Callous-unemotional traits and the treatment of conduct problems in children and adolescents

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Mark Dadds (and Child Behaviour Research Clinic team)
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Callous-Unemotional Traits and the Treatment of Conduct Problems in Childhood and Adolescence: A Comprehensive Review
David J. Hawes · Matthew J. Price · Mark R. Dadds

**Targets:**
- Reduce reinforcement of negative behaviours
- Increase reinforcement of positive behaviours

**Process:**
- Consultation sensitive to parent attributions and family structure
- Ensuring operant strategies not undermined by attachment dynamics

EXPLAINING POOR OUTCOMES

Parent training success rates: ~60%
Meta-analysis: mean effect size d = 0.47 (-0.06 to 1.68)
(McCart et al., 2006)

Poor outcomes?
...socioeconomic disadvantage, minority group status, younger maternal age, and parental psychopathology
(e.g., Beauchaine, Webster-Stratton, & Reid, 2005; Gardner et al., 2010; Lundahl, Risser, & Lovejoy, 2006; Reyno & McGrath, 2006).
To better understand problem development...
...we need to better understand problem heterogeneity.

Child characteristics / individual differences:
...different kinds of victims?
...different kinds of architects?

DMS-5 Development

Callous and Unemotional Specifier for Conduct Disorder

CU traits (aka ‘limited prosocial emotions’)
Lack of guilt
Lack of empathy
Manipulative use of others
Callous and Unemotional Specifier for Conduct Disorder

Measurement

“Unconcerned about feelings of others”
“Inconsiderate of other people’s feelings”
“Unhelpful if someone is hurt, upset, or ill”

(Dadds, Fraser, Frost & Hawes, 2005)

Measurement

“Unconcerned about feelings of others”
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(Dadds, Fraser, Frost & Hawes, 2005)
Subtyping Children with Conduct Problems

**Low CU traits**
- Emotionally dysregulated
- Over reactive to emotional cues
- Reactive aggression
- Hostile attributional biases

**High CU traits**
- More severe & chronic
- Proactive aggression
- Under-reactive to emotional cues
- Reward-dominance

Boys with CU traits (age 11yrs):
Reduced amygdala reactivity to emotional (fear) stimuli

Also, connectivity with ventromedial prefrontal cortex
(e.g., Marsh et al., 2008)

(Jones, Laurens, Herba, Barker, & Viding, 2009)
Heritability of conduct problems in 7 year olds
N=3687 twin pairs from the Twins Early Development Study

Low CU traits
- Moderate genetic & environmental influence
  \[ h^2_g = .30 \]

High CU traits
- Extremely strong genetic influence; minimal environmental influence
  \[ h^2_g = .81 \]

The problem trajectories of children with versus without CU traits appear to be shaped by somewhat distinct parent-driven and child-driven effects.
CU TRAITS X NEGATIVE PARENTING

Wootton, Frick, Shelton, and Silverthorn, 1997

KEY QUESTIONS

“Does quality of parenting just not matter for children with CU traits?”
CU TRAITS & POSITIVE PARENTING

“Are some forms of parenting more proximal to the conduct problems of CU children?”

...warmth in parent-child relationship?

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**Do callous-unemotional traits moderate the relative importance of parental coercion versus warmth in child conduct problems? An observational study**

*Journal of Child Psychology and Psychiatry*, 2015, pp. 1-10

Dave S. Pasalic, Mark R. Dadds, David J. Hawes, and John Brennan

Clinic-referred boys (ODD)

N = 95; aged 4-12 years

Coercion: Coded from direct observation

Warmth: Mothers’ relational schemes

(coded from 5-minute speech sample)
Low CU: Conduct problems associated with (high levels of) coercive parenting only

High CU: Conduct problems associated with (low levels of) parental warmth only

CHILD-DRIVEN EFFECTS

CU traits influence family environments and parent-child interactions...

...independent of influences from conduct problem behaviour
CU traits predicted change in parenting independent of conduct problem severity

CU traits predicted change in more domains of parenting than did conduct problems

High CU traits predicted:

...increases in *corporal punishment*
...increases in *inconsistent discipline*
...reduced levels of *warmth/involvement*
Reduced positive parenting…
Reduced warmth/involvement…
Increased problems with child supervision…

Predicted *increased levels of CU traits*

**KEY QUESTIONS**

“Are CU traits related to treatment outcomes?”
The Treatment of Conduct Problems in Children With Callous–Unemotional Traits

David J. Hawes and Mark R. Dadds
University of New South Wales

Boys 4-8 yrs; Diagnosed ODD
10-week parent training
Diagnostic interview
Observational data
6-month follow-up

Logistic regression predicting diagnostic status at follow-up from pre-treatment variables

<table>
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<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>Exp B</th>
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<tr>
<td>Mother education</td>
<td>-.68</td>
<td>.51</td>
<td>1.79</td>
<td>.50</td>
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<td>Pre-ODD severity</td>
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<td>.81</td>
<td>.12</td>
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<tr>
<td>N* of sessions</td>
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<td>.48</td>
<td>7.23</td>
<td>3.69**</td>
</tr>
<tr>
<td>Child age</td>
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<td>.04</td>
<td>1.08</td>
<td></td>
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<tr>
<td>CU Factor</td>
<td>.51</td>
<td>.24</td>
<td>4.31</td>
<td>1.67*</td>
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<tr>
<td>Correct praise</td>
<td>-.27</td>
<td>.16</td>
<td>2.77</td>
<td>.10</td>
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<tr>
<td>Correct time-out</td>
<td>-.02</td>
<td>.03</td>
<td>.88</td>
<td>.97</td>
</tr>
<tr>
<td>Harsh / aversive parenting</td>
<td>.02</td>
<td>.09</td>
<td>1.02</td>
<td>.34</td>
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* p < .05, ** p < .01
CU traits as a predictor of clinical change in conduct problems

11 (10) studies have investigated (pre-treatment) CU traits
9 report significant effects for CU traits

Only 2 of these tested pre-treatment CU as a moderator.
…both found it was (Dadds et al., 2012; Manders et al., 2013)

This reduced treatment response…

…not a by-product of diagnostic characteristics that covary

…independent of symptoms share phenotypic overlap

…not a proxy for one informants’ biased perception of child
Clinic-referred children (oppositional defiant disorder)
Aged 3–9 years (N = 95; 70% male)
Mixed comorbidity (e.g., ADHD, Autism Spectrum Disorder)

Multi-informant ratings of child CU traits
(Mother, father, teacher ratings)

Multi-informant CU traits predicted:
…poor outcomes at 6mths
…independent of autism spectrum symptoms
Rates of Diagnosable ODD at Follow-up
(among cases with diagnosable ODD pre-treatment)

12% Low CU
27% High CU

ODD at follow-up
Diagnosis free

Associations between CU traits and treatment outcomes are not easily explained by…

…family factors potentially associated with biased over-reporting of CU traits such as parental stress, depression, and socio-economic disadvantage (e.g., Hawes & Dadds, 2007).

…family processes associated with acquisition/implementation of parenting skills (e.g., Hawes & Dadds, 2005b; Hogstrom & Ghaderi, 2013).
Indices of treatment implementation from coded observations and self-report

**Delivery and frequency...**
- Positive reinforcement (e.g., praise)
- Limit-setting (time-out)
- Harsh/aversive reactions

**KEY QUESTIONS**

“How can treatment outcomes be enhanced for children with CU traits?”
Brief targeted training in ER can benefit...

Autism (e.g., Baron-Cohen et al., 2009; Golan et al., 2010), Developmental delay (e.g., Downs and Strand, 2008), Schizophrenia (Russell et al., 2006).

What about CU traits?
Randomisation

Treatment as usual  TAU + emotion-recognition training

ERT reduced conduct problems, among high CU cases.

BUT…

Effects not mediated by change in emotion recognition or empathy

Outcomes, moderators, and mediators of empathic-emotion recognition training for complex conduct problems in childhood

Mark Richard Dadds a,*, Avrii Jessica Cauchi a, Subodha Wimalaweera a, David John Hawes b, John Brennan a

Psychiatry Research

SDQ-Conduct Problems

Low CU  High CU

ERT  TAU  ERT  TAU
Impaired attention to the eyes of attachment figures and the developmental origins of psychopathy

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1The University of New South Wales, Australia, 2Hugo College, London, Institute of Psychiatry, UK

Boys with CU traits reciprocate less eye contact with parents during family interactions

See also...


EMOTIONAL ENGAGEMENT AS A THERAPEUTIC TARGET

An impaired attentional reflex for emotional cues, likely interferes with parent-child bonding, and deprives child of critical information about the consequences of his/her behaviour on others.

See Hawes, Price, and Dadds (2014)
EMOTIONAL ENGAGEMENT AS A THERAPEUTIC TARGET

Dadds, M.R., & Hawes, D.J. 2013-2015 (APP1041492)
Early intervention for treatment-resistant conduct disorder in children. 
_National Health and Medical Research Council. Project Grant._

Parents encouraged to...
- Share eye contact during moments of love & affection
- Model good eye contact in parent-child interactions
- Reinforce child when eye contact initiated/sustained
- Share eye contact when praising child
- Talk to therapist if eye contact uncomfortable
- Do different EE activities every day

PhD researcher: Therese English
Chief psychologist: Subodha Wimalaweera

EMOTIONAL ENGAGEMENT

Remediating eye-contact deficits may…

1. …increase the quality of the relationship, and the potential for _parental responses_ to function as _motivating rewards_ for prosocial behavior.
EMOTIONAL ENGAGEMENT AS A THERAPEUTIC TARGET

Remediating eye-contact deficits may…

2. …increase the child’s attention to the emotional content of parental instructions, and in turn improve child responses to parental limit-setting.

EMOTIONAL ENGAGEMENT AS A THERAPEUTIC TARGET

Remediating eye-contact deficits may…

3. …initiate neuropeptide (e.g., oxytocin) and connectionist changes (e.g., amygdala to higher processing circuitry) that increase salience of emotional stimuli to these children and facilitate normalization of dysfunctional neural systems over time.
Children with CU traits are NOT untreatable…
…but they do have unique treatment needs

Current parent training programs are the best starting point, but they alone are not enough

To best meet these needs, we must target the distinct family processes that confer risk/protection for this high-risk subgroup.