
Chapter 5

Comprehensive Screening and Assessment

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Learning Objectives

Readers will be able to:

1. Identify two reasons why assessment and screening are important
2. Provide an example of an instrument that is used with persons with developmental disabilities in each of the following areas: diagnostic and health care screening, biomedical assessment, psychological assessment and social-ecological assessment
3. Understand how the range of assessments assist in development of a comprehensive biopsychosocial profile

Introduction

Why are screening and assessment important?

This chapter contains a review of different instruments that are used during the biopsychosocial assessment of mental health problems in persons with developmental disabilities. Some of these instruments have been developed for “screening” purposes – that is, to identify those individuals who are likely to

require more in-depth assessment or particular types of service. Screening tools can be used on an individual basis, or on a larger scale with groups of people. They are helpful in the clinical decision-making process about whether to proceed to the next level of assessment. They are useful for detecting potential problems that may not have been recognised, or for formulating a tentative diagnosis. In doing so, they can lead to faster and more specific treatments, and can minimise the time and cost involved with unnecessary assessment.

The dominant theme throughout the book is the biopsychosocial approach to assessing and understanding mental health problems in persons with developmental disabilities. Often, mental health problems present as non-specific behavioural challenges. Griffiths (2001) noted the need for differential diagnosis for behavioural challenges in order to determine the underlying factor or factors. For instance, a behaviour can be or do any of the following:

- reactive to biomedical influences or traumatic events
- responsive to ecological events, interactions or conditioned stimuli
- function to enhance stimulation or reinforcement, to avoid discomfort or unpleasant events
- provide communication.

In order to diagnose the different factors that may be working alone or together to produce the behaviour, a comprehensive screening and assessment process must be conducted at multiple levels. Box 1 illustrates how a single behaviour such as aggression may be associated with numerous factors or conditions. Without a thorough biopsychosocial assessment, it is impossible to make a differential diagnosis. Moreover, without a

well-conceived hypothesis (or hypotheses), the selection of an appropriate treatment is like shooting in the dark.

BOX 1 - Ten Factors to Consider in the Differential Diagnosis of Aggression (Lowry & Sovner, 1991)

1. Medical illness
2. Medication side-effects
3. Pre-seizure irritability
4. Irritability secondary to mania, depression, or organic mental syndrome
5. Rage attacks
6. Task-related anxiety
7. Schizophrenia-related paranoid delusion
8. Inability to express needs
9. Means to gain positive reinforcement
10. Means to avoid or escape an unpleasant event.

A comprehensive assessment process involves gathering the existing data and background information, interviewing the individual and relevant others, making observations in the natural environments, and synthesising the information into working theories that make sense to explain why the person may be behaving in this way. Often, further tests or measures are needed to confirm or eliminate hypotheses. However, the assessment is a scientific process of elimination and confirmation of potential influences, based on all available data, and taking a broad-based perspective.

No one person or member of one particular professional discipline can possess the breadth of knowledge and skills that are needed to perform such a comprehensive assessment. For instance, the expertise and scope of practice for a behaviour ana-

lyst is quite different from that of a medical doctor. That is why an interdisciplinary approach, that involves a synthesis of input from professionals from several different disciplines, is considered to be “best practice” when assessing and treating individuals with developmental disabilities and mental health problems (see Chapter 10: The Interdisciplinary Mental Health Team for more detail). But, it is not professional input alone that is taken into consideration during a comprehensive assessment. Information from the individual, his or her family, and caregivers is a critical part of the process.

Isn't dual diagnosis just another label?

A comprehensive biopsychosocial assessment provides you much more than a label, although sometimes a new label or diagnosis may emerge. For instance, the person may be given a psychiatric label, such as depression, mania, or post-traumatic stress disorder. The reason for the label is twofold:

- It provides understanding. It is descriptive to other people working with the individual so that they can respond appropriately, and with full knowledge of the challenges the person faces.
- It is also key to treatment. Persons who are deemed to have clinically significant depression are often, based on that diagnosis, prescribed a path of chemical intervention and cognitive therapy to alter the mood state. Thus, the label helps to guide appropriate treatment.

At times, the assessment may uncover a genetic disorder that can give rise to a characteristic pattern of behaviour (a behavioural phenotype). The diagnostic label can be helpful in putting the individual's behaviour in context. For example, as we

learned in Chapter 3– The Integrated Biopsychosocial Approach to Challenging Behaviour, individuals with a diagnosis of fragile x syndrome can be expected to share certain features and vulnerabilities. Knowledge of the underlying syndrome can lead to more focused assessment and treatment (see Appendix A for a list of common genetic syndromes and their associated features). The outcome of assessment is not just a diagnostic label, but a profile of the person’s biomedical, psychological and social conditions as they influence the behaviour. This assessment then, is the foundation on which treatment and intervention are built.

Type of Assessments:

What does it mean to do a comprehensive biopsychosocial assessment? Does it mean completing a comprehensive biomedical work-up, performing psychological evaluations, and conducting a social or contextual analysis? The answer is maybe and maybe not. The assessment flows from the nature of the background information and observations made by the team members.

A. Biomedical Factors

Challenging behaviours can be influenced, directly or indirectly, by physical conditions, medications, and/or psychiatric conditions. Some common medical conditions that have been noted to relate to challenging behaviours are seizure disorders, sleep apnea, otitis media, blocked shunt, migraine headaches, and premenstrual problems. Hyper/hypo thyroidism, autoimmune disorders, upper respiratory tract conditions, eating disorders, or heart conditions (e.g., mitral valve prolapse), can present like depression, mania, or anxiety/panic disorder. Ryan

and Sunada (1997) noted that an overwhelming percentage of clients who present with behavioural challenges actually have undiagnosed medical conditions. These medical conditions may be directly related to the behavioural challenge (e.g., headbanging to alleviate severe pain caused by a migraine headache), or they may play a more indirect role (e.g., sleep deprivation due to sleep apnea \Rightarrow irritability \Rightarrow aggression in response to a minor provocation). A thorough assessment should include a careful medical and medication history and physical examination (Loschen & Osman, 1992). It may involve a laboratory work-up, a mental status examination, neurological testing, sleep studies and diagnostic imaging (x-rays or MRI scans).

Specific observation charts have been developed to assist in gathering biomedical data that can be used for diagnostic purposes. As an example, sleep disturbance is an important factor in multiple DSM-IV diagnoses, either as a criterion for a disorder, or as an associated feature of a disorder. Sleep data can serve as a general index of psychological status, and should be included as a routine component of any biomedical data collection package (Carr, Neumann & Darnell, 1998). Sovner and Hurley (1990) developed an overnight observation sleep chart to record when a person actually sleeps (as opposed to when the person goes to bed or gets up). This chart was modified slightly by Carr et al. (1998). See Figure 1.

Figure 1—Monthly Sleep Chart

Name: _____ Month/Year: _____
 Unit: _____ Usual Awake Time: _____
 Circle Bed-check Frequency: 30 or 60 Minutes Usual Bedtime: _____

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
7:00 PM																																					
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11:00 PM																																					
Midnight																																					
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4:00 AM																																					
5:00 AM																																					
6:00 AM																																					
Evening Shift Initials																																					
Night Shift Initials																																					

INSTRUCTIONS:
 1. Indicate typical/usual time that the individual goes to sleep and awakens each day in the space provided.
 2. Draw a horizontal line at the USUAL time the individual goes to sleep and a line at the usual time of awakening.
 3. Place an "X" in the appropriate box if the individual is AWAKE at the time when checked. The person is awake if EYES ARE OPEN.
 4. It does not matter if the individual is in or out of bed. Check every 30 or 60 minutes as instructed above.
 5. Initials of the workers responsible for sleep data must be recorded nightly.
 6. Please comment or explain any sleep related event. DATE & SIGN each entry.

Comments: _____

Reprinted with permission from Psych-Media. Originally printed in article by Carr, E.G., Neumann, J.K., & Darnell, C.L. (1998, Apr-June). The clinical importance of sleep data collection: A national survey and case reports. *Mental Health Aspects in Developmental Disabilities, 1*(2).

Certain syndromes are associated with an increased risk of medical or mental health conditions. Health care screening guidelines have been developed for a number of these syndromes. For adults with Down syndrome, for instance, some of the following investigations are recommended by the Down Syndrome Medical Interest Group (1999):

- annual thyroid screening
- auditory testing
- ophthalmologic evaluation
- cervical spine x-rays as needed for sports participation
- enquire about sleep apnea symptoms
- monitor for signs of skill loss or behavioural change
- anemia and liver screening

The timing and nature of the challenging behaviour can provide a valuable clue to potential medical and mental health issues (i.e., cyclical behaviours may relate to allergies or menses in women; to medication effects or side effects; to seasonal changes caused by Seasonal Affective Disorder, or related to Post Traumatic Events; to shifts between depressive behaviour and mania as seen in Bipolar Disorder). The following chart (Figure 2) developed by Sovner and Hurley (1990) is an excellent example of how these cyclical shifts can be tracked.

Figure 2– Bipolar Mood Chart

CLIENT'S NAME: _____ MONTH: _____

Each day, assess the client's mood state for that day by circling the appropriate mood scale item. Your rating should be based on observations for the entire day and evening. If the client is both manic and depressed during the day, carry out separate ratings based upon 12-hour time periods. When completing the log, please use the following anchor points for your mood state ratings:

- 3 = markedly manic
- 2 = moderately manic
- 1 = mildly manic
- 0 = normal mood for the day
- 1 = mildly depressed
- 2 = moderately depressed
- 3 = markedly depressed

DAY:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	+3	-3	-3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	+3	
	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	
	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	
	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	

Reprinted with permission from Psych-Media. Originally printed in article by Sovner, R. & Des Noyers Hurlay, A. (1990). Assessment tools which facilitate psychiatric evaluation and treatment. *Habilitative Mental Healthcare Newsletter*, 9(11).

Certain medications can influence behavioural symptoms. For example, the relationship of medication to drug-induced disorders presenting with physical aggression has been shown in numerous studies (e.g., propranolol induced psychosis; Gershon et al., 1979) or vigabatrin induced mood disturbance (Aldenkamp et al., 1994). Clinicians completing a comprehensive assessment for this population will need to rely on a psychopharmacology reference guide to check potential effects and side-effects of the medications. Sovner and Hurley (1992) developed a user-friendly worksheet that can be used by caregivers to document the following types of information to assist with a medication review:

- current medications, dosages and administration schedule
- discontinued medications
- current behavioural and psychosocial interventions
- physical signs and symptoms
- global impression of the individual's behaviour problems

A tool that has been recently developed to assist clinicians in identifying biomedical factors that may be influencing the onset or aggravation of behavioural symptoms is the *Behavioral Diagnostic Guide for Developmental Disabilities* (Gedye, 1998). Gedye (1998) has compiled an exhaustive guide of potential biomedical issues that may relate to presentation of behaviours such as physical aggression, self-injury, screaming, sleep disturbance, eating disturbances, dementia and unwitnessed or unusual falls. She clearly demonstrates that each non-specific behavioural symptom can have a variety of potential factors that could be influencing the behaviour.

Screening for genetic disorders

In recent years, significant progress has been made in identifying the genetic factors that are involved in many syndromes in which developmental disability is also present. This information is important because individuals with a specific genetic syndrome often have associated medical conditions that require identification and treatment. As well, they frequently show a characteristic pattern of behavioural challenges. Thus, knowledge of an underlying syndrome is useful from an assessment and treatment perspective (See Appendix A). Since it is not feasible or advisable to perform genetic testing for most people with a developmental disability, it is important to be able to identify particular individuals who may be at risk for a syndrome, and to refer them for more thorough assessment. A screening tool can be helpful in this regard. As an example, a checklist for screening males with developmental disability for fragile x syndrome has been developed (Butler, Mangrum, Bupta & Singh, 1991). A rater determines whether each item on the checklist is present or absent. Items on the checklist include:

- large ears and testes
- plantar crease
- family history of developmental disability or autism
- tactile defensiveness
- hyperextensible finger joints

The following case provides an excellent example of the need for a full biomedical workup.

The Case of Johnny

Johnny is an 18-year-old male with Down syndrome who lives at home with both parents and his two brothers. Until recently, Johnny was always affectionate, pleasant, cooperative and interested in his schoolwork and friends.

Sixteen months prior to his first assessment at a psychiatric unit, Johnny's behaviour became slowly but progressively worse. He became unable to show any pleasure, was uninterested in his environment, and withdrew more and more to the point of losing all social skills. Johnny also stopped using his limited vocabulary and showed problems eating and sleeping. On interviewing his parents, it became apparent that there were two significant changes that coincided with Johnny's behavioural and social changes:

- i) Father, due to work obligations, had to be away from home for lengthy periods of time (up to a month at a time) repeatedly for the six months prior to Johnny's noticeable changes. It is worth noting that Johnny has always been very close to his father.*
- ii) The family had to move across the country because of father's new employment. This move took place two months prior to the onset of the most serious observed behaviours.*

Parents, at that time, tried to cope with Johnny's changes, and did not seek any professional advice. Four months

following the social withdrawal and severe loss of social skills, he became extremely preoccupied with construction toys and trucks. Any intervention or attempt to disengage Johnny from these activities would escalate into a major tantrum with physical abuse and extreme protestation. Simultaneously, he started wetting himself, checking doors and whispering. At this time, his parents sought professional help. When seen by staff from a developmental clinic, he was diagnosed as suffering from Childhood Disintegrative Disorder. Following a neurological evaluation, a rare form of epilepsy was suggested but not substantiated by EEG and other tests (i.e., CAT scan, MRI).

At a final attempt to disentangle this problem, Johnny was referred to a dual diagnosis clinic. By this time, he was totally uncommunicative and withdrawn, but showed a “peculiar” preoccupation for the construction toys present in the clinic. On parents’ account, Johnny’s regression was “total”. They were devastated and fearful of future consequences to Johnny and his family. Following the initial interview and the use of questionnaires and scales relevant to ADHD and OCD, it was felt that Johnny had suffered from a trauma that initially resulted in an episode of depression, and subsequently in the emergence of an Obsessive-Compulsive Disorder. He was treated with an SSRI (Fluoxetine) and Resperidone to which he responded very favorably. Family support and specialised academic programmes were also offered. Nine months later, Johnny feels, looks and behaves like his “old self”. He is demonstrative, happy, pleasant, verbal and able to follow his scholastic programmes and activities as prior to the devastating events.

B. Psychological Factors

Gathering a Psychological History

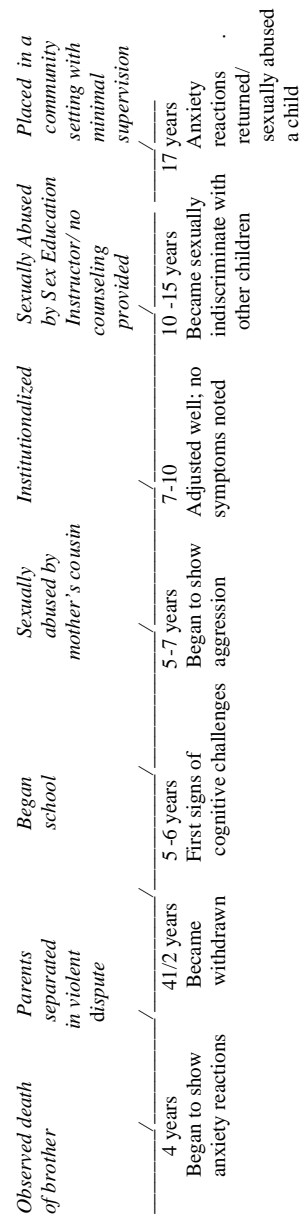
A history is important to evaluate the path of the individual's life in relation to social/emotional and medical life events. Often clinicians will engage in an analysis to show these events in a temporal manner.

Important events might include:

- History of emotional/physical or sexual abuse
- Significant medical procedures (especially involving hospitalisation or invasive procedures)
- Family disruption (violence/divorce/remarriage/birth of siblings)
- Educational milestones
- Environmental changes (moves, significant changes in living arrangements or socio economic status)
- Grief or loss [due to death, abandonment, or change (i.e., change of a caregiver)]
- Change of jobs

Let's take a look at the following example in Figure 3 of a young man who has been accused of sexual interference with a child, and see how his history may be helpful in understanding his past.

Figure 3: An Historical Perspective of Challenging Behaviour



Psychological Testing

This section will focus on psychological tests, their uses and limitations. These tests are designed to measure various aspects of an individual's psychological functioning, often within the context of assessing learning, developmental, behavioural and/or emotional problems. By using them, psychologists are able to arrive at a better understanding of an individual's strengths and weaknesses, which aids in the diagnostic process and development of service plans.

Standardised psychological tests differ in several ways from informal tests that are often used by non-psychologists. Standardised tests are carefully developed and systematically tested before they can be made available for clinical use. They must meet established standards regarding their psychometric characteristics, such as their reliability (consistency and precision), and validity (the extent to which they measure what they are designed to measure). They must be administered and interpreted by individuals who are qualified to do so by virtue of their educational background, training and experience. Often, this is a person with a Master's degree, or a Doctoral degree in psychology.

Standardised tests are administered in a uniform manner and are scored according to objective criteria. These procedures help to minimise subjective bias and outside influences on the test scores. Tests yield numerical scores that are not inherently meaningful. In order for this to happen, the scores of the individual being assessed need to be compared to scores that are obtained by individuals in a norm group or standardisation sample. This process results in "derived" scores (such as standard scores, age-equivalent scores and percentile ranks), which

indicate how well the individual being assessed performed in relation to the individuals in the norm group. It is these derived scores that are typically presented and interpreted in psychological assessment reports.

Inventories or rating scales are often used to measure aspects of an individual's personality, emotional or behavioural functioning, and can assist with identifying clinical disorders. These measures rely on information that is provided by the individual ("self-report"), or another person who is knowledgeable about him or her ("informant").

Psychological tests have limitations as well as advantages. First, they can't provide a definitive answer about the cause of an individual's learning, developmental, behavioural or emotional problems. Second, their strength lies in assessing an individual's current functioning rather than predicting his or her future performance with complete accuracy. Third, many tests are very specific and their findings may not be applicable to different psychological functions. Nonetheless, psychological tests yield information that is invaluable when deciding upon a course of action to assist an individual with learning, developmental, behavioural and/or emotional problems.

Psychological Tests

While the process of assessing the psychological functioning of individuals with developmental disabilities will vary in accordance with factors such as the referral issues that need to be addressed, the complexity of the case and/or the availability of clinically relevant information, it is customary to start with an assessment of the individual's intellectual and adaptive functioning. Additional tests may be used to assess his or her lan-

guage functioning, academic or vocational performance, and to identify behavioural, emotional and personality problems.

Commonly used assessment instruments

Intelligence Tests: used to measure an individual's thinking, reasoning and problem-solving ability with verbal and/or non-verbal material, as well as his or her perceptual and spatial/mechanical ability

- Wechsler Adult Intelligence Scale – Third Edition (**WAIS-III**) (Wechsler, 1997)
- Stanford Binet Intelligence Scale - Fourth Edition (**SB-IV**) (Thorndike, Hagen & Sattler, 1986)
- Leiter International Performance Scale - Revised (**Leiter-R**) (Roid & Miller, 1997)
- Test of Nonverbal Intelligence - Third Edition (**TONI-3**) (Brown, Sherbenou & Johnsen, 1997)

The last two tests are used to assess an individual's IQ in special circumstances (e.g., when he or she comes from a non-English speaking background, or has a hearing impairment, or when there are social/cultural differences)

Hurley (1989) suggests that intelligence tests are an important part of a clinical assessment for psychiatric purposes. She notes that persons with schizophrenia, for instance, may show a significant lowering of verbal IQ and other language related functions, and may show bizarre responses to testing. Persons with anxiety disorder may show disproportionately lower scores on digit span subtests; persons who are depressed may show overall lower scores on performance tests which require quick eye-hand coordination and timing of responses (Hurley,

1989).

Measures of Adaptive Functioning: used to assess the degree to which the individual is able to cope effectively with (i.e., has mastered) the demands of his or her environment. This includes: communication, self-care, home and community living, social skills, work and leisure, and functional academics.

- AAMR Adaptive Behavior Scales- Residential and Community (**ABS-RC:2**) (Nihira, Leland & Lambert, 1993)
- Scales of Independent Behavior-Revised (**SIB-R**) (Bruininks, Woodcock, Weatherman & Hill, 1996)
- Vineland Adaptive Behavior Scales (**VABS**) (Sparrow, Balla & Cicchetti, 1984)

Language Tests: can be used to supplement verbal tasks from IQ tests

- Peabody Picture Vocabulary Test – Third Edition (**PPVT-III**) (Dunn & Dunn, 1997)
- Expressive Vocabulary Test (**EVT**) (Williams, 1997)

Academic Achievement Tests: used to assess an individual's academic skills in the areas of reading, writing and arithmetic

- Peabody Individual Achievement Test - Revised (**PIAT-R**) (Markwardt, 1998)
- Wide Range Achievement Test – Third Edition (**WRAT-3**) (Wilkinson, 1993)

Instruments for Assessing Psychopathology and Behaviour Problems:

In the past two decades, a number of caregiver and client-rated inventories have been developed to assist in the assessment of emotional and behavioural challenges in adults and children with developmental disabilities. Hurley and Sovner (1992) identified that these symptom inventories can be very beneficial in: a) establishing a tentative or provisional psychiatric diagnosis; b) verifying a diagnosis for mental health services; c) assisting with placement decisions, d) measuring responses to treatment; and/or e) establishing competency.

In Table 1, the most common inventories have been described. It should be noted that these instruments are not meant to stand on their own, but are to be used in conjunction with other tools and methods of gathering assessment information.

Table 1: Inventories for Assessment of Emotional and Behavioural Challenges

Instrument	Purpose	Format	Information it provides
Aberrant Behavior Checklist - Community (Aman & Singh, 1994)	-evaluate impact of pharmacological interventions on maladaptive behaviours in children, adolescents and adults with mild to profound developmental disabilities	-58 item questionnaire, rating behaviours on a scale of 0 (not a problem) to 3 (severe problem)	-scores on 5 factors – irritability, lethargy, stereotypy, hyperactivity and inappropriate speech
Assessment for Dual Diagnosis (Matson, 1997)	-screen for psychopathology in individuals with mild to moderate developmental disability	-79 item questionnaire, rating behaviours on dimensions of frequency, severity and duration -scale scores range from a low of 0 to a high of 2 -higher scores indicate greater problem	-scores on 13 subscales - mania, depression, anxiety, posttraumatic stress disorder, substance abuse, somatoform, dementia, conduct disorder, pervasive developmental disorder, schizophrenia, personality disorders, eating disorders, sexual disorders
Developmental Behaviour Checklist - Parent/Carer or Teacher version (Einfeld & Tonge, 1994)	-assess emotional and behavioural disorders in children and adolescents with developmental disabilities	-96 item questionnaire, rating behaviours on a scale of 0 (item is not true) to 2 (item is very true often true)	-scores on 6 subscales - disruptive, self-absorbed, communication disturbance, anxiety, autistic relating & antisocial
Diagnostic Assessment for the Severely Handicapped - II (Matson, 1995)	-screen for psychopathology in individuals with severe to profound developmental disability	-84 item questionnaire, rating behaviours on dimensions of frequency, severity and duration -scale scores range from a low of 0 to a high of 2 -higher scores indicate greater problem	-scores on 13 subscales – anxiety, mania, depression, schizophrenia, stereotypes, self-injurious behaviour, PDD/autism, elimination disorders, eating disorders, sleep disorders, sexual disorders, organic syndromes, impulse control and miscellaneous problems

(table continues)

<p>Emotional Problems Scales - Self-Report and Behavior Rating Scales (Prout & Strohmmer, 1991)</p>	<p>-help identify psychopathology and emotional problems in individuals 14 years of age and older with a mild developmental disability</p>	<p>-self-report inventory is made up of 147 behavioural items that require a yes or no response -behavior rating scale is made up of 135 items; behaviors are scored on a scale of 0 (almost never reported or observed) to 3 (often reported or observed)</p>	<p>-self-report inventory – scores on 5 clinical scales– (thought/behavior disorder, impulse control, anxiety, depression, low self-esteem -behavior rating scales – scores on 12 clinical scales – thought/behavior disorder, verbal aggression, physical aggression, sexual maladjustment, noncompliance, distractibility, hyperactivity, somatic concerns, anxiety, depression, withdrawal, low self-esteem</p>
<p>Psychopathology Instrument for Mentally Retarded Adults (Matson, 1988)</p>	<p>-help identify psychopathological behaviours for treatment in adults with mild-moderate developmental disability</p>	<p>-two forms - self-report and ratings-by-others -items require a yes or no response</p>	<p>-self-report and ratings-by-others – scores on 8 subscales – schizophrenia, affective disorder, psychosexual disorder, adjustment disorder, anxiety disorder, somatoform disorder, personality disorder, inappropriate adjustment</p>
<p>Reiss Scales for Children's Dual Diagnosis (Reiss & Valenti-Hein, 1990)</p>	<p>-screen for dual diagnosis in children aged 4-21 years with mild - severe developmental disability</p>	<p>-60 item questionnaire, rating behaviours on a scale of 0 (no problem) to 2 (major problem)</p>	<p>-scores on 10 subscales – anger/self-control, anxiety, attention-deficit, PDD/autism, conduct disorder, depression, poor self-esteem, psychosis, somatoform, withdrawn/isolated, as well as other significant behaviours</p>
<p>Reiss Screen for Maladaptive Behavior (Reiss, 1988)</p>	<p>-screen for dual diagnosis in individuals above the age of 12 years with mild, moderate or severe developmental disability</p>	<p>-38 item questionnaire, rating behaviours on a scale of 0 (no problem) to 2 (major problem)</p>	<p>-scores on 8 scales - aggression, autism, psychosis, paranoia, depression- behavioural signs and depression - physical signs, dependent and avoidant personality disorder, as well as special maladaptive behaviour items</p>

C. Social-Environmental Factors

Many psychiatric disorders present as non-specific behaviour challenges (Gardner & Sovner, 1994). In Chapter 3 of this book, we explained that a non-specific behaviour means there is a symptom that we see (i.e., a behaviour challenge), but until there is an assessment, we do not know why it occurs.

Behavioural Assessment:

The first step in a behavioural assessment is to clearly determine what is the behaviour of concern. It is important to determine a clear description of the challenging behaviour. Just knowing that John is aggressive is not descriptive. Does he hit, bite, punch, destroy property? How often does the behaviour occur? How severe is the behaviour? Does the behaviour occur randomly or certain times of the day, week, month or year? Does it occur with certain people or in certain situations more often than with others? Are there certain times and with certain people where the behaviour never occurs? Does the behaviour occur more likely when the person is alone or with others?

In behavioural assessment it is important to identify the “FIDD” characteristics of the behaviour (Griffiths & Hingsburger, 1991):

- *Frequency*- how often does the behaviour occur?
- *Intensity*- how severe or intensive is the behaviour?
- *Duration*- how long does the behaviour last?
- *Discrimination*- where, when and under what conditions does the behaviour occur?

The most common behavioural strategy for evaluating the

FIDD characteristics of behaviour is to conduct a functional assessment or analysis.

Functional or Motivational Assessment/Analysis

Functional assessment is a process of gathering information about antecedents and consequences that are functionally related to the occurrence of a problem behaviour (Miltenberger, 1997).

There are three types of functional assessments: indirect assessment, direct observation and functional analysis or analogue assessment)

a) Indirect assessment (interviews and questionnaires)

There are a number of interview formats and questionnaires available to conduct a functional assessment. For example the Motivational Assessment Scale-MAS (Durand & Crimmins, 1992) is a 16 item other-report questionnaire, through which the motivation of a specific behaviour is determined to be sensory (i.e., to gain stimulation), escape (i.e., to avoid an unpleasant activity or interaction), attention (i.e., to gain interaction), and tangible (i.e., to gain a desired item).

One of the most commonly used and commercially available formats is the Functional Assessment Interview (FAI) developed by O'Neill, Horner, Albin, Storey, and Newton (1997). This interview format provides an easy to conduct and quick method of gathering behavioural data. The FAI is divided into 11 major sections:

1. Description of the behaviour

2. Potential ecological setting events
3. Immediate antecedents (predictors) for the occurrence or nonoccurrence of the problem behaviour
4. Consequences for the problem behaviour
5. Efficiency of the problem behaviour
6. Existing functional alternative behaviours
7. Communication
8. Approaches that do and do not work
9. Things that are reinforcing
10. History of the undesirable behaviour and previous programmes
11. Summary of major predictors and consequences

b) Direct observation

A more accurate but more time consuming way of gathering functional information is through direct observation. The ABC observation, observation cards, scatterplot, and functional assessment observation form are four methods of completing direct functional assessments. Although the types of assessment forms vary among behaviour analysts, they are universally designed to gather information on the interaction between the behaviour and factors in the environment. From this, a working hypothesis, on which intervention can be based, is developed.

The data method should provide information that allows the clinician to (i) redesign the environment to reduce or eliminate or alter antecedents to the problem behaviour, and to introduce or increase antecedents for competing alternative behaviours; (ii) identify behaviours that can be taught or increased which could act as functional alternatives to the challenging behaviour; (iii) alter the consequences to provide the functionally-related reinforcement for appropriate means of gaining the de-

sired outcome, and reducing the reinforcement for the challenging behaviour.

ABC plus chart: The ABC sheet is a standard recording tool that is used for collecting data that are used for analysing the contextual relationship of behaviour. **A** stands for Antecedent, or the events that occur before the problem behaviour, and which set occasion for the behaviour to occur. **B** is the behaviour, and **C** is the consequence that followed the behaviour.

A standard ABC chart looks like the following:

Staff: Alice Smith Date: July 20, 6:20 p.m. Client: Paul Brown

A=ANTECEDENT (what happened before)	B=BEHAVIOUR (what happened)	C=CONSEQUENCE (what happened after)
Jane, the new staff, asked Paul to do the dishes	Paul sat on the couch and refused to move	Jane came closer and gave him a second instruction
Jane came closer and gave a second instruction	Paul threw the ashtray at the staff member	Jane told him to go to his room if he could not behave; Jane did the dishes

These data tell a very clear story. Paul was able to avoid doing the dishes by throwing an ashtray. However, sometimes the data are not so clear for some of the following reasons:

- The behaviours may occur at a very high frequency such that it is difficult to record each incident.
- The behaviours may occur for different reasons at different times.
- There may be patterns to the behaviour that are difficult to assess.
- The antecedents may be a stimulus complex, and as such

depend on a combination of certain triggering events, as well as the presence of some other factors.

Hurley (1997) has developed a training guide for using the ABC Sheet to collect and analyze data. She recommends an expanded ABC chart that includes describing as antecedents not just the event immediately preceding the behaviour, but other setting events or contributing events that could be observed. Additionally, she teaches staff to provide expanded information on the behaviour and the consequences. For example she suggests recording:

- *Antecedents* including where it was occurring, what was occurring, what activity or interaction was present, who was present, and were there any indications of body language or of a physical state that could be observed.
- *Behaviours* including what happened, to whom, where, for how long, and to what intensity or frequency.
- *Consequences* including who responded, and how (verbally and nonverbally) and to what end (what changed in the person or for the person).

Data Recording Card: Gardner and Sovner (1994) describe a procedure for obtaining more systematic observational data. A small index card is used by an observer to record each incident of the problem behaviour as it occurs, or shortly after it occurs. The observer records the *Date and Time* of the occurrence, the *Situation* (e.g., lunch, gym), antecedent *Triggering Events* (e.g., Tom asked Jane to pick up her coat), *Challenging Behaviour* (e.g., Jane began to yell), *Consequences* (e.g., Jane was ignored), and *Possible Contributing Instigating Influences* (i.e., anxiety, eye rolling, rocking motion prior to incident, room was extremely noisy)

Scatterplot: The scatterplot is a recording method developed by Touchette, MacDonald and Langer (1985). Using this sheet, someone in the person's natural environment records during predetermined intervals whether the behaviour occurred during the previous interval (1/2 hour is a typical interval). A single chart contains seven days of data. Severity and frequency are delineated as solid blocks (severe or high frequency) versus a stroke (mild or low frequency). The severity and frequency are clearly defined. The block is left unmarked if no behaviour occurred. After a week the data sheet can reveal patterns for the behaviour (i.e., time of day, days of the week), which can lead to additional analysis of the factors that may be influencing the behaviour.

Functional Assessment Observation Form: The Functional Assessment Observation Form (i.e., O'Neill et al., 1997) has become a standard data sheet for gathering multiple points of information on a single data sheet. This sheet is used to collect data in intervals. As such, the day is divided into daily intervals along the left side of the page. Across the top, data are gathered on the following: various behaviours, predictors (demands/requests, difficult tasks, transitions, interruption, alone), perceived functions to obtain or get (attention, desired item or activity, self-stimulation, other), or to escape/avoid (demands/requests, an activity or person), and the actual consequences. Multiple behaviours and multiple incidents can be recorded on a single sheet that can be analysed for frequency, trends and functions.

c) Experimental manipulations/ Functional Analysis

The most controlled approach to functional assessment is experimental manipulation of the antecedents and consequences,

to isolate the antecedents, setting events and consequences that influence the behaviour. This is called a Functional Analysis. Traditionally, this method has been conducted with carefully orchestrated repeated sessions (i.e., Iwata, Duncan, Zarcone, Lerman & Shore, 1994). However, less time consuming approaches have been described by Derby et al. (1992), in which a single 90 minute evaluation session is employed. Although a functional analysis is considered more methodologically sound compared to the methods of functional assessment described previously, research has shown that a comparison of the two approaches in an applied setting (children in home setting) produced comparable results (Amdorfer, Miltenberger, Woster, Rortvedt & Gaffaney, 1994). This finding is important for clinicians working within applied community settings where the use of highly controlled analogue functional analysis would be difficult to implement.

d) Specialised screening and assessment

Sociosexual testing and assessment: One area of specialised assessment that is often requested is a sociosexual assessment. Several measures are available for sociosexual evaluation. Three will be discussed below. The most comprehensive socio-sexual assessment is the Sociosexual Knowledge and Attitude Test-SSKAT (Wish, McCombs, & Edmonson, 1980). It has been criticised as being out-of-date, value-laden, time consuming, requiring a high level of skill to administer, overly complicated in parts and lacking in detail in others. However, it appears to be still the most widely used measure in this area. A revised Socio-sexual Knowledge and Attitude Assessment Tool (SSKAAT-R) (Griffiths & Lunsky, in press) is currently being field tested.

Less complicated questionnaires (i.e., Timmers, DuCharme & Jacob, 1981; Ousley & Mesibov, 1991) have been developed, but they lack psychometric evaluation. A more recent evaluation is the Sexual Knowledge, Experience, Feelings and Needs Scale (SexKen-ID) by McCabe (1999). This is not commercially available, and has been criticised for use as an assessment tool because it goes beyond knowledge and attitudes into personal experiences.

Violence and Sexual Risk Assessments: An important challenge for mental health professionals is the assessment and treatment of persons with intellectual disabilities who have committed a sexual offense. The reader is referred to Chapter 13, Sexuality and Mental Health Issues for a description.

Issues in Assessment of Persons who are Nonverbal or Profoundly Challenged

As covered in Chapter 17, Mental Health Issues in Clients with Severe Communication Impairments, a number of formidable challenges are encountered when assessing individuals who do not communicate verbally. These challenges are due to a number of factors, including:

- the lack of firsthand information from the individual and the need to rely on information from other sources (e.g., interviewing others, direct observation of behaviour).
- the co-existence of medical or sensory conditions which can further complicate the picture.
- the finding that psychiatric illness may manifest differently in these individuals and that diagnostic criteria for specific disorders may need to be translated into “developmental disability equivalents” (e.g., Pary, Levitas

& Hurley, 1999).

Putting it Together: The Comprehensive Biopsychosocial Assessment

The following multi-factorial case illustrates the point that, while it is not always possible to arrive at a definitive clinical diagnosis, a biopsychosocial assessment results in a more thorough understanding of the individual's needs and provides a solid basis upon which to make more reasoned decisions about treatment.

The Case of Bill

Bill is a 21-year-old male who was diagnosed with autism at the age of two years. He is non-verbal, but uses augmentative forms of communication (signs, gestures, vocalisations, pointing to picture communication symbols). He rarely initiates activities or makes spontaneous requests, but relies instead on staff to prompt him to do so. He does not have any major health concerns, although there is a family history of migraine headaches.

Bill moved from his family home into a group home one year ago. He is the only non-verbal resident who lives there and staff did not know initially how to use sign language. Many of them have never worked with anyone with autism. Bill graduated from a modified high school programme 6 months ago. While attending the programme, Bill was involved in several community work placements, and was described as a model student.

Until 9 months ago, Bill's behaviour was very stable. He was gentle, cooperative and easy going. He had a long history of compulsive or ritualistic behaviours, such as putting things in order, or pushing in chairs. However, he did not become upset when his rituals were interrupted except when he was anxious. He would at times display signs of anxiety or agitation in the form of pacing, loud humming, and occasional head hitting. There was no clear pattern associated with these periods of agitation, and they would not last longer than a day or two.

Staff started to notice a major change in Bill's behaviour about 3 months ago. Whereas he was formerly happy and eager to please, he started to display high levels of anxiety and agitation. He also became aggressive toward a particular roommate in his group home. There were no changes in his appetite, energy level or sleep habits. He appeared to be in pain occasionally, and pointed to his head as if to indicate the presence of a headache. A support plan was developed which focused on helping him to communicate his needs and wants through the use of picture communication symbols and training staff to use sign language; reducing his level of stress by taking him for a walk or to a quiet place; allowing him to complete his rituals when he was anxious; avoiding crowded or noisy settings; involving him in structured activities; and preparing him for changes in his routines or activities through the use of calendars and picture schedules. He was also given medication for pain relief when he showed signs of having a headache.

Bill's behaviour improved considerably about 2 weeks after the support plan was introduced, and was stable

until one month ago when he again started to display signs of intense anxiety, and aggressed toward several staff and roommates. Staff continued to follow his support plan, but his anxiety did not lessen. Bill's family physician prescribed Ativan as a PRN, but this only made him more anxious and ritualistic. Staff were forced to call an ambulance one day when his behaviour went out of control. Bill was taken to the local emergency room, and kept in 4-point restraint for several hours. He was given Haldol and Ativan, and was sent home with orders for Chlorpromazine, Valium and Cogentin. These medications made him extremely drowsy, but the anxiety and aggression continued. Several days later, his family physician discontinued all his other medication and started him on Risperidone twice daily. His agitation disappeared within two days and only recurred again periodically; when it did occur, it was short-lived and usually related to physical ailments (e.g., GI problems). Bill's dosage of Risperidone was decreased in response to concerns that he was sedated and "spaced out". For the first time in months, Bill is back to his formerly happy and easy-going self. Staff continue to implement his support plan, and he is being eased slowly into community work placements.

Bill recently underwent an interdisciplinary assessment in regard to his behavioural difficulties. The consensus of the team was that Bill had reacted to the cumulative effects of a number of stressors in his life, but they were unable to offer a definitive diagnosis regarding the etiology of his anxiety and aggression. They were encouraged by the improvement in his behaviour, and urged staff to continue to implement his support plan, and to maintain him on his current level of medication.

Table 2: Summary of biopsychosocial factors that were hypothesised to be operating in Bill's case

	Instigating Factors	Vulnerabilities	Reinforcing Conditions
Biomedical	-anxiety in response to series of life stressors -migraine headaches(?)	-autism -family history of migraines -anxiety disorder(?) -obsessive compulsive disorder(?)	Negative reinforcement – offered medication for pain relief -reduction in anxiety when allowed to complete rituals
Psychological	-frustration over wanting/needing something and having to wait for prompt from staff -frustration over staff inability to understand his augmentative communication forms -confusion or distress over end of school placement and loss of long-time friends	-rarely initiates requests or performs tasks without prompting from staff -lacks verbal skills -need for routine and structure	Negative reinforcement – reduction in frustration when he is able to perform a task or obtain a desired object after a prompt Differential reinforcement – when staff understand his signs or gestures and can meet his needs (in the absence of aggression)
Social	-crowded, noisy environments -programmes that focus on sedentary activities -programmes that do not have clearly defined tasks	-over-stimulated by too much noise or too many people -need for high levels of physical activity -need for structured programmes	Negative reinforcement – removed from noisy or crowded environments; taken for a walk; given small jobs to perform

Summary

This chapter contains a review of instruments that are used during the biopsychosocial assessment of mental health problems in individuals with developmental disabilities. Uses and limitations of various assessment tools were discussed. Practical information regarding how to conduct an assessment was provided along with specific examples to illustrate the content and format of different assessment instruments. Differences between screening and in-depth assessment were highlighted. Finally, case examples were used to draw the points together.

Do You Know?

1. Why are screening and assessment so important in understanding the presenting behaviours in a person with developmental disabilities? Name two reasons.
2. What are the most common biomedical conditions that influence such behaviours?
3. Name a few common psychological events that can present with excessive behaviours.
4. How the psychological assessment/s contribute to the screening process?
5. What FIDD stands for?
6. What are the most common elements of a behaviour assessment?
7. What are some of the challenges in assessing and treating persons with developmental disabilities that have committed a sexual offence?

Resources

The following list can help the reader to obtain more information regarding the psychological assessment instruments that were identified in the chapter. Access to many of these instruments is restricted to professionals with specific training and expertise; details are available from the companies or test publishers.

PSYCAN, Unit 12, 120 West Beaver Creek Road, Richmond Hill, ON L4B 1L2; Phone: 905 731-8795; Fax: 905 731-5029; Email: mail@psycan.com; Website: www.psycan.com (EVT; PIAT-R, PPVT-III; TONI-3; VABS; WRAT-3).

Psychological Corporation, 55 Horner Avenue, Toronto, ON M8Z 4X6; Phone: 800-387-7278 or 416 255-4491; Fax: 800 665-7307 or 416 255-6708; E-mail: cs_canada@harcourt.com; Website: www.hbtpc.com/tpccanada (WAIS-III; WRAT-3)

Psychological Assessment Resources, Inc. P.O. Box 998, Odessa, FL 33556; Phone: 800-331-8378; Fax: 800 727-9329; E-mail: custserve@parinc.com; Website: www.parinc.com (ABS-RC:2)

Riverside Publishing, 425 Spring Lake Drive, Itasca, IL 60143-9921; Phone: 800-323-9540; Fax: 630-467-7192; Website: www.riverpub.com (SB-IV, SIB-R)

Stoelting Co., 620 Wheat Lane, Wood Dale, IL 60191; Phone: 630 860-9700; Fax: 630 860-9775; Website: www.stoeltingco.com (Leiter-R)

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