

Is being flexible rather than tough the best way to conquer academic test anxiety for university students?

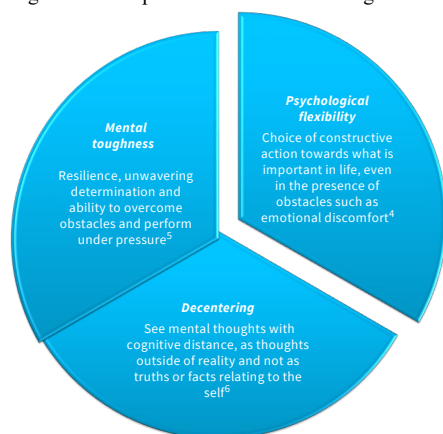
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BACKGROUND

Test anxiety affects approximately one third of university students and often compromises academic achievement. Investigations typically focus on self-efficacy and perfectionism. Research in aligned performance domains such as music and sport show that individuals with high levels of psychological flexibility, mental toughness and decentering have better performance and wellbeing outcomes^{1, 2, 3}



These constructs have been neglected in our understanding of test anxiety yet may provide students with the resilience to cope with the rising pressure of academic excellence.

To help inform interventions for test anxious students we asked:

- (1) Which constructs predict test anxiety?
- (2) How do students experience, and cope with, acute test anxiety?

METHOD

University of Melbourne ethics approval 21617.

Sample. 493 Australian university students. 72.20% female, 26.40% male, 1.4% gender diverse. Aged 17-41 years ($M = 19$ years, $SD = 3$ years). Year in university: 1st - 86.60%; 2nd - 8.90%; 3rd - 4.5%.

Measures. An anonymous online questionnaire (Qualtrics) including:

- *Test anxiety Inventory Short Form* ($M = 13.78$)
- *Mental Toughness Index* ($M = 37.02$)
- *Toronto Mindfulness Scale-Decentering Subscale* ($M = 16.68$)
- *Acceptance Action Questionnaire – University Students* ($M = 44.82$)
- *Short answer questions*

RESULTS

Predictors of Test Anxiety

Psychological flexibility was the only predictor of test anxiety. Mental toughness was negatively correlated $r(491) = -.26, p < .001$ with test anxiety but surprisingly did not demonstrate predictive power in the multiple regression model.

	b	SE.	β	p	R ²
Stepwise model (80% of sample)					
Intercept	6.65	1.17		<.001	.34
Psychological flexibility (AAQ-US)	.15	.01	.59	<.001	
Mental toughness	.003	.02	.007	.892	
Decentering	.01	.04	.01	.779	
Forced model (20% of sample)					
Intercept	8.15	1.08		<.001	.27
Psychological flexibility (AAQ-US)	.14	.02	.52	<.001	

Note. Psychological flexibility is calculated inversely such that lower scores indicate more flexibility. The variance explained by the stepwise model (80% of sample) is calculated at the final step where psychological flexibility is the only predictor.

Student experiences with elevated test anxiety

Fifty cases were randomly selected and thematically analyzed (see below). Students frequently endorsed study-based coping strategies despite recognising the psychological and emotional characteristics of test anxiety, potentially in the absence of knowing more effective mental skills.

- More worried about taking tests and possibly choking
- Increased stress and anxiousness about future assessments of ability
- Doubtful self and ability

Increased worry and loss of confidence



- An opportunity to learn
- Increased motivation to do better
- Intended to improve study or mental skills

Learning and improvement



- Cognitively distanced, suppressed, controlled or eliminated uncomfortable internal symptoms of test anxiety
- Avoided studying and academic-related activities

Experiential avoidance



- Reframed the situation as positive
- Reflected on potential causes
- Used rationalisation to recognise experience as subject-specific and unrelated to overall self-worth.

Reasoning and positive reframing



Note. Themes are presented in decreasing order of frequency

DISCUSSION

Despite previous research frequently endorsing the benefits of mental toughness, our findings suggest that it may not be the core construct that influences test anxiety. Instead, we illuminate *psychological flexibility* as the key to decreasing test anxiety in university students.

Examining features of the student experience of test anxiety - a disruptive internal struggle with fear of failure, the pressure to do well, high expectations and self-doubt - we may recognise these as constraints associated with *low psychological flexibility*.

We posit that *improving psychological flexibility* may combat the rigid and restrictive thought and behavioural patterns that accompany test anxiety.

Acceptance and Commitment Therapy-based strategies may help students increase their *psychological flexibility* by taking effective action toward personal values.

Two primary processes of ACT: *cognitive defusion* and *acceptance*, may provide students with psychological distance and freedom from the controlling nature of negative and worried thoughts, supporting more effective self-regulation and coping behaviours preceding and during high-stakes testing situations.

Additional research is imperative to confirm whether it is more effective to focus efforts on *cultivating psychologically flexible students* to decrease the effects of test anxiety, rather than students who are mentally tough.

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