**Evaluating a Yoga Intervention for Increasing Distress Tolerance**

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**BACKGROUND**

- Low distress tolerance (DT): Refers to a perceived or actual incapacity to handle aversive stimuli, considered a meta-construct encompassing the ability to manage distressful situations (e.g., physical or psychological) identified as a transdiagnostic cognitive-affective trait associated with psychopathological severity (e.g., addictive, eating, and borderline personality disorders).
- Current cognitive behavioral and mind-body therapies aim to decrease DT as a means to reduce symptoms and enhance coping
- CBT exposure therapies induce rapid, systematic distress towards habituation
- Mindfulness: entails observation, awareness, and acceptance of subjective distress
- When treating a specific eating disorder, the term Eating Disorders (ED) or Distress Tolerance Scale (DTS) is often employed

**AIMS**

1. To examine the efficacy of Hatha yoga practice for increasing DT within a 6-week intervention.
2. To test if DT as a mediator of the effect of a yoga intervention on emotional eating.

**METHOD**

**Participants**

50 women age 25-45 reporting elevated levels of stress-induced eating (i.e., low in distress tolerance, at risk for emotional eating, with elevated anxiety and depression) randomized to 8-weeks of Hatha Yoga or Waitlist control condition.

**Yoga Intervention**

- Twice-weekly, 8-week, 90 min Hatha yoga classes
- 104 degrees
- 26 hatha yoga poses
- Two savasana (i.e., relaxation pauses)

**Yoga Defined as a “moving meditation,” involving:**

1. Hatha yoga
2. Transitions and transitioning through physical postures
3. Deep abdominal breathing
4. Presence on breath (panamayama)
5. Mindfulness teachings.

**Measures**

- **Distress Tolerance**
- **Time Need Scale (DTS)**: assesses perceived ability to handle broad distressful situations: tolerance, absorption, & regulation
- **Psychophysiological：“moving Subscale” (DEES)** of the Dutch Eating Behavior questionnaire (DEBS)
- **Baseline (BLW)**, week-1 (1 intervention period), Post Treatment (Week 8)

**Statistical Analysis**

- Crossover lagged modeling using Multilevel Modeling (MLM)
- Controlling for age, BMI, and baseline DEES sub-scale
- **Dependent Variable**: changes in DTS & DEES

**RESULTS**

**The Effect of Yoga on Emotional Eating Symptoms**

- Main effect of Time significantly predicted DEES for both Yoga (β = .37, t(108) = -9.47, p < .000) and WL (β = -.34, t(95) = .56, p = .60). Main effect of COND was not significant (β = .15, t(95) = .55, p = .58).
- COND*Time interaction significantly predicted DEES such that the relative rate of improvement was greater for Yoga (β = -.27, t(95) = -2.54, p = .01)

**Effect Size**

- Raudenbush & Xie Feng (2001) estimate, given our sample size, substantial power (.90-.95) to be able to detect a Cohen’s D of -1.19 at p<.05 (i.e., large effect for group differences)

**CONCLUSIONS**

- Our RCT on yoga for distress tolerance and emotional eating in a stress-vulnerable population at risk for emotional eating, anxiety, and depression supports the potential of yoga to increase DT.

**REFERENCES**


Cohen’s D effect of 95% CI (.003, .047) of DEES; PM= 11.5%

**The Effect of Yoga on Self-reported Distress Tolerance**

- Main effect of Time significantly predicted DTS for both yoga (β = 3.374, t(108) = 5.27, p < .000) and WL (β = .13, t(100) = 2.2, p < .029). Main effect of COND was not significant (β = .32, t(98) = 1.25, p = .216)

**CONCLUSIONS**

- COND*Time interaction significantly predicted DTS such that the relative rate of improvement was greater for Yoga (β = 17, t(132) = .205, p = .043)

**Effect size of interaction**

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**RESULTS (CONT'D)**

**Changes in Broad Distress Tolerance**

- No significant main effects or interactions

**Changes in Distress Absorption**

- No significant main effects or interactions