

EFFICACY OF EAT BREATHE THRIVE

A RANDOMIZED CONTROLLED TRIAL OF A YOGA-BASED PROGRAM



SUMMARY

Evidence suggests yoga may be a promising tool in the prevention and treatment of eating disorders, but there are few yoga interventions for eating disorders and rigorous literature on their efficacy is limited. This study examined the efficacy and feasibility of Eat Breathe Thrive, a yoga-based program designed to prevent and help people recover from eating disorders.

Researchers recruited 168 participants from communities throughout the United States and United Kingdom. Compared to controls, Eat Breathe Thrive participants experienced significant decreases in eating disorder behaviors, depression, and difficulties regulating emotions. Researchers also found improvements in protective factors that reduce the risk of eating disorders, including self-care, self-compassion, body appreciation, social connection, and mindful eating.

After only a single session, participants reported immediate improvement in their sense of well-being. Most effects were sustained at six month follow-up.

RESEARCH QUESTIONS

The purpose of the study was to determine if the Eat Breathe Thrive program reduces the risk of eating disorders and boosts protective factors. The study explored the following questions:

- ▶ Does the program decrease eating disorder behaviors and symptoms?
- ▶ Do those who participate in Eat Breathe Thrive show improvements in depression and anxiety, and in how they cope with emotions?
- ▶ Do those who participate in Eat Breathe Thrive develop protective factors against eating disorders, such as increased interoceptive awareness, mindful eating, and mindful self care?

METHODOLOGY

PARTICIPANTS

Researchers recruited 168 participants from ten cities in the US and UK; including San Francisco, London, Edinburgh, Los Angeles, Richmond, Las Vegas, and Concord. Participants were between the ages of 18 and 65, English-speaking, not pregnant, and had not participated in an Eat Breathe Thrive program before. Those who completed the study received a lululemon gift card as compensation.

INTERVENTION

The manualized Eat Breathe Thrive intervention consists of seven weekly sessions. Each session is two hours; approximately one hour of psychoeducation and interactive activities, followed by one hour of yoga and meditation.

SESSION	CONSTRUCTS	DESCRIPTION
Build Connection	<ul style="list-style-type: none"> ▶ Interpersonal Relationships ▶ Trust and Safety 	<p>Facilitators introduce the Eat Breathe Thrive curriculum and discuss its role in eating disorder prevention and sustained recovery. Participants engage in a discussion about the biological, psychological, and sociocultural causes of eating disorders. Participants engage in group activities designed to build trust, inspire self-reflection, and foster a safe and positive environment within the group. The yoga and meditation practice emphasizes connection between breath, movement, and awareness.</p>
Set the Stage	<ul style="list-style-type: none"> ▶ Body Image ▶ Diet Culture 	<p>Facilitators invite participants to consider the sociocultural forces that have shaped their relationship to food, body, and self. Participants engage in a discussion about messages they have received from family, peers, and media about food and body. Facilitators encourage participants to think critically about these messages in an exercise called “The Good Body” and invite participants to challenge internalized beliefs that equate the appearance of their body with their value and worth. This session is designed to “set the stage” for the four pillars covered in the next several sessions, which focus on positive ways to inhabit the body and nourish oneself. The yoga and meditation practice emphasizes moving and breathing with intentionality.</p>
Functional Action	<ul style="list-style-type: none"> ▶ Eating Disorder Behaviors ▶ Mindful Self-Care 	<p>Facilitators introduce the concept of functional action, which encourages participants to eat and engage in activities that promote functionality, rather than to change their body's appearance. Specifically, participants discuss five categories of functionality (physical, emotional, cognitive, social, creative) and explore ways of eating, exercising, and acting to support all five dimensions of their life. The yoga and meditation practice invites participants to explore functional movement, using cues that emphasize the experience rather than form of each pose. At the end of the session, participants make self-care commitments focused on functionality for the forthcoming week.</p>
Embodied Intimacy	<ul style="list-style-type: none"> ▶ Mindful Self-Care ▶ Interpersonal Relationships ▶ Healthy Communication 	<p>Facilitators introduce the concept of embodied intimacy, which encourages participants to explore the body as a vehicle for connection with self and others. Intimacy is defined as “making the innermost aspects of oneself known,” and participants engage in discussion about what it means to be intimate with oneself and with others. The interactive exercises explore connection with self and others through eye contact and subtle forms of touch (optional). Participants are given the option to try a few partner yoga poses in the movement practice, with guidance to support the communication of needs and boundaries. Homework consists of a self-message and journaling practice.</p>

Description of Eat Breathe Thrive Intervention (cont.)

SESSION	CONSTRUCTS	DESCRIPTION
Inner Awareness	<ul style="list-style-type: none">▶ Interoceptive Awareness▶ Mindful Eating	<i>Facilitators introduce the concept of inner-awareness, which encourages participants to listen and respond to the body's needs. Participants learn about interoceptive awareness and how it can support intuitive eating. Interactive exercise explores physical and emotional hunger cues and includes an optional mindful meal or snack with meditation during the session. The yoga practice incorporates yin yoga, with cues that emphasize noticing sensations in the body. Homework consists of practicing the interoceptive meditation before and after meals during the week.</i>
Self-Regulation	<ul style="list-style-type: none">▶ Depression and Anxiety▶ Emotion Regulation	<i>Facilitators introduce the concept of self-regulation, and the idea that the body can be an ally in generating positive states of mind. Interactive exercise includes psychoeducation on the autonomic nervous system and discussion of activities which activate the sympathetic and parasympathetic branches, respectively. Yoga practice includes restorative poses and yoga nidra, which promotes use of the breath for full body relaxation.</i>

Note. Week 7 consists of a closing ritual and service project activity.

FACILITATORS

Each program was led by two facilitators; one mental health professional and one certified yoga teacher or yoga therapist. All facilitators completed the Eat Breathe Thrive Facilitator Training, which includes a 3-day Immersion Course, a 6-month Training with supervision, and access to instructional videos and a comprehensive manual.



MEASURES

This study examined immediate (state) and long-term (trait) changes in eating disorder symptoms, drivers of eating disorders, and protective factors. Researchers also assessed demographic data, attendance, and treatment integrity.

RISK FACTORS

▶ **Eating Disorder Behaviors and Symptoms**

The Eating Disorder Examination Questionnaire (EDE-Q) is a 36-item self-report measure of eating disordered behaviors and symptoms. It includes four subscales: Dietary Restraint, Eating Concern, Shape Concern, and Weight Concern.

▶ **Depression**

The Beck Depression Inventory is a 21-item inventory that is designed to measure severity of depressive symptoms.

▶ **Anxiety**

The State-Trait Anxiety Inventory for Adults (STAI) assesses trait and state anxiety. It consists of 40 items divided in two scales of state and trait anxiety.

▶ **PTSD**

The PTSD Checklist for DSM-5 is a 20-item self-report assessment of PTSD symptoms that aligns with the four symptom clusters in the DSM-5.

▶ **Emotion Dysregulation**

The Difficulties in Emotion Regulation Scale (DERS) is a 36-item multidimensional assessment of emotion regulation and dysregulation.

▶ **Loneliness**

The Social and Emotional Loneliness Scale (SELSA) is a 15-item multidimensional measure of loneliness designed to measure emotional (i.e., romantic and family) and social loneliness.

PROTECTIVE FACTORS

▶ **Body Appreciation**

The Body Appreciation Scale-2 (BAS-2) is a self-report scale that assesses how a person feels about their body.

▶ **Body Appreciation (Functional)**

The Functional Appreciation Scale (FAS) examines the extent to which an individual treats his or her body with appreciation and respect for its functionality.

▶ **Coping Skills**

The Brief Coping Orientations to Problems Experienced Inventory (COPE) is a 28-item measure that assesses individuals' coping strategies (e.g. self-distraction, positive reframing, substance abuse, acceptance, self-blame).

▶ **Distress Tolerance**

The Distress Tolerance Scale is a 15-item assessment of beliefs about one's ability to experience and withstand feelings of emotional distress.

► **Integrity**

The Integrity Scale is a self-report measure of how truthful and honest one feels they can be with others.

► **Mindful Eating**

The Mindful Eating Questionnaire (MEQ) is a 28-item assessment that includes five subscales: Disinhibition, Awareness, External Cues, Emotional Response, and Distraction.

► **Self-Care**

The Mindful Self-Care Scale is a 33-item scale that includes six domains of self-care: Physical Care, Supportive Relationships, Mindful Awareness, Self-Compassion, Mindful Relaxation, and Supportive Structure.

► **Interoceptive Awareness**

The Multidimensional Assessment of Interoceptive Awareness (MAIA) is a 32-item self-report measure of interoceptive awareness that assesses eight components: Noticing, Non-Distracting, Not-Worrying, Attention Regulation, Emotional Awareness, Self-Regulation, Body Listening, and Trusting.

► **Self-Compassion**

The Self-Compassion Scale is a 12-item scale that assesses levels of self-compassion as defined by the constructs of self-kindness, common humanity, and mindfulness.

ADDITIONAL MEASURES

► **In-the-Moment Well-Being**

Participants were asked immediately before and after each session: (1) How much stress do you feel right now, (2) How embodied do you feel right now, and (3) How relaxed do you feel right now? Responses were anchored on a 5-point scale ranging from 1 (I don't feel stressed/relaxed/connected to my body) to (5) I feel extremely stressed/relaxed/connected to my body.



STUDY RESULTS

RISK FACTORS FOR EATING DISORDERS

Researchers found the Eat Breathe Thrive program reduces the risk of eating disorders. Specifically, the study found that participants:

Eating Disorder Symptoms — Experienced significant immediate and long-term reductions in eating disorder symptoms

Anxiety — Reported immediate reductions in trait anxiety

Depression — Reported sustained reductions in depression and fewer difficulties regulating emotions

PTSD — Experienced significant and long-term improvements in PTSD symptoms

Difficulties in Emotional Regulation — Reported fewer difficulties regulating emotions

PROTECTIVE FACTORS FOR EATING DISORDER PREVENTION

Researchers found the Eat Breathe Thrive program boosts factors that protect against eating disorders. Specifically, the study found that participants:

Mindful Eating — Engaged more frequently in mindful eating, even six months after the program ended

Distress Tolerance — Experienced significant improvements in their ability to tolerate distress

Interoceptive Awareness — Were better able to sense and interpret their bodily sensations (e.g. hunger and fullness)

Functional Appreciation — Felt greater appreciation for their body for its functionality, rather than its appearance

Adaptive Coping — Reported using fewer dysfunctional coping strategies (i.e., self-blame)

Body Appreciation — Reported feeling more respect and appreciation for their bodies

Mindful Self-Care — Engaged in self-care on a more regular basis after the program

Self-Compassion — Felt greater compassion for themselves

Social Connection — Reported feeling less lonely in their relationships

In-the-Moment Well-Being — Reported immediate improvements in stress, relaxation, and connection with their body after just a single session

After a single session, participants reported an immediate improvement in their sense of well-being.

Study Authors

ACKNOWLEDGMENTS

This study was conducted with approval and oversight from the University at Buffalo, under the supervision of Principal Investigator Catherine Cook-Cottone, PhD, C-IAYT. The study's lead author, Esther Estey, PhD, received the Seymour Fisher Outstanding Body Image Dissertation Award for the research and was awarded a fellowship at Harvard Medical School and the Center for Mindfulness and Compassion. Co-investigators included Eat Breathe Thrive Founder Chelsea Roff, C-IAYT, and researchers Stephanie Rovig, Michael B. Kozlowski, and Wendy Guyker, PhD.

This study was made possible by a grant from Lululemon's Centre for Social Impact. Special thanks to Alison Murphy and Caitlin Powel-Bowman, who took a chance on a bold request and said yes to funding this research. Thank you also to Sarah Mendelsohn and Christena Devlin, who provided continuing support over the grant period to see the project through to the finish line.

Finally, we want to recognize all the Eat Breathe Thrive facilitators who led programs across three different countries for this research – Samantha Child, Nicole Schnackenburg, Liz Johnson, Rebecca Stephens, Mariel Chiang, April Lowe, Tatyana Plaksina, Whitney Owens, Sara Ackeret, Jessica Davis, McKenzie Casad, Wendy Hallett, Lara Scriba, Sarah McCaffer, and Lucy Ridley. These results are at least in part due to the human beings they are and the lives you touched.



From state to trait, Eat Breathe Thrive creates a predictable experience of health and wellness that leads to long-term, trait-based change.

Esther Estey, PhD

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