

Development of a conceptual framework exploring the neurodevelopmental impairments experienced by children with FASD

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Supervisory Panel

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Background

- Neurodevelopmental profile of FASD: the outward expression (behavioural and developmental) of the central nervous system damage caused by prenatal alcohol exposure (Lange, Rovet, Rehm & Popova, 2017).
- Caregiver behavioural ratings have the potential to be used in the development of a screening tool, to identify children most in need of a full multi-disciplinary assessments (Lange et al., 2017)
- Understanding of the neurodevelopmental profile of FASD is constantly evolving

Background

- Aim of the research was to develop a new screening tool to identify children at risk for FASD, focusing on the 4 to 12 age group due to the benefits of early intervention
- Identify the children who would benefit most from referral for assessment with a multi-disciplinary team



Develop conceptual model to identify relevant disease-specific domains and issues

Item generation based on conceptual model

Expert review of proposed items

Refine measure based on expert review and format validation ready version

Content validity phase

Conduct validation study and refine measure based on findings

Final measure

Measurement property psychometric phase

Domains	Method group			Key findings
	FASD	ALC	LONG	
Executive function, hyperactivity and impulsivity	16	5	9	<ul style="list-style-type: none"> Greater difficulties on more demanding tasks. Mixed results on inhibition tasks (e.g., the Stroop Test) Poorer working memory ability across a range of measures Higher levels of hyperactivity and impulsivity as rated by caregivers and teachers.
Adaptive Behaviour, social skills and social communication	15	4	0	<ul style="list-style-type: none"> Poorer adaptive behaviours compared to peers. Lower social skills as rated by caregivers, but not by teachers. Higher levels of problematic behaviour in social settings as rated by both caregivers and teachers. Greater difficulty in the recognition/discrimination of emotions, particularly when less information available.
Academic Achievement	7	2	4	<ul style="list-style-type: none"> Poorer academic ability generally, particular deficit noted in mathematics tasks. Poorer performance on more demanding literacy tasks such as spelling a dictated word, compared to identification of visually presented letters.
Motor skills	11	1	4	<ul style="list-style-type: none"> Impairments in composite and fine motor skills, soft-neurological signs and visual-motor integration. Mixed results for gross motor skills
Language	8	3	0	<ul style="list-style-type: none"> Poorer receptive and expressive language skills
Affect regulation	3	0	7	<ul style="list-style-type: none"> Mixed results on internalising behaviour measures. Children with FASD had greater numbers of mood and anxiety disorder symptoms in one study.
Attention	4	2	4	<ul style="list-style-type: none"> Mixed results on direct assessments (e.g., Continuous Performance Test) of attention Caregivers and teachers consistently rated children as having greater attention difficulties
Memory	3	3	2	<ul style="list-style-type: none"> More impaired on verbal memory tasks, compared to non-verbal memory tasks.

Findings outside the Australian Diagnostic Guideline domains

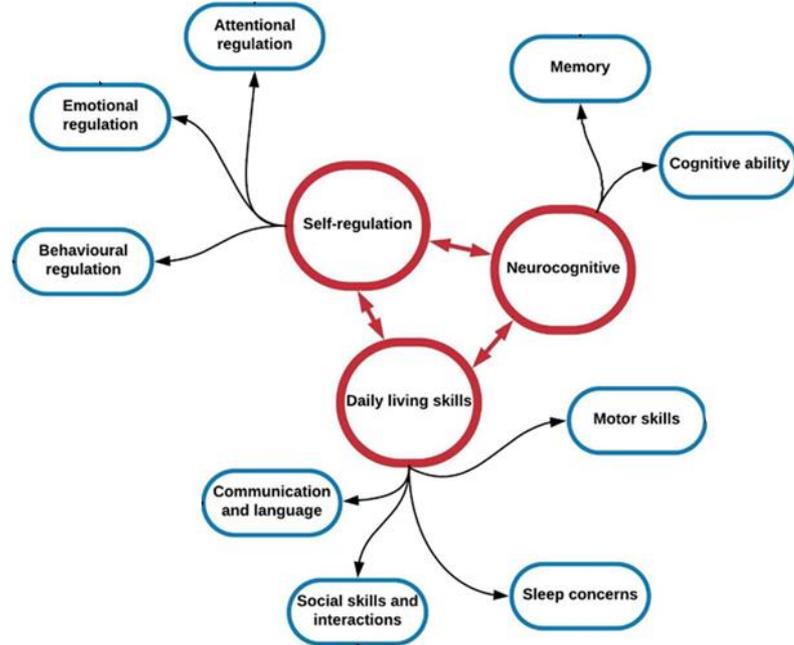
Domains	Method group			Key findings
	FASD	ALC	LONG	
FASD-specific behavior scales	8	0	0	<ul style="list-style-type: none"> As expected, children with FASD scored significantly higher than peers on measures intended to captures behaviours associated with FASD
Sensory processing	3	0	0	<ul style="list-style-type: none"> Greater number of sensory processing concerns (e.g., high pain tolerance, heightened reactivity to
Sleep	2	0	0	<ul style="list-style-type: none"> Greater number of behaviours associated with sleep disorders (e.g., bedtime resistance, night time awakenings) Fewer hours of sleep overall

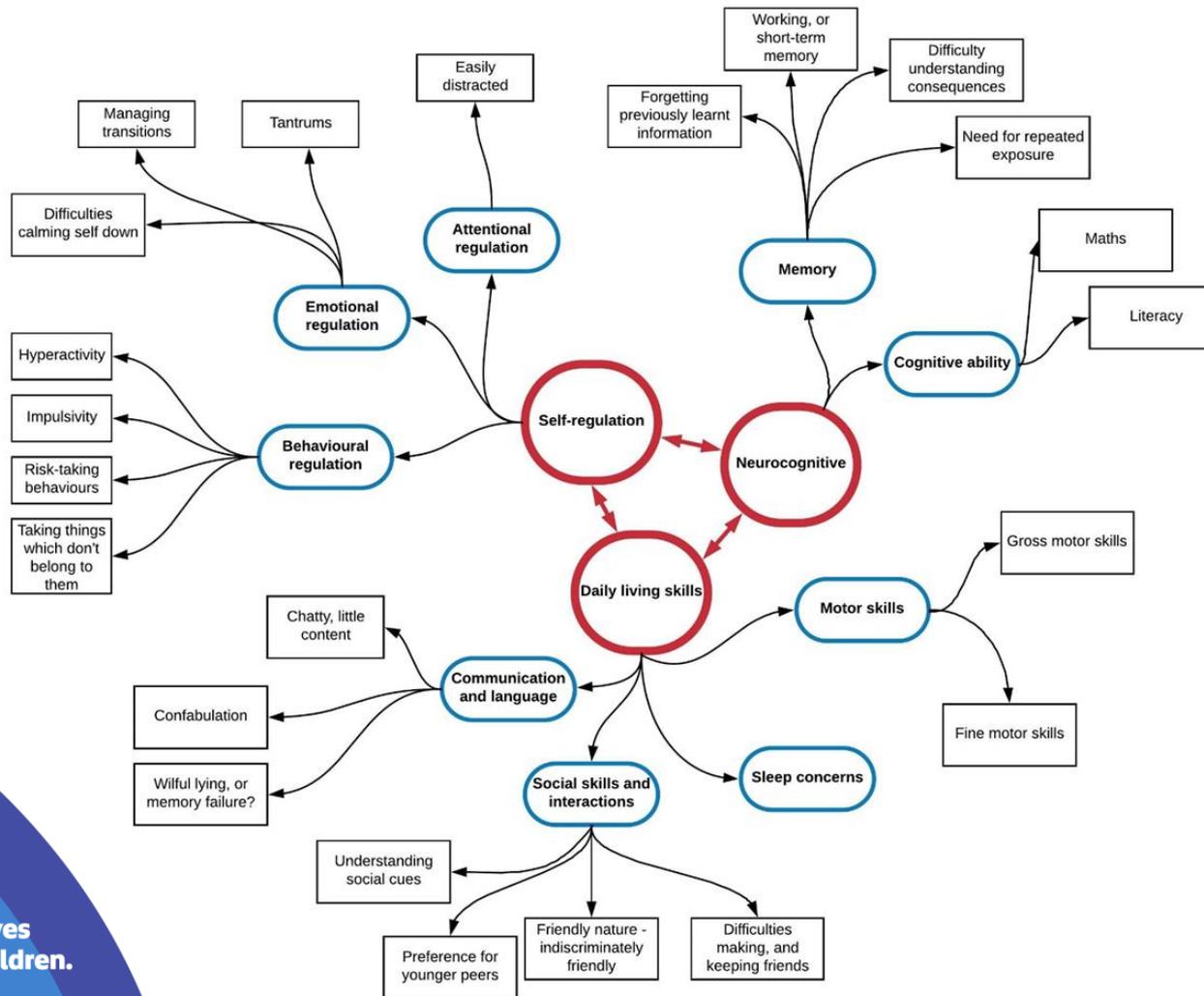


What did caregivers tell us about the strengths and difficulties of their children?

**Improving the lives
of vulnerable children.**

Major themes





Conclusions and future directions

- The development of the screening tool drew heavily on the experiences and expressions of the caregivers and clinicians
- Sample items:
 - Has outbursts for little apparent reason
 - Appears to act without thinking
 - Needs more help from an adult to stay on task

Thank you

We are currently recruiting for the final study, if you are interested in participating come and see me after this presentation

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