



Acceptance and Commitment Therapy for psychological adjustment following traumatic brain injury: A translational research program

Dr Diane Whiting^{1,2}, Senior Clinical Psychologist/ACT-Adjust Project Manager
Ms Sarah Chuah¹, ACT-Adjust Project Officer
Dr Joseph Descallar³, Biostatistician
Dr Josh Faulkner⁴, Senior Lecturer, Clinical Psychologist, Neuropsychologist
A/Prof Grahame Simpson^{1,2,3}, Senior Social Worker/Psychologist/Director BIRRG

1. Brain Injury Rehabilitation Research Group, Ingham Institute for Applied Medical Research, Liverpool, Australia
2. School of Health Sciences, Faculty of Medicine and Health, The University of Sydney, Sydney, Australia
3. Ingham Institute for Applied Medical Research, Liverpool, Australia
4. University of Victoria, Wellington, New Zealand
5. John Walsh Centre for Rehabilitation Research, Northern Sydney Local Health District, St Leonards, Australia



Inspiring health. Transforming care.

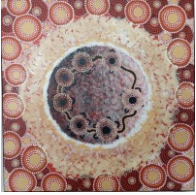






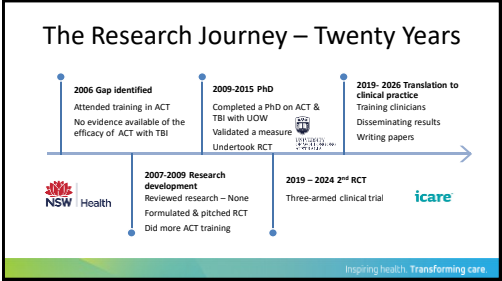
Inspiring health. Transforming care.

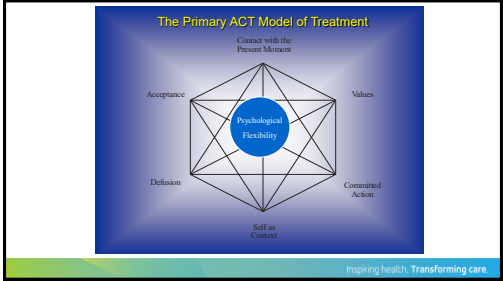
Acknowledgement of country

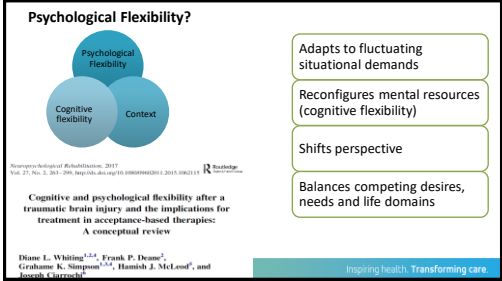




Inspiring health. Transforming care.









Health
South Western Sydney
Local Health District

Acceptance and Action Questionnaire
Acquired Brain Injury (AAQ-ABI)

Read each sentence. Then, circle a number between 0-4 that tells how true each sentence is for you.

Validating Measures of Psychological Flexibility in a Population With Acquired Brain Injury

Chen L., Wilson
University of Melbourne

Joseph C. G. Smith
University of Melbourne

David J. McNeil
University of Melbourne

Stephen R. Simpson
University of Melbourne

1. I take time to think about my brain injury

2. I need to get rid of my anxiety about my brain injury

3. I stop doing things when I feel scared about my brain injury

4. My brain injury defines me as a person

5. I am moving forward with my life

6. I would give up important things in my life if I could make the brain injury go away

7. My worries and fears about my brain injury are true

8. Other people make it hard for me to accept myself

9. Most people are doing better than me

Not at all
0

A little
1

Mostly
2

True
3

Very
4

University of Melbourne

Inspiring health. Transforming care.

Psychological Flexibility Model n=73 (ABI)

```
graph LR; EA_Avoid[Experiential Avoidance  
ATAQ - Avoid] -- .75 --> EA_Threat[Experiential Avoidance  
ATAQ - Threat]; EA_Avoid -- .73 --> PD[Psychological Distress  
DASS21 - total]; PD -- .46 --> EA_Threat; PD -- .12 ns --> CF_Trails[Cognitive Flexibility  
Trails B (transf)]; CF_Trails -- .50 --> CF_WAIS[Cognitive Flexibility  
Trails B (transf)]; EA_Threat -- .39 --> PF_AAQ[Psychological Flexibility  
AAQ-ABI]; CF_WAIS -- .35 --> PF_AAQ; CF_WAIS -- .26 --> PF_AAQ; E2((E 2)) -- .58 --> EA_Threat; E1((E 1)) -- .64 --> PF_AAQ; E3((E 3)) -- .35 --> CF_WAIS
```

Regression weights significant $p < .000$

Inspiring health. Transforming care.

Correlations between measures of cognitive flexibility and psychological inflexibility (n=-66)

	TMT B/A ratio	AUT	WCST PE	FAS	Stroop C-W
AAQ-ABI	.106	-.280*	.184	-.242*	-.305*
AAQ-II	.001	-.250*	.066	-.268*	-.308*

Notes: * $p < .05$, ** $p < .01$

Inspiring health. Transforming care.

3

Table 4. Multiple Linear Regression Bootstrap results of the cognitive flexibility measures on psychological inflexibility

	β	SE	P Value	BCa 95% LCI	BCa 95% UCI
AAQ-ABI					
TMT BA	2.21	1.32	.107	-.748	4.486
WCST PE	-0.05	0.08	.509	-.188	.093
FAS	-0.07	0.10	.474	-.265	.151
AUT	-0.23	0.15	.149	-.532	.051
Stroup C-W	-0.14	0.04	<.001**	-.223	-.046
AAQ-II					
TMT BA	0.52	1.51	.725	-2.675	4.156
WCST PE	-0.11	0.10	.243	-0.294	0.054
FAS	-0.18	0.13	.155	-0.424	0.031
AUT	-0.26	0.20	.203	-0.424	0.031
Stroup C-W	-0.11	0.06	.073	-0.223	-0.050

$F(5, 57) = 4.61$
 $p < 0.001$
 $F(5, 57) = 1.94$
 $p = .102$

Psych PIZZOLI
Inspiring health. Transforming care.

Conclusions

- Stroop color-word interference test significantly predicted context specific psychological inflexibility
- Supports the proposal - executive function is an essential component of psychological flexibility and demonstrates empirical insight into these relationships
- This may assist clinicians in understanding factors which may be perpetuating poor mental health in their clients with a TBI.
- LIMITATIONS
 - Small sample size (n=66)
 - Limited variance explained so other factor
 - TBI population so not translatable to other populations

Inhibitory Control Underpins the Relationship Between Cognitive and Psychological Inflexibility After a Moderate to Severe Traumatic Brain Injury

Diane L. Whiting^{1,2,3}, Jack W. Faulkner⁴, Thomas Gray^{1,2,3,5,6},
Kazuo Mizuguchi⁷, and Catherine R. Simpson^{1,2,3,5}

¹Brain Injury Rehabilitation Research Group, Ingham Institute of Applied Medical Research, Liverpool Hospital, Liverpool, Australia; ²School of Psychology, University of Wollongong, Wollongong, Australia; ³Institute of Health and Wellbeing, University of Glasgow, Glasgow, Scotland; ⁴Institute of Forensic Psychology & Education, Australian Catholic University, Strathfield, Australia; ⁵John Walsh Centre for Rehabilitation Research, Rolfing Institute of Medical Research, University of Sydney, Sydney, Australia

⁶Faculty of Medicine and Health, School of Public Health, University of Sydney, Sydney, Australia; ⁷John Walsh Centre for Rehabilitation Research, Northern Sydney Local Health District, Sydney, Australia

⁸School of Psychological Sciences, University of Wollongong, Wollongong, Australia; ⁹University of Wollongong, Wollongong, Australia

Neuropsychology
Neurology and Rehabilitation

Inspiring health. Transforming care.

ACT on adjusting after your brain injury

Treatment Manual

NEUROPSYCHOLOGICAL REHABILITATION
Wiley-Blackwell 10.1002/9781118120111.ch10

Can acceptance and commitment therapy facilitate psychological adjustment after a severe traumatic brain injury? A pilot randomized controlled trial

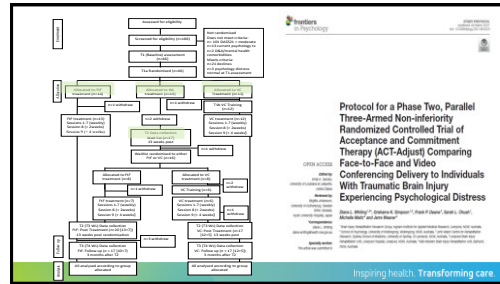
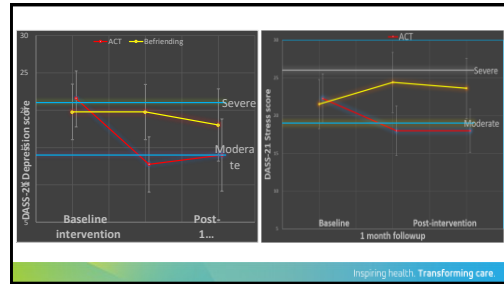
Diane Whiting^{1,2,3}, Frank Deane⁴, Hamish McLeod⁵, Joseph Ciarrochi⁶ and Catherine Simpson^{1,2,3,5}

¹Brain Injury Rehabilitation Research Group, Ingham Institute of Applied Medical Research, Sydney, Australia; ²School of Psychology, University of Wollongong, Wollongong, Australia; ³Institute of Health and Wellbeing, University of Glasgow, Glasgow, Scotland; ⁴Institute of Forensic Psychology & Education, Australian Catholic University, Strathfield, Australia; ⁵John Walsh Centre for Rehabilitation Research, Rolfing Institute of Medical Research, University of Sydney, Sydney, Australia

N=19
Mod-Severe TBI
Civilian sample
Active control - Befriending

Check for updates

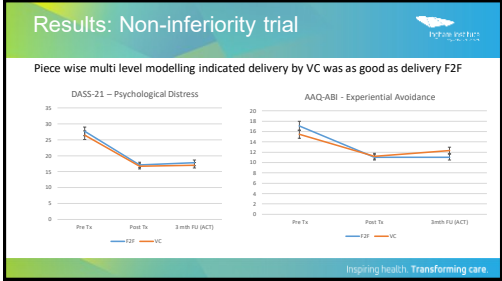
Inspiring health. Transforming care.

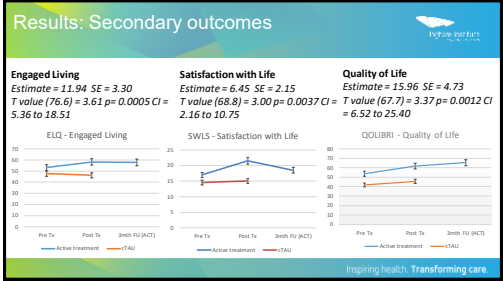
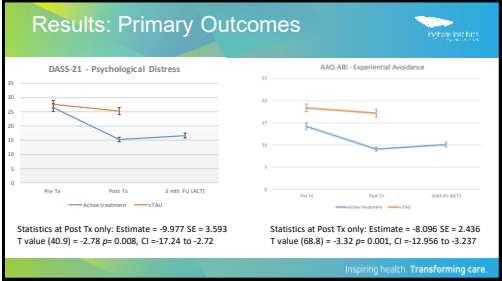


ACT-Adjust 2.0	
ACT on adjusting after your brain injury	
	Session 1
	Introduction to program
	Confronting the agenda
	Control is the problem
	Acceptance and defusion
	The Observing Self
	Mindfulness
	Values
	Goal setting and committed action
	Review and relapse prevention
	Review and relapse prevention

Demographics (n=46, n=22 declined)						
Inspiring health. Transforming care.						
Variable	Mean (SD)/ N (%)	Range	Mean (SD)/ N (%)	Range	Mean (SD)/ N (%)	Range
	ACT (n=27)		cTAU (n=19)		Met criteria declined to (n=22)	
Age	47.4 (14.2)	18-65	40.8(12.9)	22-59	40.2 (14.6)	20-63
Male	20 (74.1%)		16 (84.2%)		21 (95.5%)	
Compensable: No	21 (77.8%)		14 (73.7%)		15 (68.2%)	
Indigenous status: Yes	2 (7.4%)		2 (10.5%)		3 (13.6%)	
PTA duration (days)	23.7 (8.5)	7-81	20.2 (12.9)	7-57	26.2 (16.0)	7-108
Time since injury (months)	19.9 (14.4)	1-59	19.4 (16.1)	2-52	27.3 (17.7)	2-57
Years of Education	12.1 (1.4)	9-17	11.7 (1.1)	7-19	12.0 (1.3)	10-15
Injury Type: Road accident	12 (44.4%)		9 (47.4%)		11 (50.0%)	
Fall	10 (37.1%)		8 (42.1%)		9 (40.9%)	
Struck object/other	5 (18.5%)		2 (10.5%)		2 (9.1%)	
Inspiring health. Transforming care.						

Neuropsychological Profile (n=46)				
Inspiring health. Transforming care.				
Variable	Mean (SD)/ N (%)	Range	Mean (SD)/ N (%)	Range
	ACT (n=27)		cTAU (n=19)	
Cognitive Measure (RBANS*)				
Immediate memory Index	85.5 (18.9)	49-129	78.1 (20.4)	44-117
Visuospatial Index	94.4 (16.7)	64-121	96.2 (18.0)	53-121
Language Index	89.5 (15.4)	47-112	90.3 (16.9)	54-131
Attention Index	80.9 (17.6)	72-112	79.4 (21.6)	40-125
Total Index	84.6 (13.9)	54-106	79.4 (17.9)	55-130 ¹
*RBANS: Repeatable Battery for the Assessment of Neuropsychological Status				
Notes: ¹ one outlier at the upper end				
Inspiring health. Transforming care.				





Conclusions

- ACT was significantly better in reducing psychological distress & experiential avoidance when compared to a constrained treatment as usual control group
- ACT was also significantly better at improving engaged living and satisfaction with life when compared to controls
- Treatment outcomes were maintained at 3 months on primary outcomes but only on Quality of life for secondary outcomes
- Further research will investigate a time series analysis of the primary outcome measures to quantify process of change and factors contributing to successful outcomes.

Inspiring health. Transforming care.

Training Clinicians in the Delivery of ACT-Adjust

- Access to evidence-based psychological treatments for people with TBI is limited
- NHMRC clinical guidelines emphasise the need for appropriately trained clinicians in post-TBI mental health care. ACT-Adjust is a manualised
- ACT adjust if a manualised Acceptance and Commitment Therapy (ACT) program designed to address psychological distress following moderate to severe TBI
- Workshop evaluation using mixed methods
- Clinician training is delivered via a one-day workshop.
- 6 x workshops (n=210 registrations) F2F, hybrid and VC delivery
- Post workshop evaluation (9 items quantitative, 3 open ended questions)
- Descriptive statistics and thematic analysis



Psychiatrist
TBI Unit

Inspiring health. Transforming care.

Results and Conclusions (n=106, 55.7% Response rate)

Workshop Content	Mean (Range)	Confidence and Knowledge	Mean (Range)
Question responses were effective	4.6 (3-5)	Engaging in experiential exercises	4.1 (2-5)
Workshop pace	4.2 (2-5)	My knowledge improved	4.4 (1-5)
Information provision and time mgt.	4.2 (1-5)	Confidence using ACT in practice	4.2 (2-5)
Presenters knowledge	4.9 (3-5)	Positive training experience	4.8 (3-5)
Materials were useful	4.7 (3-5)		



Psychiatrist
TBI Unit

Inspiring health. Transforming care.

Presented by Dr Diane Whiting

Validating the DASS-10 as a brief measure of psychological distress after traumatic brain injury

Ms Sarah Chuah
A/Prof Grahame Simpson

Ingham Institute for Applied Medical Research



DASS 10

How much of the following have you experienced in the last 7 days?

I felt down hearted and blue	☐	☐	☐	☐	☐	☐	☐	☐	☐
I found it difficult to work up the initiative to do things	☐	☐	☐	☐	☐	☐	☐	☐	☐
I needed to over react to situations	☐	☐	☐	☐	☐	☐	☐	☐	☐
I found it difficult to relax	☐	☐	☐	☐	☐	☐	☐	☐	☐
I couldn't seem to experience any positive feelings at all	☐	☐	☐	☐	☐	☐	☐	☐	☐
I felt scared without any good reason	☐	☐	☐	☐	☐	☐	☐	☐	☐
I was bothered by anything that kept me from getting on with what I was doing	☐	☐	☐	☐	☐	☐	☐	☐	☐
I felt I was close to panic	☐	☐	☐	☐	☐	☐	☐	☐	☐
I felt that I had nothing to look forward to	☐	☐	☐	☐	☐	☐	☐	☐	☐
I was worried about situations in which I might panic or make a fool of myself	☐	☐	☐	☐	☐	☐	☐	☐	☐
I felt nervous or panicky when I thought my drinking or drug use might get me into trouble	☐	☐	☐	☐	☐	☐	☐	☐	☐
I have thoughts of ending my life	☐	☐	☐	☐	☐	☐	☐	☐	☐

© 2005 University of New South Wales. All rights reserved.

Reflections on ACT-Adjust from Participants



Since finishing I went out climbing for the first time up at the Blue Mountains- that was amazing. The biggest thing that stuck out to me was to not let negative emotions and thoughts overwhelm me. Take them as they come, but don't dwell on them. (Alex, 28)

Anyone should do ACT-Adjust because it makes you feel like you're getting somewhere. Little things show you that you are. (Tom, 56)

The program helped me understand that the injury doesn't just affect me, but it affects other people around me. That gave me a lot to think about. I spent a lot of time thinking about that. It was very helpful and it's helping my relationship with my partner and that's really important. (Clint, 64)

Inspiring health. Transforming care.

Thank you





Dr Diane Whiting

Brain Injury Rehabilitation Research Group, Ingham Institute for Applied Medical Research, Liverpool, Australia

John Walsh Centre for Rehabilitation Research, School of Health Sciences, Faculty of Medicine and Health, The University of Sydney, Sydney, Australia

diane.whiting@sydney.edu.au

diane.whiting@health.nsw.gov.au

diane@tbipsychology.com.au

Inspiring health. Transforming care.
