

Understanding FASD in a school environment

There is a high degree of overlap in the presentation of FASD in the school environment with other neurodevelopmental disorders, such as Attention Deficit Hyperactivity Disorder, Autism Spectrum Disorder or a specific Learning Disability. There is also a high degree of co-occurrence between these disorders. As such it can be difficult to distinguish between them based on their presentation alone. Children with FASD and other neurodevelopmental disorders will display a range of behaviours that teaching and support staff need to be aware of in order to initiate discussions with parents and caregivers prior to a possible referral to appropriate specialists for a diagnosis. Below is a list of common presentations of behaviours in the classroom that may be consistent with FASD and other neurodevelopmental disorders.

It is important to note that this is NOT a screening or diagnostic tool. FASD can only be formally diagnosed by health professionals after a multidisciplinary assessment.

The purpose of this resource is to familiarise primary school teaching and support staff with common challenges that may be experienced by a child with FASD in the school environment. The below table outlines common presentations in a school setting, the school domain where the presentation is likely to occur, and the area of functioning impacted. A key for the area of functioning can be found at the end of this resource. If you recognise that a child is displaying behaviours or characteristics consistent with any or some of those on the list, it may be a sign that the student needs additional support in the classroom. See our factsheets, guide to the referral and diagnostic process, and information on family engagement for possible next steps.

Common presentation in a school setting	Area of functioning
School Domain - Classwork	
Does not retain relevant information in the classroom	
Requires longer to take in and respond to visual and auditory information	
When given multiple instructions, only remembers the first	
Poor concentration, works in spurts, requires frequent assistance to complete tasks, or fails to complete tasks	
Struggles with planning and/or has difficulty knowing where to begin a task	
Repeatedly makes the same errors completing a task	
Poor academic performance at school and in external tests, compared to other children of the same age	
Is easily distracted by visual and/or auditory sensory stimulation that may not even be noticed by other children	
May forget what was taught on the previous day and need to be retaught the same thing multiple times	
Has remembered or done something many times, but forgets on another given day	
Difficulties planning the layout of work on a page (e.g. writing in the centre of the page instead of the upper left)	

School Domain - Numeracy

Difficulty using mathematical concepts and arithmetic skills to solve real-world problems (e.g., grasping the value of money, managing time, or measuring volumes and distances)



Difficulty with simple calculations and understanding numerical information



School Domain - Literacy

Difficulty with word reading, spelling, and writing



Increased grammatical errors compared to children of the same age



School Domain - Communication

Comprehension difficulties (e.g., can repeat instructions, but has trouble understanding what to do)



Difficulty finding words to describe their feelings



Storytelling is often hard to follow and lacks a point



School Domain - Classroom Behaviour

Struggles to remember the class schedule, the order of routines, or the steps to tasks



Poor common sense; may act impulsively



Becomes upset and may have a 'melt down'



As a result of frustration, may become aggressive towards other children



May have a need to move his/her body frequently



May have trouble changing from one activity to another (e.g. switching from a music lesson to a maths lesson)



Does not recognise consequences, learn from past experiences, or generalise possible outcomes from one behaviour to another



Difficulty stopping an action when asked to do so or appears defiant when asked to shift to calm state



May take items that don't belong to them



Might experience tantrums or meltdowns (beyond what is appropriate for their age)



Confabulation, may tell stories that are untrue



Repetitive or stereotypic behaviours (e.g., lining up pencils, toys)



Dislikes certain sensations including loud noises, colours, bright lights, tastes, textures and may feel distressed or overwhelmed if there are too many at once



May seek out certain sensory information or experiences (e.g., smelling food, flicking fingers in front of a light)



Moody, sad, withdrawn, or volatile mood



Cries when parent or caregiver leaves



School Domain - Physical Skills

Difficulty with letter formation, holding a pencil, or has a slow writing pace



Difficulty cutting with scissors, colouring, or sewing



Struggles with tying shoes



Poor hand-eye coordination or reaction time



Poor balance



School Domain - Social Skills

Difficulty making and retaining friendships



May prefer to play or socialise with younger children or play alone



Misunderstands social cues (e.g., stands in other students' personal space, is indiscriminately friendly)



Subject to teasing and/or bullying



Misuse or poor social timing of figurative language, jokes, and sarcasm



Struggles to participate in a conversation or makes remarks unrelated to the discussion



Poor eye contact



Key: Below are the ten domains of neurodevelopment that assist in the formal diagnosis of FASD, as described in the Australian Guidelines to the Diagnosis of FASD. There is no typical pattern of impairment in FASD, and every child will have their own strengths and challenges. However, children with FASD will have difficulty in at least three of the following domains. You can use the key to match the school presentation to the affected neurodevelopmental domain.

Neurodevelopmental Domain

Symbol

Motor skills

Skills related to moving and coordinating the muscles of the body. These include fine motor skills that require a high degree of control (e.g., using a fork), gross motor skills that use the large muscles of the body (e.g., balance, strength), and graphomotor skills (e.g., handwriting).



Cognition

The process of knowing, perception, awareness, and judgement. This domain includes IQ, verbal and non-verbal reasoning skills (e.g., critical thinking), the ability to understand concepts or learn new skills and facts, and the intake and output of information.



Language

Includes expressive and receptive language skills. Expressive language skills refer to how a child uses words to express themselves, whereas receptive language is the ability to understand words and language. Higher-level skills include advanced vocabulary, understanding word relationships, and paraphrasing.



Academic achievement

Skills in reading, mathematics, and literacy (including written expression and spelling).



Memory

The processes used to acquire, store, retain and retrieve information. Includes overall memory, verbal memory, and visual memory.



Attention

The ability to choose and concentrate on relevant information, including: Selective attention (focusing on a particular stimuli), divided attention (focusing on two or more things at the same time), alternating attention (switching focus from one stimulus to another), and sustained attention (focusing for a long period of time and resisting distractions)



Executive function

A set of higher-level skills involved in organising and controlling one's own thoughts and behaviours. This includes impulse control, inhibition response, hyperactivity, working memory, planning and problem solving, shifting and cognitive flexibility.



Adaptive behaviour, social skills, or social communication

The life skills which enable an individual to participate successfully in day-to-day activities. These include daily living skills (e.g., age-appropriate self-care), communication skills and socialisation skills.



Affect regulation

The ability to modulate our emotions, moods, feelings, and expressions to meet the demands of our environment.



Brain structure and neurology*

Structural brain abnormalities, seizure disorder (not due to known causes), significant neurological diagnoses otherwise unexplained (e.g., visual impairment, sensorineural hearing loss, cerebral palsy).



*Please note: presentations of this domain are not included in this resource as they are not easily identifiable in a school setting.

References

- Bishop, S., Gahagan, S., & Lord, C. (2007). Re-examining the core features of autism: a comparison of autism spectrum disorder and fetal alcohol spectrum disorder. *Journal of Child Psychology and Psychiatry*, 48(11), 1111-1121.
- Blackburn C. (2021) Identifying the Child with FASD in Educational Settings. In: Mukherjee R.A.S., Aiton N. (eds) *Prevention, Recognition and Management of Fetal Alcohol Spectrum Disorders*. Springer, Cham. https://doi.org/10.1007/978-3-030-73966-9_9
- Bower, C., Elliott, E.J., on behalf of the Steering Group. (2016). Report to the Australian Government Department of Health: Australian Guide to the Diagnosis of Fetal Alcohol Spectrum Disorder (FASD). https://www.fasdhub.org.au/siteassets/pdfs/australian-guide-to-diagnosis-of-fasd_all-appendices.pdf.
- Coles, C.D., Taddeo, E., & Millians, M. (2011). Innovative educational interventions with school-aged children affected by Fetal Alcohol Spectrum Disorders (FASD). In S.A. Aduato & D.E. Cohen (Eds.), *Prenatal Alcohol Use and Fetal Alcohol Spectrum Disorders: Diagnosis, Assessment and New Directions in Research and Multimodal Treatment*. Bentham Science Publishers, Sharjah, UAE.
- Davis, K. M., Gagnier, K. R., Moore, T. E., & Todorow, M. (2013). Cognitive aspects of fetal alcohol spectrum disorder. *Wiley Interdisciplinary Reviews. Cognitive Science*, 4(1), 81-92. <https://doi.org/10.1002/wcs.1202>
- Doney, R., Lucas, B. R., Jones, T., Howat, P., Sauer, K., & Elliott, E. J. (2014). Fine Motor Skills in Children With Prenatal Alcohol Exposure or Fetal Alcohol Spectrum Disorder. *Journal of Developmental and Behavioral Pediatrics*, 35(9), 598-609. <https://doi.org/10.1097/DBP.000000000000107>
- Glass, L., Moore, E. M., Akshoomoff, N., Jones, K. L., Riley, E. P., & Mattson, S. N. (2017). Academic Difficulties in Children with Prenatal Alcohol Exposure: Presence, Profile, and Neural Correlates. *Alcoholism, Clinical and Experimental Research*, 41(5), 1024-1034. <https://doi.org/10.1111/acer.13366>
- Lange, S., Rehm, J., Anagnostou, E., & Popova, S. (2018). Prevalence of externalizing disorders and Autism Spectrum Disorders among children with Fetal Alcohol Spectrum Disorder: systematic review and meta-analysis. *Biochemistry and Cell Biology*, 96(2), 241-251.
- Mattson, S. N., Bernes, G. A., & Doyle, L. R. (2019). Fetal Alcohol Spectrum Disorders: A review of the neurobehavioral deficits associated with prenatal alcohol exposure. *Alcoholism, Clinical and Experimental Research*, 43(6), 1046-1062. <https://doi.org/10.1111/acer.14040>
- McDougall, S., Finlay-Jones, A., Arney, F., & Gordon, A. (2020). A qualitative examination of the cognitive and behavioural challenges experienced by children with fetal alcohol spectrum disorder. *Research in Developmental Disabilities*, 104, 103683-103683. <https://doi.org/10.1016/j.ridd.2020.103683>
- Millar, J. A., Thompson, J., Schwab, D., Hanlon-Dearman, A., Goodman, D., Koren, G., & Masotti, P. (2017). Educating students with FASD: linking policy, research and practice. *Journal of Research in Special Educational Needs*, 17(1), 3-17. <https://doi.org/10.1111/1471-3802.12090>
- Panczakiewicz, A. L., Glass, L., Coles, C. D., Kable, J. A., Sowell, E. R., Wozniak, J. R., Jones, K. L., Riley, E. P., & Mattson, S. N. (2016). Neurobehavioral Deficits Consistent Across Age and Sex in Youth with Prenatal Alcohol Exposure. *Alcoholism, Clinical and Experimental Research*, 40(9), 1971-1981. <https://doi.org/10.1111/acer.13153>
- Rasmussen, C. (2005). Executive Functioning and Working Memory in Fetal Alcohol Spectrum Disorder. *Alcoholism, Clinical and Experimental Research*, 29(8), 1359-1367. <https://doi.org/10.1097/01.alc.0000175040.91007.d0>
- Stevens, S. A., Nash, K., Koren, G., & Rovet, J. (2013). Autism characteristics in children with fetal alcohol spectrum disorders. *Child Neuropsychology*, 19(6), 579-587.
- Thorne, J. C. (2017). Accentuate the Negative: Grammatical Errors during Narrative Production as a Clinical Marker of Central Nervous System Abnormality in School-Aged Children with Fetal Alcohol Spectrum Disorders. *Journal of Speech, Language, and Hearing Research*, 60(12), 3523-3537. https://doi.org/10.1044/2017_JSLHR-L-17-0128
- Weyrauch, D., Schwartz, M., Hart, B., Klug, M. G. & Burd, L. (2017). Comorbid Mental Disorders in Fetal Alcohol Spectrum Disorders: A Systematic Review. *Journal of Developmental & Behavioral Pediatrics*, 38 (4), 283-291. doi: 10.1097/DBP.0000000000000440.
- Wozniak, J. R., Riley, E. P., & Charness, M. E. (2019). Clinical presentation, diagnosis, and management of fetal alcohol spectrum disorder. *The Lancet. Neurology*, 18(8), 760-770. [https://doi.org/10.1016/S1474-4422\(19\)30150-4](https://doi.org/10.1016/S1474-4422(19)30150-4)

