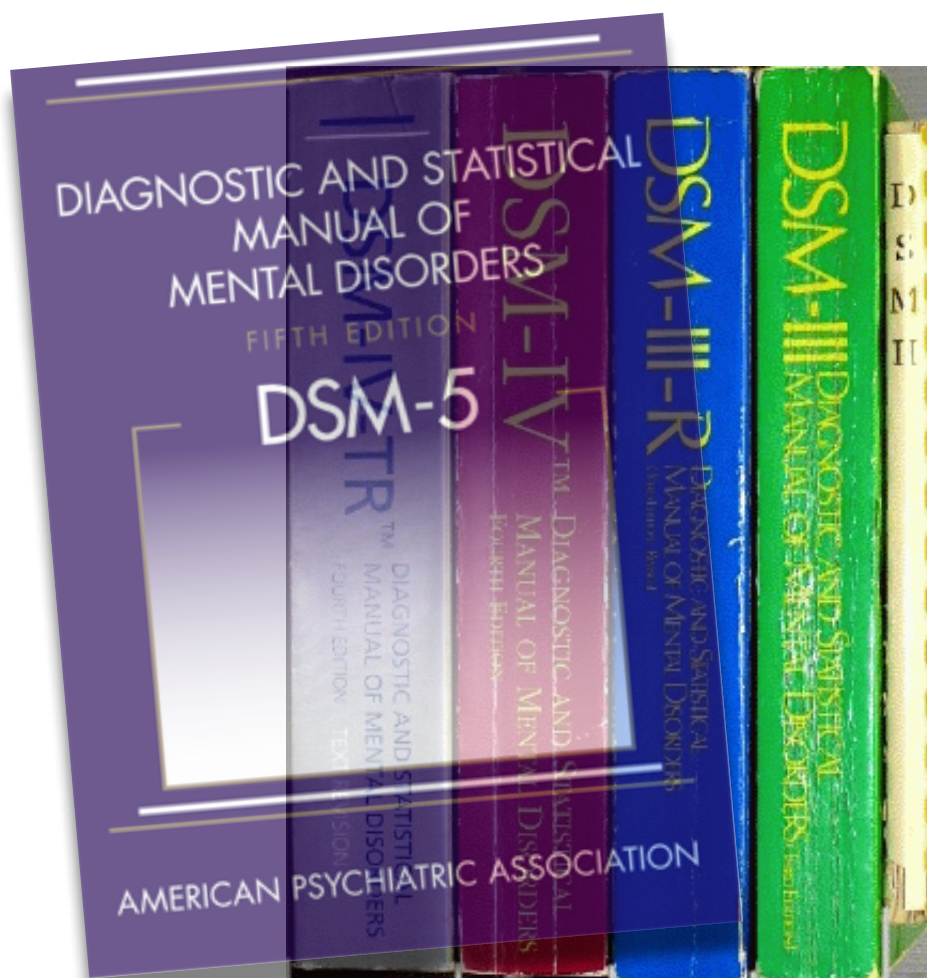


DSM-5

MAJOR CHANGES FOR CHILD AND ADOLESCENT DISORDERS

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Classification is of undeniable importance in human progress, from mere recognition of patterns for easy memorization to complex scientific classification systems. In most fields of study, the main uses of classification include clarifying relationships among objects or organisms; facilitating memorization and recall of data; enabling clear communication; improving predictive power; and stimulating the search for explanations (Volkmar et al, 2007).

Classification systems in child and adolescent psychiatry serve similar purposes. However, unlike what is increasingly seen in other areas of medicine, the role of classification in prediction and explanation is still limited. Up to now, the main function of classification in child and adolescent psychiatry has been to improve the transmission of information by facilitating communication among professionals in both clinical and research environments. Other uses of classification include information that can be useful for treatment and prognosis (Martin & Volkmar, 2007).

A HISTORICAL PERSPECTIVE

The Diagnostic and Statistical Manual of Mental Disorders (DSM) is one of the two leading classification systems. Since its first publication in 1952, the DSM has undergone five major revisions until the current one, DSM-5 (American Psychiatric Association, 2013). DSM-III (American Psychiatric Association, 1980) is recognized as revolutionary as it improved—operationalized—diagnostic criteria and, consequently, the reliability of psychiatric diagnoses. DSM-IV, published 14 years later (American Psychiatric Association, 2000), attempted to both harmonize the DSM with the International Classification of Diseases (ICD) and provide greater emphasis on the validity of psychiatric diagnoses by conducting systematic reviews and field trials. However, experience with its use highlighted significant limitations in both the harmonization with ICD-10 (First, 2009) and the validity of many of the psychiatric diagnoses (Kapur et al, 2012).

DSM-5 was initially hoped to be a paradigm change in psychiatry by linking diagnosis to pathophysiology. However, the lack of neurobiological markers with sufficient diagnostic specificity hampered this expectation (Kendler & First, 2010). This challenge was left for others to pursue, such as in the National Institute of Mental Health (NIMH) Research Domain Criteria (RDoC) initiative (see <http://www.youtube.com/watch?v=i8Dh33cMipY>). In this context, the main modifications introduced by DSM-5 can be summarized as follows:

- 1) A greater emphasis on a dimensional perspective. There has been considerable criticism of the categorical approach in previous DSM editions since there is not enough empirical data supporting the present/absent symptom cut-off for many disorders, from attention-deficit/hyperactivity disorder (ADHD) to personality disorders. This categorical approach has been strongly criticized in that it classifies as pathologic some normal patterns of behaviour, lowers the detection of atypical presentations and comorbidities, supports inflexible and context-blind treatment regimens, and weakens statistical power in research. Incorporating dimensional measures without making it unfriendly for clinicians was perhaps the most difficult challenge for the DSM-5

Press and ArtMed; flights and accommodation from Novartis and Janssen-Cilag in 2010 to take part in two child psychiatric meetings. The ADHD and Juvenile Bipolar Disorder Outpatient Programs received unrestricted educational and research support from Abbott, Eli-Lilly, Janssen-Cilag, Novartis, and Shire.

workgroups. Dimensionality was introduced in DSM-5 in various ways. For example, by incorporating *crosscutting symptom assessment* (Narrow et al, 2013); i.e., using screening questions for 12 dimensions of behaviour linked to a second level of questions if any of the answers to the initial screening questions is positive, resembling the traditional review of systems in general medicine. This change addresses part of the problem by capturing different symptom dimensions and potentially increasing the detection of atypical presentations and comorbidities. Dimensionality was also strengthened by incorporating severity scales for all disorders and in re-structuring diagnostic criteria for some conditions such as autistic spectrum disorder and substance use disorders.

- 2) The structure was modified to increasingly group disorders on the bases of shared etiological factors (Andrews et al, 2009a). In fact, this was the only major change made based on neurobiological mechanisms. Thus, obsessive compulsive disorder became independent from the anxiety disorders; pathological gambling was incorporated into a ‘substance-related and addictive disorders’ chapter and a new, broader group of ‘trauma and stressor related disorders’ was created (see Table A.9.1).
- 3) A more developmentally oriented approach was adopted—recognizing that a large proportion of mental disorders begin in childhood or adolescence (Kim-Cohen et al, 2003). This is of particular interest for child and adolescent psychiatrists and consistent with WHO’s vision that *mental disorders are largely chronic disorders of youth* (Guilbert, 2003). All disorders in DSM-5 are conceptualized in a lifespan perspective. Thus, the DSM-IV chapter on ‘disorders usually first diagnosed in infancy, childhood or adolescence’ is no longer in DSM-5. Developmental considerations have been emphasized particularly in some diagnoses (e.g., ADHD, PTSD); though timid, these considerations are stronger than in DSM-IV. The new organization of chapters in DSM-5 also reflects an attempt to incorporate a lifespan perspective. Disorders usually diagnosed in childhood, like neurodevelopmental disorders, appear first; they are followed by those typically diagnosed in adulthood, such as bipolar disorder; and disorders mostly diagnosed later in life, like neurocognitive disorders, are located towards the end. A new chapter dealing with ‘medication-induced movement disorders and other adverse effects of medication’ has been added also.
- 4) The multi-axial structure of DSM-IV has been replaced by a uniaxial approach. In DSM-IV, a patient’s clinical diagnosis would be described into three axes: clinical syndrome (e.g., schizophrenia, major depressive disorder) in axis I; personality disorders in axis II; and general medical conditions (e.g., HIV, hypothyroidism) in axis III (the phrase ‘general medical condition’ is replaced in DSM-5 with ‘another medical condition’). The other two axes were used to report psychosocial stressors and level of function. Some problems were identified with this structure. First, it used a psychiatry-specific language that was often not understood by other health professionals, hindering communication. Second, it implied that a psychiatric diagnosis is different from a medical diagnosis. In DSM-



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5, axes I, II and III have been merged to include both psychiatric and relevant medical diseases. It is expected this change may improve the interaction between psychiatry and general medicine (Kupfer et al, 2013).

- 5) Redefinition of diagnostic criteria for several disorders. The approximately 160 members of the 13 workgroups, 6 study groups, and a contingent of almost 300 consultants worked intensively for 5 years reviewing the accumulated evidence dealing with the validity of diagnostic criteria for specific disorders. They also assessed findings from secondary data analyses provided by researchers in different fields and results on reliability and clinical utility from the field trials (Regier et al, 2013). Based on this work, modifications to diagnostic criteria were proposed taking into account a careful balance between pros (e.g., increased validity) and cons (e.g., artificial increases in prevalence). Like in its recent predecessors, each disorder includes supplementary text with, among others, descriptions of prevalence, course and culture-related issues.

Table A.9.1 Organization of chapters in DSM-5

Neurodevelopmental disorders
Schizophrenia spectrum and other psychotic disorders
Bipolar and related disorders
Depressive disorders
Anxiety disorders
Obsessive-compulsive disorders
Trauma- and stressor-related disorders
Dissociative disorders
Somatic symptom and related disorders
Feeding and eating disorders
Elimination disorders
Sleep-wake disorders
Sexual dysfunctions
Gender dysphoria
Disruptive, Impulse-control, and conduct disorders
Substance-related and addictive disorders
Neurocognitive disorders
Personality disorders
Paraphilic disorders
Other mental disorders
Medication-induced movement disorders and other adverse effects of medication
Other conditions that may be a focus of clinical attention

- 6) New diagnoses. There is a misconception that DSM *creates* disorders. The DSM includes a new diagnosis only when careful examination of clinical and research data show that it warrants being considered a separate diagnostic entity—although, as expected, not all scientists may agree about it. In fact, DSM-5 includes fewer diagnoses than previous editions. Examples of new diagnoses in DSM-5 are *hoarding disorder* and *disruptive mood dysregulation disorder* (see below). Some diagnoses had been included already in DSM-IV in an appendix as warranting further study. Since then, enough data had accumulated to support their addition as a diagnosis in DSM-5. Examples are *binge eating disorder* and *premenstrual dysphoric disorder*. It is important to highlight that DSM-5 continues to have a chapter for conditions ‘for further study’ (section 3), such as *attenuated psychosis syndrome*, *Internet gaming disorder* and *nonsuicidal self-injury*.

Discussion of modifications for all mental disorders in DSM-5 is beyond the scope of this chapter. We present below the changes more relevant for child and adolescent mental health professionals and those that generated controversy.

NEURODEVELOPMENTAL DISORDERS

The new group of neurodevelopmental disorders is one of the changes in the DSM structure supported by pathophysiologic features. These are disorders characterized by a delay or deviation in brain development influencing phenotypic features (Rutter et al, 2006); for example, ADHD, learning disorders, mental retardation and autistic spectrum disorders (see Table A.9.2). Nevertheless uncertainty remains on what is the best place for some of these conditions. While the inclusion of ADHD under this cluster is based on recent brain imaging data



Click on the picture to hear Dr Thomas Insel, director of the US National Institute of Mental Health talking about ‘Toward a new understanding of mental illness’ (13:04)

Table A.9.2 Neurodevelopmental disorders in DSM-5

- Intellectual Disability
- Communication disorders
 - Language disorder
 - Speech sound disorder (difficulty with speech sound production that prevents verbal communication)
 - Stuttering (childhood-onset fluency disorder)
 - Social (pragmatic) communication disorder
- Autism spectrum disorder
- Attention-deficit/hyperactivity disorder
- Specific learning disorder
- Motor disorders
 - Developmental coordination disorder
 - Stereotypical movement disorder
 - Tic disorders

showing a delay in cortical maturation (Shaw et al, 2007), it has been argued that ADHD would fit as comfortably within the disruptive, impulse-control and conduct disorders cluster because of its genetic overlap and similar symptomatology (Andrews et al, 2009b).

Autism spectrum disorders

Autism spectrum disorders (ASD) is a new category in DSM-5 on the understanding that three previously separate disorders listed under the pervasive developmental disorders (PDD) rubric in DSM-IV are better conceptualized as different levels of severity of one single condition. Thus, DSM-5 introduced here the concept of spectrum, reinforcing the relevance of dimensionality. ASD includes the former autistic disorder, Asperger's syndrome, and PDD not otherwise specified (NOS). *Rett's syndrome* and *childhood disintegrative disorder* have been removed from the section.

There are several reasons behind this change. The validity and reliability of the different diagnoses under the PDD rubric has been questioned, in particular the distinction between Asperger's syndrome and the so-called high-functioning autism (Howlin, 2003; Mayes et al, 2001). For example, one study assessing diagnostic features of DSM-IV PDD showed that the best predictor of which diagnosis individuals would receive was the clinic they were referred to rather than the individuals' clinical features (Lord et al, 2012). The DSM-5 workgroup concluded that previous distinctions between these conditions were the result of artificially clustering presentations of different levels of severity of the same disorder that in fact existed as a continuum. The new criteria are potentially more able to differentiate ASD from normal development and from other psychiatric disorders.

In addition, diagnostic criteria for ASDs were reduced from three to two core symptom domains:

- Deficits in social communication and social interaction and
- Restrictive repetitive behaviour, interests and activities.

The *social communication and interaction deficits domain* was created by merging two former DSM-IV domains, 'social' and 'communication' deficits—based on the premise that they are manifestations of a single set of symptoms. In other words, these two domains overlap and resulted in double-counting of symptoms (Mandy et al, 2012).

The proposed new criteria generated concern among some researchers, the medical community and relatives of sufferers. First, it was claimed that the existing diagnostic subtypes were clinically useful even without good inter-rater reliability, and that their criteria should have been improved rather than abandoned since the DSM-IV subtypes had existed for a relatively short period of time and future research could improve their validity and reliability (Ghaziuddin, 2010). Second, the extensive body of research on autism built in the last two decades will have limited value as the changed diagnostic criteria would fundamentally alter these diagnoses (Singh et al, 2009). For example, one study assessed sensitivity and specificity of the, at the time, proposed DSM-5 criteria using DSM-IV as the reference (McPartland et al, 2012). Results showed good specificity (95%), as expected by the Workgroup, but variable sensitivity for different PDD subtypes: 76% for autistic disorder, 25% for Asperger's disorder, and 28% for PDD-NOS.

Rett's syndrome

Rett's syndrome has been removed from DSM-5. This is a neurodevelopmental disorder that affects girls almost exclusively. It is characterized by normal early growth and development followed by a slowing of development, loss of purposeful use of the hands, distinctive hand movements, slowed brain and head growth, problems with walking, seizures, and intellectual disability. To read more about this condition click on this box.

Table A.9.3 Main changes in pervasive developmental disorders in DSM-5

Change	Magnitude	Rationale
<ul style="list-style-type: none"> Merging the former three pervasive developmental disorder diagnoses into one 	Major	One single spectrum better describes symptom presentation, development and response to treatment.
<ul style="list-style-type: none"> Defining two core domains of the syndrome instead of three 	Moderate	Two previous domains (impairment in social interaction and in communication) were considered overlapping.
<ul style="list-style-type: none"> Removing Rett's Syndrome 	Minor	ASD behaviors are present only for a brief period during development in Rett's syndrome patients – they can still be diagnosed with ASD.
<ul style="list-style-type: none"> Removing childhood disintegrative disorder 	Minor	Childhood disintegrative disorder patients exhibit particular physical symptoms and experience a distinct pattern of developmental regression

Sensitivity was lower for individuals with above average IQ. The conclusion was that DSM-5 produced stricter, higher-threshold criteria that tend to exclude high-functioning individuals from the diagnosis, consequently precluding their eligibility for services—even when they may stand to benefit from treatment. However, it is of note that this higher threshold might help to deal with the explosion of PDD diagnosis in recent years that might be partially fuelled by criteria with less well defined boundaries (King & Bearman, 2009). The main changes in the pervasive developmental disorders are summarized in Table A.9.3.

Learning disorders

Important changes have been made in the core diagnostic features of learning disorders including:

- Merging the 4 previous DSM-IV subtypes into one category and the consequent modifications of the diagnostic criteria
- Change in the minimum age for diagnosis
- Creation of the criterion of *persistence* and *resistance* to intervention; and
- Change in the definition of *low achievement*.

The decision to consolidate learning disorders into one single category was based on the lack of evidence to support the mutual exclusiveness, coverage and developmental sensitivity of the DSM-IV learning disorders subtypes. A review of the literature conducted by the workgroup found conflicting evidence. The final decision was made considering not only the evidence available but also the opinion of experts and of professional and advocacy groups. The conclusion was to amalgamate the subtypes under one single category but to maintain developmental distinctions as *specifiers*, capturing and even extending the key features of the previous subtypes (Tannock, 2013). This involved changing criterion A, which now requires only *one out of six* heterogeneous symptoms (inaccurate or slow reading, difficulty understanding what is read, spelling, writing, number sense or calculation, mathematical reasoning). Furthermore, the minimum age for

diagnosis that was specific for each one of the DSM-IV subtypes has been widened: symptoms should begin during the school-age years but may not become fully manifest until the demands on the affected academic skills exceed the individual's limited capabilities.

Criterion A also includes a new—controversial—requirement that symptoms need to persist despite the provision of interventions that target the difficulties. This model, *response to intervention*, is already integrated into the requirements used by many school systems in the US. It is based on the premise that some children diagnosed with learning disorders are actually inadequately instructed, encourages an emphasis on prevention, and decreases the number of false positives. However, this has been strongly criticized by some experts: interventions are not standardized or evidence-based, allowing for misinterpretation of the failure (Waesche et al, 2011). Also, response to the intervention suggests a dichotomous outcome when in fact it is likely to exist as a continuum (Fletcher & Vaughn, 2009). The few studies available showed poor agreement among different response to intervention-based definitions of learning disorders (Waesche et al, 2011). This criterion tends to be ignored for developing countries because interventions are not widely available. Furthermore, this represents a major rupture in the concept of nosology—possibly this is the only diagnosis in medicine that *requires* a negative response to treatment as a criterion.

The quantification of poor academic achievement has also changed in DSM-5. According to DSM-IV academic skills should be substantially below average considering the individual's chronological age, measured intelligence, and age-appropriate education. The criteria now define low academic skills as substantially below average according to assessment tests standardized for age, education and culture, and exclude the diagnosis in the presence of intellectual disability. Thus, DSM-5 excludes the need for a discrepancy between IQ and academic achievement for learning disorders. There is evidence this approach may lead to lower diagnostic accuracy, overdiagnosing learning disorders in high IQ children while doing the opposite in those with low IQ (Francis et al, 2005). A shortcoming of both DSM-IV and DSM-5 criteria is their lack of applicability in many countries, especially in the underdeveloped world, since they rely on nonexistent standardized tests adapted for each language and culture.

Table A.9.4 Main changes in criteria for learning disorders

Change	Magnitude	Rationale
<ul style="list-style-type: none"> Merging the four subtypes into one unique category with specifiers 	Moderate	Uncertainty about boundaries between the previously separated diagnoses.
<ul style="list-style-type: none"> Requiring a lack of response to treatment 	Moderate	Learning disorder might actually be the result of inadequate instruction.
<ul style="list-style-type: none"> Removing the discrepancy between IQ and academic achievement 	Moderate	The IQ-corrected approach had lower diagnostic accuracy.
<ul style="list-style-type: none"> Requirement that symptoms be present for 6 months 	Minor	Exclusion of temporary cases

Criteria for learning disorder did not formally specify duration of symptoms in DSM-IV. DSM-5 now requires symptoms to be present for at least 6 months. This is not expected to have much impact (Tannock, 2013). See a summary of the main changes in Table A.9.4.

Attention-deficit/hyperactivity disorder

There have not been important changes to the diagnostic construct—the 18 core symptoms remain the same. Changes include age of onset, symptom threshold for adults, and the removal of autism spectrum disorder from the exclusion criteria. Less significant changes include modifications to the ADHD subtypes and inclusion of more developmentally appropriate examples for the 18 core symptoms.

Considerable evidence challenges the validity of the criterion that required onset of impairment before age 7 in DSM-IV. Several studies have found no difference in phenotypic presentation, neuropsychological impairment, course, severity or treatment response between children with onset before and after 7 years of age (Kieling et al, 2010). However, ADHD, as a neurodevelopmental disorder, requires an age of onset limit. Barkley and Brown (2008) and Kessler et al (2006) provided evidence that an age of onset before 12 would capture around 95% of the cases in their studies. Although the medical and general community voiced concerns that such a change may artificially increase the prevalence of ADHD—though evidence from population studies does not support this claim (Polanczyk et al, 2010)—DSM-5 accepted this change and requires that symptoms be present before 12 years of age.

The number of symptoms needed for the diagnosis of ADHD in adults has been reduced to five in both inattention and hyperactivity/impulsivity dimensions.

Table A.9.5 Summary of main changes in ADHD criteria

Change	Magnitude	Rationale
<ul style="list-style-type: none"> Listing ADHD in the neurodevelopmental disorders chapter 	Minor	Shared etiology
<ul style="list-style-type: none"> Changing the age of onset criterion from 7 to 12 years of age 	Moderate	Increased diagnostic sensitivity: several cases (especially those with ADHD predominantly inattentive) were not detected with the old criterion.
<ul style="list-style-type: none"> Lowering the diagnostic threshold for adults from 6 to 5 symptoms in both dimensions 	Moderate	Increased diagnostic sensitivity
<ul style="list-style-type: none"> Changing subtypes to current presentation 	Minor	There is not enough evidence of developmental stability to support subtyping.
<ul style="list-style-type: none"> Changing examples of diagnostic symptoms 	Minor	New examples seek to better fit the symptoms for different developmental stages.
<ul style="list-style-type: none"> Removing ASD from the exclusion criteria 	Moderate	ADHD is often comorbid with ASD; comorbidity is associated with higher impairment and comorbid ADHD can be successfully treated with stimulants.

The DSM-IV field trials included only samples of children and adolescents. Therefore, the cut-off of six symptoms in DSM-IV is not necessarily optimal for adults. Barkley and Brown (2008) have shown that this cut-off represents 2.5 to 3 standard deviations above the mean, capturing only the most extreme adult cases. Using four out of nine symptoms predicts impairment with the best sensitivity and specificity and is supported by neurobiological data (Hoogman et al, 2012; Matte et al, 2012). However, to be cautious, DSM-5 only lowered the threshold to five symptoms.

There is no evidence supporting the exclusion of a diagnosis of ADHD when ASD is present. In fact ADHD and autism frequently co-exist (Simonoff et al, 2008), and the presence of ADHD in patients with ASD is associated with different clinical correlates from those found in pure ASD (Rommelse al, 2011). Also, stimulants may lessen ADHD symptoms in patients with ASD (Research Units on Pediatric Psychopharmacology Autism Network, 2005). Table A.9.5 summarises the main changes to the ADHD criteria in DSM-5 and their rationale.

Intellectual Disability

Changes are summarized in Table A.9.6. Intellectual disability is located in the neurodevelopmental disorders chapter. In DSM-5 the term *intellectual disability* replaces DSM-IV *mental retardation* (the forthcoming revision of the ICD proposes to use the term ‘intellectual developmental disorders’ instead). The expression ‘mental retardation’ has gradually been abandoned both in clinical and academic settings and among the lay public because of its pejorative connotations. Other modifications include changes emphasizing a more comprehensive patient assessment and evaluation of functioning.

Even though IQ testing is encouraged and remains a cornerstone of assessment, the new criteria emphasize the importance of functioning. IQ measures

Table A.9.6 Main changes in the diagnosis of intellectual disability

Change	Magnitude	Rationale
<ul style="list-style-type: none"> ‘Mental retardation’ is replaced by ‘intellectual disability’. 	Minor	Pejorative connotations of ‘mental retardation’. Term widely used already in clinic and academic settings, among advocacy groups and the lay public. Consistency with the ICD.
<ul style="list-style-type: none"> Evaluation emphasizes level of functioning rather than IQ. 	Moderate	IQ less valid at the lower end of the range. IQ alone insufficient to assess functioning in real-life situations and practical tasks.
<ul style="list-style-type: none"> Evaluation of adaptive functioning in three domains: conceptual, social and practical. 	Moderate	Multilevel evaluation can better determine how well an individual copes with everyday tasks.
<ul style="list-style-type: none"> Define severity levels based on adaptive functioning rather than IQ 	Moderate	Adaptive functioning determines the level of support required
<ul style="list-style-type: none"> Remove age of onset 	Minor	Variable duration of developmental period

are less valid in the lower end of the IQ range; additionally, co-occurring disorders, practice effects and the 'Flynn effect' (increase in average IQ scores worldwide in recent years) are examples of factors that may influence the diagnosis of intellectual disability (Kanaya et al, 2003). This approach reinforces the need for an evaluation by trained professionals (Harris, 2013).

Criterion A concerns deficits in intellectual functioning and general abilities measured by IQ tests. Individuals with intellectual disability are expected to have IQ scores two standard deviations or more below the population mean. Criterion B refers to deficits in adaptive functioning across three domains (not specified in previous editions of the manual): conceptual (e.g., academic skills); social (e.g., language, communication, interpersonal skills); and practical (e.g., living skills, self-care). This multidimensional approach seeks to ensure that diagnosis is made based on a broad evaluation of the disorder's impact on functioning instead of based solely on specific complaints and intelligence testing.

DSM-5 keeps the traditional severity levels – mild, moderate, severe and profound – but replaces IQ scores as the defining criterion by the extent of adaptive dysfunction in the above three domains. While previous editions established an age of onset cut off for diagnosis of less than 18 years, DSM-5 does not give a specific age but requires symptoms to emerge during childhood or adolescence. Table A.9.6 summarises the main changes.

DISRUPTIVE, IMPULSE-CONTROL, AND CONDUCT DISORDERS

Conduct disorder

DSM-5 has moved conduct disorder and oppositional defiant disorder (ODD) to a new chapter also containing antisocial personality disorder, pyromania, and kleptomania. The essential diagnostic features of conduct disorder remain unchanged in DSM-5—a repetitive and persistent pattern of behaviour in which the basic rights of others or major societal rules are violated, as evidenced by the presence of at least three out of 15 criteria (almost identical to those in DSM-IV) in the previous 12 months. There were two subtypes of conduct disorder in DSM-IV depending on whether onset had been during childhood or during adolescence. DSM-5 adds a new specifier—*with limited prosocial emotions*. This specifier goes beyond the presence of negative behaviour and would reflect an individual's typical pattern of emotional and interpersonal functioning in multiple contexts. People with 'conduct disorder with limited prosocial emotions' would display limited empathy and little concern for the feelings, wishes, and well-being of others as evidenced by at least two of the following:

- Lack of remorse and guilt
- Callous lack of empathy
- Lack of concern about performance (e.g., not motivated or concerned about performing at school or work)
- Shallow or deficient affect (e.g., feelings or emotions expressed are shallow or insincere).



DSM-5 Implementation and Support

Click on the image to access the American Psychiatric Association (APA) website to support the implementation of DSM-5. The site includes information on implementation issues, answers to frequently asked questions, lists DSM-5 corrections, and provides a mechanism for submitting questions and feedback. Researchers and clinicians can also give feedback on the usefulness of the online assessment measures of cross-cutting symptoms, disorder severity, personality, and disability. The site also provides links to educational webinars about the DSM-5. The site will continue to provide historical information about the development process and overall rationale for changes from DSM-IV.

The belief that youth with conduct disorder are a very heterogeneous group considering severity, life course, and presumed aetiology has led to multiple proposals for subdividing this diagnosis. In fact, decades ago, DSM-III already included two subtypes: socialized/undersocialized, and aggressive/non-aggressive. There was some evidence suggesting that the undersocialized and aggressive subtypes represented more severe and difficult to treat groups. However, definitions were not clear enough and were often misused, leading to the discontinuation of this subdivision in later editions. DSM-IV introduced a metric system of severity (i.e., depending on the number of symptoms present), but most clinicians and researchers ignored it.

The current ‘with limited prosocial emotions’ specifier (similar to the ‘callous and unemotional’ construct) is the outcome of several attempts at finding interpersonal, affective and behavioural features of psychopathy in children and adolescents. Several personality dimensions have been identified in people with antisocial behaviour but *limited prosocial emotions* seems the most robust (Frick et al, 2000). Further, these symptoms appear to detect a more severe, aggressive and stable group, and are an independent risk factor for antisocial outcomes in adulthood (Burke et al, 2007; Frick & Dickens, 2006; Lynam et al, 2007). It remains to be seen whether this distinction survives the passage of time and the furnace of clinical practice.

Oppositional defiant disorder

Criteria for ODD have not changed substantially in DSM-5. To highlight that ODD has both emotional and behavioural symptomatology, criteria are now grouped into:

- Angry/irritable mood
- Argumentative/defiant behaviour, and
- Vindictiveness.

Also, the requirement that ODD should not be diagnosed if conduct disorder is present has been removed on the basis that ODD symptoms seem to predict important outcomes, especially emotional disorders, independently of conduct disorder (Stringaris & Goodman, 2009).

A third change has been made to specify the frequency needed for a behaviour to be considered symptomatic of ODD—given that many behaviours associated with ODD occur commonly in normally developing children and adolescents. For children under 5 years of age, the behaviour should occur most days for a period of at least six months, with the exception of ‘vindictiveness’. For individuals 5 years or older, the behaviour should occur at least once per week for at least six months, again with the exception of ‘vindictiveness’.

The final change adds a severity rating to the criteria to reflect research showing that, although children who display ODD symptoms in only one setting are at risk for both current and future impairment, the degree of pervasiveness of symptoms across settings is an important indicator of severity (Frick & Nigg, 2012).

TRAUMA- AND STRESSOR-RELATED DISORDERS

'Trauma- and stressor-related disorders' is a new diagnostic group in DSM-5. It contains disorders included in other chapters in DSM-IV, such as anxiety disorders and adjustment disorders. This new class includes *reactive attachment disorder, disinhibited social engagement disorder, posttraumatic stress disorder (PTSD), acute stress disorder and adjustment disorders*. All these conditions require exposure to a traumatic or stressful event but vary in the expression of psychological distress following this exposure. In fact, the rationale for grouping these disorders into a single class is based on the recognition that their common feature is significant distress following exposure to a traumatic or stressful event.

Posttraumatic stress disorder

Diagnosis of PTSD has undergone important changes, especially concerning preschool children. Recent research has focused on the different expression of mental disorders across the lifespan. PTSD is the first disorder in DSM-5 to have a separate set of diagnostic criteria according to developmental stage.

Preschool children are exposed to potentially traumatic events such as abuse, witnessing interpersonal violence, motor vehicle accidents, natural disasters,

Table A.9.7. Summary of DSM-5 diagnostic criteria for PTSD for children aged 6 years and younger

To make a diagnosis of PTSD in children aged 6 years and younger, the four criteria listed below should be met, symptoms must have been present for more than one month, cause clinically significant distress or impairment and are not the manifestation of a substance or medical condition.

A	Personal exposure to actual or threatened death, serious injury, or sexual violence such as by directly experiencing the traumatic event; witnessing the event as it occurred to others, especially primary caregivers; or learning that the traumatic event occurred to a parent or caregiver.
B	Presence of one or more of the following symptoms associated with the traumatic event: <ul style="list-style-type: none"> • Recurrent, involuntary and intrusive distressing memories of the event • Distressing dreams related to the event • Dissociative reactions (e.g., flashbacks) in which the child feels or acts as if the event was recurring • Intense or prolonged distress when exposed to internal or external cues that symbolize or resemble an aspect of the event • Marked reaction to reminders of the event
C	One or more of the following symptoms: <ul style="list-style-type: none"> • Persistent avoidance of activities, places, people or situations that remind the event • Negative cognitions (frequent fear, guilt, shame, decreased participation in activities, withdrawal)
D	<ul style="list-style-type: none"> • Alterations in arousal and reactivity associated with the traumatic event as evidenced by two or more of the following: Irritability and angry outbursts with little or no provocation • Hypervigilance • Exaggerated startle response • Concentration problems • Sleep disturbance.

war, dog bites and invasive medical procedures, to name just a few. Thus, this young population would be expected to be at risk for PTSD. However, according to DSM-IV criteria the prevalence of PTSD among pre-schoolers is much lower than in older children and adults (Scheeringa et al, 2011). Lower rates may be attributable to real differences in prevalence, possibly because of children's immature perceptions of events, or to low sensitivity of current criteria to detect the peculiarities of PTSD's developmental manifestations.

Aware of the latter possibility, researchers proposed alternatives to the DSM-IV criteria and conducted a series of studies on young children in order to evaluate the modified criteria and their effects (Scheeringa et al, 1995; 2003; 2012; Task Force on Research Diagnostic Criteria, 2003). It was concluded that when a developmentally-sensitive set of criteria was used approximately three to eight times more children qualified for PTSD compared to when using DSM-IV (Scheeringa et al, 2011; 2012). As a consequence, the DSM-5 task force decided not only to change PTSD criteria but also to create a PTSD subtype for preschool children: *PTSD for children 6 years and younger*. Diagnostic criteria are summarized in Table A.9.7.

PTSD criteria for older children, adolescents and adults are almost unchanged from DSM-IV. The distinction between acute and chronic PTSD has been eliminated due to the scarce evidence available, insufficient to justify the utility of this distinction. A subtype, —'with dissociative symptoms'—has been added. Individuals who qualify for this subtype meet the criteria for PTSD and experience recurrent symptoms of depersonalisation or derealisation.

Reactive attachment disorder and disinhibited social engagement disorder

The DSM-IV diagnosis of 'reactive attachment disorder' is a clinical entity with low prevalence and, until recently, poorly studied. Research in the last decade highlights deficits in the diagnostic criteria and substantial changes were suggested (Zeanah & Gleason, 2010). While reactive attachment disorder in DSM-IV was divided into *inhibited* and *disinhibited* subtypes, DSM-5 defines these subtypes as separate disorders: *reactive attachment disorder* and *disinhibited social engagement disorder*, respectively. The two disorders share the requirement for neglect—defined as the absence of adequate caregiving during childhood—which is considered the causal factor, resulting in the limitation of a young child's opportunity to form adequate attachments. However, the two disorders also differ in important ways, from clinical manifestations to life course, response to intervention and clinical correlates, which support their being considered separate conditions.

DEPRESSIVE DISORDERS

Disruptive mood dysregulation disorder

'Disruptive mood dysregulation disorder' is a new diagnosis in DSM-5. Before describing its core features, it is important to clarify the rationale behind this controversial decision. In recent years, the field of child and adolescent mental health has experienced growing debate regarding diagnoses of bipolar disorder. Rates of bipolar disorder in children and adolescents have increased much faster

PTSD is the first disorder in DSM-5 to have a separate set of diagnostic criteria according to developmental stage.

Table A.9.8 Diagnostic criteria for disruptive mood dysregulation disorder

- The four criteria listed below should be met:
 - Severe, recurrent, disproportionate temper outbursts
 - On average, three or more times per week.
 - Temper outbursts are inconsistent with developmental level.
 - Between outbursts, mood is persistently irritable or angry, most of the day and nearly every day.
- Onset of symptoms must be before age 10
- Symptoms must have been present for 12 or more months
- Symptoms must not be absent for three or more consecutive months
- Children must be between 6 and 18 years of age
- Symptoms should be present in at least two of three settings (home, school, social situations) and are severe in at least one setting
- Symptoms are not better explained by another mental disorder
- Symptoms are not the manifestation of a substance or medical condition
- Full symptom criteria for manic/hypomanic episode have not been met for more than one day
- Behaviours do not occur solely during an episode of major depressive disorder

than in adults (Blader & Carlson, 2007; Moreno et al, 2007), accompanied by growing prescription of antipsychotic drugs to this population (Olfson et al, 2006). Possible explanations include a real increase in prevalence and improvement in case identification; however, some studies have attributed such high rates to changes in diagnostic practices, with children who lack traditional manic symptoms being diagnosed as bipolar on the basis of alternative symptoms – mainly, irritability (Leibenluft, 2011).

The diagnosis of ‘severe mood dysregulation’ emerged a decade ago (Leibenluft et al, 2003), to describe children and adolescences who present with hyper-arousal along with severe, chronic, non-episodic irritability and frequent temper outbursts (Zepf & Holtman, 2012). This new diagnosis stimulated research aimed at both elucidating the key features of severe mood dysregulation and comparing severe mood dysregulation to bipolar disorder.

Evidence from longitudinal studies in community samples suggests that bipolar disorder and severe mood dysregulation have a different course. While youths with bipolar disorder show a high correlation with lifetime bipolar disorder, studies did not find an association between severe mood dysregulation and the later development of bipolar disorder (Brotman et al, 2006; Stringaris et al, 2009); instead, children with severe mood dysregulation tend to develop other psychiatric disorders later on, especially major depressive disorder, generalized anxiety disorder and dysthymia (Brotman et al, 2006; Stringaris et al, 2009). Studies of referred samples have shown similar results, with children with bipolar disorder being at much higher risk for experiencing manic episodes over a median period of 29 months than those with severe mood dysregulation (62% and 1%, respectively) (Stringaris et al, 2010).

Family history data are scarce but corroborate the findings of longitudinal studies. A small study compared the prevalence of parental bipolar disorder in children diagnosed with severe mood dysregulation or bipolar disorder and found significant differences: parental bipolar disorder was present in 33% in the bipolar disorder group but in only 3% in the severe mood dysregulation group (Brotman et al, 2007).

Thus, the assumption that severe and chronic irritability represents an alternative phenotype or developmental presentation of bipolar disorder is unfounded. There is no scientific support for the diagnosis of mania in youths who present fundamentally with symptoms of non-episodic irritability.

The evidence also underlines the high burden of severe mood dysregulation. The disorder has a lifetime prevalence of about 3% in community samples, while the prevalence of bipolar disorder is no more than 0.1% (Brotman et al, 2006). Additionally, impairment, as measured by Children's Global Assessment Scale (CGAS) scores, is equivalent in youths diagnosed with bipolar disorder or severe mood dysregulation (Leibenluft, 2011).

In DSM-IV the symptom 'irritability' was included in the diagnostic criteria for at least six conditions in children: manic episode, oppositional defiant disorder, generalized anxiety disorder, dysthymic disorder, posttraumatic stress disorder, and major depressive episode. However, none of the above diagnoses applies to children showing chronic and severe irritability. Therefore, children who meet criteria for severe mood dysregulation constitute a considerably large population of severely impaired individuals who do not fit well into any DSM-IV category. The DSM-5 task force decided in favour of the validity of severe mood dysregulation by its inclusion in the classification. A different term—disruptive mood dysregulation disorder—is used to replace 'severe mood dysregulation', which did not seem to reflect fully the complexity of the clinical picture. To highlight the association between chronic irritability and mood outcomes, disruptive mood dysregulation disorder has been placed in the mood disorders chapter. Criteria for diagnosis of disruptive mood dysregulation disorder are summarized in Table A.9.8. For a more detailed description of this condition see also Chapter E.3 of the Textbook.

EMERGING MEASURES AND MODELS

Cross-cutting symptom measures

Some concepts presented in the new *Section III* have special interest for child and adolescent mental health. As mentioned above, the introduction of the *level 1 cross-cutting symptom measures* (dimensional) is relevant. The parent/guardian-rated version was created for assessment of children and adolescents (6-17 years of age); a self-rated version is also available for adolescents. The rationale behind its development is to provide an instrument for clinicians to perform a kind of systems review, as done in general medicine. For this reason, the idea is to use the measure at the beginning of the clinical assessment, which may help to direct clinicians to domains where specific diagnosis should be assessed. The instrument

Table A.9.9 Cross-cutting and symptom measures

Click on the table to find the DSM-5 assessment measures. These measures can be reproduced without permission by researchers and by clinicians for use with their patients.

- **Level 1 Cross-Cutting Symptom Measures**
 - DSM-5 Parent/Guardian-Rated Level 1 Cross-Cutting Symptom Measure—Child Age 6–17
 - DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure—Child Age 11–17
- **Level 2 Cross-Cutting Symptom Measures for Parents of Children Ages 6–17**
 - Somatic Symptom—Parent/Guardian of Child Age 6–17 (Patient Health Questionnaire 15 Somatic Symptom Severity Scale [PHQ-15])
 - Sleep Disturbance—Parent/Guardian of Child Age 6–17 (PROMIS—Sleep Disturbance—Short Form)
 - Inattention—Parent/Guardian of Child Age 6–17 (Swanson, Nolan, and Pelham, version IV [SNAP-IV])
 - Depression—Parent/Guardian of Child Age 6–17 (PROMIS Emotional Distress—Depression—Parent Item Bank)
 - Anger—Parent/Guardian of Child Age 6–17 (PROMIS Emotional Distress—Calibrated Anger Measure—Parent)
 - Irritability—Parent/Guardian of Child Age 6–17 (Affective Reactivity Index [ARI])
 - Mania—Parent/Guardian of Child Age 6–17 (Adapted from the Altman Self-Rating Mania Scale [ASRM])
 - Anxiety—Parent/Guardian of Child Age 6–17 (Adapted from PROMIS Emotional Distress—Anxiety—Parent Item Bank)
 - Substance Use—Parent/Guardian of Child Age 6–17 (Adapted from the NIDA-Modified ASSIST)
- **Level 2 Cross-Cutting Symptom Measures for Children Ages 11–17**
 - Somatic Symptom—Child Age 11–17 (Patient Health Questionnaire 15 Somatic Symptom Severity Scale [PHQ-15])
 - Sleep Disturbance—Child Age 11–17 (PROMIS—Sleep Disturbance—Short Form)
 - Depression—Child Age 11–17 (PROMIS Emotional Distress—Depression—Pediatric Item Bank)
 - Anger—Child Age 11–17 (PROMIS Emotional Distress—Calibrated Anger Measure—Pediatric)
 - Irritability—Child Age 11–17 (Affective Reactivity Index [ARI])
 - Mania—Child Age 11–17 (Altman Self-Rating Mania Scale [ASRM])
 - Anxiety—Child Age 11–17 (PROMIS Emotional Distress—Anxiety—Pediatric Item Bank)
 - Repetitive Thoughts and Behaviors—Child Age 11–17 (Adapted from the Children’s Florida Obsessive Compulsive Inventory [C-FOCI] Severity Scale)
 - Substance Use—Child Age 11–17 (Adapted from the NIDA-Modified ASSIST)
- **Disorder-Specific Severity Measures for Children Ages 11–17**
 - Severity Measure for Depression—Child Age 11–17 (PHQ-9 modified for Adolescents [PHQ-A]—Adapted)
 - Severity Measure for Separation Anxiety Disorder—Child Age 11–17
 - Severity Measure for Specific Phobia—Child Age 11–17
 - Severity Measure for Social Anxiety Disorder (Social Phobia)—Child Age 11–17
 - Severity Measure for Panic Disorder—Child Age 11–17
 - Severity Measure for Agoraphobia—Child Age 11–17
 - Severity Measure for Generalized Anxiety Disorder—Child Age 11–17
 - Severity of Posttraumatic Stress Symptoms—Child Age 11–17 (National Stressful Events Survey PTSD Short Scale [NSESS])
 - Severity of Acute Stress Symptoms—Child Age 11–17 (National Stressful Events Survey Acute Stress Disorder Short Scale [NSESS])
 - Severity of Dissociative Symptoms—Child Age 11–17 (Brief Dissociative Experiences Scale [DES-B])
- **Disorder-Specific Severity Measures Clinician-Rated**
 - Severity of Autism Spectrum and Social Communication Disorders
 - Dimensions of Psychosis Symptom Severity
 - Severity of Somatic Symptom Disorder
 - Severity of Oppositional Defiant Disorder
 - Severity of Conduct Disorder
 - Severity of Nonsuicidal Self-Injury

includes 19 questions scored on a 5-point Likert scale (0 to 4) and six questions allowing 'yes', 'no' or 'don't know' answers for substance use and suicidal ideation/attempt in 12 domains. These domains are: somatic symptoms, sleep problems, inattention, depression, anger, irritability, mania, anxiety, psychosis, repetitive thoughts and behaviours, substance use and suicidal ideation/suicide attempts.

It is important to note that a positive score in any question allowing a dimensional answer (score equal or higher than 2—mild, except for questions related to inattention or psychosis—score equal or higher than 1: slight), or a 'yes' or 'don't know' answer for questions on substance use and suicidal ideation/attempt indicates the need for a more comprehensive assessment. This assessment might include the use of the new DSM-5 level 2 cross-cutting symptom measures, based on well validated instruments used in child mental health (e.g., SNAP-IV for inattention and hyperactivity; NIDA modified ASSIST for substance use). These measures are listed in Table A.9.9, are available in the website and you may reproduce them for clinical and research use without permission.

Section III also deals with cultural assessment providing an updated version of the DSM-IV outline for cultural formulation and introducing the *cultural formulation interview*. Although this instrument was tested only in adults, child mental health professionals might benefit from including a cultural formulation in the assessment of their patients since the impact of cultural context in the development or expression of mental health symptoms during childhood and adolescence is tremendous (Canino & Alegria, 2008).

Attenuated psychosis syndrome

Section III is also the home for provisional diagnoses needing more research ('conditions for further study'). For child and adolescent psychiatry, a very relevant diagnosis in this section is *attenuated psychosis syndrome*. The DSM-5 (American Psychiatric Association, 2013) proposes the following diagnostic criteria for this syndrome:

- Attenuated symptoms of delusions, hallucinations, or disorganized speech with relatively intact reality testing
- Frequency (at least once a week in the last month) or severity causes distress or disability that requires clinical attention
- Symptoms must have begun or worsened in the last year and are not better explained by any major mental disorder or effect of a medical condition or substance use
- Has never met criteria for psychotic disorder.

Previous research suggests that a significant proportion of individuals with these phenotypic characteristics progress to full psychotic disorders (Ruhmann et al, 2010) and intervention might modify this progression (e.g., Amminger et al, 2010). However, the risk of extending the frontiers of psychiatric diagnoses too far, since the majority of these cases do not seem to ever progress to a full blown psychotic disorder, and the inherent risks of antipsychotic treatment decreased the initial enthusiasm to include this diagnosis in the main part of the manual.

MODIFICATIONS BEYOND THE SCOPE OF THIS CHAPTER

Several diagnoses pertinent to child and adolescent psychiatry not discussed here were reallocated due to the elimination of the DSM-IV chapter on diagnoses first evidenced in childhood and adolescence. As mentioned above, this gives a higher developmental slant to the classification, acknowledging that a large proportion of the mental disorders have their roots in childhood and adolescence. Motor disorders (e.g., developmental coordination disorder) and stereotyped movement disorders (e.g., tic disorders) have been moved to the chapter on neurodevelopmental disorders; separation anxiety disorder to the chapter on anxiety disorders; pica and rumination to the chapter on feeding and eating disorders; and enuresis and encopresis form a new chapter on elimination disorders.

In addition, minor adjustments have been made in several diagnoses to incorporate a developmental perspective. For example, the criteria for social anxiety disorder emphasizes that the anxiety in children must occur also when interacting with peers and not only in interactions with adults, and that fear and anxiety provoked by social situations in children might be expressed by behavioural symptoms like crying and tantrums. In obsessive-compulsive disorder, the criteria specify that children might have compulsions without recognizing a clear aim of reducing or preventing anxiety, distress or the occurrence of a dreaded event. Because of the dearth of research on the diagnosis of intermittent explosive disorder in young children and the potential difficulty in distinguishing the outbursts associated with this disorder from normal temper tantrums, a minimum age of 6 years (or equivalent developmental level) is now required to make this diagnosis.

CONCLUSION

In our view, DSM-5 represents the best evidence-based classification of mental disorders currently available. Although the initial, optimistic goal was to produce a document that would represent a paradigm shift in psychiatry, this has fallen short due to the lack of evidence in many areas. The real process that has occurred is one of iteration—each DSM version is an attempt to get closer to the latent construct of mental disorders (Kendler & First, 2010)—and the formal acknowledgement that psychiatric classification will need to continue evolving and updating.

For child and adolescent psychiatry, there has been some progress in the sense that a developmental perspective begins to emerge, criteria for relevant and prevalent disorders have improved in light of new evidence, and some new disorders are recognized. Yet, much work remains to be done before an aetiology- and pathophysiology-based classification system is built.

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