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Evaluation of a web-based Acceptance & Commitment Therapy (ACT) program for promoting mental health in university students

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- I have not received and will not receive any commercial support related to this presentation or the work presented in this presentation.

University Student Stress

- USA:
  - 47% - diagnosable psychological disorder (Blanco et al., 2008).
  - Increase in range of psychological problems in students (Gallagher, 2014).

- Australia: 83% - clinically significant distress levels (Stallman, 2010):
  - 19% severe distress;
  - 64% mild to moderate distress.

- Many disciplines linked to increased stress (Regehr, Glancy, & Pitts, 2013).

University Student Stress

- University student vs general population (Stallman, 2010; Stallman & Shochet, 2009):

  18-24 years   8.6% males (vs 2.7%), 8.4% females (vs 5.4%)
  25-34 years   6.7% males (vs 2.1%), 17.4% females (vs 4.6%)

- Counsellor to student ratios:
  - AUS 1:4,340 (Stallman, 2012)
  - USA 1:1604 (Gallagher, 2014)

- Help-seeking:
  - 11.7 – 18.45% distressed overall
  - 36.3 – 39.4% high to very high
  - General population: 35% seek help

Mental Health Promotion

- Students need mental health skills for personal and professional development:
    - Disability (days missed due to distress)
    - Academic achievement
    - Quality of life
    - Physical and emotional health
    - Andrews & Wilding, 2004; Stallman & Shochet, 2009; Stewart-Brown et al., 2000; Vaez & Laflamme, 2008.

- Online programs suit this cohort.

- ACT as the framework:
    - Transdiagnostic
    - Teaches skills

Mental Health Matters

YOLO Program

- 4-week online ACT based program
  - 4 modules 30-45 minutes.
  - Exercises 5-15 minutes.
  - Modules targeted 1-2 ACT processes each week through presentations, videos and interactive exercises.
  - Emails

Viskovich & Pakenham (2018), *Journal of Clinical Psychology.*

Program Content

- **Module 1 – Cognitive Fusion**
  - Presentation on concept plus experiential tasks (e.g., leaves on a stream, observing thoughts).

- **Module 2 – Acceptance**
  - Presentation on concept plus videos and metaphors (e.g., passengers on the bus and struggle switch).

- **Module 3 – Mindfulness and the Observer Self**
  - Presentation on concepts plus videos, formal and informal mindfulness tasks and metaphor (e.g., classroom metaphor).

- **Module 4 – Values and Committed Action**
  - Presentation of concepts, videos, values exercises (e.g., 80 year old birthday speech, values drop) and SMART goal training.

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Welcome

Start Session

Contact Us

Logout

Welcome to YOLO.

▶ Welcome Video

Please watch this short welcome video.

Each module contains 4 exercises that are to be completed in sequential order. After you have completed an exercise, the next exercise will be highlighted ready for completion.

You can repeat any exercise you have already completed as many times as you wish.

Please make sure you complete each exercise in full, before moving to the next, to get the full benefit of participating.

Please start by completing the **Initial Survey Measures** below.

Initial survey measures

» Show Completed Exercises

Please watch the following short presentation: *Introduction to Defusing from Thoughts* (4.07 mins).

>>

In this module, we have talked about getting "hooked" by your thoughts, which means getting caught up in what your mind is saying. Like the fly fishing metaphor, thoughts are the flies (lures) that trick the fish into biting.

The more aware you become of what thoughts hook you, the easier it is to learn to recognise it in the moment and take action to unhook. Being hooked to thoughts causes the most problems when you believe them and stay hooked.

What flies does your mind cast out to hook you? In other words, what thoughts hook you the most? Some common hooks are listed here. Drag and drop them into the columns of how often you get hooked by these thoughts. You can then apply the strategies you'll learn specifically to these thoughts.

Items	These flies hook me all the time
I'm a loser	
I'm a bad person	
I'm too fat	
People judge me	
No-one understands me	
I don't feel motivated enough	
I have no goals	**These flies hook me a lot of the time**
I can't resist my urges	
I'm not smart enough	
I'll never make it	
I am weak	
If I feel like this, I can't do anything	
I'm right	
I'm always wrong	**These flies hook me some of the time**
I wish I was perfect	

Pilot Study

Pilot: October 2015 to February 2016:

- Pre $n = 130$, post $n = 51$
- Three intervention groups:
  - G1 ($n = 16$): 1 module pw, flexibility to complete as desired
  - G2 ($n = 17$): no recommended completion
  - G3 ($n = 18$): enforced gap of 3 days between modules

Pilot Study

- **Primary Outcome Measures:**
  - Distress: *Depression Anxiety & Stress Scale 21*
  - Wellbeing: *Mental Health Continuum Short Form*
  - Self-compassion: *Self-Compassion Scale Short Form*
  - Life Satisfaction: *Satisfaction with Life Scale*

- **ACT Process Measures:**
  - Acceptance: *Acceptance & Action Questionnaire II*
  - Fusion: *Cognitive Fusion Questionnaire*
  - Education Values: *Personal Values Questionnaire – Education Subscale*
  - Valued Living: *Engaged Living Scale*
  - Mindfulness: *Mindful Attention Awareness Scale*

Pilot Study

- Data analysis samples:
  - Groups combined
  - Intention-to-Treat (ITT) n = 130
  - T1T2 n = 49: completed pre and post and at least started the program
  - Per Protocol n = 29: adhered to the trial design

- Data imputation method – Multiple imputation with 40 imputations (Rubin, 1996; Graham, Olchowski, & Gilreath, 2007).

- Intervention effects were similar across the 3 sample groupings.

Sample Characteristics

- Demographics:
  - 73% female, 27% male
  - Mean age 26 years
  - 53% undergrad, 13% post grad and 34% RHD
  - 51.5% identified as Caucasian with the remainder a wide variety of other ethnicities.

Outcome	M (SD)	Normal	Mild to Moderate	Severe to Ext Severe
Depression	12.30 (8.74)	41.7%	44.8%	13.5%
Anxiety	9.48 (6.51)	41%	38.1%	20.9%
Stress	16.24 (8.23)	51.5%	32.1%	16.4%

- Mild to moderate at increased risk of serious mental health issue (Kessler, 2002).

Results Primary Outcomes

- Significant improvements and Cohen's d effect size from pre to post across all samples:

Outcome	ITT Sample	
	p	d
Depression	.000***	0.36†
Anxiety	.001**	0.32†
Stress	.000***	0.48†
Well-being	.005*	-0.25†
Self-compassion	.000***	-0.58††
Life satisfaction	.000***	-0.45†

Note. * $p < .01$, ** $p = .001$, *** $p = .000$. Effect sizes † = small, †† = medium. ITT sample $n = 130$

Results ACT Processes

- Significant improvements and Cohen's d effect size from pre to post in ITT Sample:

Outcome	ITT Sample	
	p	d
Acceptance	.000***	0.37†
Cognitive fusion	.000***	0.40†
Education values success	.49	-0.07
Education values ratio	.02*	0.25†
Valued living	.000***	-0.40†
Mindfulness	.000***	-0.68††

Note. * $p < .01$, ** $p = .001$, *** $p = .000$. Effect sizes † = small, †† = medium.
ITT sample $n = 130$

Results ACT Processes

Outcome	T1T2 Sample		PP Sample	
	p	*d*	*p*	*d*
Acceptance	**.20**	**0.15**	**.32**	**0.14**
Cognitive fusion	.009*	0.30†	.045*	0.31†
Education values success	**.38**	**-0.12**	**.17**	**-0.23†**
Education values ratio	**.85**	**0**	**.035***	**0.38†**
Valued living	.000***	-0.44†	.000***	-0.51††
Mindfulness	.001**	-0.41†	.002**	-0.55††

Note. * *p* < .01, ** *p* = .001, *** *p* = .000. Effect sizes † = small, †† = medium. T1T2 sample *n* = 49, PP sample *n* = 29.
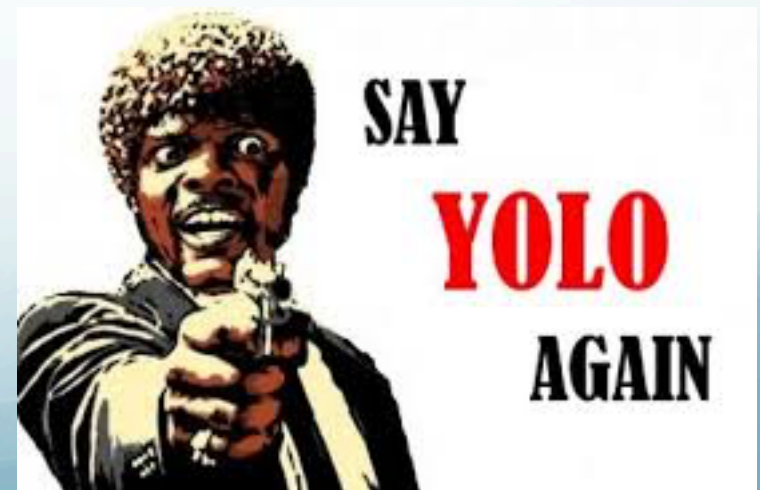
Results

Mediation analyses - MEMORE (Montoya & Hayes, 2016).

Primary Outcome	ACT Process
ITT Sample Depression Anxiety Stress Well-being Self-Compassion Life Satisfaction	 Acceptance, EVR, Valued Living Acceptance Acceptance, EVR Acceptance, Valued Living Acceptance, Cognitive Fusion Acceptance, Valued Living
T1T2 Sample Well-Being Self-Compassion Life Satisfaction	 Cognitive Fusion Cognitive Fusion Valued Living
PP Sample Life Satisfaction	 Valued Living

Note. Based on 5,000 bootstrapped samples.
ITT Sample *n* = 130, T1T2 Sample *n* = 49, PP Sample *n* = 29.

Qualitative Feedback

- Program and Content likes:
  - Easy to understand, relevant and practical (57%)
  - Learning format and short sessions (28%)
  - Integration and explanation of key concepts (26%)
  - Helpfulness of ACT strategies (26%)
  - Videos (21%) and metaphors (17%)

- Program and content dislikes:
  - Too short (22%)
  - Cartoon/video aesthetic annoying at times (22%)
  - Technology/website issues (14%)

- Length – 64% endorsed 4 weeks.

- Reminders – 89% found helpful.

- Program delivery – 52% endorsed completing in their own time over a 4-week period.

SAY YOLO AGAIN

Drop Out Analyses

- Completion rates

- Assessment completers vs non-completers:
  - Results – significant for degree level.

- Mental health outcomes/demographics influencing drop out:
  - Result – all non-significant.

Intervention Completion

Can post intervention scores be predicted from level of intervention completion?

- *ITT Sample:* **Anxiety**
  Completed none M = 8.48 [SD 1.81]
  Started/completed module 1 M = 8.56 [SD 1.82]
  Started/completed module 4 M = 6.68 [SD 6.49]

- *T1T2 Sample:* **Acceptance and education values ratio**
  Started/completed module 1 M = 0.78 [SD = 0.27]
  Started/completed module 2 M = 0.86 [SD = 0.48]
  Started/completed module 4 M = 0.52 [SD = 0.24]

What's next for YOLO

- **RCT completed 2017:**
  - Treatment and waitlist groups n = 1,200
  - Assessments – Pre-, post- and 12-week follow-up
  - Completion rates – slightly higher but mostly similar
  - Results – compared to waitlist control:
    - All outcomes significant from pre to post
    - All outcomes except life satisfaction were maintained at post, anxiety continued to improve
    - All 5 ACT measures mediated changes most frequent mediators of change: Acceptance, fusion, valued living, and mindfulness.
    - Intervention completion
    - Replicated in waitlist control
    - Manuscript under review

THE CONCEPT OF
YOLO
ISN'T TO GO SMOKE, AND DRINK, AND MAKE AN ASS OF YOURSELF.

LOVETHISPIC.COM

IT'S TO GO OUT AND DO SOMETHING WITH YOUR LIFE THAT MATTERS.