

Initial findings from a randomized dismantling trial of the LifeToolbox website:

A transdiagnostic online acceptance and commitment therapy intervention for distressed college students

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Challenges on Campuses

- Mental health problems are prevalent and costly among college students
 - 50% of students per year (Blanco et al., 2008)
- Many campuses are struggling to keep up with rapid increases in demand for services
 - And many students still don't seek treatment
- A transdiagnostic online approach is promising
 - Increase research and access with a single referral source while reducing burden on existing systems.



Background: Initial research on online ACT for college students

- Developed a prototype ACT program for preventing mental health problems
 - Positive results relative to waitlist (Levin et al., 2014).
 - But mixed findings relative to psycho-ed control (Levin et al., 2016)
- Developed 2nd prototype ACT program for college counseling centers
 - An open trial indicated positive preliminary effects (Levin et al., 2015).
 - Currently developing a final version for a RCT



Challenges with development

- Creating custom programs from the ground up is....
 - Expensive and time consuming
 - Challenging for content development
 - Likely to delay development (while seeking funding and during development).
- Revisions based on findings cost more money and time
- Ongoing delivery of programs is limited by hosting and maintenance costs.



Another approach

- Using existing content management systems (CMS) can....
 - Increase speed and efficiency of development
 - Reduce costs significantly
 - Enhance content development with an iterative revision approach
 - Improve stability and usability while reducing hosting and update costs.
- Unfortunately, most CMS do not provide database integration
 - Fortunately, survey platforms like Qualtrics do.



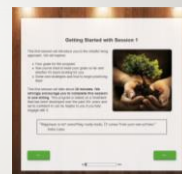
Initial findings

- Compared a \$50,000 ACT prototype to a 2-session Qualtrics-based psycho-ed condition
- The psycho-ed condition had...
 - Higher adherence to the program (86% vs. 55%)
 - Equal usability ratings (SUS $M = 73.41$ vs. 72.63).
 - Higher satisfaction ratings on individual items.



Our 2nd RCT

- 79 college students in distress and interested in online self-help
 - 87% in the clinical range on CCAAPS and subscale
 - Almost all ended up participating for course credit
- RCT compared an ACT-based Qualtrics website to waitlist.
 - Assessments at baseline and post (6 weeks later)
- Satisfaction/engagement:
 - 75% completed half (3) of the six session program
 - 55% completed all six sessions
 - "Good" usability score ($M = 71.13$, $SD = 16.78$)
 - 60% said it was too long and/or too repetitive



Lessons learned

- Developing self-help programs through a survey CMS can lead to adequate acceptability, usability, and efficacy
 - But results are weaker than hoped for on key usability, usage, and process measure variables
 - Effects might be improved by reducing length of sessions and longer reading segments
- A general, transdiagnostic approach reduced a range of problems
 - *But did not impact outcomes largely outside of internalizing disorders*
- Recruitment challenges with engaging college students in web-based self-help



Welcome to LifeToolbox!

Pick a section below to get started:



The LifeToolbox website

- Conduct a dismantling trial to compare the efficacy of ACT components in isolation/combination
 - 1) Mindfulness only
 - 2) Values only
 - 3) Combined (mindfulness + values)
 - 4) Waitlist
- Transdiagnostic intervention for distressed college students (*no phone screening for more stringent eligibility*).
- Expanded recruitment to actively engage students seeking self-help
- Revised intervention approach
 - Emphasis on briefer sessions targeting a more specific concept/skill (15 min / session, 2 sessions per week over 6 weeks).
 - Homepage with open access to 12 sessions (*no longer a "tunnelled" approach*).



Opening Up 2. Letting go LifeToolb

Screenshots

- Landing page
- Sign-in process
- Intros
- Functionality / Exercises

Landing Page
(Mindful condition)

Welcome to LifeToolbox!

PICK a section below to get started:

Opening Up

- 7. Empty space
- 8. Mindful movement
- 9. Connected with you

Getting Unhooked

- 1. Making space
- 10. Reconnecting
- 2. Your mind is big
- 11. Being flexible
- 3. Carrying it with you
- 4. Bold moves
- 5. Carrying it with you
- 6. Carrying it with you
- 12. Connect

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Opening Up | 1. **Away Moves** | LifeToolbox

AWAY MOVES

This program will start by exploring how people get stuck in emotions. This is a great starting point in thinking about what you might want to do differently in your life and the advice you will be learning in future sessions.

We will:

- Introduce the idea of 'away moves'
- Identify 'away moves' you might try
- Start to consider whether 'away moves' work for you

"If you can't get out of something, get into it!"
— Alan Watts

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Opening Up | 5. **Carrying it with you** | LifeToolbox

CARRYING EMOTIONS WITH YOU

This session will focus on how to do what you need to do, even when you are struggling with difficult emotions. We will explore:

- What it means to carry your emotions with you
- Specific ways you can practice this skill

"Walk with your feet and the feelings will follow"
— Alcoholics Anonymous

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Taking Action | 7. **Charting a path** | LifeToolbox

Charting a Path

This session will focus on how to start planning for and making changes in your life. We will:

- Explore possible changes you might want to make, especially in what you are doing
- Chart out your short and long term goals

"Vision without action is a daydream. Action without vision is a nightmare"
— Japanese Proverb

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Clarifying Values | 3. **Connecting With Values** | LifeToolbox

CONNECTING WITH VALUES

This session will focus on exploring how to more deeply connect with your values. To really get in touch with what matters to you — as a motivator, source of meaning, and guide for living your life.

We will:

- Explore what it means to connect with your values
- Make you through some specific exercises you can use to connect

"When your values are clear, life's making decisions becomes easier"
— Ray E. Dornay

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Opening Up | 6. **Bold moves** | LifeToolbox

BOLD MOVES

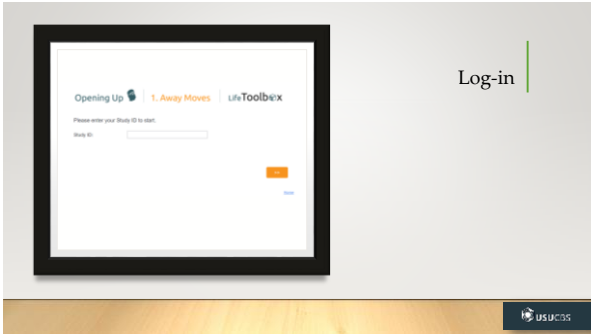
This session will focus on how to make bold moves in your life. Doing things that challenge you to confront difficult thoughts and feelings you may have been avoiding.

We will explore:

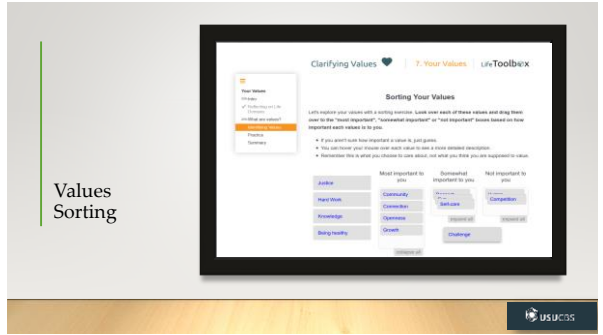
- What it means to make a bold move
- How you can start making bold moves in your life

"A ship is safe in the harbor, but that's not what ships are for"
— William Shedd

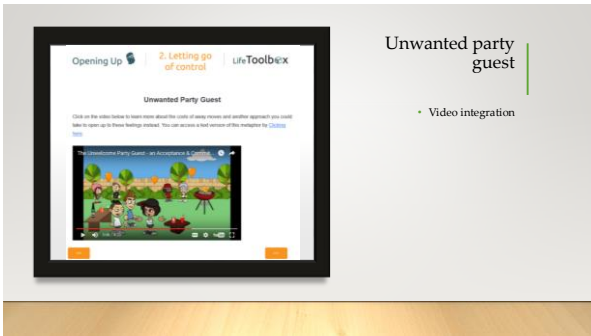
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Log-in



Values Sorting



Unwanted party guest

- Video integration

Recruitment

- Collaborated with LSU Student Affairs
 - Which provided connections across a wide range of campus points
- Methods included
 - Counseling and health center
 - MyLSU online posting
 - Meeting with student government, campus committees, clubs (fraternity, sorority, etc...)
 - Regional campuses and distance education.
 - Emails to faculty, staff, advisors, PE
 - Social media posting
 - Campus posting (including evidence halls)
 - LSU Connections course
 - Parent Newsletter
- Directed to an online pre-screening
 - Provided a single step for ongoing recruitment
 - Streamlined entry screening steps

Recruited by about 200 students in 5 weeks
- 100 enrolled in studies
- 65 enrolled in LifeToolbox

Participants & Procedures

- Sample of 354 college students enrolled
 - 82% female, M age = 21.76, 46% in first or second year of school.
 - Currently in distress based on CCAPS, but not actively suicidal.
- Procedure
 - Online consent and baseline survey
 - Randomized to waitlist, ACT-Combined, ACT-Mindful, ACT Values, Waitlist
 - Post assessment 6 weeks later and then follow up assessment at week 10.

Results: Baseline diff. & System usability

- All conditions:
 - No sig. baseline differences between conditions
 - All baseline variables normally distributed (excluding CCAPS alcohol).
 - No difference on SUS scores and all in good to excellent range

| | N | SUS - Mean | SUS - SD |
|---------|----|------------|----------|
| Mindful | 30 | 88.6 | 8.2 |
| Values | 29 | 83.9 | 12.1 |
| Full | 30 | 85.8 | 9.1 |
| Total | 89 | 86.1 | 10.1 |

Results: Engagement

- Mindfulness
 - Average number of sessions completed 9.18 (SD = 3.86)
 - 6% didn't complete any sessions, 85% completed half or more of the program, 53% completed the full program
- Values
 - Average number of sessions completed 7.11 (SD = 4.19)
 - 6% didn't complete any sessions, 60% completed half or more, 34% completed the full program
- Full
 - Average number of sessions completed 8.06 (4.16)
 - 3% didn't complete any sessions, 69% completed half or more of the program, 40% completed the full program
- *No sig. differences in usage between conditions overall, although Values engagement was significantly less than mindfulness in post hoc comparisons.*



Between Group Results

- MRMM comparing all 4 conditions at once, from pre – post – follow up.
 - Significant time x condition results overall on:
 - CCAPS – Depression
 - CCAPS – Anxiety
 - CCAPS – Social anxiety
 - CCAPS – Academics
 - CCAPS – Eating problems
 - CCAPS – Total Distress



Between Group Results

- MRMM comparing all 4 conditions at once, from pre – post – follow up.
 - Significant time x condition results overall on:
 - AAQ-II
 - CFQ
 - VQ obstacles
 - PHLMS acceptance

MRMM comparing all 3 active website conditions at once from pre to post to follow up:
- No significant differences between active conditions.



MRMM Comparing to waitlist

- MRMM Comparing Waitlist vs.
 - **Combined** – sig. effects on distress, CCAPS academics, AAQ, CFQ, VQ obstacle, PHLMS acceptance, and trends on other CCAPS subscale.
 - **Values** – significant effects on distress, depression, social anxiety, academics, MHC positive mental health, CFQ, PHLMS Acceptance
 - **Mindful** – significant effects on all of the ones found in the four condition analysis - CCAPS total distress, depression, anxiety, social anxiety, academics, eating problems, AAQ, CFQ, VQ Obs, PHLMS acceptance

Results: Overview

- No differences between 3 active conditions on outcome or process measures.
- Omnibus ANOVA displayed significant improvement across all 3 active conditions on outcome (CCAPS) and process measures (AAQ-II, CFQ, etc...)
- All active conditions displayed significant improvement over waitlist, *but no sig. difference between 3 active conditions.*
- The additive condition (“combined”) displayed equivalent results to the other 2 active conditions (“Mindful” and “Values”).



Participant Review

“I think most teenagers and college students are too afraid to ask for help for fear of judgment and will not go to see someone... This website allows them to get help without the fear of judgment.”



Discussion points

- Continuing to recruit participants.
- Technology offers interesting advantages when looking at component testing
 - *Greater statistical power*
 - *Methodological control*
- Dismantling trials are needed in ACT
 - *Past research has focused on components in isolation, not always in combination.*
 - *Clinical implications...*



Discussion points – Why no effects between conditions?

- At an omnibus level, not everyone would benefit from receiving all of the components.
- We are also investigating who would benefit from certain components more with alternative research methods
 - ACT Daily mobile app study: EMI intervention indicated:
 - Tailoring matters
 - There are times when one component is more effective.
 - Providing *all* of the components at once (or at random) displayed insignificant outcomes.



Final thoughts

- Need to consider more research focused on generalizable knowledge
 - Rather than validating a custom built technology
- We need a way to more rapidly iterate and test theory-driven questions
 - The custom build approach may not support this as well
- Increased emphasis on effectively implementing and engaging students with the technologies available

