterRAI ID

InterRAI, an international, not-for-profit, research organization (http://www.interrai.org), has developed a suite of comprehensive instruments designed to assess the needs of individuals in different care settings. In Ontario, the Ministry of Health and Long-Term Care has mandated the use of these instruments in long-term care, home care, and psychiatric facilities. The InterRAI ID is the latest addition to this suite of instruments. It was developed by Martin, Hirdes, Fries, & Smith (2007) to assess individuals with intellectual disabilities across all major domains of interest to health care professionals and service providers (e.g., cognition, communication, physical health, psychiatric diagnoses, oral and nutritional status, life events, psychosocial well-being, social supports and home environment). The 391-item, comprehensive measure is designed to assess not only impairments, challenges, and needs, but also strengths and preferences, as well as outcomes and service delivery. The InterRAI ID is completed by a health care professional who is familiar with the consumer in question. Completion of the instrument may require consultation with the consumer's family, their case file, and other healthcare professionals.

Martin et al. (2007) examined the psychometric properties of four scales of the InterRAI ID, cognition, self-care, aggression, and depression, in a community sample of 160 adults with ID. The internal consistency of the self-care, aggression, and depression scales was moderate to high (Cronbach's alpha was .93, .78, and .74, respectively). Similar rates of internal consistency were found for the subscales in psychiatric and clinical samples. Internal consistency for the cognition subscale could not be calculated because the items have varying response options and are not intended for use as aggregate scores.

Criterion validity was examined by comparing scores on the four subscales to relevant subscales on the Reiss Screen for Maladaptive Behaviors and the Dementia Questionnaire for Persons with Mental Retardation (DMR). Scores on the cognitive and self-care subscales of the InterRAI ID were highly correlated with scores on the cognitive and practical skills subscales of the DMR ($r = .83$ and $r = .93$, respectively). Correlations between the depression subscale of the InterRAI ID and the Physical and Behavioral Signs of Depression subscales of the Reiss were lower, but still statistically significant ($r = .65$ and $r = .50$, respectively). The correlation between the aggression subscale of the InterRAI ID and that of the Reiss was also significant ($r = .60$).

The authors concluded that the instruments embedded within the InterRAI ID are reliable and valid in community samples of individuals with intellectual disabilities, as well as psychiatric and hospital samples (Martin, Hirdes, Fries, & Smith, 2007). However, these conclusions apply only to four of the 20 subscales examined by the authors. Further research is needed to determine the reliability and validity of the other 16 subscales of the InterRAI ID.

Publisher: University of Michigan
Institute of Gerontology
300 North Ingalls
Ann Arbor, MI 48109
734-936-3261
www.interrai.org

Cost: N/A

LDCNS - Learning Disability version of the Cardinal Needs Schedule

The LDCNS was adapted from the Cardinal Needs Schedule for use with individuals with intellectual disabilities (Raghavan, Marshall, Lockwood, & Duggan, 2004). The Cardinal Needs Schedule (Marshall, Hogg, Gath, & Lockwood, 1995) was originally designed to assess needs and suggest interventions for individuals with psychiatric disorders. In developing the LDCNS, health care professionals who worked with individuals with intellectual disabilities were consulted and 22 areas of functioning were identified including 12 pertaining to psychiatric disorders and behavior problems, and 10 to social functioning. A cardinal need is identified when an individual fails to meet the predetermined criterion in any one level of functioning. For each area of functioning, lists of possible interventions were also developed. The resulting schedule included a client interview and a caregiver stress interview.

The authors found that inter-rater correlations were adequate to high in five of the 22 areas of functioning (Kappas ranged from .70 to 1.00), low in six areas of functioning (Kappas ranged from .50 to .60), and poor in five areas of functioning (Kappas <.50) in a small sample of individuals (n=35). Inter-rater correlations could not be calculated for the remaining five areas of functioning. No information on test-retest reliability or validity was provided. Further research is needed to determine whether the LDCNS is a reliable and valid measure of needs in individuals with intellectual disabilities. No other articles have been published using this measure.

Publisher: N/A

Cost: N/A

Mini PAS-ADD - Mini Psychiatric Assessment Schedule for Adults with a Developmental Disabilities

The Mini PAS-ADD was developed by Moss and his colleagues to assess mental-health concerns in individuals with the full range of intellectual disabilities (Prosser, et al., 1998). It is a semi-structured interview that is administered to a caregiver who knows the target individual well. The Mini PAS-ADD can be administered by individuals with no formal clinical training, although they must be trained on the administration of the interview. The measure consists of 64 symptom severity ratings and a life events checklist. It yields 7 subscale scores related to common Axis I psychiatric disorders:1) depression, 2) anxiety, 3) expansive mood (bipolar disorder), 4) obsessive-compulsive disorder, 5) psychosis, 6) unspecified disorder (including dementia), 7) and autism spectrum disorder. Individuals who exceed the threshold on one or more of these subscales should have a subsequent psychiatric assessment (Prosser et al., 1998).

Psychometric properties of the instrument were examined by Prosser et al. (1998). Four of the seven subscales were found to have moderate to high internal consistency (Cronbach's alpha .8 or higher). The remaining subscales had low to adequate internal consistency (Cronbach's alpha between .6 and .8). Inter-rater agreement on the seven subscales between psychiatrists and community support workers was low (Spearman r ranged from .32 to .65).

In order to examine the measure's construct validity, the authors compared Mini PAS-ADD scores to subsequent psychiatric diagnoses. They found a 91% agreement for psychiatric caseness (i.e., the presence or absence of a psychiatric disorder), but provided no information on the extent to which scores on the Mini PAS-ADD subscales matched the specific diagnoses found by study psychiatrists. Findings from other researchers (Myrbakk & von Tetzchner, 2008) indicate that the Mini PAS-ADD is best used as a screen for the presence of mental health problems in general rather than as a means of identifying the presence of any one type of disorder in particular.

Publisher: OLM-Pavilion
Richmond House
Richmond Road
Brighton
East Sussex
BN2 3RL
www.pavpub.com

Cost: Mini PAS-ADD Handbook: $333.56
Mini PAS-ADD Interview Score Forms: $129.66 - $546.81

For information on training contact: Dr. Stephen Moss
32 Lea Road
Heaton Moor
Stockport
SK4 4JU
enquiries@pasadd.co.uk

MMPI 168 (L) - Minnesota Multiphasic Personality Inventory

The MMPI is a well-established tool for assessing psychiatric disorders in adults (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989). Overall & Gomez-Mont (1974) presented evidence indicating that the first 168 items of the MMPI were just as effective in predicting psychiatric disorders as the entire scale. This shortened version of the MMPI was modified by for use in adults with intellectual disabilities. Items were adapted to accommodate a "yes/no" response instead of a "true/false" response (McDaniel, 1997). The resulting measure, called the MMPI 168 (L), was administered to three groups of individuals with mild or moderate intellectual disabilities: those with no pre-existing psychiatric disorder, those with a psychotic/organic disorder, and those with disturbances of executive function. Comparisons of scores found differences between groups on four of the subscales of the MMPI (F, K, 6, and 8), which relate to serious, disabling thought processes. The measure was administered a second time four to 22 months later. Test-retest reliability scores were acceptable on three subscales ($r > .7$), low on four subscales (.6 to .7), and poor on the remaining six ($r<.6$). McDaniel, Childers, & Compton (1997).compared scores on the MMPI 168 (L) to those on an 8-item behavioral survey they developed and found that six of the eight were significantly correlated. However, because the authors did not use a recognized measure of psychopathology as their standard, little can be concluded concerning the concurrent validity of the MMPI 168 (L).

Publisher: N/A

Cost: N/A

PAS-ADD - Psychiatric Assessment Schedule for Adults with Developmental Disabilities

The PAS-ADD assesses psychiatric disorders in adults with intellectual disabilities (Moss, Ibbotson et al., 1997). It is based on the ICD 10 classification of diseases and derived from the Schedules for Clinical Assessment in Neuropsychiatry (SCAN; World Health Organization, 1994). The PAS-ADD a semi-structured interview designed for use by clinicians. The interview consists of 145 questions that address common Axis I disorders including: 1) schizophrenia and other psychotic disorders, 2) bipolar disorder, 3) depression, 4) phobic disorders and anxiety disorder, 5) obsessive-compulsive disorder, 6) autism spectrum disorder, and 7) personality disorders. The PAS-ADD uses a version of the SCAN computer algorithms to generate diagnoses. Where possible, two parallel versions of the interview can be completed: one by the respondent and one by an informant who knows the respondent well (Moss, Ibbotson et al., 1997).

Inter-rater reliability of the respondent version was assessed by having independent raters watch videotapes of 40 PAS-ADD interviews (Costello, Moss, Prosser, & Hatton, 1997). Mean inter-rater agreement across individual items and item groups was low (Kappa .65 and .66, respectively). In respondents who had a previous psychiatric diagnosis, 76% of these matched the PAS-ADD diagnoses. Further, factor analysis yielded a seven factor structure corresponding to the subscales listed above (Costello et al., 1997).

A comparison of scores on the respondent and informant version of the PAS-ADD found little agreement between the two, with 41% of diagnoses matching (Moss, Prosser, Ibbotson, & Goldberg, 1996). The authors underscored the importance of administering both versions of the PAS-ADD whenever possible in order to optimize diagnostic accuracy (Moss et al., 1996). No information on internal consistency or test-retest reliability was provided. More research is needed on the PAS-ADD to determine the reliability and validity of the measure.

Publisher: Dr. Stephen Moss
32 Lea Road
Heaton Moor
Stockport
SK4 4JU
enquiries@pasadd.co.uk

Cost: N/A

PAS-ADD Checklist - Psychiatric Assessment Schedule for Adults with Developmental Disabilities Checklist

The PAS-ADD Checklist screens for common Axis I disorders in individuals with intellectual disabilities. It was designed for use by mental health professionals and consists of a life events scale and 29 symptom items rated for severity (Moss et al., 1998). The Checklist was based largely on the PAS-ADD interview and focuses on seven subgroups of symptoms concerning: 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. It produces three subscale scores: affective or neurotic disorders, possible organic disorders, and psychotic disorders. The authors recommended that any individual who scores beyond the threshold on any one subscale have a psychiatric evaluation.

The psychometric properties of the PAS-ADD Checklist were examined by Moss et al. (1998). The total scale displayed high internal consistency (Cronbach's alpha = .87), but that of the three subscales was varied: .84 for the affective neurotic scale, .63 for the organic scale, and .51 for the psychotic scale. Inter-rater correlations were high for the total scale (Spearman r=.79), good for the affective neurotic subscale (r=.76), but low for the psychotic (r=.60) and organic subscales (r=.55). A factor analysis of the PAS-ADD Checklist produced an eight factor structure that resembled the seven symptom groups listed above.

The construct validity of the measure was examined by comparing scores on the PAS-ADD Checklist to the clinical opinions of one of the authors (a psychiatrist specializing in intellectual disabilities) concerning the severity of the respondents' mental illness. There was a 61% agreement between the PAS-ADD Checklist and the psychiatric assessment of symptom severity (Moss et al., 1998). This provides some support for the Checklist's construct validity. However, because one of the developing authors was used as a source of clinical opinion and was not blind to the hypothesis being tested, the findings concerning the level of agreement between the PAS-ADD Checklist's scores and the co-author's assessment of the severity of participants' symptoms are suspect.

Publisher: OLM-Pavilion
Richmond House
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Cost: PAS-ADD Checklists: $111.12 - $361.45

PANSS - Positive and Negative Syndrome Scale

The Positive and Negative Syndrome Scale (PANSS) is a semi-structured interview designed for use by clinicians to assess the severity of psychotic and non-psychotic symptoms in adults with schizophrenia but without intellectual disabilities (Kay, Flszbein, & Opfer, 1987; Kay, Opler, & Lindenmayer, 1989). Each of the 30 items is scored by the interviewer for severity on a seven point scale. The PANSS produces three subscales: positive symptoms, negative symptoms, and general symptoms. A total scale score is also given.

Hatton et al. (2005) examined the utility of this measure for assessing symptoms of schizophrenia in a sample of adults with mild intellectual disabilities and a co-occurring diagnosis of schizophrenia. The authors found that the internal consistency of three subscales was low to moderate: Cronbach's alpha = .62 for the positive symptoms subscale, .68 for the negative symptoms subscale, and .70 for the general symptoms subscale. Test-retest reliability was high for the positive and negative symptoms subscales, r = .89 and r = .92, respectively, but poor for the general symptoms subscale, r = .42 (Hatton et al., 2005).

Scores on the PANSS were compared to scores on the PAS-ADD in the same sample in order to examine the measure's concurrent validity. Research participants were divided into three groups based on their PAS-ADD scores: psychotic, other mental health problem, and no mental health problem. Scores on the positive symptoms subscale and the general symptoms subscale were higher in the psychotic group than the other two groups. Scores on the positive and general symptoms subscales were also significantly correlated with scores on the PAS-ADD psychotic subscale. The authors contend that the PANSS has adequate reliability and validity for use in assessing psychotic and non-psychotic symptoms adults with mild intellectual disabilities. The internal consistency scores, however, were lower than those found by the developing authors in a sample of adults with schizophrenia but without intellectual disabilities (Kay et al., 1987; Kay et al., 1989). This suggests that the PANSS may be less reliable when used with individuals with intellectual disabilities.

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info@panss.org
320 West 37th Street, Floor 12A, Suite 13B
New York, NY 10018
212-244-4264

PIMRA - Psychopathology Inventory for Mentally Retarded Adults

The PIMRA was developed to assess general and specific psychopathology in adults with the full range of intellectual disabilities (Senatore, Matson, & Kazdin, 1985). It includes a respondent version and an informant version. The informant version contains 56 items derived from DSM-III classifications of psychopathology. The respondent version is adapted from the informant version, using simpler, more concrete language. Each version consists of the same eight subscales: schizophrenia, affective disorder, psychosexual disorder, adjustment disorder, anxiety disorder, somatoform disorder, personality disorder, and poor mental adjustment.

Both versions have been found to have adequate internal consistency (.85 respondent, .83 informant) and split half reliability (.88 respondent, .65 informant). Test-retest reliability of the total scale (respondent version) was acceptable (.68) and low to acceptable for the eight subscales (ranging from .42 to .68). Test-retest reliability for the informant version was higher for the total scale (.91) than the subscales, which ranged from .48 to 1.00. The correlations between subscale and total scale scores on the respondent and informant versions were low (ranging from .01 to .30 for the subscales and .18 for the total scale score).

Evidence of concurrent validity was provided for the depression subscale only (Senatore et al., 1985). Respondents who scored high on the depression subscale of the informant version of the PIMRA had higher scores on the Beck Depression Inventory and the Zung Self-Rating Depression Scale (Zung, 1965). Support for the construct validity of the schizophrenia subscale (Linaker & Helle, 1994; Swiezy, Matson, Kirkpatrick-Sanchez, & Williams, 1995) and the psychosexual subscales has been demonstrated in subsequent studies (Matson & Russell, 1994). Further research is needed to demonstrate the validity of the remaining five subscales. Investigations into the factor structure of the PIMRA have yielded inconsistent findings. Various authors have found three and four factor solutions (Balboni, Battagliese, & Pedrabissi, 2000; Sturmey & Ley, 1990), suggesting that not all of the eight subscales are independent constructs.

Publisher: Disability Consultants
3333 Woodland Ridge Blvd
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www.disabilityconsultants.org

Cost: PIMRA Complete Kit: $250.00
Additional Protocols and Score sheets: $3.50

PSYRATS - Psychotic Symptom Rating Scale

The PSYRATS was developed to assess the severity of hallucinations and delusions in adults with diagnoses of schizophrenia or schizoaffective disorder without intellectual disabilities (Haddock, McCarron, Tarrier, & Faragher, 1999). This semi-structured interview was developed for use by clinicians. It consists of 17 items that assess the severity of the target persons' symptoms. The measure produces two subscale scores: hallucinations and delusions.

The reliability and validity of the measure was examined in a sample of adults with mild intellectual disabilities (Hatton et al., 2005). Both subscales displayed high internal consistency (Cronbach's alpha = .94 and .88, respectively). The hallucinations subscale also showed high test-retest reliability ($r = .99$). Test-retest reliability could not be calculated for the delusions subscale. As a measure of concurrent validity, scores on the PSYRATS subscales were compared to scores on the PAS-ADD. Research participants were divided into groups based on their PAS-ADD scores: psychotic, other mental health problem, and no mental health problem. Scores on the hallucinations subscale of the PSYRATS were highest for individuals in the psychotic group, who scored higher than individuals with no diagnoses. Scores on the delusions subscale were not significantly different between the three groups. Scores on the hallucinations subscale of the PSYRATS were significantly correlated with scores on the PAS-ADD psychotic subscale. However, scores on the PSYRATS delusions subscale were not correlated with any of the PAS-ADD subscale scores. The authors concluded that the PSYRATS hallucinations subscale displays adequate internal reliability, test-retest reliability, and concurrent validity in individuals with intellectual disabilities. Support for the reliability and validity of the delusions subscale is questionable. The authors note that scores on the delusions subscale were very low suggesting low levels of reporting of delusional experiences (Hatton et al., 2005). This may have undermined the authors' efforts to examine the subscale's psychometric properties because of a restricted range of scores.

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Cost: N/A

RSMB - The Reiss Screen for Maladaptive Behavior

The Reiss Screen for Maladaptive Behavior (RSMB) was developed to screen for psychopathology in adults with intellectual disabilities (Reiss, 1988). This 38 item scale can be completed by a caregiver or family member. It produces eight subscale scores on the following dimensions: aggressive behavior, autism, psychosis, paranoia, depression-behavioral signs, depression-physical signs, dependent personality disorder, and avoidant disorder.

The criterion validity of the measure was established by demonstrating that individuals with specific psychiatric diagnoses scored higher on the relevant subscales of the RSMB. No data on the measure's internal consistency or test-retest reliability were provided. Further, there is some disagreement as to its factor structure (Havercamp & Reiss, 1997; Sturmey, Jamieson, Burcham, Shaw, & Bertram, 1996).

Nevertheless, the Reiss Screen has been in use for over two decades. It has appeared in several dozen published articles and has been translated into Dutch (van Minnen & Hoogduin, 1994) and Swedish (Gustafsson & Sonnander, 2005).

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Conclusions

Many measures have been developed to assess general psychopathology in adults with intellectual disabilities. Some, like the Aberrant Behavior Checklist and the Behavior Problem Inventory, focus specifically on challenging behaviors rather than psychiatric diagnoses per se. Other measures provide assessments of a broad range of psychiatric disorders such as: the Assessment of Dual Diagnosis, the CBCPID, the DASH II, the PAS-ADD and Mini PAS-ADD, the PIMRA, and the Reiss Screen for Maladaptive Behavior. The InterRAI ID appears to be the most comprehensive measure for use with adults with intellectual disabilities, focusing on physical health, mental health, and service delivery, as well as preferences, strengths and challenges of respondents. From a psychometric standpoint, the ABC appears to be most sound or, at least, its psychometric properties have been thoroughly examined. Although the DASH II, the PIMRA and the Reiss Screen for Maladaptive Behavior have been in use for over two decades, questions remain regarding either the reliability or construct validity of these measures. More recently developed measures such as the ADD, the DBC- A, the BPI, the PAS-ADD, and the Mini PAS-ADD show promise for use with adults with intellectual disabilities, but the validity of these measures has yet to be firmly established.

A few measures have been developed or adapted from existing measures to assess certain types of psychopathology in adults with intellectual disabilities, specifically anxiety, depression, and psychosis. Of these, the psychometric properties of the GAS-ID and the ADAMS have been established most firmly. The BDI appears to have adequate internal consistency, but the test-retest reliability and validity of this measure has not been established for this population. Neither of the two measures of psychosis is particularly strong psychometrically. The internal consistency of the PANSS is lower in individuals with intellectual disabilities than in the general population (for use in which it was originally developed). While the hallucination subscale of the PSYRATS has adequate psychometric properties, those of the delusion subscale are still in question.

Summary of Assessment Tools

Instrument	Authors	Target Population	Description	Psychometrics
ABC	Aman, Singh, Stewart, & Field (1985)	Detects drug or other treatment effects on challenging behaviors in adults with developmental disabilities, especially severe or profound ID.	58-item scale completed by staff or caregiver. Five factors: (I) Irritability, Agitation, Crying; (II) Lethargy, Social Withdrawal; (III) Stereotypic Behavior; (IV) Hyperactivity, Noncompliance; and (V) Inappropriate Speech	Good internal consistency. Test-retest reliability high. Mean inter-rater reliability low. Good criterion group validity, as well as convergent and divergent validity.
ADAMS	Esbensen, Rojahn, Aman, & Ruedrich (2003)	Assesses anxiety and depression in adults with all levels of ID	28-item scale completed by staff or caregiver. 5 factors -- Manic / Hyperactive behavior, Depressed Mood, Social Avoidance, General Anxiety, and Compulsive Behavior	Mean inter-rater correlation low. Test-retest reliability and internal consistency satisfactory. Norms presented for each subscale by age and level of ID. Established construct validity.
ADD	Matson & Bamburg (1998)	Assesses psychopathology in adults with mild to moderate ID	79-item scale is completed by a caregiver. 13 subscales based: 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.	Whole scale internal consistency high. Mean inter-rater reliability and test-retest reliability was acceptable. No information on validity is available.
BDI	Beck, Rial, & Rickets (1974)	Developed to assess depressive symptoms in the general, adult population.	21 item, self-report inventory.	High internal consistency. Factor structure similar to that found in the general population

Instrument	Authors	Target Population	Description	Psychometrics
BPI	Rojahn, Matson, Lott, Esbensen, & Smalls (2001)	Assesses challenging behavior in adults with intellectual or developmental disabilities, particularly severe or profound ID.	52-item, semi-structured interview assesses frequency and severity of problem behaviors through the observations of a caregiver. 3 subscales: Self Injurious Behavior, Stereotyped Behavior, Aggression/Destruction.	Low to moderate internal consistency and acceptable test-retest reliability. Mean inter-rater agreement varied. Moderate support found for the three factor structure. Adequate criterion and convergent validity.
BSI	Derogatis & Melisaratos (1983)	Originally developed to assess psychological symptoms in the general, adult population.	53-item, self-report measure. 9 subscales: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. 3 global indices: the Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total.	Low to moderate internal consistency and split half reliability. Some evidence for construct validity.
CBCPID	Marston, Perry, & Roy (1997)	Assess depression and challenging behaviors in adults with ID	30-item checklist, completed by a caregiver. Assesses the presence or absence of symptoms over a two-week period	Moderate internal consistency.
DASH II	Matson, Gardner, Coe, & Sovner (1991); Sevin, Matson, Williams, & Kirkpatrick-Sanchez (1995)	Assesses psychopathology in adults with severe and profound ID	84-item, informant-based scale assesses frequency, duration, and severity of symptoms. 13 subscales: 1) Impulse control, 2) Organic problems, 3) Anxiety, 4) Mood disorders, 5) Mania, 6) Pervasive developmental disorders/autism, 7) Schizophrenia, 8) Stereotypic behavior, 9) Self injurious behavior, 10) Elimination of disorders, 11) Eating disorders, 12) Sleep disorders, and 13) Sexual disorders.	Internal consistency of the duration, frequency, and severity ratings high. Test retest reliability moderate to high. Internal consistency of subscales was poor to moderate. Many DASH II subscale correlated highly with similar subscales on the ABC.

Instrument	Authors	Target Population	Description	Psychometrics
DBC-A	Mohr, Tonge, & Einfeld (2005)	Assesses psychopathology in adults with ID	107 items, completed by staff or caregiver	Test-retest reliability was .high for family members and moderate for paid caregivers. Inter-rater reliability for family members was satisfactory. Some evidence for its construct validity. No information on factor structure.
GAS-ID	Mindham & Espie (2003).	Measures anxiety in adults with mild to moderate ID	27-item measure, administered to consumers by a healthcare professional. 3 subscales: Worries, Specific fears, and Physiological symptoms.	Test-retest reliability and internal consistency high. Split half reliability also high. Internal consistency of subscales moderate to high. Concurrent and criterion validity have been demonstrated adequately.
InterRAI ID	Martin, Hirdes, Fries, & Smith (2007)	Assesses adults with ID across all key domains of interest to health care and service providers	391 items, 20 scales measuring different domains such as cognition, communication, physical health, psychiatric diagnoses, life events, home environment, etc..	Internal consistency of the self-care, aggression, and depression subscale was moderate to high. Some evidence provided for the construct validity of four subscales.
LDCNS	Raghavan, Marshall, Lockwood, & Duggan (2004).	Identifies needs in adults with ID across a broad range of areas of functioning.	22 areas of functioning are assessed, including 12 involving psychiatric and behavioral problems and 10 dealing with social functioning.	Inter-rater reliability was adequate to high in five areas of functioning.

Instrument	Authors	Target Population	Description	Psychometrics
MMPI 168 (L)	McDaniel (1997)	The MMPI was modified to assess personality and psychopathology in adults with mild to moderate ID.	First 168 items of the MMPI were adapted to accommodate a "yes/no" response	Test retest reliability was acceptable on three subscales, low on four subscales, and poor on the remaining six (r<.6). Some evidence for construct validity.
Mini PAS-ADD	Prosser et al. (1998)	Designed for use by individuals with no clinical training to assess possible mental health issues in adults with ID.	64 symptom severity ratings and a life events checklist. Administered to a caregiver by trained interviewer. 7 subscales:1) depression, 2) anxiety, 3) expansive mood (bipolar disorder), 4) obsessive-compulsive disorder, 5) psychosis, 6) unspecified disorder (including dementia), and 7) autism spectrum disorder.	No information on test retest-reliability or factor structure. Moderate to high internal consistency on four subscales, low to moderate on three subscales. Inter-rater agreement on the subscales was low to moderate. Weak evidence for construct or criterion validity.
PANSS	Kay, Flszbein, & Opfer (1987)	Designed to assess the severity of psychotic and non-psychotic symptoms in adults with schizophrenia.	30-item, semi-structured interview. Completed by a clinician. 3 subscales: positive symptoms, negative symptoms, and general symptoms.	Internal consistency of the subscales low to moderate. Test-retest reliability varied. Some evidence of construct validity
PAS-ADD	Moss et al. (1997)	For use by trained clinicians to assess psychiatric disorders in adults with ID	145 questions, based on the ICD 10 classification of diseases. Assesses common Axis I disorders: 1) psychotic disorders, 2) bipolar disorder, 3) depression, 4) anxiety disorder, 5) obsessive-compulsive disorder, 6) autism spectrum disorder, and 7) personality disorders. Two versions of the interview, respondent and informant.	Mean inter-rater agreement across individual items and item groups was low. Correlation between total symptom scores was .70. Agreement between the respondent and informant versions was low. Some evidence of construct validity

Instrument	Authors	Target Population	Description	Psychometrics
PAS-ADD Checklist	Moss et al. (1998)	Screens for Axis I disorders in individuals with ID. Designed for use by the mental health professionals	Consists of a life events scale and 29 symptom items rated for severity. 3 subscales: 1) affective or neurotic disorders, 2) possible organic disorders, and 3) psychotic disorders.	Internal consistency of the total scale was high for the affective neurotic scale, low for the organic and psychotic scales. Inter-rater correlations for the total scale and affective neurotic subscale were satisfactory, low for the psychotic and organic subscales. Weak evidence of construct validity
PIMRA	Senatore, Matson, & Kazdin (1985)	Assesses general and specific psychopathology in adults with a full range of ID	Includes a respondent and informant version -- each containing 56 items derived from DSM III classifications of psychopathology. Each has 8 subscales: schizophrenia, effective disorder, psychosexual disorder, adjustment, anxiety disorder, somatoform disorder, personality disorder, and poor mental adjustment.	The internal consistency and split half reliability of the respondent version was high. For the informant version, internal consistency was high, but split half reliability was low. Test-retest reliability for the total scale (respondent version) and subscales was low. Test retest reliability for the total scale (informant version) was high; subscales ranged from low to high. Correlations between respondent and informant versions were low. Evidence of construct validity demonstrated for the depression, schizophrenia, and psychosexual subscales only.

Instrument	Authors	Target Population	Description	Psychometrics
PSYRATS	Haddock, McCarron, Tarrier, & Faragher (1999)	Assesses severity of hallucinations and delusions in typical adults with diagnoses of schizophrenia or schizoaffective disorder	17-item, semi-structured interview has two subscales, the hallucinations subscale and the delusions subscale	Both subscales displayed high internal consistency in a sample of adults with mild ID. Test-retest reliability of the hallucinations subscale was high, but could not be calculated for the delusions subscale. Some evidence of construct validity for the hallucinations subscale only.
RSMB	Reiss (1988)	Designed to screen for psychopathology in adults with ID	36-item measure, completed by caregiver or family member. Produces 8 subscale scores: Aggressive behavior, Autism, Psychosis, Paranoia, Depression-behavioral signs, Depression-physical signs, Dependent personality disorder, and Avoidant disorder.	No data on the measure's internal consistency or test retest reliability was provided. Subscales were derived from an exploratory factor analysis. Good evidence of construct validity.

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