Developing Resilience in Professional Hospice & Palliative Caregivers

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Palliative & End of Life Care

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About Me

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- Associate Professor, Clinical Psychology, Kansas City University
- Licensed Psychologist, Sunflower Pediatric Behavioral Healthcare
    - Additional career experience in: PRTF, hospice, private practice, & adult inpatient

- PsyD Clinical Psychology, Kansas City University
- MS Counseling Psychology, Avila University
- BA Psychology, University of Kansas
- BS Human Biology, University of Kansas

- Post-Doctoral Fellowship in Child & Adolescent Clinical Psychology, University of Kansas Medical Center
- Pre-Doctoral Internship in Clinical Psychology at The Guidance Center
    - Additional formal training in Forensic Psychology (CBM), Assessment Psychology (UMKC), and Developmental & Pediatric Psychology (CMH)
- Master's Terminal Internship at Responsive Centers for Psychology & Learning

Disclosures

- None

Objectives

1. Review previous resilience research, including…
   - Definition of psychological resilience
   - Correlates of psychological resilience
   - Prior resilience training paradigms
2. Review the design and results of a pilot resilience training curriculum for hospice & palliative care personnel.
3. Discuss limitations for the current study and future directions for research.

First, a question.

How would <u>you</u> define resilience?

1. Review of the Literature

Defining Psychological Resilience

- Little clarity on exact definition, even today.

- Understanding thus far: Resilience…
  - *…is exhibited in response to adversity*
  - *…is developed prior-to (and during?)*
  - *…is dynamic, not static*
  - *…requires some level of positive adaptation following adversity*

> *"Positive psychological adaptation in response to adversity. so that we may be better equipped to handle future adversity."*

(Richardson, 2002; Luthar et al., 2000; Windle, 2011)

Correlates of Psychological Resilience

- Cognitive flexibility
- Coping flexibility
- Social connection
  - *Actual vs. perceived support*
- Optimism
  - *"Blind" vs. realistic optimism*
- Prior adversity/challenge stressors
  - *vs. hindrance stressors*
- Meaning making

(Dennis & Vander Wal, 2010; Southwick & Charney, 2020; Folkman & Moskowitz, 2004; Leahy-Warren et al., 2011; King et al., 1998; Carver & Scheier, 2014; Dhabar et al., 2010; Park, 2010)

Benefits of Psychological Resilience

- Psychological protective mechanism (vs. recovery mechanism)…
  - *…against negative effects of future distress*
  - *…against trauma (incl. PTSD)*
- Improved recovery following loss
- Greater life satisfaction
- Reduced caregiver stress, compassion fatigue, and burnout
  - *Greater work performance*
- Reduced inflammation (depression?)
  - *Reduced anhedonic depression*
- Increased HRV (anxiety?)

(Dennis & Vander Wal, 2010; Southwick & Charney, 2020; Folkman & Moskowitz, 2004; Leahy-Warren et al., 2011; King et al., 1998; Carver & Scheier, 2014; Dhabar et al., 2010; Park, 2010)

Need for Psychological Resilience in Healthcare

- High level of staff turnover during the COVID-19 pandemic d/t burnout.
  - *Safety concerns (e.g., lack of PPE)*
  - *Personal and family safety*
  - *Financial instability*
  - *Sudden increase in facing mortality*

- Burnout, caregiver stress, compassion fatigue not new, however.; leads to…
  - *Reduced quality of care and subsequent patient satisfaction*
  - *Increased caregiver absenteeism*
  - *Increased medical errors*
  - *Increased patient infections*
  - *Reduced professional caregiver physical and mental health*

(Zoorob et al., 2020; McHugh et al., 2011; Wang et al., 2012; Cimiotti et al., 2012; Kashani et al., 2010)

Need for Resilience in Hospice & Palliative Care

- Hospice & palliative care defined by care that is…
  - *Longer-term*
  - *High-intensity*
  - *Marked by increased patient mortality*

- Burnout, compassion fatigue also experienced by hospice & palliative personnel, at times to an increased degree.

(Melvin, 2015; Parker Oliver et al., 2017; Jo et al., 2020)

Prior Training Programs

Model (*Population*)	Cognitive Flexibility/Reappraisal	Coping Flexibility	Social Connection	Optimism	Meaning-Making	Psycho-education	Stress Reduction/Relaxation	Others	Efficacy (Resilience)
Cultivating Awareness and Resilience in Education (CARE; Jennings et al., 2011) (*Educators*)		X	X				X	Self-awareness, mindfulness	High
ERASE-Stress (Berger et al., 2007) (*Educators in war-torn countries*)	X					X	X		High
(Shaygan et al., 2021) (*Hospitalized COVID-19 pts*)	X			X	X	X	X	Mindfulness, Gratitude	High
Moving Forward Program (Tenhula et al., 2014) (*Veterans*)		X				X		Affect Identification	Mod-High
Promoting Resilience in Stress Management (PRISM; Rosenberg et al., 2015) (*Children w terminal Illness & caregivers*)			X (Caregivers)				X	Mindfulness	Low (children) High (CGs)
UK Resilience Programme (Challen et al., 2014) (*University Students*)	X	X	X				X	Assertiveness	Low
(Vriezekolk et al. 2012) (*Rheumatic Disease*)	X	X	X					Acceptance, Goal-Setting, Relapse-Prevention	*Feasibility Only*
Town Hall Model (Cates, 2021) (*Quarantined COVID-19*)			X	X	X		X	Gratitude, Establishing Routines	*Pilot Only*

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2. The Study Design

Project Purpose & Rationale

- **Purpose**: *Introduce and evaluate a new resiliency training curriculum designed to help protect healthcare professionals against stress and burnout by increasing psychological resilience.*
- **Rationale**: *The well-documented nature of stress in healthcare professionals, which can lead to deleterious effects on the healthcare field as a whole.*

The intention is to use these results to build upon and improve future curricula.

Resilience Measure: The CD-RISC(-25)

- **Connor-Davidson Resilience Scale** (CD-RISC) developed based on the idea that resilience is the *process of using effective coping strategies*
- Used in the current study for its ability to assess the widest set of themes & sub-themes
  - *Including those like the correlates of resilience – i.e., adaptability, coping flexibility, social connectedness, etc.*
- Used in several published studies with a variety of populations, each of which are published in the CD-RISC manual.
  - *Good psychometric properties according to validation studies.*
- Est. mean of nursing population (closest to target population): 66.5

(Connor & Davidson, 2003; Pangallo et al., 2015; Vaishnavi et al., 2007; Gabriel et al., 2011)

Resilience Measure: COFLEX

- **Coping Flexibility Questionnaire** (COFLEX) developed based on idea of coping flexibility, or *the ability to flexibly choose from a variety of coping skills*, particularly those that may better achieve a more desirable outcome; two subscales:
  - Coping versatility, *correlated w. accommodative coping, assimilative coping, problem-focused coping, and acceptance; negatively correlated with depressed mood & anxiety.*
  - Reflective coping, *correlated w. problem- and emotion-focused coping.*
- Coping flexibility = demonstrated correlate of resilience.
  - *Selected as an outcomes measure to assess for positive development of coping flexibility, should measured differences in resilience not be significant.*
- Good internal consistency for each coping versatility (alpha = 0.88) and reflective coping (alpha = 0.70) subscales.

(Vriezekolk et al., 2012)

Research Question & Hypotheses

- **RQ**: *Does a novel training curriculum informed by the correlates of resilience lead to improvements in resilience and coping flexibility…*
  - *Based on correlates of resilience, and concepts & skills within CBT, DBT, MBCT, & ACT.*
  - *Assumes cognitive flexibility is a core component of resilience.*

- **H_{1-4}**: There will increases in each resilience (CD-RISC; H_1) & coping flexibility (COFLEX) from pretest to posttest upon training completion each in Total scores (H_2) as well as scores in the *Coping Versatility* (H_3) and *Reflective Coping* (H_4) domains.

- **H_5**: There will be a statistically significant relationship between coping flexibility as measured by the COFLEX and resilience as measured by the CD-RISC for all participants combined.

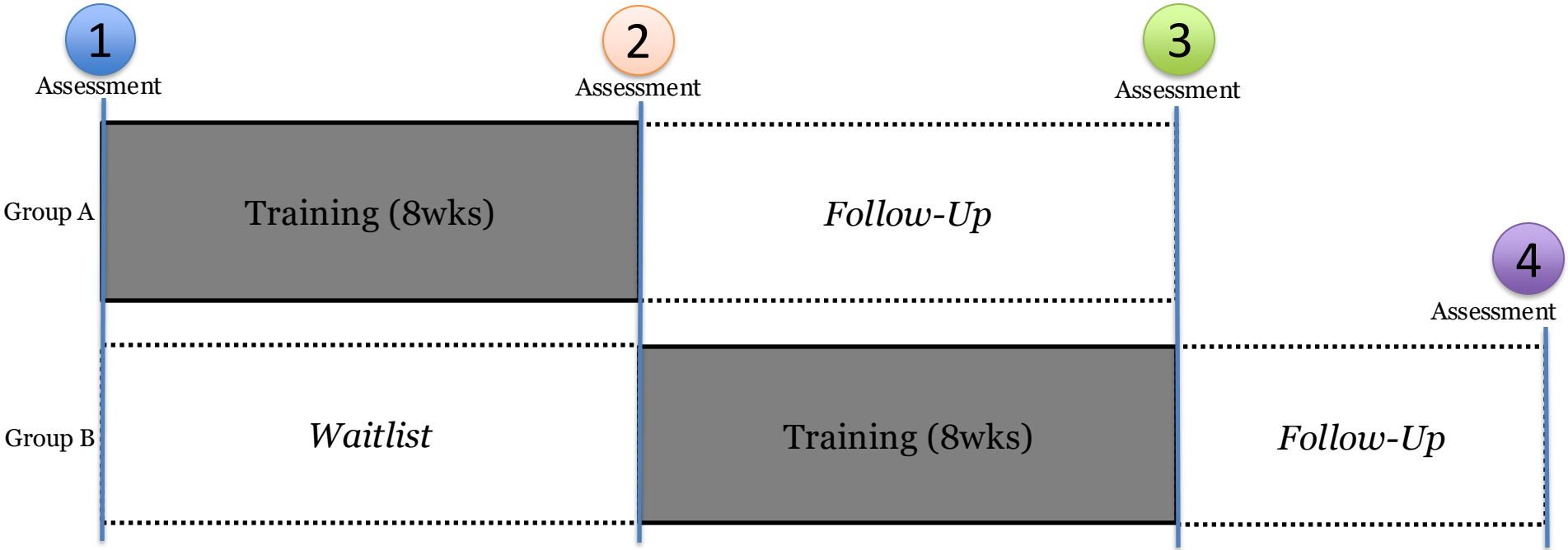
Participant Selection

- All employees offered training, regardless of study participation.
  - *Training attendees then recruited into the study itself via email and in-person recruitment.*
- Participants were required to be split into two groups to allow for adequate staffing – this also provided an opportunity to try waitlisted control.
  - *Group A: First group to receive training.*
  - *Group B: Served as waitlisted control while Group A was undergoing training.*
  - *Both groups assessed at the same times.*
- Randomization was not possible – Agency always needed specific staff available, meaning selection was intentional.

Training Sessions

- Sessions approx. 60 minutes in length.
  - *First 15-20 minutes spent teaching new concept and/or skill by trained lead facilitator (PI).*
  - *Last 40-45 minutes spent discussing concept and/or practicing skill, facilitated by PI.*
- All handouts sent to training attendees by ED ahead of each session.
  - *Paper copies provided by PI in-session as well.*
- All 8 sessions took place on consecutive weeks.
  - *Group B, week 1, began the week following Group A, week 8.*
- All trainings took place in the conference room at the hospice agency.

Research Design (original)



3. The Curriculum

The Curriculum

Module	Topics/Skills	Group Synopsis
1	Defining & identifying resilience	Putting a working definition to resilience: What is is & what it isn't. Recognize the diversity of resilience. Identify how we are already resilient.
2	Building upon what we have	Identifying and building upon the foundation of values and motives we already have and learning tricks to develop effective goals.
3	"Catch It…"	Identifying unhelpful thinking patterns. Learn about some of the key cognitive distortions (unhelpful) thinking patterns.
4	"…Check It, Change It"	Recognizing how we know these thinking patterns are unhelpful and what to do about them (challenge them). Includes learning techniques of 'untwisting' cognitive distortions. Group: Thought Record (cont.)
5	Mindfulness, Acceptance, & Realistic Optimism	Define mindfulness as philosophical/therapeutic concept: What it is & what it isn't. Some discussion on mindfulness in the brain. Introduce breath work & PMR. Learn about realistic optimism.
6	Mindfulness, continued	Recognize that change is not always possible, especially with emotions, and that acceptance is sometimes necessary.
7	Emotional Thresholds & Emotional Regulation	Recognizing emotional 'watches' & 'warnings.' Learn about emotional thresholds and how to identify ours.
8	Building Habits; Reaching Out for Help	Discuss importance of practicing resilience, cultivation ahead of adversity. Learn tips & tricks to building effective habits and discuss barriers to reaching out for support.

Module 1: What Resilience “Is”

“Positive psychological adaptation in response to adversity.
so that we may be better equipped to handle future adversity.”

Module 1: What Resilience is Not…

- "Bucking up," or "pulling yourself up by the bootstraps."
- Resilience takes work but *does not place sole responsibility on the person*.
- True resilience includes the recognition that sometimes life is unjust and that we are allowed to act on and/or simply accept this (more on this later).

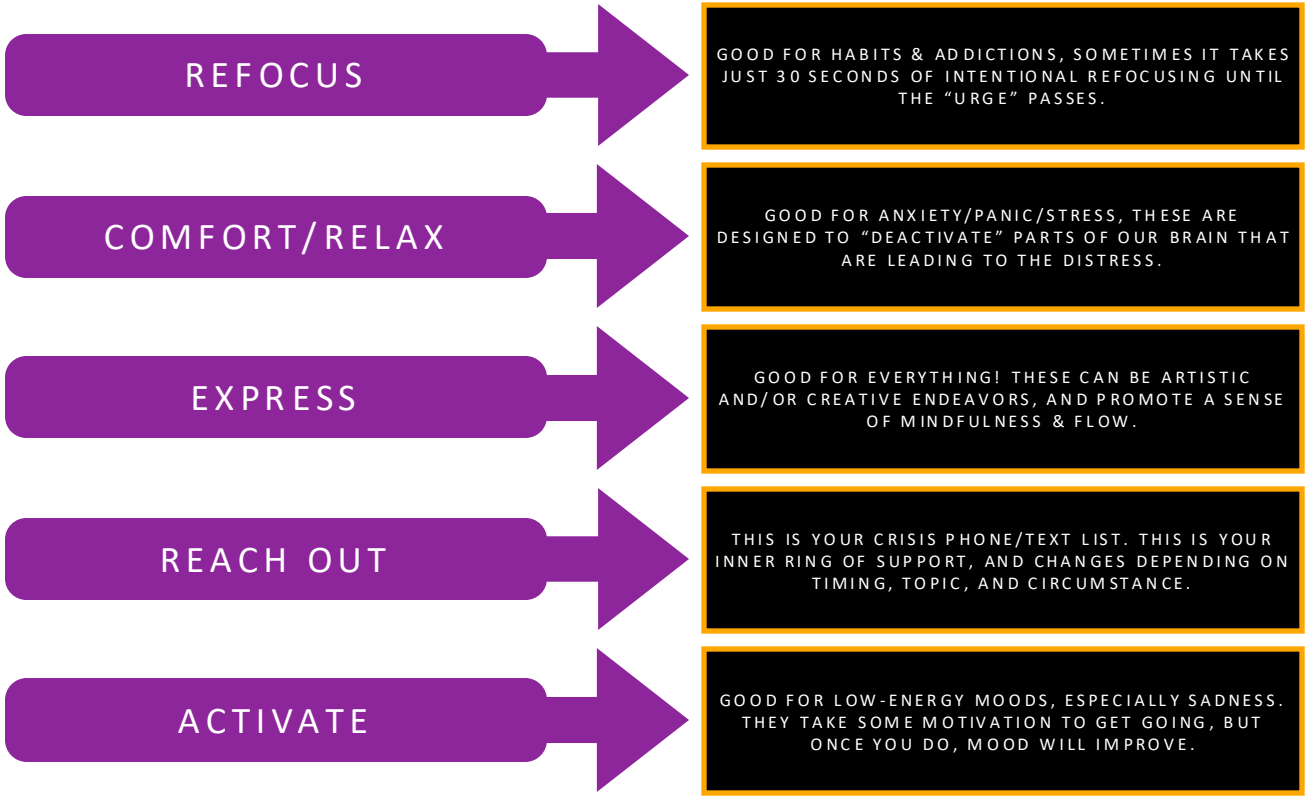
The Toolbox

- You buy a bookshelf from IKEA…

The Toolbox

- The Coping Contingency Plan

The Coping Contingency Plan



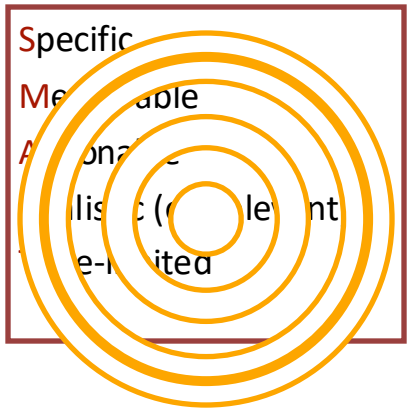
Module 2: Building on What We Have

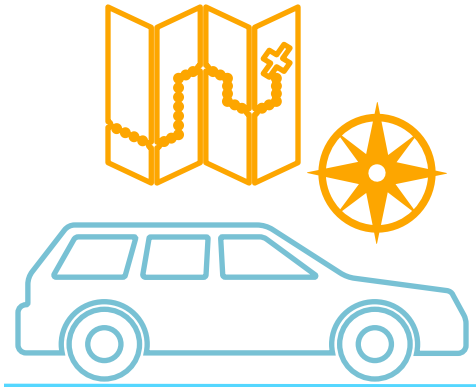
- Psychological protective mechanism (vs. recovery mechanism)…
  - *…against negative effects of future distress*
  - *…against trauma (incl. PTSD)*
- Improved recovery following loss
- Greater life satisfaction
- Reduced caregiver stress, compassion fatigue, and burnout
  - *Greater work performance*
- Reduced inflammation (depression?)
  - *Reduced anhedonic depression*
- Increased HRV (anxiety?)

- It protects and builds up our…
  - emotional (and physical) hygiene.
  - values, motivations, and goals.
  - loved ones.
  - ability to care for others.

Module 2: Building on What We Have

- SMART goals
- Intrinsic motivation
- Strong values

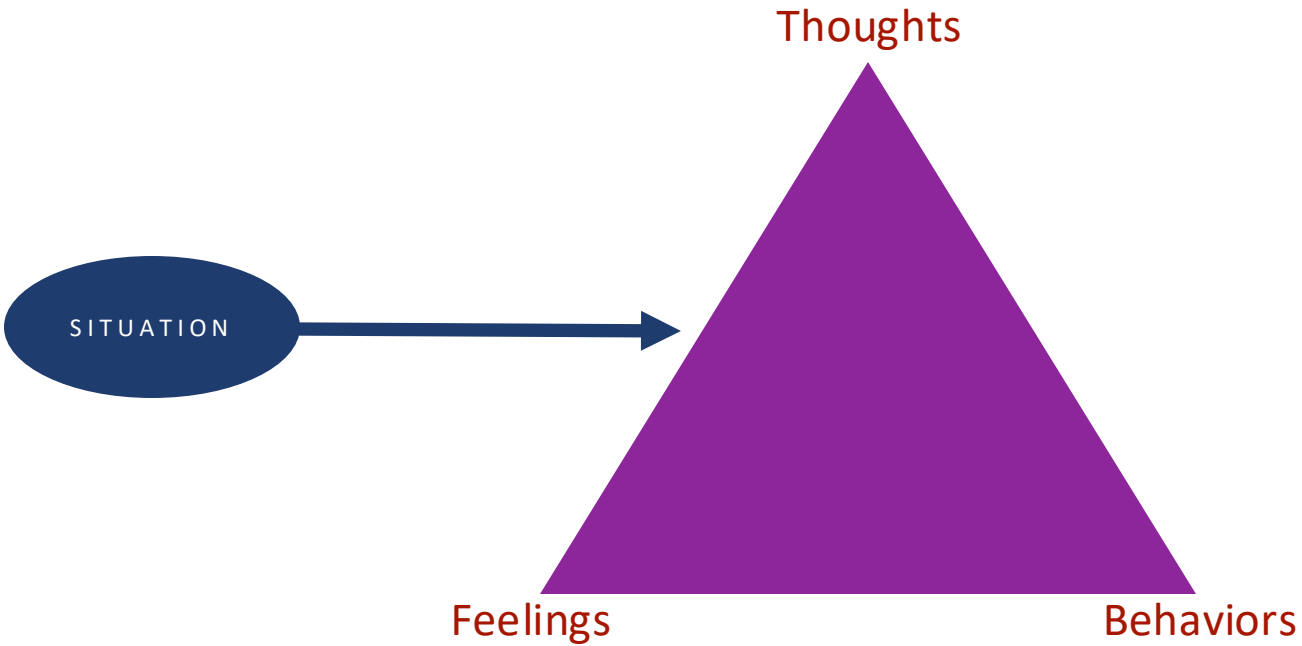




The Toolbox

- The Coping Contingency Plan
- **SMART Goals**
- **Values Exploration & Commitment**

Module 3: Catch It… (Signal Awareness)



The Toolbox

- The Coping Contingency Plan
- SMART Goals
- Values Exploration & Commitment
- **Thought Log…**
  - **Identification of Thoughts/Feelings/Behaviors**

The Thought Log (one version)

Situation	Reaction	Consequence(s)	Change(s)	Outcome
What's the situation? BE SPECIFIC!	How do I think, feel, and/or behave in reaction to the situation?	What results from my reactions to the situation?	What behavior-based or thought-based changes could I make?	Did it work?

Module 4: …Check It, Change It

All-or-nothing thinking (aka "absolutisms")
Over-generalization
Mental filter (aka "emotional filter")
Discounting the positive
Conclusion-jumping; including…
    Mind-reading
    Fortune-telling
Magnification (and minimization)
Emotional reasoning
"Should" statements
Subjective labeling
Personalization and blame

Examine the evidence
Objective defining
The double-standard method
The experimental technique
The survey technique
Validity-testing
Thinking in shades of gray
The semantic method
Re-attribution
Cost-benefit analysis

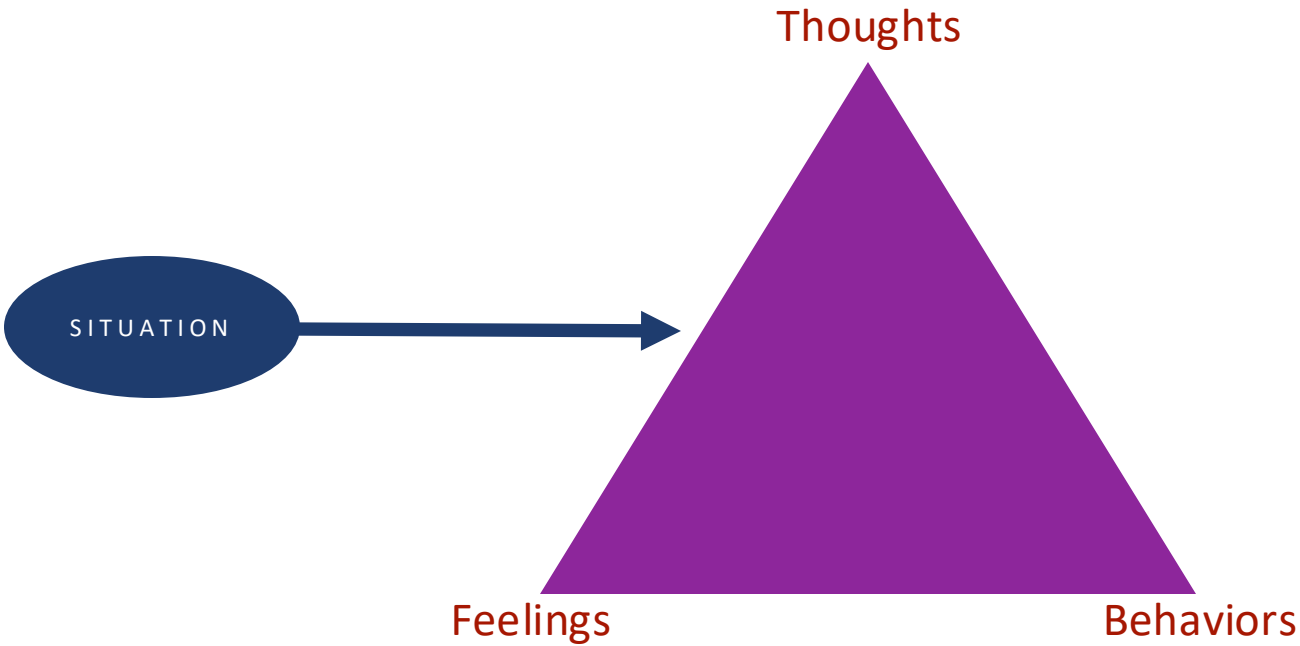
The Toolbox

- The Coping Contingency Plan
- SMART Goals
- Values Exploration & Commitment
- **Thought Log…**
  - Identification of Thoughts/Feelings/Behaviors
  - **Identification of Unhelpful Patterns**
  - **Challenging Thoughts, Changing Behaviors**

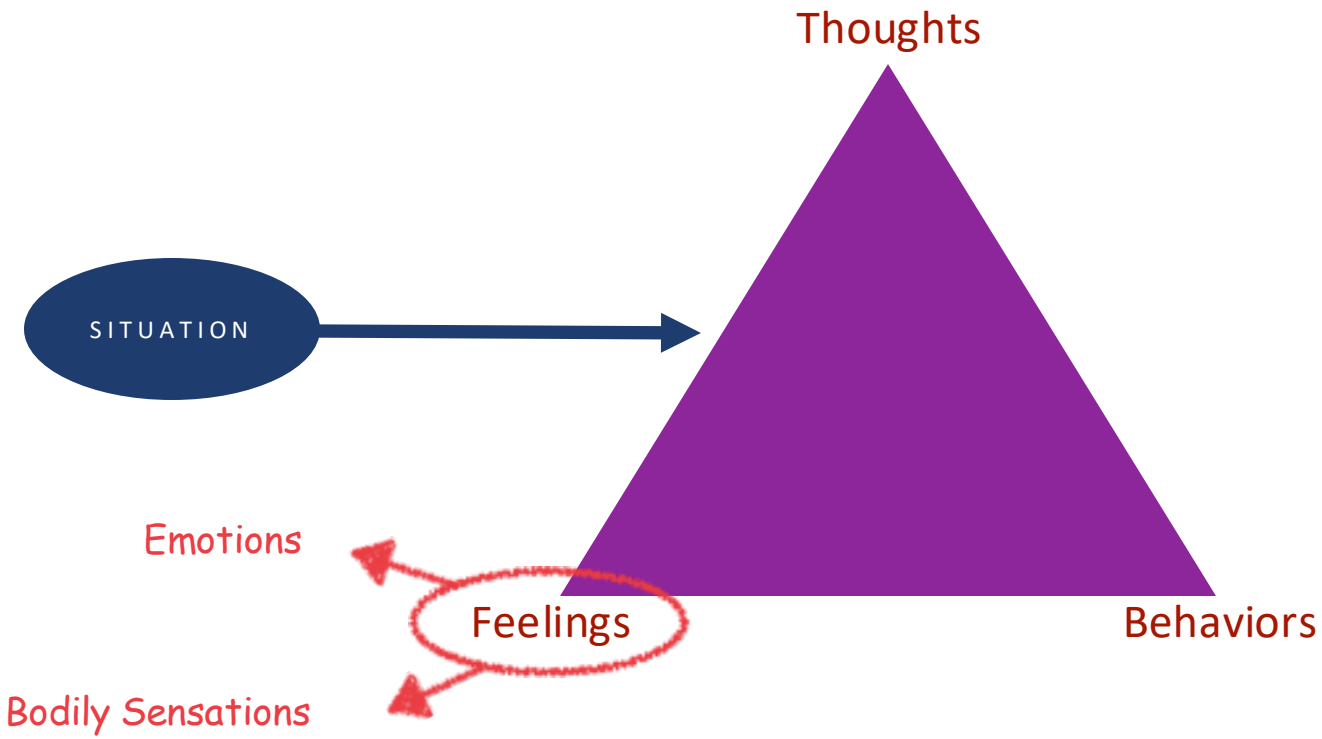
Modules 5&6: Mindfulness, Acceptance, & Realistic Optimism

- What is mindfulness, and what it is not…

How	What
Non-Judgmental	Observe
One-Minded	Describe
Effectively	Participate


Thoughts
SITUATION
Feelings
Behaviors

Modules 5&6: Mindfulness, Acceptance, & Realistic Optimism



- Most common things patients want from therapy?
  - *"I want to be happier."*

Joy Fear Anger Sadness Disgust

Being happier is good.
Being happier and being able to cope with being miserable is even better.

A Quick Word on Optimism

- Realistic optimists do not ignore negative information

- Realistic optimists tend to use negative information to their advantage if it is relevant and useful to solving the problem.
  - (it helps the individual switch quickly from problem-focused orientation to solution-focused)

- IF the negative information is not useful, and/or the problem (circumstance) is unsolvable, realistic optimists accept, disengage (“cut their losses”), and move on.

The Toolbox

- The Coping Contingency Plan
- SMART Goals
- Values Exploration & Commitment
- Thought Log…
  - Identification of Thoughts/Feelings/Behaviors
  - Identification of Unhelpful Patterns
  - Challenging Thoughts, Changing Behaviors
- **Mindfulness-Based Skills…**
  - **Mindful Observation**
  - **Guided Imagery**
  - **Grounding Exercises**

Modules 7: Emotional Thresholds & Handling Emotional Crisis

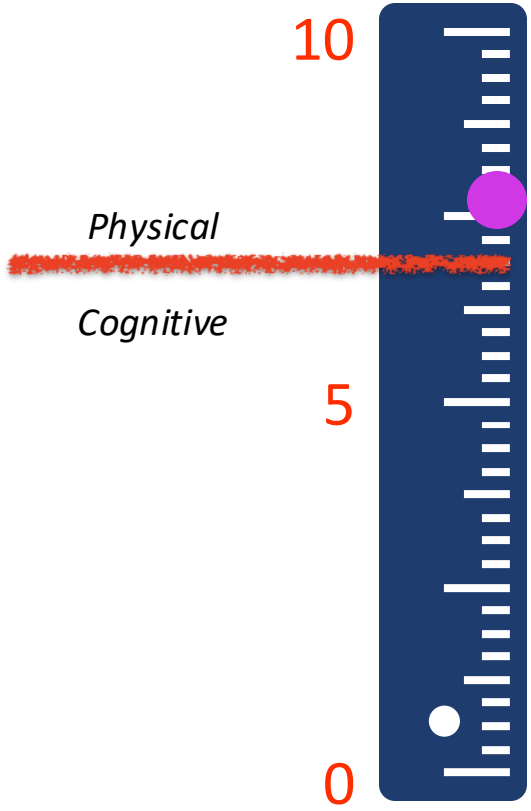
Modules 7: Emotional Thresholds & Handling Emotional Crisis

Temperature

Intense Exercise

Progressive Muscle Relaxation

Paced Breathing



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- Mindfulness-Based Skills…
  - Mindful Observation
  - Guided Imagery
  - Grounding Exercises
- **Building Emotional Vernacular**
- **TIPP Skills**

Modules 8: Building Habits & Reaching Out

- Habits (even the "bad" ones) put our brains at ease — They improve efficiency, which minimizes cognitive resource costs.
- FORMING new habits, however, takes A LOT of cognitive resources.
  - Though there are ways to minimize *friction*…

    1. *Start small. ("make it so easy you can't say no")*
    2. *If possible, break large habits into smaller habits first.*
    3. *If you break your habit, start it back up FAST.*
    4. *Accountability works. (i.e. do it with a friend)*
    5. *Start it out as a trial first; try it as an experiment.*
    6. *Anchor the new habit.*
    7. *Intrinsic motivation matters.*

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- Mindfulness-Based Skills…
  - Mindful Observation
  - Guided Imagery
  - Grounding Exercises
- Building Emotional Vernacular
- TIPP Skills
- **Building Effective Habits**
- **Identifying & Overcoming Barriers to Asking for Help**

Marco Polo describes a bridge, stone by stone.

"*But which is the stone that supports the bridge?*" Kublai Khan asks.

"*The bridge is not supported by one stone or another*," Marco answers,
"*but by the line of the arch that they form*."

Kublai Kahn remains silent, reflecting.
Then he adds: "*Why do you speak to me of the stones?*
It is only the arch that matters to me."

Polo answers: "*Without stones there is no arch*."

Parable of the bridge.

A conversation between Marco Polo & Kublai Khan
in Italo Calvino's, Invisible Cities.

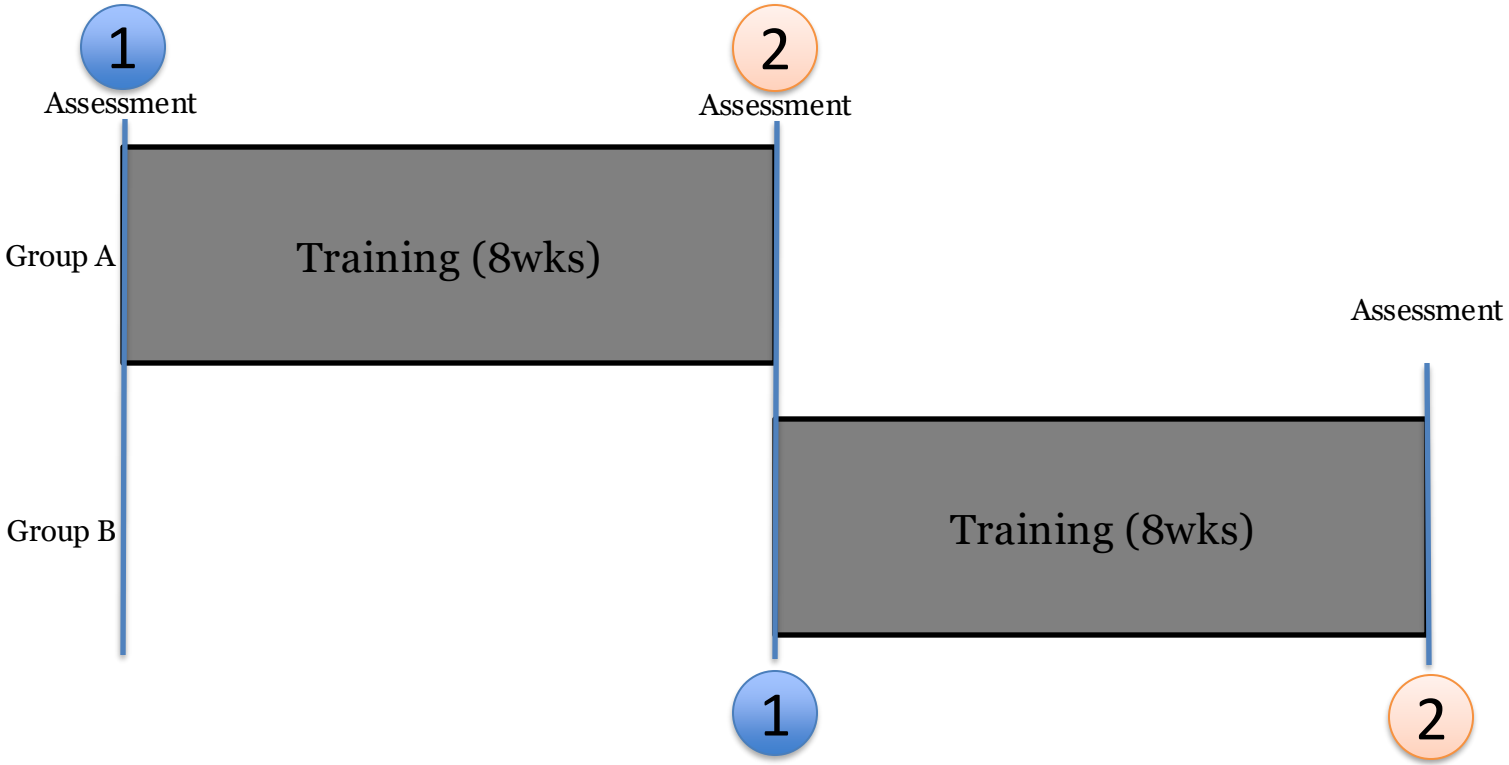
4. Results of the Pilot Study

Revised Design

- Group B originally intended to be waitlisted control.
  - *Original proposal = Quasi-experimental, nonequivalent control group design (NEGD)*
- Control Group (B) evaluation at Time 1 (Group A pretest) very low (*n* = 3)
  - *Group A & B follow-up evaluations (Time 3 & 4, respectively) also very low.*
- Only design that would fit: Repeated-measures, pretest-posttest design.
  - *Groups A & B receiving same curriculum and being evaluated at different times but assumed to be the same = limitation.*
  - *However, separation of Groups A & B in the data = low sample numbers.*

(Field, 2018)

Research Design (revised)



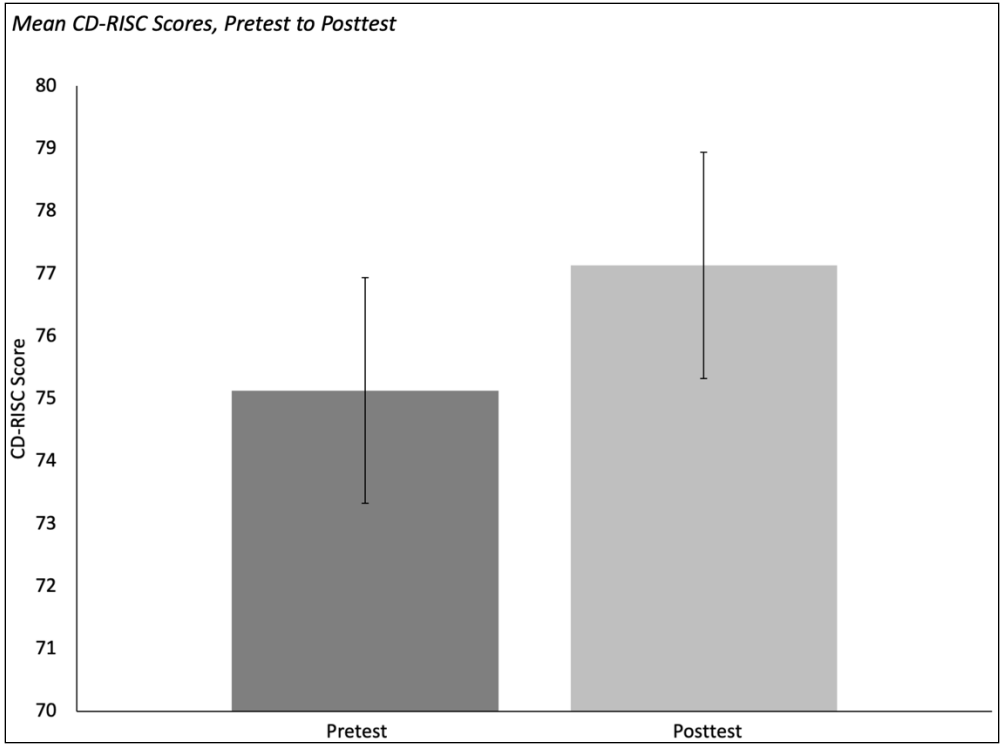
Participant Demographics

Group Assignment	Group A		Group B	
	n	%[a]	*n*	%[a]
Gender				
Female	4	26.7	9	60.0
Male	1	6.7	1	6.7
Racial Identity				
White/Caucasian	4	26.7	8	53.3
Latinx	1	6.7	0	0.0
Did Not Respond	0	0.0	2	13.3

Note. *N* = 15 (Group A *n* = 5; Group B *n* = 10). Participants were on average 37.9 years old (*SD* = 10.5). [a] reflects percentages of total participants (*N*).

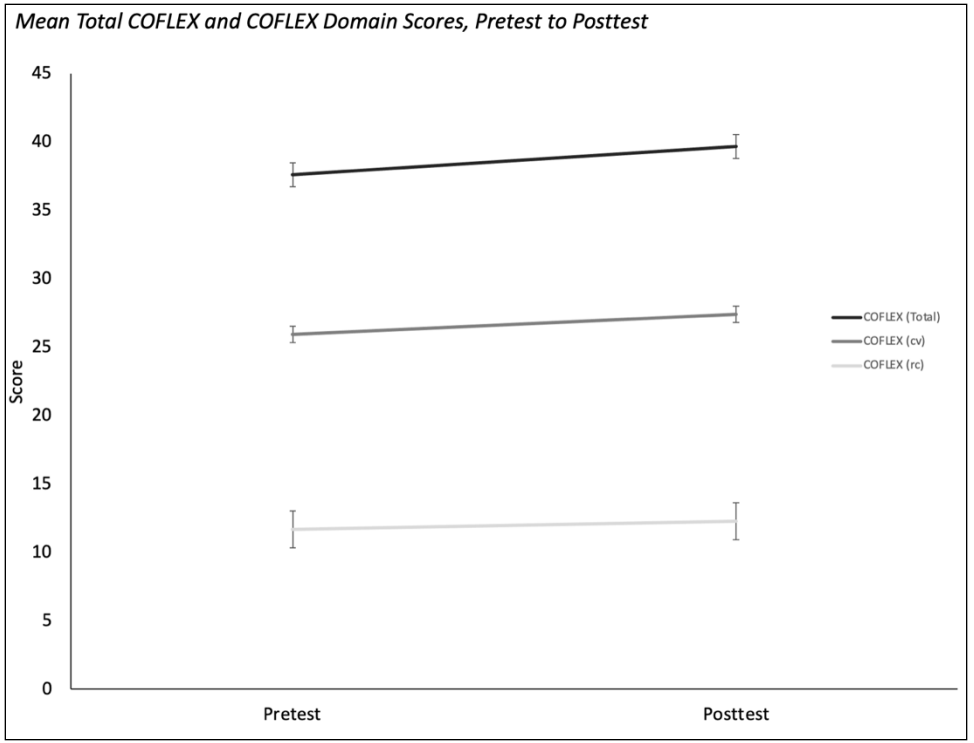
Tests of Hypotheses (H_1)

- H_1 = Increase in CD-RISC scores pretest to posttest.
- There was an increase, though differences were *not* statistically significant.
  - $t(14) = 1.11, p = .287$
  - $M_{pretest} = 75.13$ ($SD_{pretest} = 10.36$); $M_{posttest} = 77.13$ ($SD_{posttest} = 19.39$)



Tests of Hypotheses (H_{2-4})

- H_{2-4} = Increase in COFLEX (*tot*, *cv*, *rc*) scores pretest to posttest.
- Increase in all three, though not significant:
  - *COFLEX Total:*
    - $t(14) = 1.52, p = .150$
    - $M_{pretest} = 37.60$ ($SD_{pretest} = 4.87$); $M_{posttest} = 39.67$ ($SD_{posttest} = 5.54$)
  - *COFLEX (coping versatility):*
    - $t(14) = 1.67, p = .117$
    - $M_{pretest} = 25.93$ ($SD_{pretest} = 4.18$); $M_{posttest} = 27.40$ ($SD_{posttest} = 4.50$)
  - *COFLEX (reflective coping):*
    - $Z = 60, p = 1.00$
    - $M_{pretest} = 11.67$ ($SD_{pretest} = 1.80$); $M_{posttest} = 12.27$ ($SD_{posttest} = 2.40$)



Tests of Hypotheses: Summary of H_{1-4}

Differences Between Pretest and Posttest on Measures of Resilience and Coping Flexibility

	Pretest		Posttest					Hedges'
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	*g*[a]
CD-RISC	75.13	10.36	77.13	10.39	14	1.11	.287	.278
COFLEX Total	37.60	4.87	39.67	5.54	14	1.52	.150	.382
COFLEX-CV	25.93	4.18	27.40	4.50	14	1.67	.117	.420
COFLEX RC[b]	11.57	1.80	12.27	2.40	14	[b]	[b]	.248

Notes. *N* = 15. CV = Coping Versatility domain; RC = Reflective Coping domain. [a] Hedges' correction (*g*) was used to measure effect due to the study's small sample size (*N*<20). [b] Wilcoxon Signed Rank Test was used for the Reflective Coping domain due to non-normality of scores.

Tests of Hypotheses: Summary of H_{1-4}

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	Pretest		Posttest					Hedges'
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	*g*[a]
CD-RISC	75.13	10.36	77					.278
COFLEX Total	37.60	4.87	39					.382
COFLEX-CV	25.93	4.18	27					.420
COFLEX RC[b]	11.57	1.80	12					.248

Strength of Hedge's *g* effect size:
- 0.20 - 0.49 = Small Effect
- 0.50 - 0.79 = Medium Effect
- > 0.80 = Large Effect

Notes. *N* = 15. CV = Coping Versatility domain; RC = Reflective Coping domain. [a] Hedges' correction (*g*) was used to measure effect due to the study's small sample size (*N*<20). [b] Wilcoxon Signed Rank Test was used for the Reflective Coping domain due to non-normality of scores.

Tests of Hypotheses (H_5)

- H_5 = Rise in CD-RISC scores will be correlated with rise in COFLEX scores
  - *Evidence that resilience and coping flexibility are related.*

- Positive, low-to-moderate correlation, though not statistically significant.
  - *r = .359, p = .189*

Review of Hypothesis-Testing Results

- **H_1**: Increase in resilience (CD-RISC) from pretest to posttest.
  - *Null hypothesis retained. (Increase; not statistically significant; low effect size)*
- **H_2**: Increase in overall coping flexibility (COFLEX) from pretest to posttest.
  - *Null hypothesis retained. (Increase; not statistically significant; low-moderate effect size)*
- **H_3**: Increase in coping versatility (COFLEX-CV) from pretest to posttest.
  - *Null hypothesis retained. (Increase; not statistically significant; moderate effect size)*
- **H_4**: Increase in reflective coping (COFLEX-RC) from pretest to posttest.
  - *Null hypothesis retained. (Increase; not statistically significant; low effect size)*
- **H_5**: Relationship between coping flexibility as measured by the COFLEX and resilience as measured by the CD-RISC for all participants combined.
  - *Null hypothesis retained. (Weak, positive correlation; not statistically significant)*

Interpretation of Hypothesis-Testing

- No reliable conclusions can be made based on the results, despite…
  - *…increase in all scores.*
  - *…weak, positive correlation in measures.*

- However, replication is needed.
  - t-*test has reduced statistical power, especially with low sample sizes.*
  - *Low sample sizes highly influenced by variation in data.*
  - *Additional limitations to the current study (more on this later).*

Interpretation of Effect (COFLEX)

- Some indication of moderate effect on COFLEX.
  - *Mostly explained by* Coping Versatility *domain.*
  - *Possible explanation: Training curriculum may have had some positive effect on participants' ability to flexibly select from a larger number of coping skills.*
- The ability to flexibly cope linked to positive mental health.
  - *Dialectical thinking linked with coping flexibility as well as improvements in overall mood and resilience.*
  - *Dialectical thinking a component of the current curriculum.*

(Cheng, 2009; Linehan, 1993; Metzl & Morrell, 2008)

Interpretation of Effect (CD-RISC)

- Some indication of small effect on CD-RISC.
  - *Possible explanation: Training curriculum may have had some (small) positive effect on participants' ability to maintain psychological health in the face of adversity.*
- Why less of an effect compared to the COFLEX?
  - *Psychological resilience takes time to develop.*
  - *Coping flexibility – in theory – is a more 'immediate' characteristic.*
  - *Psychological resilience is exhibited in times of adversity – there may not have been enough time for it to be exhibited.*
- Effect size of current study is similar to other studied interventions.
  - *Arguably, development of resilience through training is possible.*
  - *Best method by which this can occur is still in need of research.*

(see Vetter et al., 2010; Clauss-Ehlers & Wibrowski, 2007)

Study Limitations: No real post-hoc analysis.

- Other than effect size.
- Generally, a multiple-comparison test is used to determine with what groups did the greatest differences exist.
- *Average change scores (pretest to posttest) per measure, per group…*
  - ***CD RISC**: A = -0.80; B = +3.40*
  - ***COFLEX (tot.)**: A = -0.60; B = +3.40*
  - ***COFLEX-CV**: A = -0.60; B = +2.50*
  - ***COFLEX-RC**: A = 0.00; B = +0.90*
  - *Some scores statistically significant for B group (CD-RISC & COFLEX (tot))*

- **Future direction:** Proper post-hoc analysis (and perhaps don't combine group data).

Study Limitations: Historical Effects

- New agency ownership midway through Group A training (b/w wks 4 & 5).
  - *Sense of ambiguity, increased stress experienced by staff.*
- New electronic medical record implemented.
  - *Required additional agency training before/after resilience trainings.*
  - *Required lengthened documentation times as staff learned new system.*
  - *Exec. Director reported some "hiccups" in implementation, causing agency stress.*
- High staff turnover during training.
  - *Resulting from new ownership, new EMR.*
  - *Resulting in study drop-out, additional stress on retained staff.*

- **Future direction:** Measure current stress (qualitative/quantitative).

Study Limitations: Lack of Follow-Up

- Despite intention to include follow-up assessment (+8 weeks), low numbers meant follow-up could not be accurately assessed.
- Follow-up might more accurately assess resilience.
  - *Namely, to give resilience a chance to exhibit itself.*
- Follow-up would allow for more practice of skills.
  - *Practice necessary, regardless of skill or intervention.*
  - *Increased practice = increased development of resilience.*
- **Future Direction:** Improved communication of follow-up, possibly carving out time in staff meeting to complete follow-up.

Study Limitations: Resilience Operationalization

- Still some question regarding true operational definition of resilience
  - *Inaccurate definition = inaccurate assessment.*
- Psychological resilience appears to be a more complex psychological phenomenon than previously believed.
  - *For instance, if correlates of resilience are necessary for resilience, they must be part of its operationalization, and thus assessment.*
  - *Might assessment of psychological resilience involve a measure of it's correlates in a battery?*
- **Future Direction:** Use tests intended to measure the correlates of resilience, rather than resilience itself?

Study Limitations: Non-Standardization

- Separate groups allowed for adequate staffing and (originally) a control.
- However, despite similarity of training session topics, standardization between the two groups cannot be assumed.
  - *Between-groups effects may have resulted in data differences.*
- Separation of groups means differences in discussion, e.g.
- **Future Direction:** If using separate groups, use one as control as originally intended.

Study Limitations: Small Sample Size

- Despite agency size of 42 at start of training, *N* was only 15.
  - *Group B: More pretests than posttests, very little follow-up.*
  - *Group A: Only 1 control, very few follow-ups.*
  - *(agency size is currently 64)*

- Affects ability to draw conclusions.
  - *15 = recommended limit for* t*-test due to the vulnerability of the data to influence.*

- **Future Direction:** Larger agency and/or increased communication from study PI, facilitator(s), and agency leadership.

(Field, 2018)

Additional Future Directions

- In addition to measuring current stress (e.g., PSS), measure level of *burnout* at the time of the study (e.g., CBI or SPWB).
  - *Active stress and/or burnout might undermine efforts to develop resilience.*
- Collect job description, years' experience during demographic section.
  - *Could be moderating/mediating factors separately and/or in combination with each other.*
  - *Ex., greater years' experience = greater opportunity to overcome past adversity = higher likelihood of current resilience.*
- Recent research: Creativity related to greater psychological health.
  - *Potential pathway to resilience?*

(Cohen et al., 1983; Kreistensen et al., 2005; Ryff, 1989; Neff & Broady, 2011; Seery, 2011; Burke & Shakespeare-Finsh, 2011; Kaufman et al., 2022; Shen et al., 2020)

Additional Future Directions (*cont.*)

- Area not considered: Psychological Capital ("PsyCap")
  - *One of the components of the H.E.R.O. model.*
- Have more than half a session spent on social support.
  - *One of the most stable predictors of improved psychological well-being in the literature.*
- Add "Booster" or "Coaching sessions"
  - *Encourage practice.*
  - *Assure understanding of material.*
  - *Increase perceived support.*
  - *Adds accountability.*
  - *Improves likelihood of follow-up assessment completed.*

(Luthans et al., 2006; Luthans & Youssef-Morgan, 2017; Hostinar & Miller, 2019; Turner & Brown, 2010)

6. Preliminary Results for a University-Wide Sample

2022 Revised Design

- July 2023, training curriculum was administered to group of 224 medical (DO) and psychological (PsyD) first-year doctoral students.
  - *Only 18 completed all three tests (pre-, post-, and follow-up)*

- All 8 modules administered over 2 days (4+4)
  - *Integrated with student orientation*
  - *Curriculum "spread out" to allow for greater peer-to-peer interaction with material.*
  - *All groups received the intervention simultaneously*
- Faculty "coaches" encouraged to follow up on material
- Copenhagen Burnout Inventory (CBI) replaced CD-RISC
  - *Includes work-related burnout (WRB) & personal burnout (PB)*
  - *Kept the COFLEX*

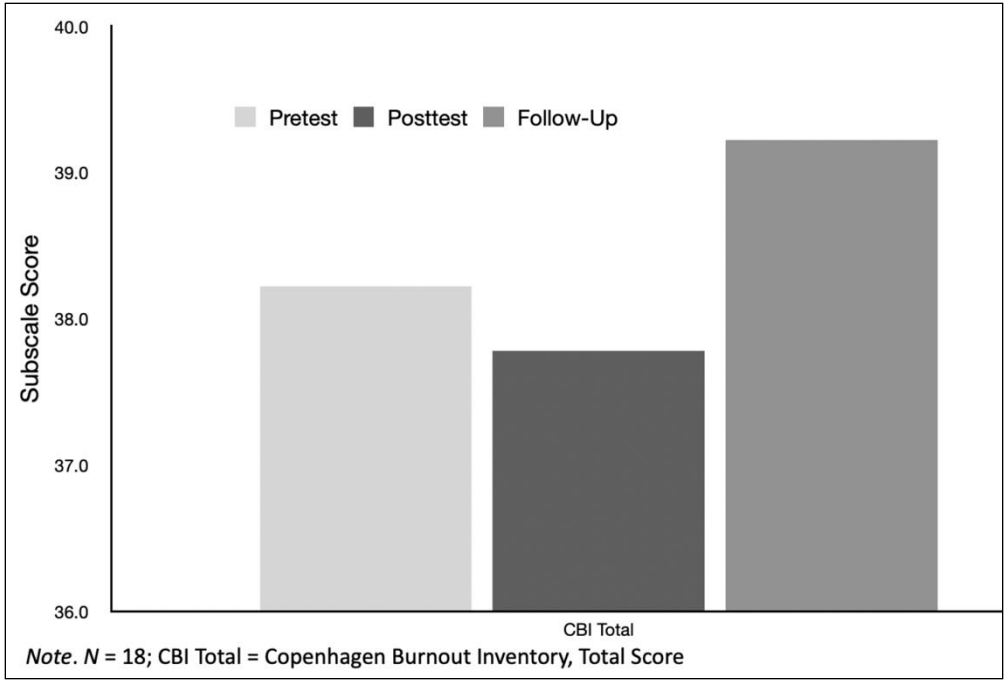
Participant Demographics

Demographic	N	%
Program		
COM	208	92.9%
PsyD	16	7.1%
Identified Gender		
Male	110	49.1%
Female	113	50.4%
Non-Binary	1	0.4%
Identified Race		
African American/Black	9	4.0%
Asian-American	79	35.3%
White/Caucasian	119	53.1%
Bi-Racial	3	1.3%
Other	13	5.8%
Did Not Respond	1	0.4%
Identified Ethnicity		
Non-Hispanic	206	92.0%
Hispanic	18	8.0%

Note. $N = 224$

Tests of Hypotheses (H_{1-3})

- H_{1-3} = Decrease in CBI scores pre- to post- to follow-up test.
  - *Total CBI score (H_1)*
  - *Personal Burnout subscale (H_2)*
  - *Work-Related Burnout subscale (H_3)*
- CBI Total decreased, then increased.
  - Mostly d/t increase in Work-Related Burnout scale.

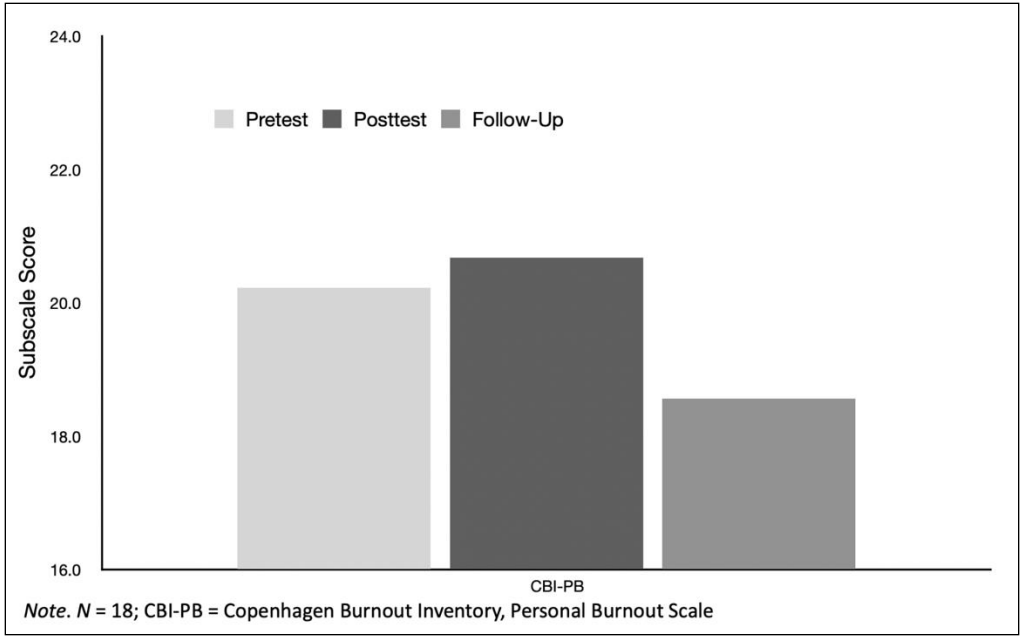


Note. *N* = 18; CBI Total = Copenhagen Burnout Inventory, Total Score

Tests of Hypotheses (H_2)

- No major statistical difference from pre- to posttest.

- Qualitative analysis of follow-up (+8 weeks): Students identified the usefulness of the skills taught and had begun to use them, which contributed to stress decreases.

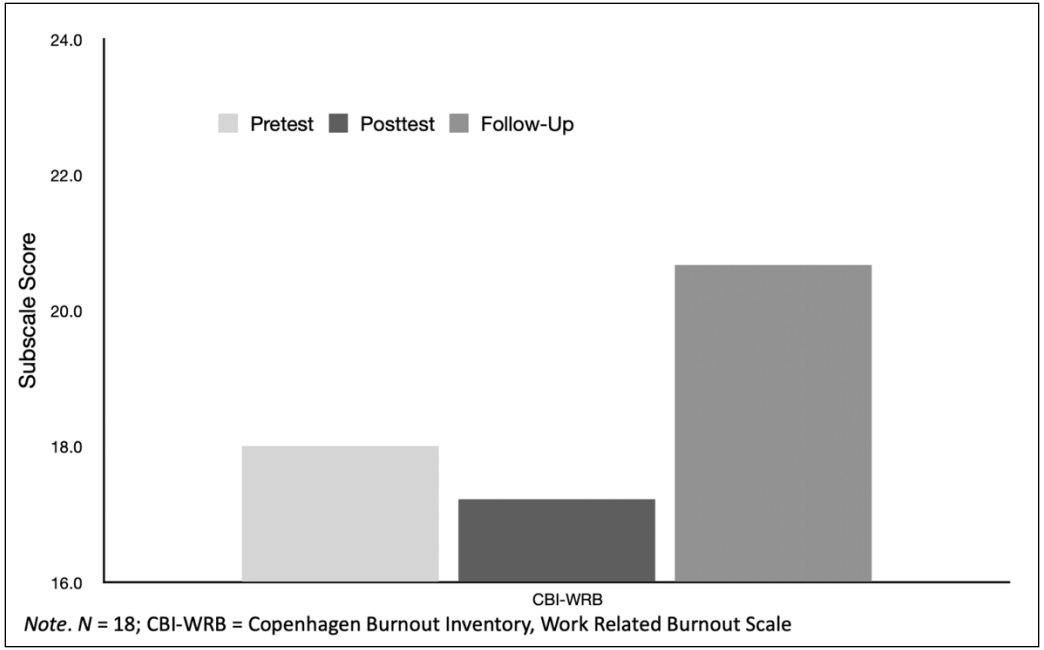


Note. *N* = 18; CBI-PB = Copenhagen Burnout Inventory, Personal Burnout Scale

Tests of Hypotheses (H_3)

- Slight decrease from pre- to post-.

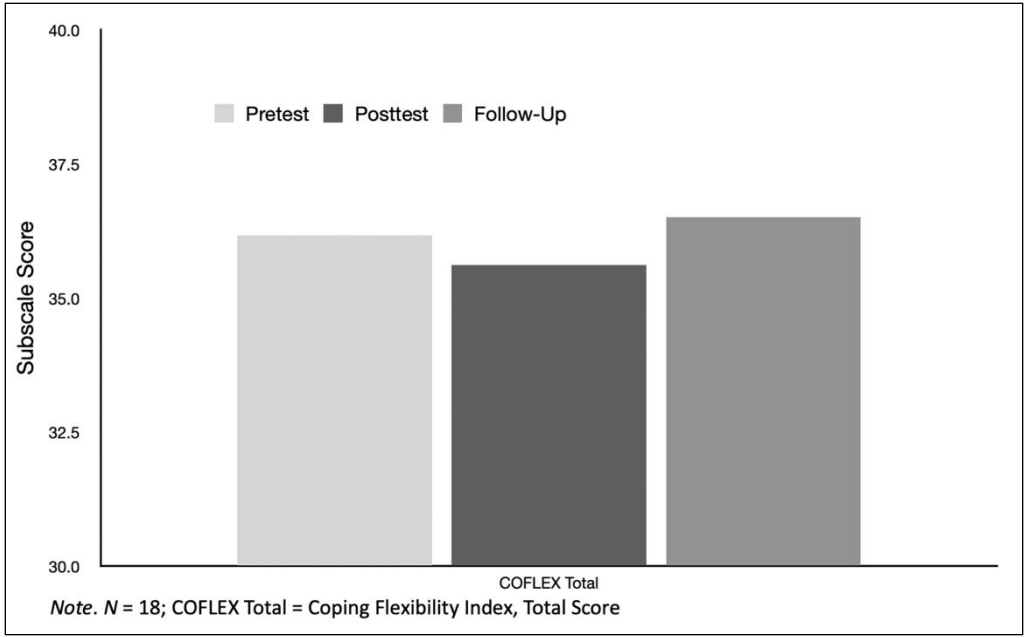
- Qualitative analysis on follow-up (+8 weeks): Students found the skills useful for decreasing the anxiety of the oncoming program.
    - However, 8 weeks later, students identified being stressed out by the workload and “forgetting to use the skills.”



Note. *N* = 18; CBI-WRB = Copenhagen Burnout Inventory, Work Related Burnout Scale

Tests of Hypotheses ($H_{4\text{-}6}$)

- $H_{4\text{-}6}$ = Increase in COFLEX scores pre-, to post-, to follow-up test.
  - *Total COFLEX score (H_4)*
  - *Reflective Coping subscale (H_5)*
  - *Coping Versatility subscale (H_6)*
- No significant change in any COFLEX measure.



Note. *N* = 18; COFLEX Total = Coping Flexibility Index, Total Score

7. Concluding Remarks

Concluding Remarks

- ~60% of family caregivers report symptoms of clinical depression that *did not exist prior to taking on a caregiver roll* (range 40-70%).*
- 60%+ of medical students and residents report symptoms of burnout.*
- Upwards of 90% of RNs report having had symptoms of work-related burnout in the last six months.
- Between 2018 and 2022, healthcare workers reporting feeling burnout "often" rose from 36 to 50% ("very often" from 11.6 to 19%).
- U.S. Surgeon General, Vivek Murthy: Training programs and supporting healthcare agencies must…
  - *Prioritize workplace culture to increase perceived support.*
  - *Communicate high esteem and value to <u>individual</u> workers.*
  - *Integrate constant assessment of psychological well-being of workforce.*
  - *Make systemic changes that place worker well-being at the forefront.*

*pre-pandemic

(US Dept of Health & Human Services, 2022; Nat'l Academies of Sciences, Engineering, & Medicine, 2019; AARP, 2020; Galanis et al., 2023; Galanis et al., 2021; Olson et al., 2019)

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