

CHALLENGING BEHAVIOURS AFTER ABI IN THE COMMUNITY: A Case Presentation of PBS+PLUS

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AIMS



Understand the nature of
challenging behaviour
after brain injury

*Including perspectives of
people with lived experience*



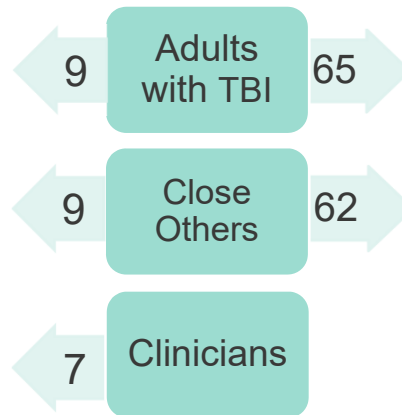
Understand the service
needs of people with
challenging behaviours
and clinicians



Design, evaluate &
translate into practice a
positive behaviour
support intervention for
people with brain injury



Qualitative Interviews



Phone Survey



(Gould et al., 2019; Hicks et al., 2017) Study, Gould, 2020 | 3

70%

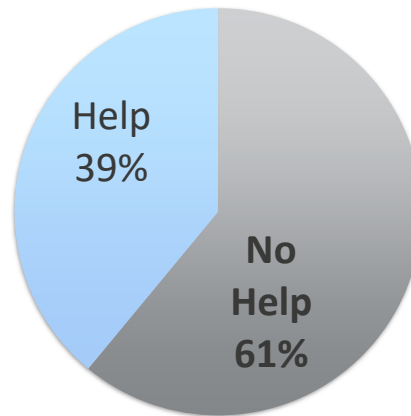
*Challenging
behaviour in
the first 2
years after
moderate-
severe TBI*



Hicks et al, 2017

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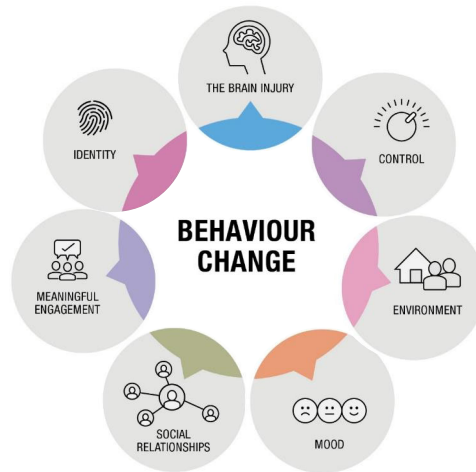
**MOST PEOPLE
WITH TBI WERE
NOT RECEIVING
SUPPORT**




Behaviours of concern following moderate to severe traumatic brain injury in individuals living in the community

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The lived experience of behaviours of concern: A qualitative study of men with traumatic brain injury

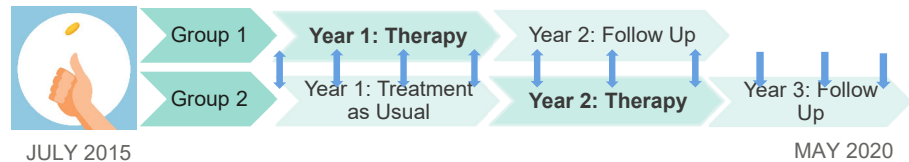
Kate Rachel Gould^{a,b}, Amelia J. Hicks^{a,b}, Malcolm Hopwood^c, Justin Kenardy^d,
Iveta Krivonos^c, Narelle Warren ^e and Jennie L. Ponsford^a

^aMonash-Epworth Rehabilitation Research Centre, Epworth Healthcare, Melbourne, Australia;
^bMonash Institute of Cognitive and Clinical Neurosciences, School of Psychological Sciences, Monash University, Melbourne, Australia; ^cDepartment of Psychiatry, University of Melbourne, Melbourne, Australia; ^dRecover Injury Research Centre and School of Psychology, University of Queensland, Brisbane, Australia; ^eSchool of Social Sciences, Faculty of Arts, Monash University, Melbourne, Australia

RCT



Aimed to develop and evaluate the effectiveness of a PBS model of intervention for Victorian community dwelling adults with challenging behaviours following ABI



Project Lead: Professor Jennie Ponsford, AO

Project Team: Dr Tim Feeny, Dr Kate Gould, Amelia Hicks & Professor Malcolm Hopwood

Primary Institution: Monash University



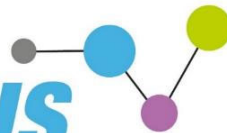
A joint initiative of



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POSITIVE BEHAVIOUR SUPPORT

PBS+PLUS



A person-driven and collaborative approach to building a meaningful life and self-regulating behaviour after brain injury



Led by Dr Tim Feeny:

Clinical Neuropsychologists
Occupational Therapists
Speech Therapists



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Foundational Principles



PERSON DRIVEN

- | Focus on identity, aspirations, meaningful life roles and activities
- | Person and natural supports are held as experts and equal contributors
- | Flexibly working within current life circumstances and readiness



LEARNING TOGETHER

- | Understanding and addressing brain injury, personal, social and environmental obstacles
- | Continuously trialling and evaluating intervention ideas



UNITING SUPPORTS

- | Investing in the growth of therapeutic relationships
- | Fostering collaborative and sustainable support networks



SKILL BUILDING

- | Supporting people with brain injury to self-regulate behaviour
- | Helping people develop the capacities needed to create a meaningful life
- | Relentlessly optimistic that there is always something that works



Foundational Principles



PERSON DRIVEN



LEARNING TOGETHER

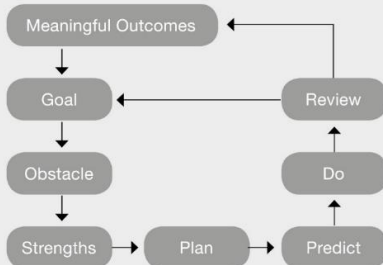


UNITING SUPPORTS



SKILL BUILDING

Flexible Framework



Strategy Menu

YLVISAKER AND FEENEY COMPONENTS




- | Projects
- | Metaphors
- | Identity
- | Theory of Mind
- | Communication Skills
- | Emotional and Social Support
- | Cognitive and Executive Function Strategies

POSITIVE BEHAVIOUR SUPPORT COMPONENTS

- | Flexible Behaviour Analysis
- | Environmental Factors
- | Immediate Antecedents
- | Immediate, Natural and Logical Consequences
- | Positive Behavioural Momentum



Positive behaviour support for challenging behaviour after acquired brain injury: An introduction to PBS + PLUS and three case studies

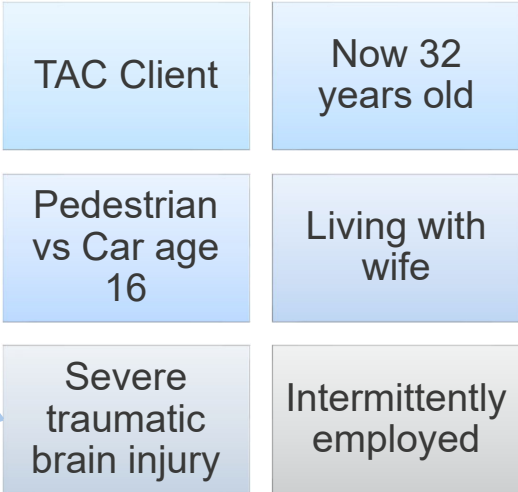
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CASE PRESENTATION: REESE





GCS 3/15

2 Months PTA

CT Brain:
 • Occipital fracture
 • Frontal bilateral subdural haemorrhagic contusions

BRIEF COGNITIVE ASSESSMENT



Domain	Test	Score/Percentile	Descriptor
Estimated pre-morbid intellectual functioning	TOPF (Standard Score)	98	Average
Processing Speed	Symbol Digit Modalities (z-score)	-0.41	Average
Verbal Learning	RAVLT Trials 1-5 Sum (z-score)	-0.43	Average
Verbal Memory	RAVLT Long Delay (z-score)	-1.46	Borderline
Executive Functioning	Hayling Section 1 Time (Percentile Equivalent)	50th	Average
	Hayling Section 2 Time (Percentile Equivalent)	75th	Average/High Average
	Hayling Section 2 Total Errors (Percentile Equivalent)	90th	High Average

BEHAVIOUR CHANGE

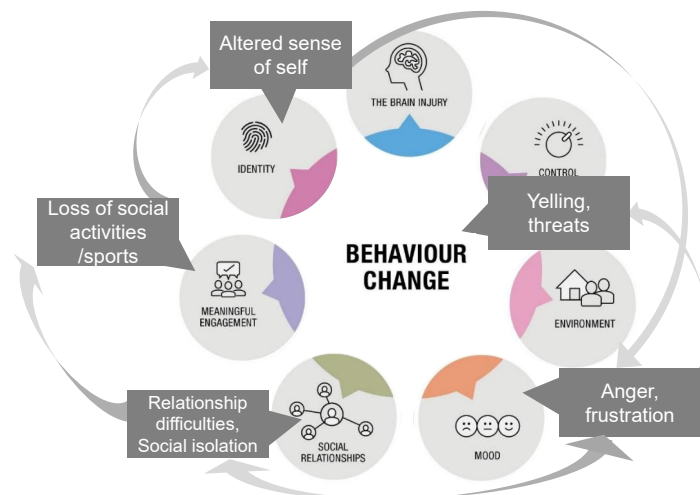


- Verbal aggression:
 - raising his voice and mild indirect swearing multiple times per day (e.g., “for f***s sake”),
 - daily direct insults towards wife (e.g., “retard”)
- Occasional physical aggression against objects
 - e.g. punching holes in walls, slamming doors
- Occasional physical aggression towards people
 - e.g. threatening gestures (only when intoxicated), punching, shoving
- Inappropriate social behaviour
 - occurred at all levels of severity, from weekly to multiple times per day
 - e.g. “shows off,” impatient, self-focused, refusal to discuss problems, engaging in risky behaviours
 - Disparaging comments about whether wife would make a good mother



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REESE



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INTERVENTION



- 16 home visits over 12 months
- Included 10 couples sessions

Meaningful Outcomes

- Creating a positive and personally fulfilling relationship with Elanor
- Identifying shared goals and values we both can work toward together
- Identifying how to manage disagreements and differences in goals and values



Foundational Principles



PERSON DRIVEN



LEARNING TOGETHER

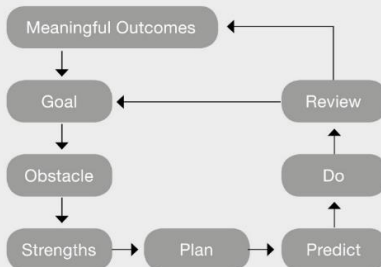


UNITING SUPPORTS



SKILL BUILDING

Flexible Framework



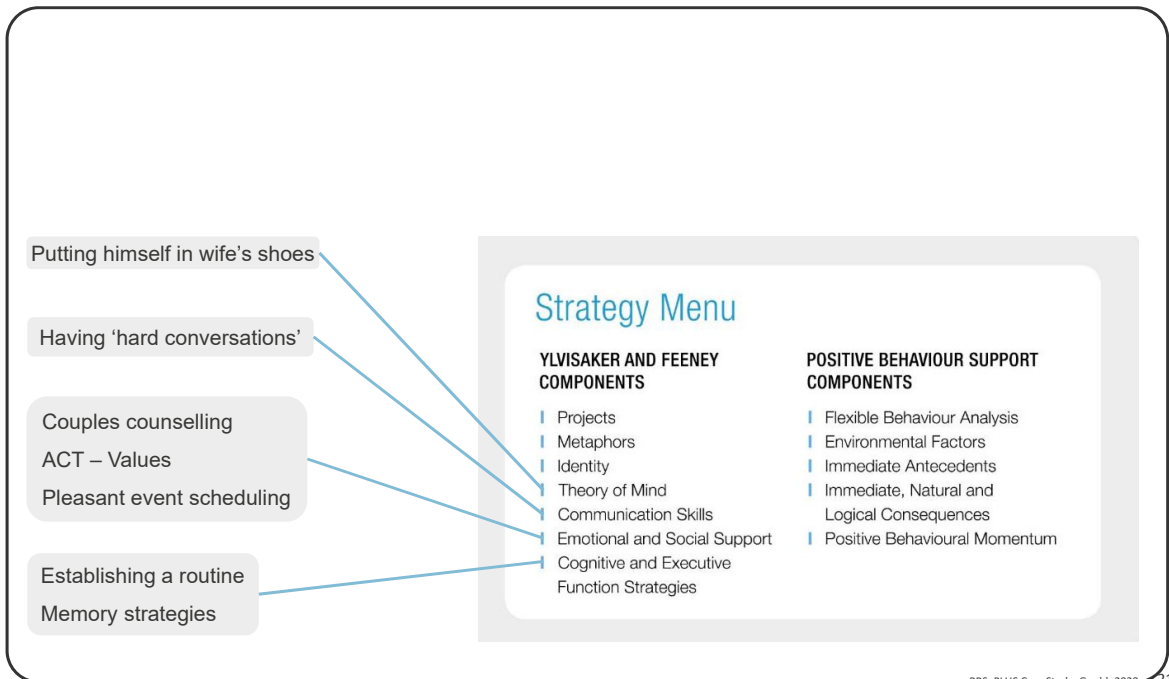
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VERBAL AGGRESSION AS OBSTACLE TO RELATIONSHIP



- Verbal aggression was overtly discussed as an obstacle to achieving their desired marriage
- Flexible behavior analysis used to identify theories for why the verbal aggression occurring in relationship
 - Impulsivity
 - Difficulty seeing others points of view
 - Alcohol abuse
 - Lack of motivation
 - Cognitive inflexibility
- Operationalised aggression in Reese's words
 - "No getting angry, loud voice or 'snippy' comments"
- Conducted experiments for Reese to control his impulsive anger for several minutes at a time
- Over time, he was increasingly able to remain calm in sessions
- Reese declined further anger management support at this time.

THEORY OF MIND (BARON-COHEN, 1997)

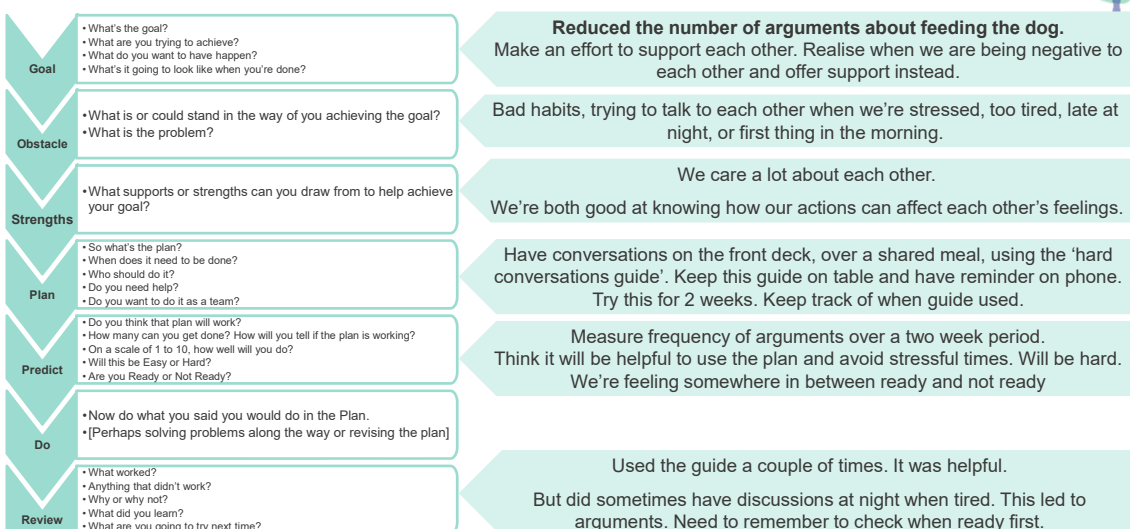


- Brief ToM experiments
- Led to development of concrete strategies to respond to both her emotional state and the content of the discussion:
 - e.g., “When Elanor is upset, I can comfort her with a hug.”



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VALUED OUTCOME: IMPROVE MY MARRIAGE



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HARD CONVERSATION GUIDE



1. Are you ready or not ready for a hard talk?
2. Decide on a topic to discuss
3. Work out who will keep conversation on topic
4. Agree to let each other finish their story without interruption
5. Agree to calm self when getting frustrated



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SHARED VALUES (ACT)

- Explored each of their most important values as individuals
 - Identified they both had “respect” in their top 3.
 - They reviewed how they saw respect as demonstrated and not demonstrated in their relationships
- Specified goal regarding respectful communication
 - e.g. Reducing interrupting each other in conversations and reacting to these interruptions
- Hypothesised obstacles
 - Reese would forget the rest of what he wanted to say
 - Elanor wanted to show her interest and ask clarifying questions
- Generated strategies to trial
 - Big deal-little deal script
 - Wait until they had finished talking before asking questions



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INCREASING MEANINGFUL ENGAGEMENT

- Reese had an extended period of unemployment
- Reese was fixated on staying in his industry rather than exploring other job options
- Time at home became unstructured
- Using Flexible Framework, we identified alternative meaningful activities (e.g. walking the dog, bike riding) and addressed practical and cognitive barriers to participation)
- Reese did not implement plans made during sessions
- *Can't do – won't do – don't do* script was used to explore why
 - Can't do: mismatch between the task demands and his cognitive/physical abilities or cognitive rigidity → trialed memory strategies e.g. written notes, repetition
 - Don't do: initiation impairment → mobile phone reminders, routines
 - Won't do: not being willing or ready → motivating audio recordings from session

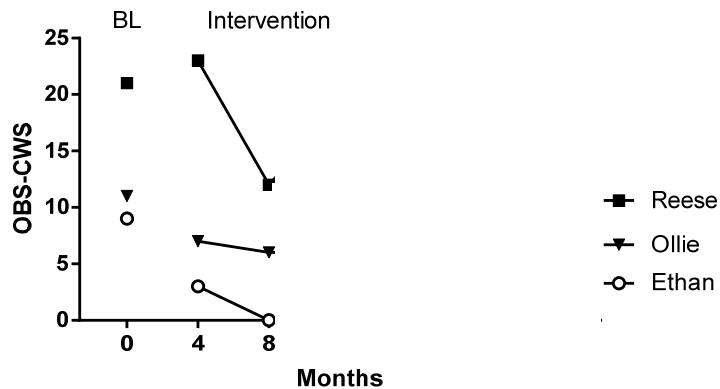


REESE'S ACHIEVEMENTS AT 8 MONTHS

- Reese has improved ability at recognising and being aware of how Elanor might feel about things, or how she might react.
- Reese is better able to self-regulate behavior by not raising his voice or making snippy comments
- Reese demonstrates improved coping better with a period of unemployment
- Reese is more positive about his contribution to tasks at home
- Reese can wait patiently at restaurant even if there are lots of delays
- No longer having arguments about who is feeding the dog

He's so much better behaviourally – he laughs off [small frustrations] as a joke now [whereas] he used to blow his lid. He's ten times better.

CLINICAL WEIGHTED SEVERITY OF OVERT BEHAVIOUR



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REESE'S OUTCOME AT 12 MONTHS



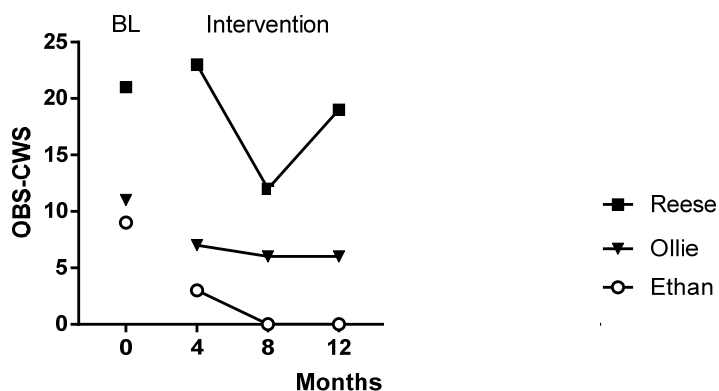
- Behaviour
 - No more arguments about the dog
 - Increase in verbal and physical aggression (he punched a hole in the wall at 11 months)
- Reese's perspective on intervention
 - Enjoyed sessions
 - Not helpful for him
 - "A rather large help" for Elanor
- Elanor's perspective on intervention
 - Initially sessions were confronting and emotionally exhausting
 - Overall, extremely beneficial personally "I'm a lot more relaxed" and for their relationship
 - Increased Reese's capacity to cope with unemployment
 - Reluctant to finish therapy

This time would have been a lot harder if we weren't supporting each other



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CLINICAL WEIGHTED SEVERITY OF OVERT BEHAVIOUR



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GOAL ATTAINMENT SCALING



Participant	Goal	Baseline	Review 1	Review 2	Review 3
'Ethan'	1. To recognise when things are difficult and take action to address this before they spiral out of control	-1	0	+1	+2
	2. To manage frustration and anger so that I can attend appointments and complete paperwork	-1	+1	+2	
	3. Reduce sleep latency	-1	-1		
'Reese'	1. Reduce the number of arguments with wife around feeding the dog	-1	-1	+1	+2
	2. Have more respectful communication	-1	0	+1	-2
'Ollie'	1. To resume time out of his wheelchair	-1	+2	+2	+2
	2. Collect evidence of communication and emotional behaviours	-1	0	0	+1



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POST-INTERVENTION FOLLOW UP

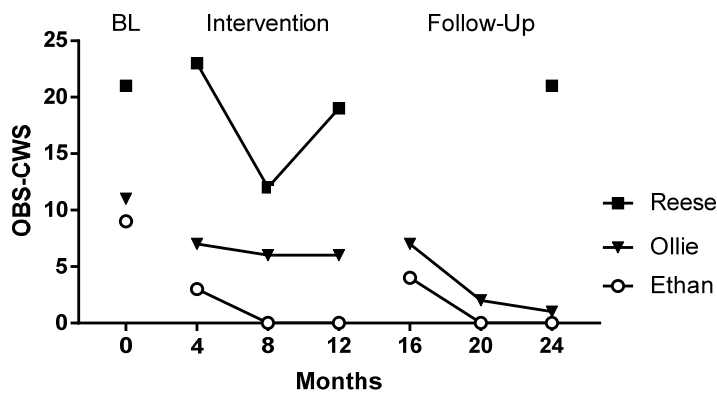


- Current situation
 - Reese and Elanor separated after Reese had an affair
 - Stressful time for them both
 - House damaged beyond repair
 - Difficulties in Reese’s new relationship
- Behaviour
 - Increase in gambling, threats, physical aggression
 - Self described life as “utterly hectic”
- Support
 - No longer using PBS+PLUS strategies
 - Referral to NP and CM For Reese
 - Referral to psychological support for Elanor

Relief at no longer
“carrying the burden
for both of us”



CLINICAL WEIGHTED SEVERITY OF OVERT BEHAVIOUR



REFLECTIONS ON REESE'S INTERVENTION



- Possible reasons for reese's poor response:
 - Impaired insight
 - Questionable engagement and commitment to goals
 - Insufficient motivation
 - Ongoing alcohol abuse

- No intervention has 100% efficacy or effectiveness



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KEY REFERENCES

- Carmichael, J. J., Gould, K. R., Hicks, A. J., Feeney, T. J., & Ponsford, J. L. (2019). Understanding Australian community ABI therapists' preferences for training in and implementing behaviour interventions: A focus on Positive Behaviour Support. *Brain Impairment*. doi: [10.1017/BrImp.2019.32](https://doi.org/10.1017/BrImp.2019.32)
- Carmichael, J.J., Hicks, A. J., Gould, K.R., Feeney, T. J., Analytis, P., & Ponsford, J.L. (2020). 'We struggle and muddle.' A qualitative study exploring community ABI therapists' experiences of using, training in and implementing behaviour interventions. *Brain Impairment*, e-print, <https://doi.org/10.1017/BrImp.2020.6>
- Gould, KR, Hicks, AJ, Hopwood, M., Kenardy, J., Krivonos, I, Warren, N. & Ponsford, J.L. (2019a). The lived experience of behaviours of concern: A qualitative study of men with traumatic brain injury. *Neuropsychological Rehabilitation*, 29 (3), 376-394. doi: [10.1080/09602011.2017.1307767](https://doi.org/10.1080/09602011.2017.1307767)
- Gould, K.R., Ponsford, J.L., Hicks, A. J., Hopwood, M., Renison, B. & Feeney, T. J. (2019b) Positive behaviour support for challenging behaviour after acquired brain injury: An introduction to PBS + PLUS and three case studies. *Neuropsychological Rehabilitation*, e-print. doi: [10.1080/09602011.2019.1656647](https://doi.org/10.1080/09602011.2019.1656647)
- Hicks, A. J., Gould, K. R., Hopwood, M., Kenardy, J., Krivonos, I. & Ponsford, J. L. (2017). Behaviours of concern following moderate to severe traumatic brain injury in individuals living in the community. *Brain Injury*, 31(10), 1312-1319. doi: [10.1080/02699052.2017.1317361](https://doi.org/10.1080/02699052.2017.1317361)
- Ylvisaker, M. & Feeney, T. (1998). Collaborative Brain Injury Intervention: Positive Everyday Routines. Singular Publishing Group. CA: San Diego.
- Ylvisaker, M., Turkstra, L., Coehlo, C., Yorkston, K., Kennedy, M., Sohlberg, M. M., & Avery, J. (2007). Behavioural interventions for children and adults with behaviour disorders after TBI: A systematic review of the evidence. *Brain Injury*, 21(8), 769-805. doi:[10.1080/02699050701482470](https://doi.org/10.1080/02699050701482470)

