

Dr Jennifer Kiing

ABSTRACT

Behavioural and Socio-emotional Disorders are often overlooked in developmental screening as there is a wide range of what appears normal in the preschool age. Autism spectrum disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD) of preschool onset are the most commonly occurring disorders which may present to the primary care physician.

There is a wide range of what is 'normal' in children's behaviours and socio-emotional development which a primary care physician can expect to meet during each of the six well-child visits. Typical behaviours and learning at each developmental stage and what the physician can address at each of the 'well-child' visits will be reviewed. The screening to be conducted at each visit will follow on from 'red flags' described in the Singapore Child Health Booklet.

Keywords: socio-emotional, behavioural, screening, development, touchpoints

SFP2020; 46(5) : 17-23

Children's emotional and behavioural development is often overlooked in developmental screening as there is a wide range of what is 'normal' in how children behave and relate to others. The importance of screening for socio-emotional and behavioural disorders cannot be overstated. The science of early childhood development¹ was distilled into four key themes, namely:

- 1) children are born wired for feelings and ready to learn
- 2) early environments matter and nurturing relationships are essential
- 3) society is changing, and the needs of young children are not being addressed
- 4) interactions among early childhood science, policy, and practice are problematic and require rethinking.

The first two of these themes refer to a child's early social-emotional development. Children's learning and development hinges on their emotional needs being met in nurturing relationships. During pregnancy and the first weeks

of life, a parent learns to bond and attach with her newborn.² Bonding is about the love and concern parents feel toward their infant. 'Attachment' which is often used interchangeably is specific and enduring and refers to how the newborn relates to a responsive caregiver and vice versa.³ Are his cries for feeding or to be soothed met by a responsive parent? Secure attachment over the next months and years lays down the foundations for a child's optimal socio-emotional development as the baby and parents start to learn and relate to one another. Everything the baby sees, hears, feels, and experiences from the parents and the environment help to lay down the groundwork for the baby brain's hardwiring. This early environment is critical as neurons form one million connections a second in the first few years of a child's life.⁴

The role of the primary care physician in the first and subsequent 'well-child' visits is to ensure that the child is physically healthy, and his development is appropriate. The 'milestones' approach helps physicians to determine if a child 'is' developing in a typical way or whether delays are present which warrant further evaluation. The Singapore Child Health Booklet⁵ based on the Denver Developmental Screening Test⁶ describes 'personal social' (or socio-emotional) milestones at each well-child visit. It is either 'achieved' or 'not achieved' during which time referral and further evaluation is recommended. If a task is 'not achieved' it is described as a 'red flag' as 90 percent of same aged children have achieved that task. It is important to note that regression or loss of skills at any time in any domain is a 'red flag'.

The 'well-child visit' is also an opportunity to talk to parents about their child's socio-emotional development and how parents are managing with their child. The 'Touch-points' approach was developed to help physicians to do this. Dr T. Berry Brazelton in his pioneering work on children's social-emotional development developed a framework for understanding children's social-emotional development using the 'Touchpoints' approach.⁷ This approach allows physicians and other providers to collaborate with families during predictable periods of disorganisation in a child's early years and to help them anticipate the expected changes to come. It also brings an understanding that a child's socio-emotional development is a product not only of a biological force to develop but co-regulated by the caregivers providing experiences in the baby's early life. Touchpoints are used by physicians to strengthen family ties and to empower parents.

This article will be divided over the six encounters when a physician might expect to see parents with their young child for a 'well-child visit'. The child's typical socio-emotional development will be described by drawing extensively on the work of Dr Brazelton.⁷ Topics the physician may wish to broach with parents at each visit⁸ as well as 'red flags' for delays in socio-emotional milestones are highlighted.⁵

JENNIFER KIING

Senior Consultant

Division of Developmental and Behavioural Paediatrics,

Department of Paediatrics,

Khoo Teck Puat-National University Children's Medical Institute,

National University Hospital, Singapore

Pregnancy and the Newborn⁷

Parents will start to bond with their baby during the pregnancy. Mothers start to feel their babies’ movements in the second trimester and feel them as ‘kicks’ in the third trimester. By the third trimester, babies will also respond to voices, further connecting with parents. When the much-anticipated baby finally arrives, there may be a mix of emotions from much joy to anxiety about being new parents. Both the baby’s and the parents’ environment have changed. The parents’ routines can become an exhausting cycle of feeding, sleeping, changing diapers and fatigue.

The 4 - 8 week visit

The baby’s socio-emotional development is co-regulated by the parents’ emotional state. This visit involves checking not only on the baby’s development but also on parents’ especially mother’s, wellbeing. Postnatal blues may last a few days, but postpartum depression will persist beyond two weeks.

During these first two months, parents will start to recognise their baby’s ‘state’. The baby’s ‘state’ describes the transition from between sleep and wakefulness to crying. The latter is a signal for parents to attend and to comfort their baby. Parents will start to be able to identify the different cries, i.e. hunger, boredom, discomfort or tiredness. The baby’s sleep pattern should be more predictable and stretching to three-hour intervals. Feedings should be easier and more pleasurable at this time whether a baby is breast or bottle-fed. When the baby is awake, he is more responsive. The baby learns to watch or ‘regard’ a face for a longer time and will smile at the caregiver. The baby will also develop their behavioural style or ‘temperament’. The baby may be hypersensitive to the environment and respond quite intensely to environmental changes or may be quieter and more watchful. Conversely, this may also be a time of greater stress for the family if they have had a lived-in confinement lady who leaves after the first month. A new mother may find herself having to adapt to new patterns of care if her baby has become familiar with routines established by the nanny. Living in multigenerational households with different caregivers brings its own sets of challenges too.

During this visit, the physician will ask how the mother is feeling and managing with her newborn to screen for postnatal depression. Details on how the newborn is sleeping, feeding and responding is important to elicit. Advice may be shared on putting the baby to sleep on his back rather than abdomen to reduce the risk of sudden infant death syndrome (SIDS). Anticipatory guidance on what to expect in the next weeks may include a discussion on child care arrangements if the mother is returning to work. The visit includes screening for ‘red flags’ in socio-emotional development. ‘Red flags’ are milestones which should have been achieved by 90 percent of same aged children and represent a delay if not achieved.⁵

BOX 1. MILESTONES AT 4-8 WEEK VISIT
Personal Social <input type="checkbox"/> 1. When you face your baby lying on his back, he looks at you and watches you (Regards face) 2. When you talk and smile to your baby, he smiles back at you without you tickling or touching him (smiles spontaneously)
Singapore Child Health Booklet 2020 (Draft)

The 3 – 5-month visit

By this visit, parents have started to feel attached to their baby. They are falling in love with their baby, and their baby is more responsive. The baby coos when tickled, smiles and coos with parents, excites on seeing new toys and familiar routines and is ready for more communication. The sleep and feeding schedules become more predictable. Some mothers have returned to work, and the feeding schedule may need adjustments. As the baby becomes more alert and distracted by sights and sounds in his environment, the feeding may be disrupted. Sleep routines start to be established with longer night-time sleep. The baby can sleep for twelve hours with brief awakenings at night. This is an optimal time to establish a sleep routine, and parents may want to decide between helping their baby sleep independently or co-sleeping. It is much easier to establish sleep routines early and have a baby learn to sleep on his own around five to six months of age. As the baby cycles between non-REM (deep sleep) and REM (Rapid eye movement, lighter) sleep over a 90-minute period, the baby can learn to self soothe and to return to sleep after waking. Sleep problems may surface and persist when infants rely on parents to soothe them.

During this visit, the physician may anticipate questions about the baby’s sleep routines and feeding schedule. As well as discussing sleep arrangements, this is also a good time to broach the topic of screen time and encourage play in person rather than screen time use. Families in Singapore are introducing screen time at younger ages.⁹ Establishing healthier patterns of play and engagement are thus advocated. Many mothers have returned to work at this time and caregiver roles, feeding routines can also be discussed. During the assessment, the physician is observing for the baby’s level of alertness and engagement. The visit includes screening for red flags below⁵

BOX 2. MILESTONES AT 3-5 MONTH VISIT
Personal Social <input type="checkbox"/> 1. When you face your baby lying on his back, he looks at you and watches you. (Regards face) 2. When you talk and smile to your baby, he smiles back at you without you tickling or touching him (smiles spontaneously) 3. Your child displays excitement like kicking legs, moving arms, on seeing an attractive toy. (Excites at a toy)
Singapore Child Health Booklet 2020 (Draft)

The 6 – 12-month visit

A developmental burst occurs at this time centred around the baby’s increasing mobility.⁷ Around six months, the baby is craving to learn and to relate to his parents. ‘Object permanence’ has not yet developed i.e., if a toy is hidden and then uncovered the baby will be surprised it is still there as he thinks a covered object has disappeared. The baby experiments with object permanence by playing ‘peek a boo’ games. Mirrors

become interesting, and the baby will try and touch his reflection. Babies imitate games and mimic faces. Stranger awareness starts to develop. This is accompanied by ‘separation anxiety’ when he discovers that his parent can no longer be seen.

The nine-month ‘touchpoint’ is particularly important.⁷ The infant is mobile and crawling now, and this eagerness to move about changes the feeding and sleeping routines with new issues of safety needing to be considered. The infant uses visual cues from his parent to learn about danger. In a famous experiment called the ‘Visual cliff experiment’,¹⁰ a child is enticed to crawl over a plexiglass where a checkerboard pattern then drops a feet below the glass and creates an ambiguous situation. The child looks to the mother for her facial expression to register her approval or disapproval and uses this to decide if he should proceed or stop. i.e., if the mother smiles, the baby will continue to crawl over the glass, but if she frowns or shows fear, the baby will stop. The experiment demonstrates that a baby can use the parents’ expressions and voices to help him make important decisions. Parents start to say ‘no’ as the infant explores and may approach something of danger (i.e. putting fingers in power sockets). Sleep may fall apart as a baby learns to stand in the cot and will stand when he wakes up in the middle of the night, rather than lying down. Feeding time may also become more challenging as the baby moves and bounces around a high chair. The infant now develops ‘object permanence’ and understands that if the mother disappears to another room, she is still there. Games like clapping, waving bye bye, ‘peek a boo’ allow for exciting play as the infant can anticipate what comes next.

At one year old, the child starts to test his independence as they begin to walk. Imitation becomes exciting and he may imitate and learn from older siblings. The child will start to ‘point’ to share an interest or to tell the parent he wants it. The child starts to understand about ‘cause’ and ‘effect’ i.e., if he bangs a pot with a wooden spoon, it will make a clanging sound. Sleep may become disrupted as the child walks up and down the bed. During feeding the child wants to take charge and feeds himself finger foods.

There is much to share during this visit. Safety issues become a priority as the child is now more mobile i.e., use of a play yard or gates. Parents will want to know about the optimal time for weaning and duration of breastfeeding. They and their child are emotionally attached and experience much joy from each other. The physician may again ask about screen time use as caregivers may be increasing device and television time to manage a now mobile child. Introduce play and reading activities to the child instead. The visit includes screening for red flags below.

BOX 3. MILESTONES AT 6-12 MONTH VISIT
Personal Social <input type="checkbox"/> <ol style="list-style-type: none"> Your child displays excitement like kicking legs, moving arms, on seeing an attractive toy. (Excites at a toy) Your child will try to get a toy that he enjoys when it is out of reach by stretching his arms or body. (Works for a toy out of reach) Your child seems to be shy or wary of strangers. (Reacts to a stranger) When you face your child, say bye-bye and wave to him, he responds by waving his arm, hand and fingers without his hands or arms being touched. (Waves bye bye) When you clap your hands, your child responds by clapping his hands when you ask him to, without his hands or arms being touched. (Claps hands) Your child can indicate what he wants without crying or whining. He may do this by pointing, pulling and making speech-sounds or putting arms up to be carried without making speech-like sounds or putting arms up to be carried without speaking. (Indicates wants by gestures)
Singapore Child Health Booklet 2020 (Draft)

The 15 – 18-month visit

This toddler visit is a very important time with the primary physician. It may be another full year before the child is seen in clinic again, and the next twelve months are rich opportunities to optimise a child’s socio-emotional development and address any gaps. This is the first time the physician may notice signs of autism. The American Academy of Pediatrics (AAP) recommends **autism specific screening**¹¹ at 18 months and two years with the autism screener (M-CHAT-R).¹² This screener has not yet been validated for use in Singapore.

A typically developing 15 – 18-month old will want to assert his independence with food and starts to use a spoon and fork. They are able to sleep through the night but may begin to resist sleep and may only require one afternoon nap. Temper tantrums may start to surface as toddlers struggle to manage their own feelings. Children of this age have increasing self-awareness and will start to explore their own face, navel and genitalia when diapers are removed. They play side by side (in parallel) with another child and have an increasing awareness of a peer. They will start to use an object for its function in play i.e. speaking into the phone. Their attention span is brief but sustained enough to explore a toy, their environment and check back with their parents. If they want something, they will gesture, use single words, point and look at the object and back at their parents. This is called ‘joint attention’¹³ which refers to parents and child coordinating their looking to one another and then to a third object. The child will protest more when separating from their parents. They may also start to bite to express themselves and regulate emotions.

During this visit, the primary physician will evaluate how the child engages with his parents. The physician may ask the child to show simple body parts and ask ‘Where are your eyes? ears? nose?’. The physician may point to an object in the distance and say ‘look at that clock’ and see if the child looks at the object and then looks back at their parent or themselves.

If the child passes the screening items, the physician may have a discussion with parents about typical toddler behaviour, including understanding and managing temper tantrums or biting.¹⁴ For instance, the physician may explore the parents teaching their child that biting is unacceptable and to use distraction or alternative objects for a child to bite. There may be a discussion on reinforcing safety in the home with a child who is now climbing and able to pull things from a height. Dental hygiene can also be broached as the child gains motor independence.

BOX 4. MILESTONES AT 6-12 MONTH VISIT
Personal Social <input type="checkbox"/> <ol style="list-style-type: none"> Your child can indicate what he wants without crying or whining. He may do this by pointing, pulling and making speech-like sounds (Indicates wants by gestures) When you are doing housework, your child copy what you are doing. (Imitates household activities) Your child can hold a regular cup himself and drink from it without spilling much. The cup should not have a spout. (Drinks from a cup)
Singapore Child Health Booklet 2020 (Draft)

The 2 - 3-year visit

By the time of the two to three-year visit, the child has made leaps in their socio-emotional development. The two-year-old engages in ‘symbolic’ play where the object becomes a symbol of a real object, i.e., a doll is a symbol of a baby. At this age, they have sustained attention in play and imitate others. They are more verbal and the ‘terrible twos’ signal that tantrums are now a way of asserting their independence and views. By three years old, they are getting easier to manage as they have learnt to regulate their emotions better. Some children may need help with managing anger as they test their parents’ limits. Mealtimes become shared events as they can now feed themselves. They want to dress themselves. Their imagination starts to develop. They start relating to and playing with other children. Friendships and rivalries surface as they learn through play. They will refer to their friends by name. They develop a sense of humour and the ability to empathise with others and comfort a crying baby. They may also become fearful and experience night time fears and the fears of visiting the doctor. They can undress themselves and are ready for toilet training.⁷

During this visit, the primary physician will want to check how the child looks at his parents and speaks to them. The child should be able to play with toys in the corner while the physician speaks with parents. Can the child sustain attention to play with the toys or is he moving from one toy to another without engaging in play but just touching or throwing? If a child has started preschool, the physician can check on how the child is getting on with his peers. This is the visit where the speech and social impairments seen in autism spectrum disorder (ASD) may be surfaced. DSM-5 diagnostic criteria for ASD are listed in Table 1. Questions about screen time are helpful if a child is delayed in speech or has difficulties sustaining attention and is hyperactive in the clinic. Assertive discipline approaches¹⁴ can be introduced for managing misbehaviours. The visit includes screening for red flags described below.

<p>BOX 5. MILESTONES AT 2-3 YEAR VISIT</p> <p>Personal Social <input type="checkbox"/></p> <ol style="list-style-type: none"> 1. Your child can use a spoon to feed himself. He gets most of the food into his mouth, spilling little. (Uses spoon) 2. Your child can completely remove any of his own clothing such as his shirt, shoes or pants. (Removes garment) 3. Your child plays imaginatively, like playing with a doll and pretending to comb the doll's hair. (Combs doll's hair) 4. Your child can put on any of his own clothing like underpants, socks or shoes. (Puts on clothing) 5. Your child uses a friend's name when referring or speaking to a friend. (Names friend) <p>Singapore Child Health Booklet 2020 (Draft)</p>
--

The 4 – 6-year visit

This is usually the last visit before a child starts in primary school. The older preschooler or kindergartener has become much more independent and is ready for more complex social engagement and is ready for school.

The 4-year-old is in Nursery 2. At this age, he likes to do new things and enjoy playing with other children. He starts to

co-operate with others. He cannot differentiate fantasy from reality. He knows what he likes.¹⁵ The five-year-old is now in Kindergarten 1 and getting better at emotional control but may still have tantrums. The five-year-olds will develop friendships and enjoy imaginative play with role play such as ‘dress up’ or ‘house’. They will understand the difference between fantasy and reality. They will start having a best friend who is usually of the same gender. They can share and take turns. They understand the rules of a game though they may change the rules. They know about ‘right’ and ‘wrong’.¹⁵ The six-year-olds are in Kindergarten 2 and love to show off what they can do and are much better at regulating their emotions. They want to be liked and accepted by their peers and can work in a group. They are becoming independent and can get themselves ready in the mornings by brushing their teeth, getting dressed and eating independently.

<p>BOX 6. MILESTONES AT 4-6 YEAR VISIT</p> <p>Personal Social <input type="checkbox"/></p> <ol style="list-style-type: none"> 1. Your child can put on any of his own clothing like underpants, socks or shoes. (Puts on clothing) 2. Your child uses a friend's name when referring or speaking to a friend. (Names a friend) 3. Your child can brush his teeth with some help. (Brushes teeth) 4. Your child can dress himself up completely and correctly without help except for tying shoe laces, buttoning or zipping the back of dresses. (Dresses with no help) 5. Your child can brush all his teeth alone, including placing the toothpaste on the toothbrush. He is able to do this with help or supervision. (Brushes teeth, no help) <p>Singapore Child Health Booklet 2020 (Draft)</p>
--

During this visit, the parents will often want to talk to the physician about school readiness, numeracy and literacy skills. The physician can explore the child’s developing independence in activities of daily living, including toileting, dressing, sleeping, brushing their teeth and eating. Friendships in school should be explored as well as the child’s ability to sustain attention, learn and be curious about the world around them.

The child’s inability to sustain attention during this visit raises the possibility of **ADHD** of preschool onset. DSM 5 diagnostic criteria for ADHD is listed in Table 2. If the child is not able to sit and attend to a tabletop task for more than five minutes or is constantly on the move, further evaluation is recommended. The physician can screen for red flags above as well as additional items described in CDC’s “Learn the Signs. Act Early” website.¹⁵

<p>BOX 7. CDC LEARN THE SIGNS. ACT EARLY¹⁵</p> <p>Personal Social <input type="checkbox"/> Additional Items</p> <p>4 year old</p> <ul style="list-style-type: none"> • Shows no interest in interactive games or make-believe • Ignores other children or doesn't respond to people outside the family • Resists dressing, sleeping, and using the toilet <p>5 year old</p> <ul style="list-style-type: none"> • Doesn't show a wide range of emotions • Shows extreme behavior (unusually fearful, aggressive, shy or sad) • Unusually withdrawn and not active • Is easily distracted, has trouble focusing on one activity for more than 5 minutes • Doesn't respond to people, or responds only superficially • Can't tell what's real and what's make-believe • Doesn't play a variety of games and activities <p>CDC National Centre on Birth Defects and Developmental Disabilities (1 Nov 2019)</p>

REFERENCES

1. National Research Council. From neurons to neighborhoods: The science of early childhood development. National Academies Press; 2000 Nov 13.
2. Redshaw M, Martin C. Babies, 'bonding' and ideas about parental 'attachment'. *Journal of Reproductive and Infant Psychology*. 2013 Jul 5;31(3).
3. Bretherton I. The origins of attachment theory: John Bowlby and Mary Ainsworth. *De-velopmental psychology*. 1992 Sep;28(5):759.
4. Center on the developing child, Harvard University. Brain architecture [internet]. Cambridge; [updated 2017 Apr; cited 2020 May 5]. Available from: <https://developingchild.harvard.edu/science/key-concepts/brain-architecture/#neuron-footnote>
5. Health Promotion Board. Health Booklet [internet]. Singapore; 2014. [cited 2020 May 5]. Available from: <https://www.healthhub.sg/sites/assets/Assets/Programs/screening/201810/pdf/health-booklet-2014.pdf>.
6. Lim HC, Ho LY, Goh LH, Ling SL, Heng R, Po GL. The field testing of Denver Developmental Screening Test Singapore: a Singapore version of Denver II Developmental Screening Test. *Annals of the Academy of Medicine, Singapore*. 1996 Mar;25(2):200-9.
7. Berry Brazelton & Joshua Sparrow. The Touchpoints. Model of Development [inter-net]. Boston;2003 [cited 2020 May 5] Available from: http://www.brazeltontouchpoints.org/wp-content/uploads/2011/09/Touchpoints_Model_of_Development_Aug_2007.pdf
8. Guidelines on Childhood Developmental Screening (CDS) for Primary Care Clinicians (Draft)
9. Bernard JY, Padmapriya N, Chen B, Cai S, Tan KH, Yap F, Shek L, Chong YS, Gluckman PD, Godfrey KM, Kramer MS. Predictors of screen viewing time in young Singaporean children: the GUSTO cohort. *International Journal of Behavioral Nutrition and Physical Activity*. 2017 Dec;14(1):112.
10. Sorce JF, Emde RN, Campos JJ, Klinnert MD. Maternal emotional signaling: its effect on the visual cliff behavior of 1-year-olds. *Developmental psychology*. 1985 Jan;21(1):195.
11. Hyman SL, Levy SE, Myers SM. Identification, Evaluation, and Management of Children With Autism Spectrum Disorder. *Pediatrics*. 2020 Jan 1;145(1).
12. Robins DL, Casagrande K, Barton M, Chen CM, Dumont-Mathieu T, Fein D. Validation of the modified checklist for autism in toddlers, revised with follow-up (M-CHAT-R/F). *Pediatrics*. 2014 Jan 1;133(1):37-45. PubMed PMID:24366990.
13. Akhtar N, Gernsbacher MA. Joint attention and vocabulary development: A critical look. *Language and linguistics compass*. 2007 May;1(3):195-207. PubMed PMID:25505491.
14. Sanders MR. Triple P-Positive Parenting Program as a public health approach to strengthening parenting. *Journal of family psychology*. 2008 Aug;22(4):506-17. PubMed PMID:18729665.
15. National Center on Birth Defects and Developmental Disabilities. Learn the Signs. Act Early [internet]. Centre for Disease Control and Prevention.;2019 [updated 2019 Nov 1; cited 2020 May 5] Available from: <https://www.cdc.gov/ncbddd/actearly/index.html>.
16. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-5®) American Psychiatric Pub; 2013 May 22

LEARNING POINTS

- **There is a wide range of what is 'normal' in children's behaviours and social-emotional development.**
- **'Red flags' represent delays in behavioural and socio-emotional development where 90 percent of children have achieved the milestone and should prompt further referral and evaluation.**
- **Each well-child visit is an opportunity to screen children from delays and to provide guidance for parents on the child's current development and what is to be expected before the next visit (anticipatory guidance).**

TABLE 1. DSM5 AUTISM DIAGNOSTIC CRITERIA**A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive, see text):**

1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.
3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
2. Insistence on sameness, inflexible adherence to routines, or ritualised patterns or verbal nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat food every day).
3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interest).
4. Hyper- or hyporeactivity to sensory input or unusual interests in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement)

C. Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities or may be masked by learned strategies in later life).**D. Symptoms must cause clinically significant impairment in social, occupational, or other important areas of current functioning.**

E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.

Source: APA DSM5 Autism diagnostic criteria

TABLE 2. DSM-5 CRITERIA FOR ADHD

People with ADHD show a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development:

1. Inattention: Six or more symptoms of inattention for children up to age 16 years, or five or more for adolescents age 17 years and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level:
 - Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
 - Often has trouble holding attention on tasks or play activities.
 - Often does not seem to listen when spoken to directly.
 - Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
 - Often has trouble organising tasks and activities.
 - Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
 - Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
 - Is often easily distracted
 - Is often forgetful in daily activities.

2. Hyperactivity and Impulsivity: Six or more symptoms of hyperactivity-impulsivity for children up to age 16 years, or five or more for adolescents age 17 years and older and adults; symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person’s developmental level:
 - Often fidgets with or taps hands or feet, or squirms in seat.
 - Often leaves seat in situations when remaining seated is expected.
 - Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
 - Often unable to play or take part in leisure activities quietly.
 - Is often “on the go” acting as if “driven by a motor”.
 - Often talks excessively.
 - Often blurts out an answer before a question has been completed.
 - Often has trouble waiting their turn.
 - Often interrupts or intrudes on others (e.g., butts into conversations or games)

In addition, the following conditions must be met:

- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings, (such as at home, school or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.

Source: APA DSM5 Autism diagnostic criteria