

# Specific behaviour problems in children with FASD in remote Australian Aboriginal communities

## Results from the Lililwan Project

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SYDNEY

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## Funders:

- › NHMRC; Australian Government Dept. Families, Housing, Community Services & Indigenous Affairs; Dept. Health & Ageing; University Sydney

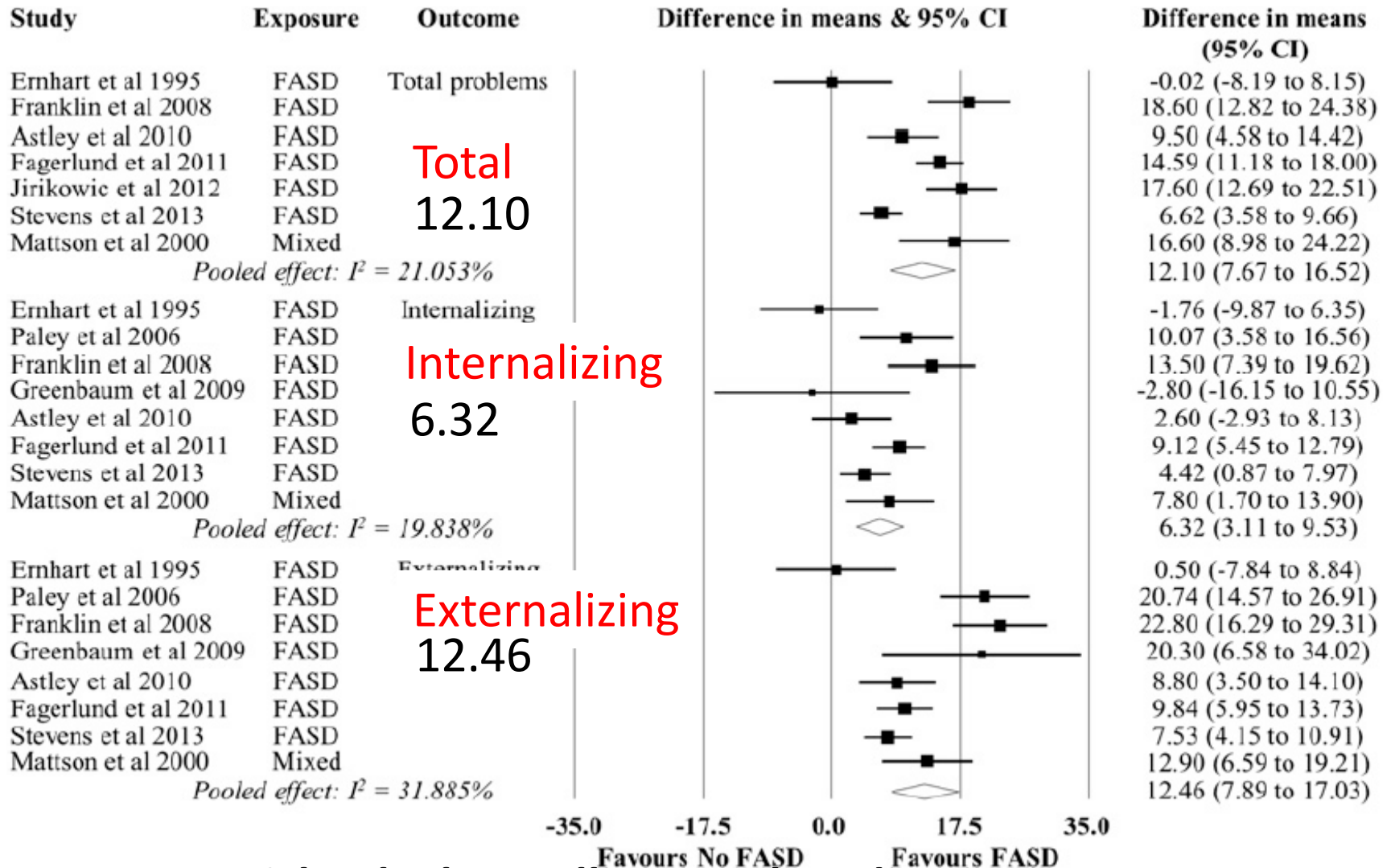


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# Meta-analysis No FASD vs FASD (n=16)

T-scores: Total, Internalizing, Externalizing problems



**Tsang, Carmichael-Olsen, Elliott et al. Pediatrics, 2016**

## Behaviour in FASD

### › ***FASD associated with problematic behaviours***

- Behaviour challenges in Aboriginal children with FASD ?
- Aboriginality and remote living associated with:
  - Early life trauma; disadvantage

### › ***Secondary outcomes of FASD:***

- Poor academic achievement; Unemployment; trouble with the law; poor QOL and health

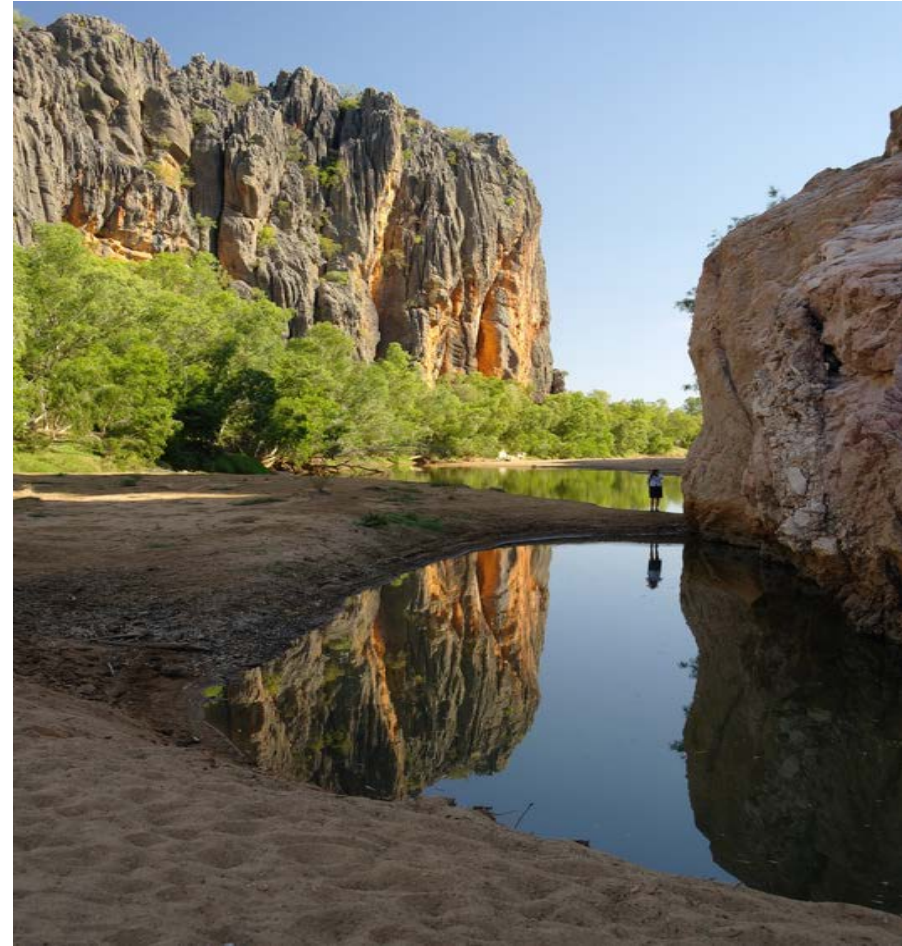
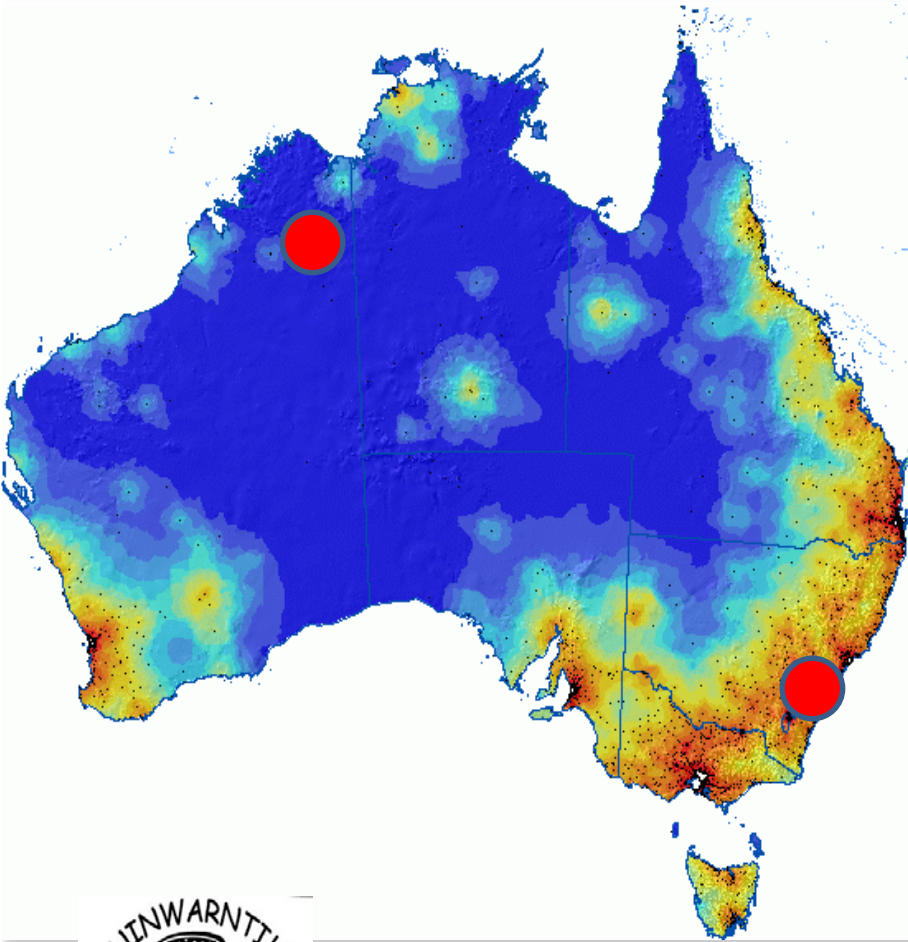
### › ***What do we need to know?:***

- Behaviour challenges at home and in school
- Differences between FASD vs. No FASD



# *The Lililwan Project. Fitzroy Valley, WA, 2009-13*

*Elliott E, Latimer J, Oscar J, Fitzpatrick J, Carter M*



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## Lililwan Project

- › Community-initiated, population-based study
- › Objectives:
  1. FASD prevalence (2002-3)
  2. Relationships between prenatal alcohol exposure & neurodevelopmental and behavioural outcomes
  3. Assessment, diagnosis, health, education management plans





# The Lililwan Project

## Stage 1

Identify all children born  
2002 or 2003 living in Fitzroy  
Valley;  
Interview parents/carers



**April-Aug 2010**

127 of 134 eligible  
(95% participation rate)

## Stage 2

Interdisciplinary  
assessment;  
**Achenbach: CBCL, TRF;**  
Development of individual  
management plans



**Nov 2010**

Trial of clinical  
assessments (N=6)

**May-Nov 2011**

Interdisciplinary  
assessment of cohort



# Interdisciplinary assessment

Heather Carmichael-Olsen



Barb Lucas

Robyn Doney



James Fitzpatrick

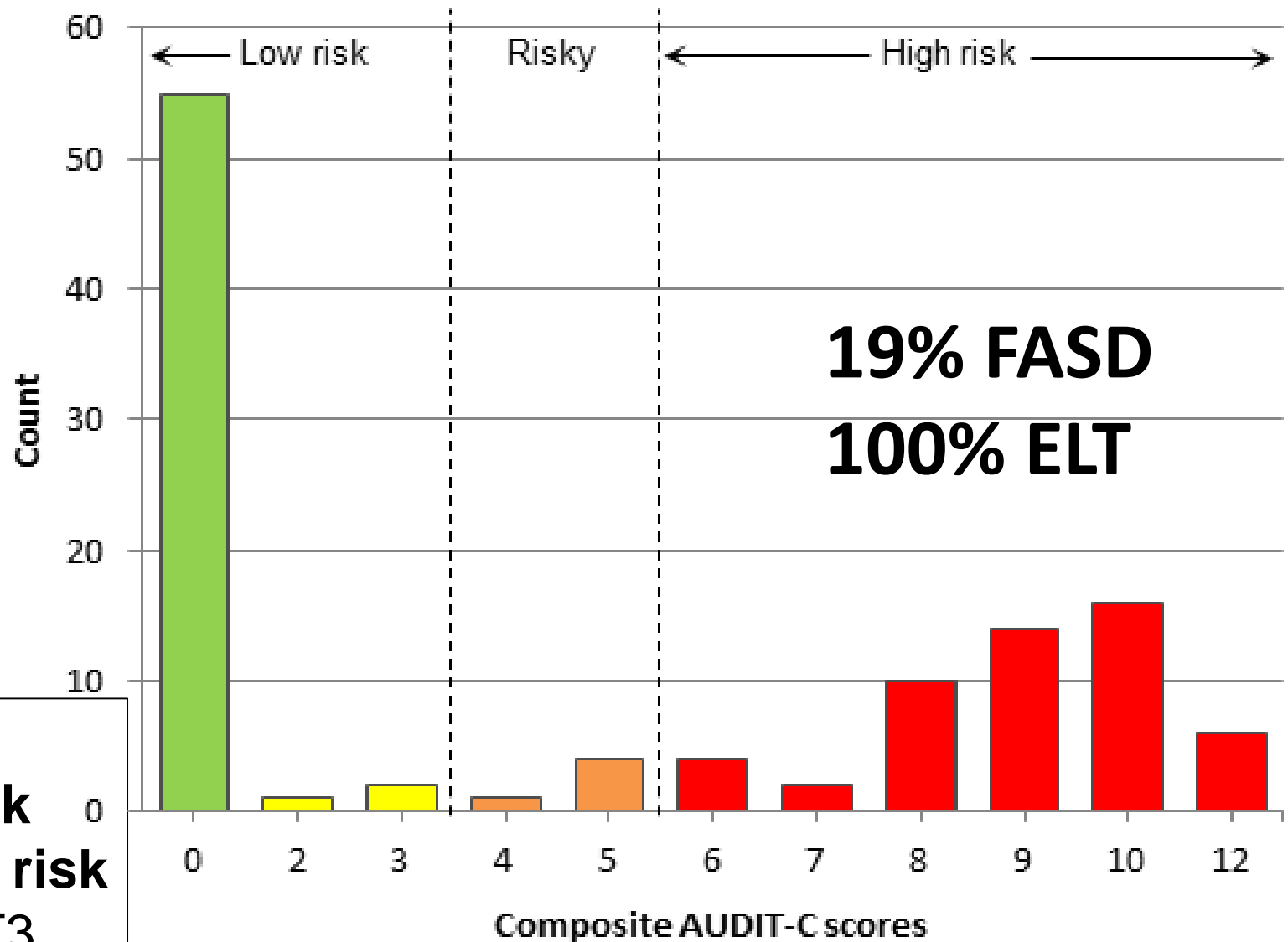


Clare Salter



# The Lililwan Project; Fitzpatrick et al. Elliott.

## PRENATAL ALCOHOL EXPOSURE

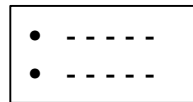
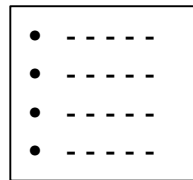
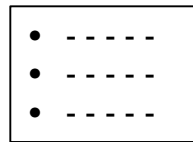
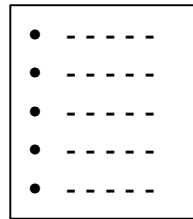


n = 115  
55% drank  
93% high risk  
Most T1-T3



# Achenbach: CBCL simplified structure

Individual Qs  
("items")



...

**(113 items:  
12 Critical)**

Scale scores

Scale score A

Scale score B

Scale score C

Scale score D

...

**(24 CBCL scales)**

Broad summary  
scores

Broad summary score 1

Broad summary score 2

...

**(4 CBCL scores)**

## Behaviour data

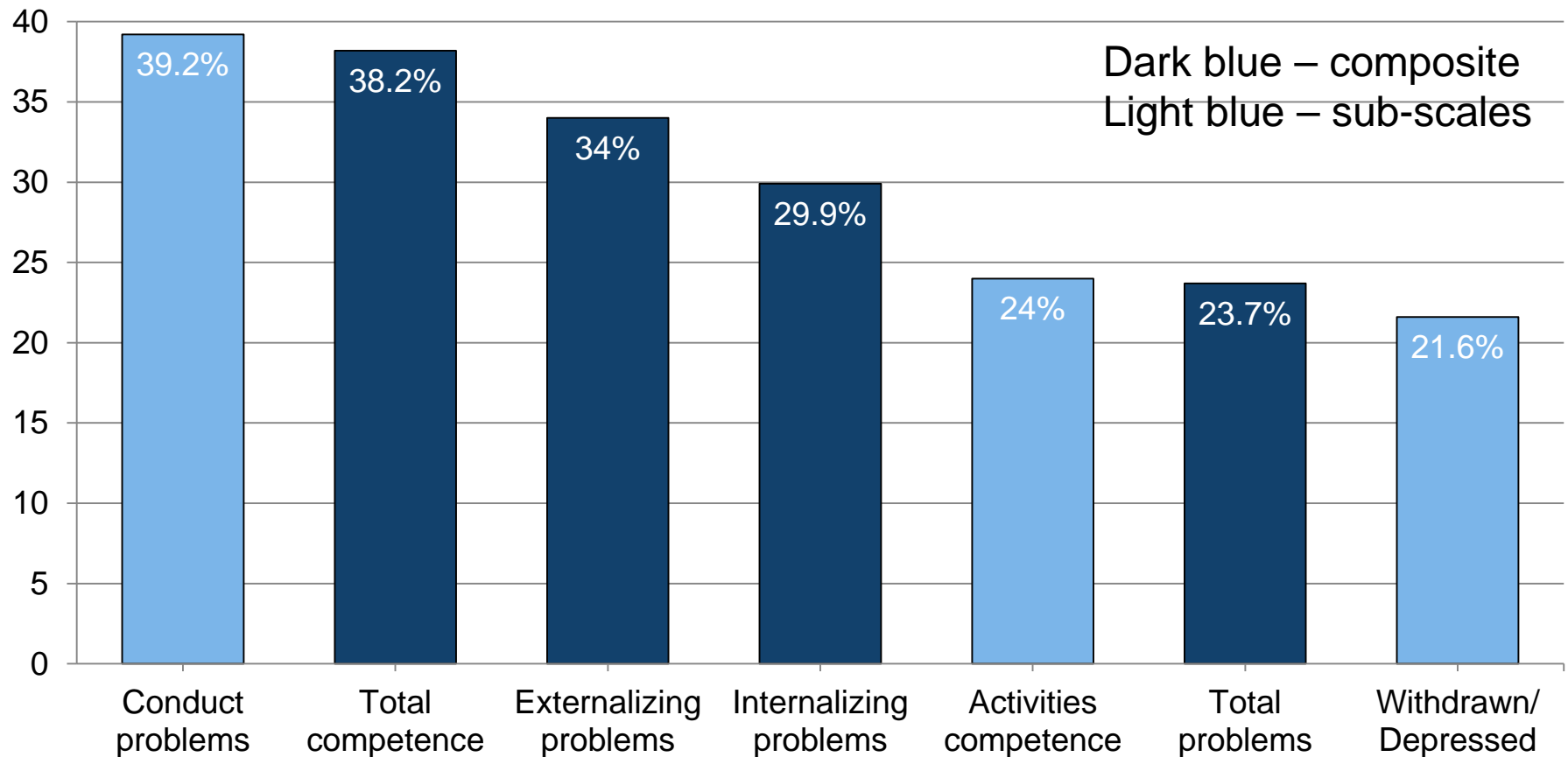
- › N = 108: CBCL: N=97; TRF: N=106
- › Age:  $8.7 \pm 0.6$  y (range: 7.4 to 9.6 y)
- › FASD 21 (19%)
- › Child Protection: FASD 40%; Non-FASD 14.5% ( $p < 0.05$ )
- › CBCL trained community navigators
- › TRF self-administered
- › Analyses: FASD v Non-FASD
  - Proportions with “Normal”, & “Borderline / Clinical” scores
  - Total scores
  - Critical items



# Results: Total Cohort

## “Borderline / Clinical” behaviours (%)

### CBCL (parent-rated)



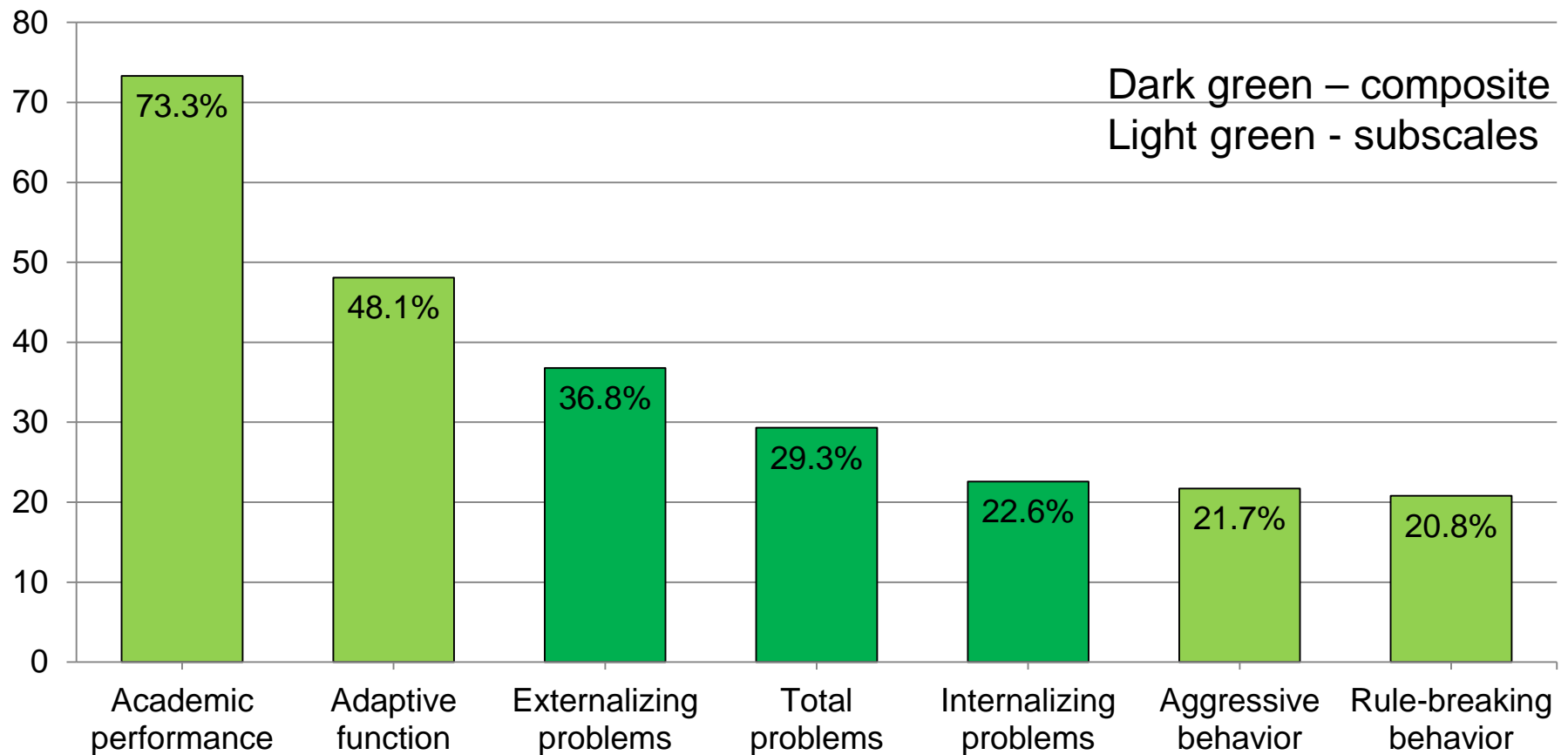




# Results: Total Cohort

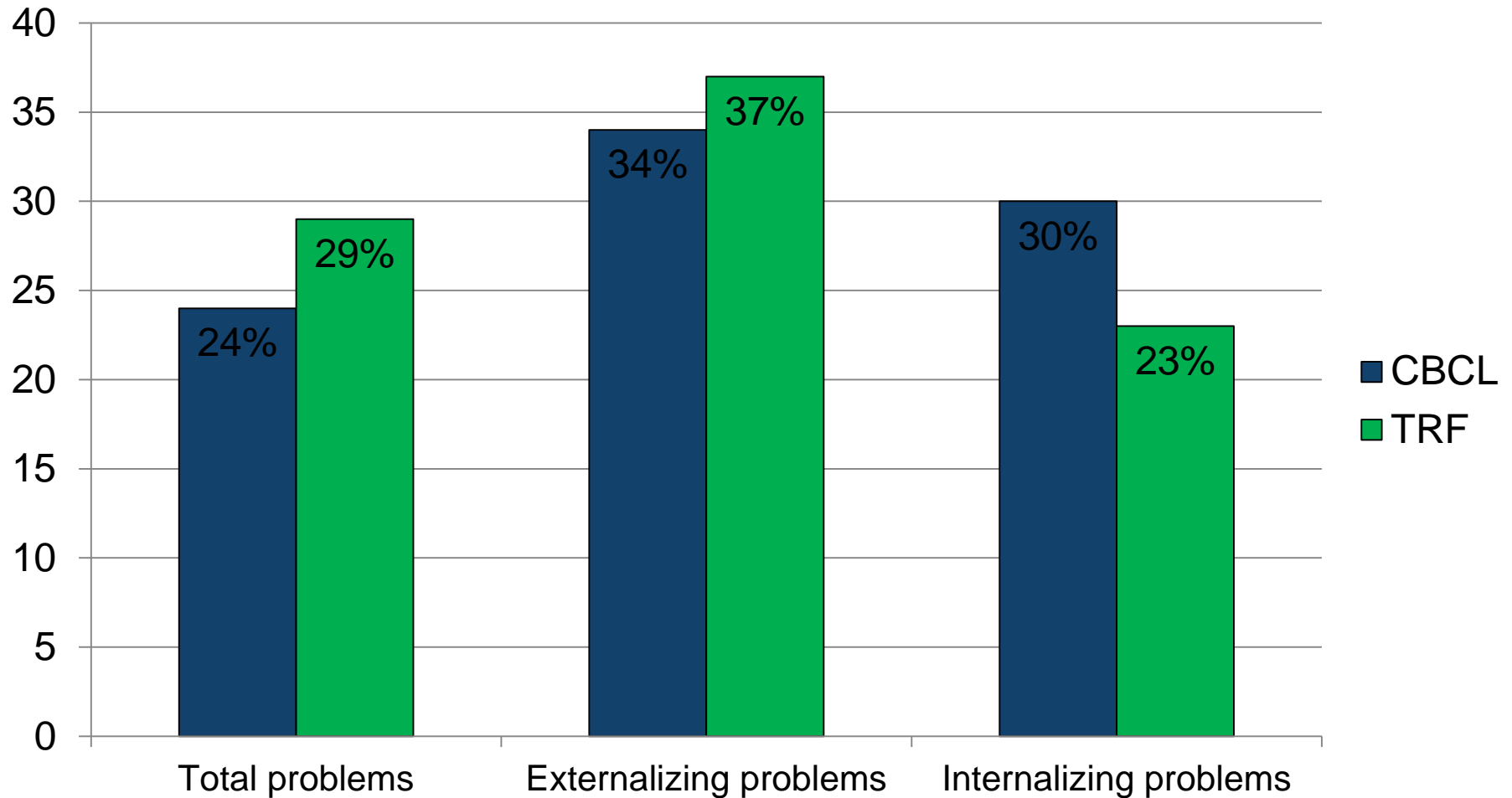
**“Borderline / Clinical” range behaviours (%)**

**TRF (teacher-rated)**



## Results: Total Cohort

### Composite Scores: “Borderline / Clinical” (%); Parent & Teacher)



## Parent ratings

- › Prior to correction, FASD > no-FASD:
  - “Borderline / Clinical” range: Attention problems
  - Total scores:
    - Social problems, Attention problems
    - DSM-oriented scale: ADHD
- › After statistical adjustment for multiple comparisons:
  - No significant differences between FASD v Non-FASD:
    - “Borderline / Clinical” scores
    - Total scores
    - Critical items

# TRF Results: FASD vs Non-FASD

## Teacher ratings: “Borderline / Clinical” range scores

Behaviour scale	FASD (%) (n=21)	Non-FASD (%) (n=85)
Academic performance	100	67
Affective problems	38	11
Attention problems subscale: Inattention	33	7
Attention problems	33	5
Attention deficit hyperactivity (ADH) problems	33	5
Sluggish cognitive tempo	29	5
ADH subscale: Inattentive	24	6
ADH subscale: Hyperactivity- impulsivity	24	16

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Significant differences after adjustment for multiple comparisons





## FASD vs Non-FASD TRF T-score (SD); Raw (IQR)

Behaviour scale	FASD	Non-FASD
ADH problems subscale: Inattention	4 (3 – 9)	2 (0 – 4)
Attention problems	60.9 (8.8)	54.1 (5.6)
Attention problems subscale: Inattention	9 (6 – 20)	3 (1 – 9)
Attention problems subscale: Hyperactivity-impulsivity	8 (3 – 13)	4 (0 – 7)
ADH problems	61.3 (9.7)	54.7 (5.9)
ADH problems subscale: Hyperactivity-impulsivity	7 (2 – 10)	3 (0 – 5)
Thought problems	56.8 (5.6)	52.2 (3.9)
Academic performance	35.2 (0.4)	41.6 (9.4)
Social problems	60.4 (8.7)	53.8 (5.5)
Post-traumatic stress	59.2 (8.9)	53.9 (5.4)
Sluggish cognitive tempo	59.5 (9.0)	53.9 (5.4)
Withdrawn / depressed	59.4 (8.1)	54.4 (6.3)



## Results: FASD vs Non-FASD Teacher ratings: Critical Items [N (%)]

Critical item	Total cohort (n=106)	FASD (n=21)	Non-FASD (n=85)
0 critical items	80 (75%)	12 (57%)	<b>68 (80%)</b>
1 critical item	22 (21%)	6 (29%)	16 (19%)
2 critical items	4 (4%)	<b>3 (14%)</b>	1 (1%)
Harms self	1 (0.9%)	0	1 (1.2%)
Hears things	0	0	0
Attacks	23 (21.7%)	<b>8 (38.1%)</b>	15 (17.6%)
Sees things	1 (0.9%)	1 (4.8%)	0
Talks suicide	4 (3.8%)	3 (14.3%)*	1 (1.2%)
Illicit alcohol/drugs	1 (1.0%)	0	1 (1.2%)

\* Significant difference



# Summary

- › First investigation of behaviour in FASD in remote Aboriginals
- › First study to examine all scales & Critical items, CBCL & TRF
- › Prevalent problems (Total cohort):
  - Academic performance, Attacking others; Internalizing problems, Externalizing problems, Total problems; Aggressive behaviour; Conduct problems.
- › Children with FASD show:
  - Poorer academic performance; more attention problems, sluggish cognitive tempo, adaptive function problems, affective problems, social problems, talking of suicide.
- › Parent vs teacher ratings:
  - Consistent for total cohort for composite problem scores (Total, Internalizing, Externalizing problems)
  - Inconsistent in comparisons of FASD v Non-FASD



**JANDU YANI U**

***For all the Family***

Positive Parenting Program  
Triple P International



20 accredited Parent Coaches, 14 Aboriginal, 10 organisations