Psychopathology and Mental Status Examination

Marco O. Bertelli, Peter Sturmey, Samuel Elstner, and Giovanni Stanghellini

Contents

M. O. Bertelli et al. (eds.), *Textbook of Psychiatry for Intellectual Disability and Autism Spectrum Disorder*, https://doi.org/10.1007/978-3-319-95720-3_6

Learning Objectives

Descriptive evaluation of psychopathology and the present state examination represent fundamental phases of the psychiatric assessment of the person with ID and/or ASD, although scarce attention received to date in clinical practice and research. The present chapter describes the three parts into which the human psyche is traditionally divided (cognition, affection, and volition/conation) and addresses all the specific aspects and symptoms to be considered during the present state exam such as availability, accessibility, appearance, behavior and motor activity, speech, cognitive functions, consciousness, insight, judgment skills, orientation, attention, memory, sense perception, mood, anxiety, will, and thought.

Current and future clinical care of individuals with ID/ASD needs a substantial reevaluation and expansion of the psychopathological approach in order to improve professional knowledge, practice, and contact with patients' experience. It is to be hoped that the content of this chapter will be significantly extended and detailed in the forthcoming years.

6.1 Introduction

The term "psychopathology" derives from the Greek ψυχή (psyche) for "soul" or "mind," πάθος (pathos) for "suffering," and λόγος (logos) for "discourse," "reason," or "cause search," and is roughly translated into "the study of the sufferings of the soul." The term was coined by the German psychiatrist Hermann Emminghaus in 1878 [1], but it became a scientific discipline only in 1913, with the publication of Karl Jaspers' book "Allgemeine Psychopathologie," [2] who aimed at describing "the individual as a whole in his illness, as far as it is a mental and psychogenic illness" within the complexity of "the soul of the individual." [3] From that moment on psychopathology had increasingly become "the subject matter of psychiatry" [4] and clinical psychology, successfully guiding clinical and scientific progress.

Currently, the term "psychopathology" is employed in a number of different ways, which are commonly grouped into explanatory and descriptive. The former refers to assumed explanations according to theoretical constructs such as psychodynamics or cognitive behavioral models, while the latter consists only of descriptions of any individual behavior or experience which causes impairment, distress, or disability, with limited absent arguments of causation. In the present chapter, the term psychopathology is used in a descriptive way, with specific reference to defining, understanding, and categorizing symptoms as reported by people with intellectual disability (ID) and/or autism spectrum disorder (ASD) and observed through their behavior.

These groups of people have been excluded from research and clinical approaches based on descriptive psychopathology, mostly because they have been considered unable to provide data rich enough to reflect their experiences, or because of ethical reasons, such as being easily coerced or having low coping with distress factors associated with complex assessment and repeated interviews. Thus, authentic voices of persons with intellectual disabilities and autism are often unheard, their behaviors are inadequately observed, and accommodations to ensure their inclusion are rarely made [5–7]. In fact, descriptive psychopathology is important for persons with ID and ASD as it is to the general population, since it provides the fundamental elements for understanding their condition and suffering, as well as making a psychiatric diagnosis.

People with intellectual disability and/or autism spectrum disorder have been excluded from research and clinical approaches based on descriptive psychopathology, mostly because they have been considered unable to provide data rich enough to reflect their experiences, or because of ethical reasons, such as being easily coerced or having low coping with distress factors associated with complex assessment and repeated interviews.

6.2 General Psychopathology

For 250 years, many psychopathologists took for granted that the study of the mind could be divided into three parts: cognition, affection, and volition/conation [8]. The persistence of these areas of human psyche as major taxonomy references for mental phenomena suggests that there may be a natural utility of this scheme for clinical and research purposes, although various organizational models have been proposed [9], in which some of these areas, especially conation, have been merged or eliminated [10, 11].

6.2.1 Cognition

Traditionally, the term cognition refers to mental processes through which information from the environment is acquired and elaborated as knowledge. Cognition is said to include specific mental functions such as attention, memory, understanding of language, and intelligence. Intelligence is often further broken down into learning, reasoning, problem solving, and decision making.

Intelligence is often defined as the ability to solve problems, whether it is to understand how a toy works, to solve a question of trigonometry, or to guess stock market movements.

The Diagnostic and Statistical Manual's fifth edition of the American Psychiatric association (DSM-5) [12] diagnostic criteria for intellectual disability also includes impairments in reasoning, planning, abstract thinking, making judgments, and learning from both practical experience and from education. Intelligence is often expressed as the intelligence quotient or IQ that compares an individual's test score to the average score of a population. By convention, most, but not every, intelligence test converts raw scores to a distribution with a mean of 100 and a standard deviation of 15. Thus, IQs between 85 and 115 are classified as average. IQs above 130 are unusually high and IQs below 70 are unusually low. IQs between 70 and 85 are below average and sometimes regarded as borderline intellectual functioning. Finally, definitions of ID use IQ scores of below 70 combined with other diagnostic criteria, such as significant deficits in adaptive behavior, age of onset during the developmental period, typically defined as before 18–22 years, exclusion of other explanations, and professional judgment (see ▶ Chap. 1).

DSM-5 definition of adaptive behavior includes four domains: (a) communication, such as conveying information to others and understanding information from others; (b) social skills, such as interacting effectively with others, following social conventions, and responding to nonverbal cues from others; (c) personal independence at home is in the community, including bathing, doing the laundry, and using public transportation; and (d) school or work functioning, such as conforming to social standards, and learning and behaving independently at school or work. Adaptive behavior is usually assessed using appropriately normed psychometric instruments such as the *Vineland Adaptive Behavior Scales* [13] or the *Diagnostic Adaptive Behavior Scale* [14]. The nature of intelligence may be more complicated as it may be better to talk about a complex of correlated but distinct mental functions and abilities. The scientific community is still debating whether these mental functions depend on a single, general intellectual capacity, the so-called *g* for general intelligence as the psychologist Charles Spearman called it in the last century, or by distinguishable individual components or facets of intelligence, such as Howard Gardner's multiple intelligences (e.g., musical-rhythmic, visual-spatial, verbal-linguistic, logical-mathematical, bodily-kinesthetic, interpersonal, and intrapersonal intelligences) that are combined differently from person to person. Other models of intelligence have proposed a hierarchical structure with a generic ability at the apex of a pyramid and more specific skills being progressively differentiated in lower levels of the pyramid model. A common distinction is between crystallized and fluid intelligence. Crystalized intelligence refers to learned knowledge and skills which often increases with age, whereas fluid intelligence refers to the ability to perceive new relationships which is independent of prior experience and is reflected in global capacity to reason

and learn and declines with age. Some have suggested that the evaluation of intelligence according to a unitary model is insufficient. Rather it may be better to describe people's cognitive difficulties and specific disabilities and to understand how cognitive difficulties and specific disabilities are linked to psychopathology [15]. It may also be useful to describe the role of highly specific cognitive functions, such as the orientation of attention, the shift of attention, or some reductions in working memory [16, 17] (see ► Chap. 1).

Traditionally, the term cognition refers to mental processes through which information from the environment is acquired and elaborated as knowledge.

The current model of intelligence, based on IQ, is of limited utility for intellectual disability and autism spectrum disorders, given the wide range and variability of cognitive functions and adaptive capacities.

6.2.2 Affectivity/Affection

Affectivity is the area of human psyche related to the ability to experience moods and affects, such as feelings and emotions. The meaning of everyday terms such as sadness, irritation, joy, etc. may seem self-evident, whereas unusual experiences such as delusions, obsessions, and hallucinations require some careful definition. Yet, this is not the case as feelings and emotions are seemingly obscure and changeable events which are difficult to describe. Affectivity seems to be something that is difficult to define as most people report affect as an internal experience available only to the person who is experiencing it, although observable affective behavior can be identified in people with ID/ASD [18].

The terminology with which problematic feelings is dealt with is often ambiguous and controversial. For some authors feelings are simply excited states due to physiological changes in response to some event [19], while for others they are characterized by conscious perception [20]; affects and mood are terms sometimes used antithetically. For example, Taylor [21] stated that affect is "the emotional tone underlying each behavior," while others have opined that the mood is only a part of an affection of the individual, which is a more global function, when, for most authors, almost the inverse is true [19, 22]. For others, these terms are synonyms [23].

For some, emotions arise from archaic nervous center. Emotions apparently arise, grow, diminish, and disappear without active mental participation so that it may appear that there is a complete disconnection between affective and rational life. Emotions are essential for the adaptation of the organism as they provide the driving force for behavior [24].

An alternative, environmentalist view of emotions as the causes of behavior comes from Skinner [25], who considered emotions to be "an excellent example of the fictional causes to which we commonly attribute behavior" [25]. Rather, emotions refer to predispositions to behave in certain ways and to responses that covary which are under environmental control. Thus, the angry person, in response to their supervisor's criticism, turns red and sweats, takes on a facial expression of anger, slams doors, kicks the cat, and watches fights with unusual interest, suggesting that in response to criticism, observing harm holds this class of behavior together.

The emotional aspect of mental illness is characterized by diffuse and impalpable constellations of fleeting sensations and long-lasting dispositions that are difficult to describe. Contemporary research on emotions suffers from a serious conceptual confusion. The first thing to do is to get a hold on the terminology describing emotions [26]. Two concepts seem to dominate the current debate, namely feelings and emotions. *Feelings* are understood as perceptions of bodily changes and affective states such as, for example, discomfort, pleasure, pain, exaltedness, tiredness and sadness. *Emotions* are mostly considered as intentionally or rationally structured experiences such as anger with somebody, surprise at an event, love of someone, pride in one's own behavior, shame at being caught doing something wrong, guilt about one's previous actions, and so on.

We propose a framework for understanding emotional experience that is grounded in

two key points: (1) the definition of "emotion" as felt motivation to move, (2) the distinction between "affect" and "mood" according to their intentional structure. As for the first point, the word "emotion" derives from the Latin *ex movere*. Emotions are the *lived motivation for movement*. Emotions are kinetic, dynamic forces that drive us in our ongoing interactions with the environment. They are *functional* states which may produce movements and *motivational* conditions that project the person into the future providing a felt readiness for action. The connection between emotion and movement can be illustrated as follows. For instance, in sadness I flow downwards in a slow, sinking manner as things appear to be forlornly sinking and sagging downwards. In joy, I flow upwards in a radiated manner as things around me have an uplifted momentum. In retaliatory anger, I feel driven forward, violently attacking as the object of anger grows larger and occupies the foreground. In love, I flow forward in a gently binding way as the loved person flows forward, toward me. In pride, I go upwards in an inflated rising as things grow smaller compared to me. In humiliation, I flow downwards in a plummeting, quick, and violent drop as persons around me grow larger and look at me. In repugnance, I flow backwards as things flow forward toward me. In awe, I flow backwards and downwards in a shuddering manner as things flow forward and upwards, towering above me. In fear, I move backwards in a shrinking and cringing manner as things flow forward, toward me in a looming and menacing manner. In anxiety, I feel suspended in air in a quavering manner which is felt in a menacing manner. Thus, "emotion" is an umbrella term denoting the multifarious phenomena that make up our emotional experience.

As for the second point, at the opposite ends of our emotional experience we find two very different kinds of experiences: affects and moods. The basic difference lies in the fact that affects are focused and possess an apparently clear intentionality or a specific directedness, are experienced as externally motivated with relatively clear environmental determinants, and thus, are more determined and more articulated than moods. Moods, on the contrary, are characterized by a lack of a clear, if any, intentional structure or goal. They are unfocused, and thus, do not possess a specific directedness and *aboutness*.[1] They are felt as undetermined, and there are no specific identified causes for them. They are more indefinite and indeterminate than affects and are often inarticulate. Moods usually manifest themselves as prolonged constellations of feelings such as vague feelings that permeate the person's whole field of awareness. Examples of affects are fear, grief, joy, anger, and boredom. For example, one is fearful because of the imminent threat of negative social validation when one sees one's boss walking toward oneself with a stormy expression on her face. Examples of moods are anxiety, depression, euphoria, dysphoria, and tedium. For example, anxious mood is shown when over an extended period of time there is a sense of impending threat with no obvious source.

> Affectivity is the area of human psyche related to the ability to experience moods and affects, such as feelings and emotions. Emotions are functional states which may produce movements and motivational states that project a person into the future providing a felt readiness for action. Affects and moods are at the opposite ends of human emotional experience: affects are focused and possess an apparent clear intentionality or a specific directedness, while moods represent prolonged constellations of feelings that permeate a person's whole field of awareness.

6.2.3 Volition/Will

Whether volition can be considered an autonomous psychic function is still under discussion. Contemporary classifications of mental disorders do not include it, considering it a behavioral reduction of affectivity (impulse, desire, and motivation) and to a lesser extent

1 Aboutness is a term used in philosophy of mind, often considered synonymous with intentionality.

of cognition (intention, decision, choice, and control). Yet, until the nineteenth century, volition was the most commonly cited concept to explain the ability to initiate or inhibit behavior. It is still commonly used in the forensic field in the sense of personal responsibility for one's own actions and in social and health policies for people with ID and/or ASD in the sense of self-determination.

In everyday language, volition refers to the ability to choose and carry out behavior to achieve certain aims. Scharfetter [27] defined it as a completed, planned activity based on a motivation or a primary need such as hunger or thirst, or a secondary or acquired need like smoking, reading, etc. With the term "motivation," he referred to a state characterized by emotional and cognitive aspects, often linked to a need. In contrast, Jaspers [28] described volition/will as a function welded to the awareness of a goal, the means to achieve it, and its consequences. In this way, he blurred the boundaries between volition/will and judgment.

Various other terms have been used across time to represent alternative interpretations or specific aspect of volition, including intrinsic motivation, goal orientation, conation, self-direction, self-regulation, and self-determination. From the higher faculty that it was, volition/will has been transformed first into a dark ambiguous force including a multitude of drives, longings, and impulses, and then it has been wiped out and substituted in recent decades by notions such as those of "instinct," "drive," "motivation," and "ability to decide."

Whether Volition can be considered an autonomous psychic function is still under discussion. Contemporary classifications of mental disorders do not include it, considering it a behavioral reduction of affectivity and to a lesser extent of cognition. Various other terms have been used across time to represent alternative interpretations or specific aspect of volition, including intrinsic motivation, goal orientation, conation, self-direction, self-regulation, self-determination, and more recently, instinct, drive, motivation, and ability to decide.

6.3 Present State Examination

The present state examination (PSE) of the person with ID and/or ASD is a fundamental clinical moment in the direct evaluation of psychopathological symptoms. Without it, psychodiagnostic tests and questionnaires are of limited value. Unlike a typical conversation between two people, the PSE has specific techniques and rules, some of which apply to all clinical interviews and concern the professional-patient relationship, and others which are much more specific to the PSE. As already noted, people with ID and/or ASD have many relational, communicative, and expressive characteristics, which the interviewer must take into account. These aspects are treated in the ▶ Chap. 5, the one on assessment of psychopathology.

6.3.1 Availability

The PSE begins with the observation of the availability for evaluation. It is an aspect of primary importance, which is not limited to the reaction to the request for information and private experiences, but extends to the whole interpersonal contact that the person tends to take with the evaluator. In persons with ID and/or ASD, availability is often limited by the individual's cognitive and relational characteristics, but this may not effect more experienced and able clinicians' abilities to detect co-occurrence of psychopathology and ID/ASD. The clinician should record if the individual is sympathetic, cooperative, motivated, appropriate to the situation, and willingly collaborates or if the individual is passive, acquiescent, querulous, ironic, arrogant, oppositional, hostile, aggressive, demanding, or if she/he presents behavioral disturbances that make interaction very difficult.

6.3.2 Accessibility

Accessibility refers to the extent to which the persons under examination let the clinician access their intrapsychic experiences. Compared to availability to which it is often

mistakenly equated, accessibility represents a subsequent moment of the PSE. In fact, a patient may be available to a doctor's examination but unable to communicate his or her mental states. In people with ID and/or ASD, accessibility should be assessed in a less rigid way than in the general population and after collecting information on the usual communication attitude and skill from clinical records and habitual caregivers.

6.3.3 Appearance

This part of the PSE assesses the individual's overall exterior aspect. The individual may show a lively, flamboyant attire, typical of manic states, or be unkempt and poorly treated, as seen in schizophrenic psychoses or major depressive episodes. The interviewer must assess appearance in the light of the characteristics of the person with ID and/or ASD, with particular reference to the usual modes of expression, basic skills, life context, sociocultural background, and motor activity. In addition, the interviewer should be sensitive to whether the individual's appearance reflects caregivers' practices and standards, as much as those of the individual.

6.3.4 Behavior and Motor Activity

Persons with ID and/or ASD may feel more anxious than the general population, especially in unfamiliar contexts. During the PSE, anxiety can manifest itself in many forms of inappropriate or challenging behaviors such as nonresponsiveness, shyness, avoidance, opposition, hyperactivity, stereotypies, or aggression. These behaviors can also be the expression of psychopathological conditions, such as anxiety disorders, manic phases, or alcohol intoxication. In these cases, the interviewer may observe severe crisis of psychomotor agitation or destructive behavior toward everything. Conversely, during depressive episodes, the individual's behavior can be slower and more withdrawn than his/her usual behavior.

6.3.5 Speech

According to traditional psychopathology, the evaluation of speech substantially coincides with that of thought, since thoughts are usually expressed in words; however, since in fact the modes of expression of a thought are not limited to speech and speech cannot be considered a direct expression of thought, this is not necessarily true. Indeed, individuals with ID often have difficulties in expressing their thoughts through speech. When evaluating speech, the interviewer should note the form and content of the individual's speech and nonverbal communication. Evaluation of the form of speech should include both qualitative and quantitative characteristics such as the person being talkative, taciturn, or the speech being articulate, accelerated, mumbled, spontaneous, etc. The most common formal alterations of the speech are represented by poverty or wealth of speech, acceleration, slowing down, fragmentation, or lack of speech.

Speech acceleration is associated with an excess in quantity (logorrea), which may appear sometimes apparently unstoppable and sometimes musical, and may include play on word, puns, and jokes as is frequently seen in hypomania and mania, alcohol intoxication, and psychostimulant usage. In manic episodes, extremely high rates of speech may result in incomplete sentences, incomplete words, word repetition (palilalia), echolalia, repetitive sounds, and quickly switching from one topic to another. Sometimes incoherent speech results in so-called word salad most commonly in psychotic disorders, sometimes referred to as "schizophasia."

Marked increases in rhythm and content can be seen in people with pathological anxiety, although lack of speech, stuttering, and incomplete words may also occur. Individuals with ID/ASD and severe language difficulties including those who are nonverbal may show anxiety through intensification of stereotypic behavior, such as rocking, rubbing, and repetitive hand movements, or self-injurious behavior, such as hitting the face or other body parts, hair pulling (trichotilloma-

nia), or biting nails (onychophagia), cuticles, or the skin of the fingers (dermatophagia). Some individuals may speak coherently, but very slowly which may be an expression of psychomotor retardation as in depressive episodes, disorders of consciousness or memory, and organic brain syndromes.

6.3.6 Cognitive Functions

The assessment of cognitive functions is another key component of the PSE in people with ID or ASD, especially when no precise neuropsychological reports are available. Some researchers assert that cognitive functions can be evaluated through their practical, applicative expression, or executive functions. For example, Miyake et al. [29] have suggested a subdivision into three basic executive processes that, although they have some common elements, must be evaluated through the execution of differentiated tasks. These processes include: (a) *Shifting,* the ability to change, alternate behaviors based on the analysis of the results obtained or predictable; (b) *Updating,* the ability to monitor incoming information, their relevance to a current task, and to update the information content replacing the older or irrelevant information with a more recent relevant information; and (c) *Inhibition,* the ability to consciously inhibit excessive, automatic, or predominant responses.

6.3.6.1 Consciousness

The investigation of the state of consciousness focuses on the awareness of oneself and external, objective world. This is particularly difficult in people with ID/ASD with poor or absent verbal abilities. Consciousness can be altered in a quantitative sense, such as in the clouding of consciousness, as in the twilight state, where awareness is restricted to a limited amount of content, or in the dream-like states where the ability to distinguish between the imaginary and the real is compromised.

In certain psychiatric disorders, such as psychotic episodes due to medical illness or a substance, the alteration of consciousness may be particularly marked and be variously associated with anxiety, agitation, hallucinations, language alteration, insomnia, fever, loss of appetite, neurovegetative symptoms, suicidal thoughts, and impulse dyscontrol. Psychotic episodes due to medical illness or a substance is a rare complication of infectious diseases, intoxications, or brain injuries, although Theodor Hermann Meynert (1833–1892), the German psychiatrist who coined the term, related it to acute episodes of bipolar disorders, catatonic schizophrenia, and dissociative syndromes.

A severe loss of consciousness occurs in delirium, where it is expressed mainly as inability to maintain attention and disorganized thought. Persons with more severe ID/ASD can show significant worsening of their underlying attention difficulties and disorganized behavior. During delirium, disorientation can be observed with respect to places of everyday life, astonishment or perplexity can appear even for most familiar objects and people, and hyperresponsiveness to sensory stimuli can determine impulsive glances in the direction of the source where they came from. More rarely in dementia, there is hyporeactivity, reduced motor activity (hypokinesia), somnolence, and even stupor.

To assess the severity of the inability to maintain attention, the patient can be asked to perform a reordering of objects or data, which he would normally handle easily, for example, by placing the largest or smallest cubes or listing the months of year.

Delirium tremens, a particular form of dementia, can occur in chronic alcoholics after 2–3 days of sudden abstinence. It is characterized by the presence of motor alterations, especially tremor, and visual hallucinations which may sometimes include small animals or objects that move quickly in the room or on their body (microzoopsies). In rare cases of delirium tremens, hyperthermia or epileptic seizures may occur.

Other characteristic reductions of consciousness may occur in parasomnias, such behavioral disturbance of REM sleep, night terrors (*pavor nocturnus*), and somnambulism. Since consciousness is already reduced during sleep, it is difficult characterize them clearly. Parasomnias and sleep-related rhythmic

movement disorders are common in persons with ID/ASD [30–35] (see ▶ Chap. 26). The latter typically involve the head and neck (so-called *jactatio capitis nocturna*), occur at sleep onset, during the Non-REM sleep, and are sustained into light sleep.

6.3.6.2 Insight

The term "insight" refers to the degree of understanding of the impairment of one's psychic functioning and of the factors that determine it.

In persons with ID and/or ASD, the lack of insight in the psychiatric disorders that affect them must be carefully distinguished from underlying cognitive difficulty and atypicality in understanding and judging one's own psychic activity.

6.3.6.3 Judgment Skills

The term "judgment skills" refers to the ability to predict the consequences of one's behavior. This can include both practical and moral consequences. In ID/ASD, it is often reduced, especially due to the co-occurrence of a wide range of other mental disorders.

6.3.6.4 Orientation

The term "orientation" refers to the awareness of one's own being, time, and space. In other words, being oriented means knowing who we are, what day it is, the time of day, and where and in what situation we are at the moment. In persons with ID/ASD, orientation must be evaluated in proportion to premorbid functioning. Some authors also include derealization and depersonalization among the alterations of self-consciousness.

Derealization is an altered perception of the environment, in which the environment appears as unreal, dreamlike, foggy, blurred, or flattened. The person who experience derealization describes him/herself as being far away from the real situation or as seeing everything through a filter. Other persons can be perceived as automatons or robots or otherwise without affective coloring. Derealization can be distinguished from psychotic states for that the person maintains awareness of and insight into the strangeness of the experience. Persons with ID/ASD, who have adequate verbal competence, often use the expression "as if." This phenomenon can occur not only during acute episodes of anxiety and mood disorders, especially depressive ones, but also in those related to substance abuse.

In depersonalization, the feeling of detachment does not concern so much the surrounding environment as in derealization, but rather detachment from one's body or mental states. The person who experiences depersonalization describes herself as an external observer of their own existence. In some cases, these experiences intensify so much that the person believes they are on the verge of insanity. Depersonalization differs from disintegration of the self that occurs in psychotic disorders in that the capacity to discriminate between reality and unreality is maintained [36]. Depersonalization is often triggered by a traumatic or intensely stressful event. It is frequently found in posttraumatic stress disorder; anxiety disorders, particularly during panic attacks; major depressive disorder; substances-related disorders, such as excessive marijuana, cannabis, ketamine, and ecstasy use; seizures; and strokes [37]. Depersonalization seems to represent a negative prognostic factor in mood disorders, since it is often associated with comorbidity, chronicity, and lower response to pharmacological treatments [38]. In the DSM-5, the persistent presence of depersonalization and/or derealization represents the first criterion of a homonymous disorder, which is part of the meta-structure of dissociative disorders [12].

In people with ID/ASD, depersonalization and derealization can be expressed with an acute loss of cognitive abilities, especially attention skills, with chaotic, oppositional, and aggressive behaviors, or more rarely social withdrawal.

6.3.6.5 Attention

Attention is an important cognitive function and should be evaluated carefully. It serves to direct the conscience toward specific contents including the outside world, for example,

toward an image, sound, or the inner world, such as a thought, sensation, or memory. Alcoholic and other substance intoxication, psychosis, obsessive-compulsive disorder, and attention-deficit and hyperactivity disorder include a reduction in attention. Some authors use the term "hypoprosexia" to define an attention reduction associated with narrowing of interests, particularly frequent in depression and dementia. Attentional deficits are common in various syndromes including ID and/or ASD, so the identification of additional qualitative or quantitative dysfunctions due to co-occurrent psychiatric problems requires great experience and competence. Unfortunately, to date, knowledge on attention alterations in ID of different origin is limited, as well as their impact on "higher-order" executive functioning abilities. Deficits of disengaging and set shifting have been identified in Fragile-X syndrome, deficits of selective attention in Williams syndrome, and deficits of attention switching in Prader-Willi syndrome [39, 17].

In individuals with ASD, most frequently reported deficits refer to selective visual attention to social targets and selective visual tactile attention [40–42].

6.3.6.6 Memory

Memory can be evaluated informally with a series of simple questions. For example, for short-term memory, by asking the individual to recall information provided shortly before recall; or, for long-term memory, asking facts related to person history and checking confirmation with documents, family members, or staff.

Memory problems can be divided into qualitative and quantitative problems. Amnesia is obviously the most frequent quantitative memory problem, which can further be characterized by the type and chronology of lost memories. The term "total amnesia" is used when there apparently is no memory, even for one's own identity. The term "partial amnesia" is used when the loss of memory is restricted to only some aspects of their existence. Finally, the term "selective amnesia" is used to refer to specific aspects that are mutually linked. Selective amnesia is further divided into: (a) retrograde amnesia for data related to events preceding the onset of amnesia; (b) anterograde amnesia for data concerning events after the amnesia; (c) amnesic lacunae for data related to a specific period of time; and (d) sense-specific amnesia for data concerning a specific sense organ.

It is also useful to differentiate the causes and prognosis of amnesia. Thus, we speak of: (a) organic amnesia, when physical causes have been identified, such as cranial traumas, cerebral circulation disorders, metabolic disorders, and central nervous system degenerative processes; and (b) psychogenic amnesia in relation to psychological trauma or mental disorders, especially mental disorders such as dissociative, anxious, or depressive disorders. Transient amnesia refers to an amnesia which is limited in duration and may involve a return to premorbid functioning. It may occur in association with a moderate head injury. A stable amnesia occurs when there is no recovery of memory loss. Stable amnesias may occur in association with ischemic damage. Finally, progressive amnesia refers to a gradual worsening of memory. This may occur in some degenerative diseases.

Korsakoff's syndrome is associated with amnesia, impairment in learning, and confabulation (see below) and can occur in alcoholism, vitamin B1 deficiency, and some dementias.

The term hypomnesia refers to a reduction in the memory capacity which can be observed in depression, some psychoses, typical aging, and in some stress-related conditions, such as sleep deprivation. In contrast, the term hypermnesia indicates an increased ability to remember that hinders cognitive performance as it includes memories not useful for the task being performed. It is observed especially in manic excitement and in some twilight states.

The qualitative alterations of the memory are categorized as allomnesies and pseudomnesias. Allomnesias consist of distorted reenactments of actual memories while

pseudomnesias are memories of events that never have been experienced, but which are subjectively considered to be real.

Dejà-vu consists of the sensation of having already previously seen an object, person, or place and déjà-vécu refers to the feeling of having already lived a situation that is actually seen or experienced for the first time. In sporadic and transitory forms, they represent very frequent qualitative changes in memory, both in the general population and in people with ID, without a clear pathological significance. On the other hand, if they are persistent, they may be a symptom of psychiatric and neurological disorders, such as epilepsy, alcoholism, depersonalization, and derealization. In jamais-vu and jamais-vécu, the feeling is the opposite of the previous ones; that is to say, to live a completely new experience while in reality we are faced with a habitual, familiar situation. This is most often seen in temporal epilepsy, some anxiety disorders, and psychoses. These alterations can be confused with ecmnesia, where memories are experienced as actual experiences and more often occur in hallucinogens, intoxications, and in some forms of posttraumatic stress disorder. It is called cryptomnesia when a memory appears to the person as an original creation of his or her own mind.

Many qualitative alterations of memory must be distinguished from the fantastic pseudology (or mythomania or pathological lie), which may occur in people with mild-to-moderate ID and ASD. Here, the person refers as experiences things that he has invented from scratch or that he constantly changes to obtain a material or social advantage, often to increase his self-esteem or protect himself from others' negative judgment. In some cases, especially in older people, the fantastic pseudology requires a further effort to differentiate from confabulation, in which the production of fancy data serves to conceal a memory deficit.

People with ID/ASD may present with various memory problem, although it is challenging to assess as changes must be evaluated relative to baseline functioning, which may be difficult to assess formally. When assessing memory with people with ID/ASD, it is possible to resort to combinations of images or objects related to personal memory; for example, one can verify the ability to connect the image of a familiar car with that of its owner or usual driver. Such idiosyncratic assessments are very simple, but lack normative data and standardization; hence, standardized psychometric tests of intelligence and memory are helpful in determining if a person with ID/ASD has a specific memory problem. Many individuals with ID and ASD also show hypomnesia. This makes it more difficult to identify it as a symptom of a co-occurring psychiatric or neurological disorder.

Studies indicate that memory deficits are not homogeneous across all individuals with ID/ASD, but they are related to the specific etiology of ID and subgroups of ASD. That is, in Down syndrome a widespread deficit in the explicit domain of long-term memory (LTM) compared to the implicit one was demonstrated, while studies on Williams syndrome have showed more mixed results. There is evidence of opposite profiles for the implicit LTM, with individuals with Down syndrome relatively preserved and with Williams syndrome relatively impaired [43].

In persons with ASD memory deficits are related more to retrieval than to encoding and many individuals find it hard to remember information if they need a cognitive organizing strategy to aid recall or if they have to detect such an organizing element in the information itself [44, 45]. Other common memory reductions in ASD concern visuospatial and phonological working memory, especially when tasks impose heavier demands on working memory, attaching context to memories, and information that involves social aspects [46]. Problems with prospective memory, which is the ability to remember to carry out a planned intention at an appropriate moment in the future, can also represent a challenge for people with ASD in everyday life [47].

Some persons with ASD show specific memory skills that are much greater than the general population, as those with savantism, although their nature is still to be defined [48].

Memory problems can be divided into qualitative and quantitative. Amnesia is the most frequent quantitative problem, which can further be characterized by the type and chronology of lost memories. Qualitative alterations are categorized as allomnesies and pseudomnesias.

Differential patterns of memory deficits are documented across different etiological and clinical groups of individuals with ID and/or ASD.

6.3.7 Sense Perception

This expression refers to the neurological organization of sensory experience, that is, to the reaction to internal and external stimuli received by the sense organs. In order to transform them into perceptions, sensations must be integrated with a system of products of central neuropsychological activities, such as memory (e.g., past experiences), emotions (e.g., fear or interest), or volition (e.g., motivation).

Perceptual processing can change sensory information, for example, illusions are contrasting or undefined sensory stimuli which blend with perceptive patterns so tightly that it makes it impossible to distinguish the former from the latter. Illusions can involve all the senses, but the visual illusions are the most characteristic and well known. Pareidolia is the tendency to perceive familiar forms in disordered stimuli, such as seeing faces in the moon or animals in the clouds. This may be reduced in people with ASD, especially when related to social stimuli [49, 50].

The alterations of the sense perception of major clinical interest are hallucinations which are perceptions in absence of an object or an external stimulus to be perceived. They can occur for each of the sensory modalities, including visual, auditory, gustatory, olfactory, and tactile systems. Hallucinations may be coenaesthetic, enteroceptive, and proprioceptive. Coenaesthetic hallucinations are hallucinations related to one's body; they are neurologically and physically impossible, such as perceiving a scratching on the inside of one's skull. Enteroceptive hallucinations stimuli are hallucinations regarding stimuli from inside the body, such as proprioception to detect pressure and internal mechanical stimuli that assist in the correct performance of the neuromotor functions such as standing upright and coordination of movements. Auditory hallucinations are found in psychotic disorders, substance poisoning, and, less frequently, in bipolar and depressive disorders. Visual and olfactory hallucinations are more common in organic disorders.

Simple hallucinations relate to a single sensory modality and do not involve complex cognitive elaborations, for example, whistles, points or bright areolas, and flashes of light or color, whereas complex hallucinations involve more senses and integration by brain areas other than primary sensory ones, for example, seeing a lion and hearing and feeling it roar. In most cases, hallucinations are interpolated or inserted in the typical sense-perceptive context, but rarely involve changes in the whole perceptual field. The most frequent hallucinations are auditory, followed by visual hallucinations.

In people with ID/ASD, who have limited verbal communication skills, hallucinations may be indicated by significant changes in behavior. For example, a person with some visual hallucinations may continue to look at an area of the environment where there does not seem to be any relevant stimuli and another person with auditory hallucinations can show sudden communication gestures or plug their ears. A person with coenaesthetic hallucinations may appear strangely intent on removing something from their skin or inspecting a particular area of their body. But in people with ID, they often experience their own thoughts as real voices. The clinician has to distinguish whether the reported auditory hallucination is experienced by the patient as a real perception of the outside environment or if the patient experiences his/her own thoughts aloud. A list of observable aspects and behaviors with possible hallucinatory equivalents is reported in Table 6.1. These equivalents must be carefully distinguished from certain behaviors typical of ID/ASD, such as speaking in a stereotypical way, speaking to themselves, even asking questions and

Table 6.1 Examples of observable/behavioral equivalents of hallucinations in people with ID/low-functioning ASD

Hallucination (sensorial type)	Behavioral observable equivalents
Visual	Fix an area of the environment, in which there does not seem to be anything particularly to be seen (even considering any attention and special features) Suddenly turn to an area of the environment Nod Make gestures with the hands with apparent reactive or communicative value Move as if he were defending himself or fighting Move as if he were loving Cover the eyes with hands or various bandages Look bad or even angrily at people first appreciated or strangers Avoid or hide from family members or with whom he normally has a good relationship Inspect objects, food, or beverages with exaggerated and unusual intensity
Auditory	Nod Make gestures with the hands with apparent reactive or communicative value Suddenly turn to an area of the environment Cover the ears with hands or fingers, or cover them with various materials
Tactile	Rub or make gestures as if he wanted to take something off his skin
Olfactory	Smell objects, food, or drinks with exaggerated and unusual intensity Curl the nose and grimace as if he perceived unbearable odors Sniff the air as if to check for the presence of gas or other contaminants
Somatosensory Coenesthetic	Make gestures as if he wanted to take something off his body Wear heavy, close-fitting clothing or clothes with many layers of clothing (clothes are interpreted as containers to prevent the escape of parts of the body, perceived as unstable) Bandage the ankles or the wrists with various materials Wear hats, bandanas, or foulards, inadequate to the rest of clothing and context
Multisensorial	Move as if he were loving Move as if he were defending himself or fighting

giving answers or using unusual inflections and tone of voice, shouting or speaking with a loud voice, imitating others, or behaving in ways induced by others. Hallucinations must also be distinguished from hallucinosis, in which the awareness of sense perceptions is not shared by others. In most cases, they are simple changes often in the course of organic pathologies, such as intoxications, neoplasms of the encephalic trunk, angiopathy, cranial trauma, and epilepsy.

6.3.8 Mood

Mood alterations are present in many psychiatric disorders. For example, "low" mood or apathy (from Greek without pathos, i.e., feeling), that is, the lack of emotional resonance, is typical of major depression, but is also found in other disorders, including schizophrenic, bipolar, substance-related, neurocognitive, anxiety, and stress-related disorders. Periods of apathy may also occur in situations of extinction of adaptive behavior, such as losses related to depression, like unemployment, loss of family members and friends, and moving place of living or work. Irritability is sometimes defined as a proneness to anger [51] and excessive responsiveness to stimuli. It is more common in mania, premenstrual dysphoric disorder, borderline personality disorder, and some forms of depression. It is also observed in elevated or

expanded mood which characterizes the hypomanic and manic phases of bipolar disorders, but is also found in substance-related disorders, neurocognitive disorders, and pathological gambling.

A severely altered mood can also be expressed in patients with suicidal ideation and behavior, which are in fact frequently found in depressive and bipolar disorders. Suicidal thoughts and attempts may sometimes have a more complex relationship to psychopathological conditions, as demonstrated by the repeated association with delirium, neurocognitive, dramatic personality disorders, behavioral disturbances, and stress-related disorders. In schizophrenia, paradoxical affective responses may occur such as hilarity when listening to sad topics. In patients with ASD, empathy and emotional reciprocity are lacking (see ▶ Chap. 16). In some dissociative or conversion disorders, emotional detachment may occur, for example, a patient may talk about the severity of his/her own symptoms with absolute coldness (*belle indifférénce*).

During the PSE interview, mood may be observable through the individual's behavior, facial expressions, gestures, speed of movement, response latency to stimuli, and general reactivity to context. Emotional behavior during the PSE may differ in quantity, for example, as it is the case in reduced psychomotor activity, or be too intense. Emotional behavior may also differ in quality, for example, when the person shows detached or paradoxical emotions.

Mood alterations may occur in individuals with ID/ASD in whom it may often replace depressed affect. In the person with ID/ASD, mood changes can also be observed through striking variations in behavior, both in quantitative terms, as reduction or increase in their activities, and qualitative, as an appearance of aggressiveness toward others or to oneself, noncompliance, or provocation (see ◘ Table 6.2). A systematic description of the presentations of emotional changes related to psychiatric disorders in individuals with ID can be found in Vannucchi [52]. It should finally be noted that persons with ID/ASD, due to their insight and language problems, may have serious difficulties in distinguishing bodily feelings related to emotions from other bodily feelings, such as pain, in expressing their emotions, especially their moods, and focusing on the event or situation which has caused them. Sometimes observational measures of mood-related behavior may be helpful [18].

In individuals with ID/ASD, mood alterations may often replace depressed affect. Mood changes can be observed through striking variations in behavior, both in quantitative terms, as reduction or increase in their activities, and qualitative, as an appearance of aggressiveness toward others or to oneself, noncompliance, or provocation.

6.3.9 Anxiety

The term anxiety refers to an unpleasant mood, characterized by strong apprehension, due to uncertainty or expectation of something of great subjective importance which cannot be clearly focused. It is often related to physical or social threats or the possibility of such threats and is often highly adaptive in maintaining the integrity of the organism by avoiding or minimizing harm. In serious cases, it involves an overstimulation of the vegetative nervous system including tachycardia, thoracic constriction, rapid breathing, sweating, and abdominal spasms, which may also exacerbate the emotional response itself. Anxiety also disrupts ongoing adaptive behavior [53] and may imply maladaptive conducts like fight, flight, or freezing (see Kretschmer) [54], so that the anxious person may freeze, does not talks, and no longer engages in adaptive responses to threats such as effective avoidance of the feared stimuli.

Anxiety can also imply sensory-perceptual changes, such as impaired vision (reduced visual fields or objects appearing more distant than they actually are), a feeling of unreality, dying or going insane, and to cognitive problems, such as difficulty in concentration,

Table 6.2 Examples of observable/behavioral equivalents of mood changes in people with ID/low-functioning ASD

Mood alteration	Behavioral/observable equivalent
Deflection	Psychomotor slowdown Reduction of participation in activities or opposition Aggression, both physical and verbal, toward objects or other people Self-harming or self-mutilating behavior Reduction of resistance and/or frequency in carrying out usual activities Reduction of sexual activity or sexually oriented behavior Reduction of a range of emotional responses Pervasive tendency to cry
Elevation or expansion	Psychomotor agitation and/or restlessness Increase in stereotypies Self-harming or self-mutilating behavior Excessive search for interpersonal contact and communication Excessive commitment to activities or occupations Aggression, both physical and verbal, toward other people or objects Excessive increase in sexual activity or sexually oriented behavior Excessive self-esteem and/or behaviors sustained by the feeling of being capable of extraordinary or unrealistic performances Increase in phonation or speech
Irritability	Easy access to anger, even for stimuli and normally well-tolerated situations Aggression, both physical and verbal, toward objects or other people Self-harming or self-mutilating behavior Increase in stereotypies
Lability	Rapid changes in mime and gesture Rapid switches from laughing to crying or vice versa

Hurley [55]; Pary et al. [60]; Charlot et al. [61]; Vannucchi et al. [52]

memory, or hypervigilance. Pathological anxiety is a symptom of anxiety disorders such as panic disorder, agoraphobia, specific phobia, separation anxiety disorder, generalized anxiety disorder, and obsessive-compulsive disorders. It may also occur in delirium, intoxication or substance withdrawal, neurocognitive disorders, somatic symptoms disorder, psychotic disorders, body dysmorphophobia, and stress-related and mood disorders. Sometimes anxiety symptoms occur in response to concerns related to other psychiatric disorders.

In the PSE with individuals with ID/ASD, some anxiety disorders, such as simple phobias, are easily recognized. Other anxiety disorders, such as generalized anxiety disorder, may not be so readily apparent. Some have suggested that anxiety in individuals with ID/ASD may express itself in increased motor activity, intensification of stereotypies, or a tendency to cry [55].

6.3.10 Will

The alterations of the will can be quantitative, such as abulia, hyperbulia, and motor inertia, or may be qualitative like dysbulia, automatism, negativism, and impulse control. Abulia (from the Greek "without will") is expressed by the inability to make decisions independently, take initiative, or to initiate an action,

even if the action is trivial or knowing that it is necessary. Hyperbulia is the opposite of abulia. It manifests itself through an excess of decision-making and initiative, often with negative consequences.

Negativism consists of an energetic and persistent opposition to the movements that one wants to make (passive negativism) or in the execution of actions opposed to those actions that are required (active negativism). The term automatism means acts performed mechanically and without participation of will. Autonomous automatisms are automatic and determined by spontaneous activation of the motor centers. They are automatic but originally were voluntary, yet made subconscious by the great repetition. An example of autochthonous automatism is postepileptic automatisms, consisting of a repetition of complex actions following a seizure and of which the individual does not recall. Abulia is seen in major depressive episodes and some forms of psychoses. Hyperbulia is more common in manic and hypomanic episodes, but it can also occur in mixed-mood episodes and anxiety disorders, and may be associated with hyperkinesis. In some psychotic disorders like schizophrenia, abulia may present as catatonia.

Qualitative alterations in will are also found in disruptive behavior disorders, impulse control disorders, kleptomania, pyromania, antisocial and borderline personality disorders, and some forms of suggestibility, for example, in histrionic or dependent personality disorder, eating disorders, and addiction and substance disorders. Lack of will also characterizes disorders of craving (uncontrollable desire to consume a substance or to behave), loss of control, and underrating of consequences.

Alterations of will may occur in people with ID/ASD without being a symptom of an additional psychiatric disorder. This must, therefore, be carefully defined on the basis of changes from premorbid behavior.

Stereotypies are repetitive behaviors with no immediately apparent purpose. Examples include body rocking, head hitting, and hand flapping. Stereotypies often appear relatively invariant in form. At first glance, they are similar to other repetitive and unchanging behavior, such as compulsions and tics. Compulsions, however, differ in that they typically involve cognitive components, such as fear of contamination or disaster, and typical topographies include hand washing and checking. They mostly serve to get rid of anxiety in response to contamination or an intrusive thought. Whereas stereotypies appear in early development, including the development of typical children, compulsive behaviors rarely appear before the third or fourth year of life and tend to begin in teenage years.

Tics are usually sudden, rapid, ballistic movements and are often topographically simpler movements than stereotypes, although motorically more complex forms of tics exist. Tics usually affect facial muscles of the face (as in blinking, stretching of the mouth, and curling of the nose), vocal apparatus (as in coughing and making noises), and upper body skeletal muscles (shoulders and limbs) and sometimes the trunk. In DSM-5 [12], tic disorders are part of movement disorders together with the disturbance of coordination development and stereotyped movement disorder. Tourette syndrome is characterized by multiple, often more complex and energetic tics associated with the emission of inarticulate sounds, coprolalia (cursing), and behavioral and anxiety disorders. Tourette's syndrome may start as early as 5 years, although many individuals develop related symptoms earlier.

Stereotypies are common in individuals with ID/ASD, especially those with more severe ID. Some individuals with ID/ASD also show tics and Tourettes syndrome that appear broadly similar to these disorders in the general population. Relatively little has been published on this topic.

Alterations of will may occur in people with ID/ASD without being a symptom of an additional psychiatric disorder. This must, therefore, be carefully defined on the basis of changes from premorbid behavior.

6.3.11 Thought

Thought is defined as mental activity that allows us to evaluate reality and formulate judgments through processes of association, correlation, integration, abstraction, and symbolization. Traditionally, for the evaluation of thought, clinicians must refer to both form and content [56]. Quantitative alterations in thinking consist of acceleration and slowing down. Acceleration is characterized by the difficulty in focusing on content, superficial thinking connected with shifting from topic to topic, and consequently constructing associations based on uncommon or idiosyncratic features, sometimes resulting in so-called flight of ideas (idiorrhea). Flight of ideas can be so severe that the patient's spoken words cannot keep up with the rapidly shifting content of his/her thinking such that the outcome can be mutism or motor blocking, which is sometimes seen in very severe manic episodes. In slowing down, thought runs painfully slowly. The patient responds to questions with hesitation and delay (retarded thinking), often laconically. It may be seen in major depression, catatonic schizophrenia, and organic syndromes. A particular type of slowing down is viscous or ponderous thinking, which appears to contribute to alterations in the quality of thought. Viscous thinking is characterized by affirming a concept or acting behavior and failing to abandon it, despite the fact that the context requires it.

Qualitative alterations are much more complex than quantitative ones. Circumstantial thought is characterized by the indirect answers to questions or the conversation's goal. It may include the insertion of irrelevant content, long windedness, or prolixity. Perseveration consists of the continuous repetition of a content of thought, even when it is extraneous to the context. Perseveration can be difficult to distinguish from viscous thinking, which is characterized by the inability to give up a point of view. In perseveration, uncritical use of an idea prevails. Perseveration is often mistakenly equated to intrusive or obsessive thoughts, which instead differ for not being evoked, but rather arising against the person's will who indeed recognizes them as inappropriate.

Perseveration is common in individuals with ID/ASD, while viscosity is more frequent in those with co-occurrence of seizure epileptic disorders and obsessions in those with co-occurrence of obsessive-compulsive disorder.

Dissociation consists of a loss of logical links between individual ideas. It is seen in fragmented and bizarre speech. Frequent derivations of dissociation are represented by fusion, derailment and block (or barrage). Magical thinking consists in the attribution of cause-effect links to stimuli, objects, or situations that did not in fact cause something. In nonpathological forms, beliefs change in the face of criticism. It is widespread in the general population in the form of superstition. Pathological forms are associated with psychoses and obsessive-compulsive disorder with little insight (► Chap. 20).

Primitive or predicate thinking [57] is a form of unlogical thinking which results in illogical conclusions. It equates persons and objects merely on the basis of their predicates or functions, for example, a person who thinks of being a doctor only because he is wearing a white coat or because he is using a stethoscope.

Among the qualitative alterations of thought, qualitative alterations of abstraction deserve special consideration. Abstraction consists of the ability to pass from the particular to the general and to replace with symbols the concrete. It is considered by some to be a cognitive function. Many people with ASD are very concrete thinkers. They tend to misunderstand easily or not understand metaphors, analogies, euphemisms, double meanings, jokes, and puns, and references to emotions and feelings. To support them with this difficulty it may be useful to constantly refer to images, objects, or situations that they have combined with various abstractions. Problems with abstract thinking can occur in the case of co-occurrence of psychotic disorders, severe mood disorders, dementias, and brain lesions of the frontal areas or their connections with other cortical structures. To evaluate abstraction skills, you can informally

ask the individual with ID/ASD to sort sets of objects, blocks, tokens, etc., choosing those that "go well together" or "that have something in common." As a counter-test, you can then ask the person to group the same objects on the basis of a new criterion. The behavior manifested by people in these tests also provides information on the ability to identify different plausible criteria for a task and to flexibly change them.

The most serious and most striking alteration in the quality of thinking is seen in delusions, commonly defined as an error in belief that does not recede to criticism or to the contrary evidence of the facts. Jaspers [28] distinguished primary delusions (or delusions proper) from delusion-like ideas on the basis of their comprehensibility or incomprehensibility. Delusion proper is specific to schizophrenia patients and the most characteristic of them are delusional perceptions in which a person correctly perceives a given worldly object but realizes that the object is there to mean something personal, of extraordinary relevance to him, and typically disconnected from common sense. Jaspers identified the peculiarities of delusion proper in the certainty of the belief, the resistance to influence, and in the absurdity of its content. Delusion-like ideas are those in which any relationship with external circumstances or other psychic alterations is detectable. Holotimic delusions (from Greek involving an overall change in mood) are emblematic, such as delusions of guilt, ruin, and illness. Paradigmatically nihilistic delusions such as the patient is convinced he/she is dead and the world is also dead are linked to serious mood swings. Delusions of grandeur, invention, and wealth are associated with marked euphoria.

In people with ID/ASD and psychotic or mood disorders, delusions tend to be less bizarre and complex than in persons of the general population with the same psychopathological conditions. In those with serious communication difficulties, they must be evaluated through significant variations in the quality of behavior, perhaps through avoidance, anger, or aggression toward objects, environments, people, or situations that were previously well tolerated or even appreciated, sudden refusal of assistance and treatment, and social withdrawal.

> In persons with ID/ASD, delusions tend to be less bizarre and complex than in persons of the general population. In those with serious communication difficulties, the presence of delusion must be evaluated through significant variations in behavior, such as the onset or exaggeration of avoidance, anger, or aggression toward objects, environments, people, or situations that were previously well tolerated or even appreciated, sudden refusal of assistance and treatment, and social withdrawal.

> The present state examination of the person with ID and/or ASD is a fundamental clinical moment in the direct evaluation of psychopathological symptoms. Without it, psychodiagnostic tests and questionnaires are of limited value. It must include the assessment of all the following functions: availability, accessibility, appearance, behavior and motor activity, speech, cognitive functions, consciousness, insight, judgment skills, orientation, attention, memory, sense perception, mood, anxiety, will, and thought.

6.4 Final Considerations and Future Directions

Research and practice has made progress in the assessment of psychopathology as shown by the development of numerous psychometric measures and structured diagnostic interviews, although much is left to be done especially with reference to persons with greater impairment of communication and insight. This has been fostered by social pressure for clinical casualness and health costs containment as well as research investments, which have increasingly focused on neuroimaging, genetic, and neuropsychology. The skill to precisely and carefully assess mental states and symptoms of mental suffering was a core attribute of mental health professionals, but today's curricula pay increasingly less atten-

tion to its training [58], thus, blurring the border between co-occurrence of psychiatric disorders and variants of the underlying neurodevelopmental disorder.

Current and future clinical care of individuals with ID/ASD needs a substantial reevaluation and expansion of the psychopathological approach in order to improve professional knowledge, practice, and contact with patients' experience. It is to be hoped that the ideas of this chapter will be significantly extended and detailed in the forthcoming years. In fact, despite the prophecy from the end of the last century that psychopathology would be doomed by neurobiological parameters, psychiatric diagnosis continues to rely exclusively on psychopathology, even in the very latest classificatory systems, such as DSM-5 [12] and ICD-11 [59], and there is a growing demand for personalized symptom-based approaches and precision psychiatry.

Tip

Current and future clinical care of individuals with ID/ASD needs a substantial reevaluation and expansion of the psychopathological approach in order to improve professional knowledge, practice, and contact with patients' experience. It is to be hoped that the ideas of this chapter will be significantly extended and detailed in the forthcoming years.

Key Points

- The Present State Examination of the person with ID and/or ASD is a fundamental clinical moment in the direct evaluation of psychopathological symptoms. Without it, psychodiagnostic tests and questionnaires are of limited value.
- The Present State Examination must include the assessment of all the following functions: availability, accessibility, appearance, behavior and motor activity, speech, cognitive functions, consciousness, insight, judgment skills, orientation, attention, memory, sense perception, mood, anxiety, will, and thought.
- Differential patterns of memory deficits are documented across different etiological and clinical groups of individuals with ID and/or ASD.
- In individuals with ID/ASD, mood alterations may often replace depressed affect. Mood changes can be observed through striking variations in behavior, both in quantitative terms, as reduction or increase in their activities, and qualitative, as an appearance of aggressiveness to others or to oneself, noncompliance, or provocation.
- Alterations of will may occur in people with ID/ASD without being a symptom of an additional psychiatric disorder. This must, therefore, be carefully defined on the basis of changes from premorbid behavior.
- In persons with ID/ASD, delusions tend to be less bizarre and complex than in persons with other clinical conditions and may manifest through significant variations in behavior, especially in those with serious communication difficulties.
- Current and future clinical care of individuals with ID/ASD needs a substantial reevaluation and expansion of the psychopathological approach in order to improve professional knowledge, practice, and contact with patients' experience.

References

1. Emminghaus H. Allgemeine Psychopathologie zur Einführung in das Studium der Geistesstörungen. Leipzig: FCW Vogel; 1878. p. 492.
2. Jaspers K. Allgemeine Psychopathologie. Ein Leitfaden für Studierende, Ärzte und Psychologen. Berlin: Springer; 1913. p. 338.
3. Musalek M, Larach-Walters V, Lepine JP, Millet B, Gaebel W on behalf of the WSFSBP Task Force on Nosology and Psychopathology. Psychopathology

in the 21st century. World J Biol Psychiatr. 2010;11:844–51, p. 845. https://doi.org/10.3109/15622975.2010.510207
4. Stanghellini G. The meanings of psychopathology. Curr Opin Psychiatr. 2009;22:559–64, p. 559. https://doi.org/10.1097/YCO.0b013e3283318e36
5. MacMahon P, Stenfert Kroese B, Jahoda A, Stimpson A, Rose N, Rose J, et al. 'It's made all of us bond since that course...' – A qualitative study of service users' experiences of a CBT anger management group intervention. J Intellect Disabil Res. 2015;59(4):342–52.
6. Niry D, Duvdevani I, Doron I. Older women with intellectual disability and the meaning of aging. J Women Aging. 2015;27(3):216–36.
7. Corby D, Taggart L, Cousins W. People with intellectual disability and human science research: a systematic review of phenomenological studies using interviews for data collection. Res Dev Disabil. 2015;47:451–65.
8. Hilgard ER. The trilogy of mind: cognition, affection, and conation. J Hist Behav Sci. 1980;16:107–17.
9. Stanghellini G, et al., editors. Oxford handbook of phenomenological psychopathology. Oxford, New York: Oxford University Press; 2019. https://doi.org/10.1093/oxfordhb/9780198803157.013.106.
10. Kreitler S. Cognition and motivation: forging an interdisciplinary perspective. New York: Cambridge University Press; 2013.
11. Haggard P. The neurocognitive bases of human volition. Annu Rev Psychol. 2019;70(1):9–28.
12. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (5th edition; DSM-5). Washington, DC; 2013.
13. Sparrow SS, Balla DA, Cicchetti DV. Vineland adaptive behavior scales. Circle Pines: American Guidance Service; 1984.
14. Tassé MJ, Schalock RL, Balboni G, Henry (Hank) B Jr, Borthwick-Duffy SA, Spreat S, Thissen D, Widaman KF, Zhan D. Diagnostic adaptive behavior scale user's manual. Washington, DC: AAIDD; 2017.
15. Scuticchio D, Bianco A, Rossi M, Piva Merli M, Bertelli MO. Dealing with specific cognitive dysfunctions associated with psychiatric vulnerability in intellectual developmental disorders. Eur Psychiatry. 2017;41(S):155–6.
16. Bertelli MO, Salvador-Carulla L, Scuticchio D, et al. Moving beyond intelligence in the revision of ICD-10: specific cognitive functions in intellectual developmental disorders. World Psychiatry. 2014;13(1):93–4.
17. Bertelli MO, Cooper SA, Salvador-Carulla L. Intelligence and specific cognitive functions in intellectual disability: implications for assessment and classification. Curr Opin Psychiatry. 2018;31(2):88–95. https://doi.org/10.1097/YCO.0000000000000387.
18. Green CW, Gardner SM, Reid DH. Increasing indices of happiness among people with profound multiple disabilities: a program replication and component analysis. J Appl Behav Anal. 1997;30(2):217–28.
19. Fish F. Clinical psychopathology: signs and symptoms in psychiatry. Wright: Bristol; 1974.
20. Hinsie LE, Campbell RJ. Psychiatric dictionary. 4th ed. New YorK: Oxford University Press; 1970.
21. Taylor MA. The neuropsychiatric mental status examination. Springer Netherlands: Spectrum Publisher; 1981. p. 36.
22. Deese J. Principles of psychology. Boston: Allyn & Bacon; 1964.
23. Scharfetter C. General psychopathology. An introduction. Cambridge: Cambridge University Press; 1980.
24. Catalano-Nobili C, Cerquetelli G. In: Pozzi G, editor. Elementi di psicopatologia teoretica. Roma; 1959.
25. Skinner BF. Science and human behavior. New York: Macmillan; 1953. p. 160.
26. Stanghellini G, Rosfort R. Emotions and personhood: exploring fragility – making sense of vulnerability. Oxford: Oxford University Press; 2013.
27. Scharfetter C. Allgemeine psychopathologie. Stuttgart: Georg Thieme Verlag; 1976.
28. Jaspers K.. Allgemeine Psychopathologie. Berlin: Springer. 1959. (VII ed.) (trad. it. Psicopatologia generale, Roma: Il Pensiero Scientifico, 1964).
29. Miyake A, Friedman NP, Emerson MJ, Witzki AH, Howerter A, Wager TD. The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: a latent variable analysis. Cogn Psychol. 2000;41(1):49–100.
30. Newell KM, Sprague RL, Pain MT, Deutsch KM, Meinhold P. Dynamics of self-injurious behaviors. Am J Ment Retard. 1999;104:11–21.
31. Williams P, Sears LL, Allard A. Sleep problems in children with autism. J Sleep Res. 2004;13:265–8.
32. Couturier JL, Speechley KN, Steele M, et al. Parental perception of sleep problems in children of normal intelligence with pervasive developmental disorders: prevalence, severity, and pattern. J Am Acad Child Adolesc Psychiatry. 2005;44:815–22.
33. Ming X, Sun YM, Nachajon RV, Brimacombe M, Walters AS. Prevalence of parasomnia in autistic children with sleep disorders. Clin Med Pediatr. 2009;3:1–10.
34. Goldman SE, McGrew S, Johnson KP, Richdale AL, Clemons T, Malow BA. Sleep is associated with problem behaviors in children and adolescents with autism spectrum disorders. Res Autism Spectr Disord. 2011;5(3):1223–9.
35. Richdale AL, Baker EK. Sleep in individuals with an intellectual or developmental disability: recent research reports. Curr Dev Disord Rep. 2014;1:74–85.
36. Radovic F, Radovic S. Feelings of unreality: a conceptual and phenomenological analysis of the language of depersonalization. Philos Psychiatr Psychol. 2002;9(3):271–9. Johns Hopkins University Press.
37. Hunter EC, Sierra M, David AS. The epidemiology of depersonalisation and derealisation. A sys-

tematic review. Soc Psychiatry Psychiatr Epidemiol. 2004;39:9–18.
38. Mula M, Pini S, Cassano GB. The neurobiology and clinical significance of depersonalization in mood and anxiety disorders: a critical reappraisal. J Affect Disord. 2007;99:91–9.
39. Scerif G, Cornish K, Wilding J, et al. Visual search in typically developing toddlers and toddlers with Fragile X or Williams syndrome. Dev Sci. 2004;7:116–30.
40. Chita-Tegmark M. Social attention in ASD: a review and meta-analysis of eye-tracking studies. Res Dev Disabil. 2016;48:79–93. https://doi.org/10.1016/j.ridd.2015.10.011. Epub 2015 Nov 6
41. Poole D, Gowen E, Warren PA, Poliakoff E. Visual-tactile selective attention in autism spectrum condition: an increased influence of visual distractors. J Exp Psychol Gen. 2018;147(9):1309–24. https://doi.org/10.1037/xge0000425
42. Wang Q, Chang J, Chawarska K. Atypical value-driven selective attention in young children with autism spectrum disorder. JAMA Netw Open. 2020;3(5):e204928. https://doi.org/10.1001/jamanetworkopen.2020.4928.
43. Vicari S, Costanzo F, Menghini D. Chapter Four – Memory and learning in intellectual disability. In Hodapp Robert M, Fidler Deborah J, editors. Fifty Years of research in intellectual and developmental disabilities. international review of research in developmental disabilities, vol. 50. Academic Press; 2016. p. 119148. ISSN22116095, ISBN9780128047866, https://doi.org/10.1016/bs.irrdd.2016.05.003.
44. Williams DL, Goldstein G, Minshew NJ. The profile of memory function in children with autism. Neuropsychology. 2006;20(1):21–9. https://doi.org/10.1037/0894-4105.20.1.21.
45. Gras-Vincendon A, Bursztejn C, Danion JM. Fonctionnement de la mémoire chez les sujets avec autisme [Functioning of memory in subjects with autism]. Encéphale. 2008;34(6):550–6.
46. Habib A, Harris L, Pollick F, Melville C. A meta-analysis of working memory in individuals with autism spectrum disorders. PLoS One. 2019;14(4):e0216198. https://doi.org/10.1371/journal.pone.0216198.
47. Landsiedel J, Williams DM, Abbot-Smith K. A meta-analysis and critical review of prospective memory in autism spectrum disorder. J Autism Dev Disord. 2017;47(3):646–66. https://doi.org/10.1007/s10803-016-2987-y.
48. Mottron L, Belleville S, Stip E, Morasse K. Atypical memory performance in an autistic savant. Memory. 1998;6(6):593–607.
49. Guillon Q, Rogé B, Afzali MH, Baduel S, Kruck J, Hadjikhani N. Intact perception but abnormal orientation towards face-like objects in young children with ASD. Sci Rep. 2016;25(6):22119.
50. Ryan C, Stafford M, King RJ. Brief report: seeing the man in the moon: do children with autism perceive pareidolic faces? A pilot study. J Autism Dev Disord. 2016;46(12):3838–43.
51. Stringaris A, Taylor E. Disruptive mood. Irritability in children and adolescents. New York: Oxford University Press; 2015.
52. Vannucchi G. Depressive and bipolar disorders in persons with intellectual disability and low-functioning autism spectrum disorder. The development and first validation of a new diagnostic tool (SPADD-M). PhD [dissertation]. Firenze: University of Florence; 2019.
53. Estes WK, Skinner BF. Some quantitative properties of anxiety. J Exp Psychol. 1941;29(5):390–400. https://doi.org/10.1037/h0062283.
54. Kretschmer E. Hysteria: reflex and instinct. London: Peter Owen; 1948.
55. Hurley AD. Depression in adults with intellectual disability: symptoms and challenging behaviour. J Intellect Disabil Res. 2008;52(11):905–16.
56. Schneider K. Psicopatologia clinica. Tr. it. Roma, Città Nuova, 1983; 1959.
57. Von Domarus E. The specific laws of logic in schizophrenia. In: Kasanin JS, editor. Language and thought in schizophrenia. Berkeley: University of California Press; 1944.
58. Schultze-Lutter F, Schmidt SJ, Theodoridou A. Psychopathology-a precision tool in need of re-sharpening. Front Psych. 2018;9:446. https://doi.org/10.3389/fpsyt.2018.00446.
59. World Health Organization. International statistical classification of diseases and related health problems, 11th ed. 2020. https://icd.who.int/.
60. Pary RJ, Charlot LR, Fox S, Hellings JA, Hurley AD. Bipolar and related disorders. In: Fletcher RJ, Barnhill J, Cooper SA, editors. Diagnostic manual-intellectual disability: a textbook of diagnosis of mental disorders in persons with intellectual disability (2nd edn) DM-ID-2. Kingston: NADD Press; 2016.
61. Charlot LR, Tassé M, Fox S, Pary RJ, Benson BA, Hassiotis A. Depressive disorders. In: Fletcher RJ, Barnhill J, Cooper SA, editors. Diagnostic manual-intellectual disability: a textbook of diagnosis of mental disorders in persons with intellectual disability (2nd edn) DM-ID-2. Kingston: NADD Press; 2016.