

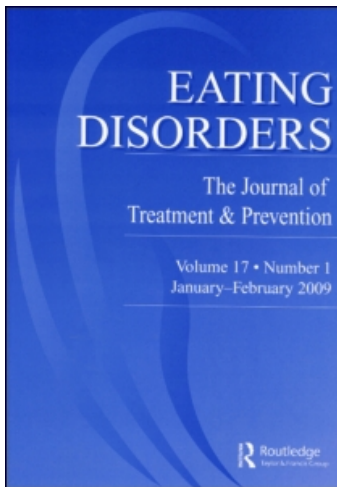
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## Eating Disorders

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### Yoga Workshop Impacts Psychological Functioning and Mood of Women With Self-Reported History of Eating Disorders

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## **Yoga Workshop Impacts Psychological Functioning and Mood of Women With Self-Reported History of Eating Disorders**

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*Eating disorders can lead to severe medical and psychological consequences. Traditional interventions may neglect some of the crucial elements of eating disorders, specifically mood and body awareness. Other modalities, particularly yoga, should be considered as an adjunct to traditional treatments. This pilot study explored the benefits of a 6-day yoga workshop for women with a history of eating disorders. Results indicated improvements in mood, psychological adjustment, physical and emotional awareness, and eating disorder symptoms. This study concluded that other modalities, such as yoga, may be efficacious in improving mood and psychological functioning for those with a self-reported history of eating disorders.*

A significant part of the female experience is the societal pressure for thinness (Stice & Bearman, 2001), which may result in body dissatisfaction and potentially lead to eating disorders. Although cognitive behavioral approaches may be efficacious in the treatment of eating disorders, these traditional interventions may not address the range of factors leading to eating disorders and the range of symptomatology. In particular, they may not pay sufficient attention to body awareness, which is important in the development and maintenance of eating disorders. This is important since Spoor, Bekker,

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Van Heck, Croon, and Strien (2005) found that women with eating disorders may exhibit a diminished awareness of basic bodily signals, such as hunger and satiety, as well as energy level and fatigue, or they may perceive bodily signals but ignore or deny the experience of them.

Awareness of emotional state or mood is also important for women with eating disorders since Corstorphine (2006) found that both positive and negative emotions (e.g., anger, anxiety, depression, loneliness, and happiness) may be important antecedents, triggers, and consequences of eating disturbances. Other studies have found that women with anorexic qualities are likely to have mood disturbances, such as anxiety and depression (Zonneville-Bender et al., 2004).

Given the need to address the significant roles of body awareness and mood states in the eating disorder experience, alternative modalities, specifically yoga, should be considered since yoga centers on physical and emotional awareness. This idea is consistent with the beliefs expressed by Machleidt and Ziegenbein (2008), who wrote that complementary and alternative treatments may satisfy those emotional and spiritual needs of patients not sufficiently covered in traditional psychiatric interventions.

Yoga is a process in which people can gain a better understanding of life, learn methods to manage the mind, realize one's potential, and transform personality (Saraswati, 2001). Unlike the allopathic western medical model in which physicians facilitate the healing process, a yoga instructor seeks to create an environment in which practitioners are able to develop self-awareness and begin to facilitate and control their own healing (Taylor, 2003).

Yoga has been recognized throughout the world as having significant therapeutic impact on its practitioners (Saraswati, 2001) including decreased symptoms of depression (Berger & Owen, 1992; Lee, Mancuso, & Charlson, 2004; Mishra & Sinha, 2001; Roth, 1997) and anxiety (Calajoe, 1987; Derezotes, 2000; Lee, Mancuso, & Charlson, 2004; Mishra & Sinha, 2001), and improved self efficacy and sense of self-control (Derezotes, 2000; Lee, Mancuso, & Charlson, 2004; Roth, 1997).

Only a small amount of research has investigated the use of yoga in the treatment of eating disorders. Daubenmier (2005) found that, in contrast to those in an aerobic control group, those who participated in yoga had higher body awareness, responsiveness, and satisfaction, as well as less self-objectification. Furthermore, Lavey, Sherman, Mueser, Osborne, Currier, and Wolfe (2005) found that individuals who participated in yoga demonstrated significant improvements on all five of the negative emotion factors (e.g., tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, and confusion-bewilderment) on the Profile of Mood States (McNair, Lorr, & Droppleman, 2003).

Yoga has also been found to be beneficial to clinical populations, such as individuals with schizophrenia. For example, Duraiswamy, Thirthalli,

Nagendra, and Gangadhar (2007) compared subjects receiving yoga therapy and those receiving physical therapy and found that after 4 months the subjects in the yoga therapy group had significantly less psychopathology and improved in terms of social and occupational functioning and quality of life

Given the research documenting changes in body awareness and mood following yoga in both clinical and non-clinical samples, we decided to investigate the benefits of a 6-day workshop emphasizing yoga for women with a history of eating disorders.

### Six-Day Eating Disorders Workshop

The innovative workshop, developed by two well-respected yoga instructors, Barbara Ruzansky and Ana Forrest, was designed to help women with eating disorders build a healthier relationship with food and their bodies by implementing three strategies:

1. The workshop introduced the participants to Forrest Yoga<sup>®</sup>, which was designed to address one's physical and emotional needs by learning to breathe deeply, connect with bodily feelings, work honestly with physical and emotional injuries, and develop effective tools for managing fear and struggle.
2. The workshop focused on healthy eating by providing an interactive cooking class and education about the basics of whole foods theory with an emphasis on the increase in organic foods and the elimination of highly processed and nutritionally depleted foods. The workshop also introduced ways to eat mindfully and this was practiced during all group meals.
3. The workshop fostered self-reflection and interpersonal skills by employing process work (e.g., journaling and sharing in groups), as well as eating nutritious meals as a group.

The workshop began with a 3 hour meeting in which the leaders set the tone, introduced the workshop, and shared some of their own experiences with the healing process. Participants then introduced themselves, discussed their reasons for attending the workshop, shared their gifts and talents with each other, and talked about their willingness to heal from their eating disorder difficulties. Participants were then assigned a daily check-in partner with whom they would spend 10 minutes each morning asking and responding to the following three questions: What are you grateful for? What have you seen that is beautiful in the last 24 hours? How are you? Participants were also introduced to a set of "Morning Tools" designed to promote connection between the mind, body, and spirit and instructed to take 5 minutes each morning to connect to your breath, say something kind to yourself, focus on something that you are grateful for, and to do at least one

yoga pose. The workshop concluded with a catered dinner and a gratitude circle in which participants shared what they had learned and what they were grateful for, followed by a trip to a nearby beach and wildlife preserve to reinforce the impact of nature on healing. Finally, participants were given a folder of information from the workshop, some cooking utensils, and a Forrest Yoga® DVD to reference later as well as other participant's contact information. Although the participants were encouraged to continue practicing yoga and what they learned, it is unclear whether they continued to do so.

### Current Study and Hypothesis

This pilot study explored changes in mood and body and emotional awareness following this 6-day intensive workshop for women with a history of eating disorders. It was hypothesized that participants would demonstrate a decrease in eating disorder symptoms and improvement in mood and emotional and body awareness following the workshop and that these changes would remain at 1 month follow-up.

## METHOD

### Participants

Although eight women agreed to participate in the study, the final sample consisted of five Caucasian women, who completed all the measure at the three time periods. These women, who were between 22 and 36 years of age ( $M = 30$  years), denied having any medical illness. Three participants reported having ongoing mental health issues, including depression (one participant) and anxiety (one participant). One participant wrote that her only mental health issue was the eating disorder problem that brought her to the workshop.

Participants had a mean weight of 127.4 (range = 115 to 145;  $SD = 12.30$ ). Calculations of Body Mass Index (BMI) indicated that four participants were in the normal range and one participant was in the underweight range. All participants exercised at least three times per week, with three participants exercising five or more days.

The participants reported practicing yoga for an average of 6 years (range = 2 to 10 years) and 3.7 times per week (range = 1.5 to 6). When asked about their experience during yoga, one reported being comfortable with postures and breathing, whereas four of the participants reported being relatively comfortable with the postures and breathing, and thus being focused on being present in their bodies. All participants described yoga as something that they incorporated into all areas of their life and endorsed most of the twelve benefits listed in the Yoga Experience Scale (Galen, Ruzansky, & Dale, 2005).

## Procedure

All students of the yoga workshop were eligible to participate in this study, since there were no exclusion criteria. When the workshop participants arrived on the first day of the workshop, they were collectively informed about the study, the procedure involved in participation, and that participation was voluntary. They were also instructed that they could withdraw their participation at any time without any negative consequence. Then they were given the consent form to review and sign, along with a packet of measures to complete. The packet included the demographic questionnaire, Eating Disorders Inventory-3 (EDI; Garner, 2004), and Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1992), as well as another instrument not presented in this paper (i.e., Yoga Experience Scale; Galen, Ruzansky, & Dale, 2005). The same packet of measures was given to the participants on the last day of the study, and another packet was mailed to them one month after the workshop.

## Measurements

### EATING DISORDER INVENTORY – 3 (GARNER, 2004)

The EDI-3 provides a comprehensive assessment of the behavioral and psychological factors characteristic of eating disorders (Garner, 1991). The EDI-3 consists of 91 items organized onto 12 primary scales, consisting of 3 eating-disorder-specific scales (Body Dissatisfaction, Drive for Thinness, and Bulimia) and 9 general psychological scales that are highly relevant to, but not specific to, eating disorders. It also yields six composites: one that is eating-disorder specific (i.e., Eating Disorder Risk) and five that are general integrative psychological constructs (i.e., Ineffectiveness, Interpersonal Problems, Affective Problems, Overcontrol, and General Psychological Maladjustment). The EDI-3 has been shown to have test-retest reliability, with reliability estimates for the subscales ranging from 0.86 to 0.98 (Garner, 2004).

### PROFILE OF MOOD STATES (MCNAIR, LORR, & DROPPLEMAN, 1992)

This instrument, used in previous yoga research studies (e.g., Lavey et al., 2005), assesses a wide range of fluctuating mood states. This 65-item self-report questionnaire which takes 5-10 minutes to complete asks the individual to rate his/her current mood using a 5-point scale (ranging from *not at all* to *extremely*). The key areas measured include tension-anxiety, anger-hostility, fatigue-inertia, depression-dejection, confusion-bewilderment, and vigor-activity. The first five factors are scored negatively with higher scores representing more negative emotions while the sixth factor, vigor-activity, is scored positively with higher scores indicating greater vigor. The POMS has been shown to have internal consistency (reliability scores ranging from

0.84–0.95) and test-retest reliability (scores ranging from 0.65 to 0.74; McNair, Lorr, & Droppleman, 1992).

#### DEMOGRAPHIC AND LIFESTYLE QUESTIONNAIRE

This questionnaire, consisting of 16 questions, asked about gender, age, ethnicity, current medical and mental health problems, frequency of physical exercise, and other information not relevant to this study.

### RESULTS

#### Psychological Well-being at Baseline

In comparison to the clinical sample norms for the EDI-3 (Garner, 2004), our sample's mean scores for the Low Self-Esteem scale and the Ineffectiveness Composite scale fell in the low typical clinical range and the Bulimia scale and the Eating Disorder Risk Composite scale fell in the elevated clinical range. Other mean scores fell in the typical clinical range and the participants' individual scores varied from the low clinical to elevated clinical range. In comparison to the norms for two groups (adult females and female psychiatric outpatients; McNair, Lorr, & Droppleman, 2005), the mean scores for our participants were higher than the female adult norms but lower than the female psychiatric outpatient norms.

#### Evaluating the Benefits of the Yoga Workshop

To evaluate whether the results were statistically significant, analyses of variance with repeated-measures on time (Baseline, Post-Workshop Follow-up, and One-Month Follow-up) were used to examine changes in the EDI and POMS scales across assessment periods. Effect sizes were also calculated and reported as  $\eta^2$ , which measures the proportion of variability accounted for by change across time in the dependent variables. Small effect sizes are in the range of .10, medium effect sizes are in the range of .25, and large effect sizes are .40 or more (Cohen, 1988). Reporting the effect sizes was essential given the low statistical power as a result of the small sample size used in this study. That is, given the small sample size, analyses that do not produce statistically significant results may have produced large effects, and such effects would have been significant had a larger sample been available (i.e., had adequate levels of statistical power been achieved). If the repeated measures analyses was significant or effect size analyses suggested a large or high medium effect (i.e., .35 or greater), then paired t-test comparisons were run to determine where the significant changes occurred (i.e., from Baseline to Post-Workshop Follow-up and Post-Workshop Follow-up to One-Month Follow-up).

As evident in Table 1, repeated measures analyses looking across the three points were significant for these EDI-3 scales: Interoceptive Deficits,  $F(1, 4) = 6.00, p < .05$ ; Emotion Dysregulation,  $F(1, 4) = 8.64, p < .05$ ; and Affective Problems,  $F(1, 4) = 9.70, p < .05$ . Similarly, there were large effects for these scales: Interoceptive Deficits ( $\eta^2 = .86$ ), Emotion Dysregulation ( $\eta^2 = .90$ ), and Affective Problems ( $\eta^2 = .91$ ). Paired samples t-test comparisons of EDI Baseline and Post-Workshop Follow-up data were significant for these scales: Interoceptive Deficits,  $t(4) = 3.03, p < .05$ ; Emotion Dysregulation,  $t(4) = 2.90, p < .05$ ; and Affective Problems Composite,  $t(4) = 3.14, p < .05$ . The comparisons of Post-Workshop Follow-up and One-Month Follow-up data were not significant. The comparison of Baseline and One-Month Follow-up were significant for these same scales: Interoceptive Deficits,  $t(4) = 2.89, p < .05$ ; Emotion Dysregulation,  $t(4) = 2.01, p < .05$ ; and Affective Problems Composite,  $t(4) = 3.38, p < .05$ .

**TABLE 1** Eating Disorder Symptoms at Baseline, Post-Workshop Follow-up, and One Month Follow-up

EDI scales	Baseline M (SD)	Post-workshop follow-up M (SD)	One month follow-up M (SD)	F	$\eta^2$
Eating Disorder Risk Scales					
Drive for thinness	55.20 (4.55)	52.80 (3.70)	53.60 (2.21)	1.22	.55
Bulimia	59.00 (9.85)	55.00 (9.27)	54.60 (4.85)	.99	.50
Body Dissatisfaction	52.00 (7.42)	51.00 (8.00)	50.80 (4.45)	.37	.27
Psychological Scales					
Low Self-Esteem	42.60 (3.65)	40.80 (4.15)	42.20 (4.02)	.19	.16
Personal Alienation	42.40 (5.81)	42.00 (7.65)	42.60 (3.59)	.03	.03
Interpersonal Insecurity	49.20 (10.67)	46.40 (7.09)	45.80 (5.27)	.60	.38
Interpersonal Alienation	49.00 (10.05)	47.20 (8.59)	48.60 (3.61)	.17	.14
Interoceptive Deficits	51.00 (10.12)	47.60 (9.74)	44.20 (4.19)	6.00*	.86
Emotional Dysregulation	5.60 (8.36)	45.80 (4.97)	44.40 (2.06)	8.64*	.90
Perfectionism	54.20 (4.44)	51.80 (5.93)	53.40 (3.67)	.50	.33
Asceticism	52.00 (10.03)	49.40 (11.35)	46.20 (3.48)	2.78	.74
Maturity Fear	48.00 (13.40)	47.60 (13.35)	45.80 (4.18)	.50	.33
Composite Scales					
Eating Disorder Risk	56.60 (3.65)	53.00 (5.52)	53.20 (2.52)	1.91	.66
Ineffectiveness	41.60 (3.44)	40.40 (5.46)	41.60 (8.47)	.14	.12
Interpersonal Problems	48.20 (9.42)	45.80 (6.61)	46.20 (4.39)	.27	.21
Affective Problems	50.40 (9.74)	45.60 (7.57)	42.80 (3.43)	9.70*	.91
Overcontrol	53.00 (6.21)	50.20 (5.26)	49.40 (3.36)	2.43	.71
General Psychological Maladjustment	47.60 (8.62)	42.80 (7.40)	43.40 (4.09)	3.20	.76

Note. Large effect size was predetermined as  $\eta^2$  of .40 or higher and medium effect sizes are in the range of .25 to .39, as indicated in Cohen (1998).

\*  $< .05$ ; \*\*  $< .01$ ; \*\*\*  $< .001$ .

Thus, participants demonstrated a significant increase in their ability to recognize and respond to emotional states, a significant decrease in anger, mood instability, impulsivity, recklessness and self-destructive behaviors, and an overall increased understanding for identifying and tolerating mood states. These changes were from Baseline to Post-Workshop Follow-up. The fact that there were no significant changes from Post-Workshop Follow-up to One-Month Follow-Up suggests that these changes were maintained over time. In fact, by examining the mean scores on Table 1, it is noticeable that the scores continue to decline, not creep back up to baseline levels.

In addition, medium to large effects were found for the following subscales on the EDI: Eating Disorder Risk Composite ( $\eta^2 = .66$ ), General Psychological Maladjustment Composite ( $\eta^2 = .76$ ), Drive for Thinness ( $\eta^2 = .55$ ), Bulimia ( $\eta^2 = .50$ ), Asceticism ( $\eta^2 = .74$ ), Overcontrol Composite ( $\eta^2 = .71$ ), and Interpersonal Insecurity ( $\eta^2 = .38$ ). Paired samples t-test comparisons revealed two significant results between Baseline and Post-Workshop Follow-up: Eating Disorder Risk Composite,  $t(4) = 3.50$ ,  $p < .05$  and General Psychological Maladjustment composite,  $t(4) = 2.90$ ,  $p < .05$ . Paired t-test comparisons of Post-Workshop Follow-up to One-Month Follow-up and from Baseline to One-Month Follow-up were not significant. The participants appeared to experience a decrease in eating disorder symptoms and general psychological maladjustment from Baseline to Post-Workshop Follow-up, which generally remained through the One-Month Follow-up period. In spite of large effect sizes, all other paired comparisons were not significant.

For the POMS, none of the repeated measures analyses were significant (see Table 2). However, there were large effects for the Tension-Anxiety ( $\eta^2 = .68$ ), Fatigue-Inertia ( $\eta^2 = .51$ ), and Confusion-Bewilderment ( $\eta^2 = .48$ ) scales and high medium effect sizes for the Vigor-Activity ( $\eta^2 = .35$ ) and Total Mood Disturbance scales ( $\eta^2 = .39$ ). Paired samples t-test comparisons between Baseline and Post-Workshop Follow-up data revealed significant differences for the Tension-Anxiety and Total Mood Disturbance scales,  $t(4) = 3.50$ ,  $p < .05$  and  $t(4) = 3.50$ ,  $p < .05$ . Thus, participants demonstrated a significant decrease in mood disturbance symptoms, particularly tension, from Baseline to Post-Workshop. The paired samples t-test comparisons from Post-Workshop Follow-up to One-Month follow-up data and Baseline and One-Month Follow-Up data were not significant. Examination of the means listed in Table 2 indicates that the decrease in tension remained one month following the workshop. However, the mean for the overall mood symptoms (i.e., Total Mood Disturbance scores) increased over time, but approached baseline levels one month following the workshop.

## DISCUSSION

Since traditional interventions for women with eating disorders may neglect some of the mood and body awareness issues, our study aimed to target

**TABLE 2** Mood Disturbance Symptoms at Baseline, Post-Workshop Follow-up, and One Month Follow-up

POMS scales	Baseline M (SD)	Post-workshop follow-up M (SD)	One month follow-up M (SD)	F	$\eta^2$
Tension-Anxiety	16.00 (9.25)	10.40 (6.03)	10.60 (7.83)	2.12	.68
Depression-Dejection	17.60 (9.10)	12.80 (9.55)	15.20 (18.27)	.21	.17
Anger-Hostility	8.60 (6.91)	6.40 (4.28)	9.20 (10.66)	.32	.24
Fatigue-Inertia	10.60 (6.95)	7.80 (4.66)	10.80 (8.04)	1.06	.51
Confusion-Bewilderment	10.40 (5.55)	6.60 (4.51)	10.00 (8.09)	.93	.48
Vigor-Activity	11.40 (6.66)	14.40 (11.55)	10.80 (8.32)	.54	.35
Total Mood Disturbance	51.80 (35.18)	29.60 (32.01)	45.00 (55.88)	.65	.39

*Note.* Large effect size was predetermined as  $\eta^2$  of .40 or higher and medium effect sizes are in the range of .25 to .39, as indicated in Cohen (1998).

\* < .05; \*\* < .01; \*\*\* < .001.

these neglected symptoms by examining the effects of a 6 day intensive yoga workshop for women with a history of eating disorders. Yoga, by its nature, is a practice of awareness leading us to believe that it would have an impact on attention to the physical and emotional signals of the body. The hypotheses of this study were confirmed. There was a pattern of overall psychological adjustment. Specifically, participants felt less disappointment, distance, estrangement, and lack of trust in their relationships. They were able to not only be aware and identify their emotional and mood states, but were able to better tolerate their fluctuations. It is not surprising then, that the concomitant findings were a reduction in overall mood disturbance, physical tension, anxiety, mood instability, impulsivity, anger, recklessness and self-destructive behaviors. In addition, there was a significant decrease in their level of eating concerns. These benefits were measured after the workshop and were maintained 1 month later.

There was a clear pattern from several related scales on the EDI-3 showing that our sample benefitted from the yoga workshop in being better able to correctly identify, understand, and respond to their emotional states. Garner (2004) explains that it is not unusual for women with eating disorders to have confusion when trying to accurately recognize and respond to their emotional states; they may mistrust their own affective and bodily functions. He further states that poor impulse regulation and mood intolerance are characteristics of poor prognoses for those with an eating disorder. We found that the scales measuring these characteristics changed for the better over time.

What is interesting, and hopeful, is that these changes not only maintained over the month period of time, but they continued to decrease. If the benefits of the yoga workshop were not strong enough, one might suspect those benefits to “wear off” over time and we would see the means rising to baseline values. But, we are seeing the opposite. This shift makes sense in

light of the intense yoga practice which asks people to continually be aware of their bodies and emotions. Even though it is not statistically significant, the fact that these women are continuing to respond to their emotional states with less confusion, anger, and self-destructiveness, clearly indicates that adjunctive treatments such as yoga should be considered for this population.

The decrease in eating disorder symptoms experienced by the participants that we saw immediately after the workshop remained stable at the 1-month follow-up. Women's intense fear of gaining weight, preoccupation with weight, body dissatisfaction, extreme desire to be thinner, and desire to think about and engage in bouts of binge eating was reduced. At baseline, our sample's mean score on the Eating Disorder Risk Composite (EDRC) subscale on the EDI-3 was just into the elevated clinical range, and by the end of the workshop, had dropped into the typical clinical range for those with an eating disorder. They maintained this level of functioning at 1 month. Although there was a reduction in such eating and weight concerns, this does not mean an absence of these feelings or behaviors. In fact, Garner (2004) states that individuals falling within the typical clinical range on the EDRC subscale, for example, have significant eating and weight concerns. They are afraid of gaining weight, are dissatisfied with their bodies, have binge eating tendencies, and desire to be thinner. But, the fact that a 6 day yoga workshop could produce a significant shift in a reduction of these symptoms and remain stable over a month is certainly remarkable and worthy of further exploration.

Not only did our yoga workshop have an effect on psychological functioning, but it also had an impact on mood. Total mood disturbance significantly decreased, particularly in the area of physical tension and psychological anxiety (e.g., being worried, feeling upset or irritable). Just as we saw with psychological adjustment, this shift in mood was maintained over time. In fact, the means in both follow-up points for tension-anxiety, show our sample to be much closer to the female adult norms on the POMS than the female psychiatric outpatient norms where they started at baseline. Even though we see that the scores for total overall mood disturbance begin to rise at 1 month, this change is not significant. But, given the medium effect size and small sample, we simply cannot say with certainty what might be happening.

Participants demonstrated an increase in overall psychological functioning, decrease in eating disordered thoughts and behaviors, and a decrease in tension and anxiety at the close of the workshop, as was evidenced by their scores on the EDI-3 and the POMS. These results are in concord with previous research (Daubenmier, 2005; Lavey et al., 2005). Moreover, these gains were maintained at the 1-month follow-up, suggesting that yoga can have lasting effects on women with a history of eating disorders.

We must be very careful when trying to generalize our results. We do not know whether these women currently had a diagnosed eating disorder

(none reported a current medical condition); but all participants had a self-reported history of an eating disorder. What is interesting, though, from their mean baseline data on the EDI-3 is that they scored in the “typical” clinical range on 16 out of the 18 scales indicating that this sample definitely still had substantial issues with their disorder. Thus, even though these data may have restricted generalizability to a population of women with current eating disorders, it certainly can be a first step in examining the efficacy of complementary treatment in this population.

Our sample also consisted of participants who had prior experience with yoga. As was previously mentioned, all participants reported practicing yoga for at least 2 years and described yoga as something they had incorporated into other areas of their life. The participants endorsed many benefits of yoga prior to the eating disorders workshop, thus indicating that yoga was already a powerful tool in their lives. Although the participants were encouraged to continue practicing yoga and what they learned, it is unclear whether they continued to do so. This lack of knowledge results in another limitation of the study.

One would expect that such experienced practitioners may not benefit from such a workshop which makes our results even more provocative. If we are finding these results in women with prior experience with yoga, it is of great interest to know how a similar intervention would work with a less experienced sample. Having a shared history of both eating disorders and yoga experience may have resulted in more easily forming connections with each other and receiving the benefits of yoga.

There are other concerns about the sample, including the lack of a control group that would allow us to more definitively say that it was our workshop that led to the improvements. In addition, three participants were excluded over the course of the study, which left our sample small, and homogeneous in that they were all Caucasian women with a college degrees.

While the eating disorders workshop emphasized yoga, it consisted of many components, such as cooking classes, process work, and meditation. The social and educational components also may have contributed to participants’ improvements in mood, emotional and body awareness, and psychological well being. These components are of great interest as they focus one’s attention on the body, both physically and emotionally.

In most traditions of yoga, one is asked to focus on the breath, postures, and feelings that may arise while holding a pose. Students are asked to simply notice those sensations without judgment. Yogic practice and meditation asks the student to simply accept what is present within the body, heart, and mind with kindness and gentleness without trying to do something different, to “make it better” or make it “go away.” This bodily practice of accepting “what is” may be a radical step for women with eating disorders who have always sought control and force over their bodies.

Although there are limitations to this study, particularly the small sample size, the findings are compelling. Our pilot study suggests that yoga can produce lasting benefits for women with a history of eating disorders who currently score in the clinical range of eating disorder symptoms on the EDI-3. But, as noted above, this workshop also contained cooking classes, meditation, interpersonal process, work, etc. It is unclear if it was the practice of yoga itself, one of these other components, or a combination that had an impact on eating disorder symptoms and mood. Therefore, we suggest that when examining alternative modalities, researchers try to examine each of these components separately. In addition, future researchers should examine the effects of a pure yoga intervention, in order to measure the distinct effects of yoga on women with eating disorders. As there are many types/traditions of yoga, it will be important for authors to include the type of yoga that was used. Of course, it will also be important to explore the effects of yoga on women who have little to no experience practicing yoga with larger, more diverse samples.

In sum, the eating disorders workshop appears to have had a positive impact on the psychological functioning, eating disorder symptoms, and mood of these participants. Improvements in mood, as well as a reduction in eating disorder symptoms were evident post-workshop. These improvements remained one month following the end of the yoga. Because many traditional modalities of eating disorder treatment neglect the role of mood and bodily and emotional awareness, these findings have significant clinical implications. Most importantly, yoga appears to be an efficacious adjunctive treatment for women with eating disorders, specifically by targeting one's attention on simple awareness of the body, both physically and emotionally.

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