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Perceptions of hatha yoga amongst persistently depressed individuals enrolled in a trial of yoga for depression

Lisa A. Uebelacker, Ph.D.^{a,b}, Morganne Kraines, M.A.^c, Monica K. Broughton, B.A.^{a,d}, Geoffrey Tremont, Ph.D.^{b,e}, L. Tom Gillette, B.A., Gary Epstein-Lubow, M.D.^{a,b,d}, Ana M. Abrantes, Ph.D.^{a,b}, Cynthia Battle, Ph.D.^{a,b}, and Ivan W. Miller, Ph.D.^{a,b}

^aButler Hospital, Providence, RI

^bAlpert Medical School of Brown University, Providence, RI

^cOklahoma State University, Stillwater, OK

^dBrown University School of Public Health, Providence, RI

^eRhode Island Hospital, Providence, RI

Abstract

Objectives—To understand depressed individuals' experiences in a 10-week hatha yoga program.

Design—In a randomized controlled trial, participants were assigned to either 10 weeks of hatha yoga classes or a health education control group. This report includes responses from participants in yoga classes. At the start of classes, average depression symptom severity level was moderate.

Main outcome measures—After 10 weeks of yoga classes, we asked participants (n=50) to provide written responses to open-ended questions about what they liked about classes, what they did not like or did not find helpful, and what they learned. We analyzed qualitative data using thematic analysis.

Results and Conclusions—Elements of yoga classes that may increase acceptability for depressed individuals include having instructors who promote a non-competitive and non-judgmental atmosphere, who are knowledgeable and able to provide individualized attention, and who are kind and warm. Including depression-related themes in classes, teaching mindfulness, teaching breathing exercises, and providing guidance for translating class into home practice may help to make yoga effective for targeting depression. Participants' comments reinforced the importance of aspects of mindfulness, such as attention to the present moment and acceptance of one's self and one's experience, as potential mechanisms of action. Other potential mechanisms

Corresponding author: Lisa A. Uebelacker, Mail: Butler Hospital, 345 Blackstone Blvd., Providence, RI 02906, luebelacker@butler.org; Tel: 401-455-6381; Fax: 401-455-6235.

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include use of breathing practices in everyday life and the biological mechanisms that underlie the positive impact of yogic breathing. The most serious concern highlighted by a few participants was the concern that the yoga classes were too difficult given their physical abilities.

Keywords

hatha yoga; depression

Introduction

In recent years, there has been increasing research on the efficacy of hatha yoga as an intervention for depression. Yoga is an ancient Indian system of philosophy and practice [1, 2]. In the U.S., most people who practice yoga practice *hatha* yoga, which involves training the body to cultivate physical and emotional well-being [3]. Hatha yoga is a general term which includes many styles of yoga, such as Vinyasa, Iyengar, or Viniyoga. Although styles vary in emphasis, hatha yoga includes physical postures (*asanas*), breath control (*pranayama*), and meditation (*dhyana*). A recent meta-analysis of yoga for depression reported moderate-sized differences in short-term depression outcomes favoring yoga versus usual care (standardized mean difference (SMD) = 0.69), versus relaxation (SMD = 0.62), and versus aerobic exercise (SMD = 0.59) [4].

We recently completed a study of 10 weeks of hatha yoga vs. 10 weeks of health education classes as adjunctive interventions for people taking antidepressants who continued to have persistent depressive symptoms (n = 122) [5]. Briefly, we found that although the difference between groups on depression severity was not statistically significant at the end of the 10 week intervention period, differences between groups were statistically significant over the 6-month follow-up time period, favoring yoga. In this report, we present a secondary analysis of free-text responses to a questionnaire regarding experiences with yoga completed by the yoga participants in the parent study.

Our parent study findings contribute to the mounting evidence that hatha yoga may be an efficacious treatment for depression. However, at least two important questions remain. First, there are many styles of yoga in the community. Classes vary in relative emphasis on different elements (asanas, pranayama, meditation, other elements), level of vigor (ranging from restorative to physically challenging), emphasis on modifying postures for individual bodies and using props, and degree of emphasis on mindfulness (i.e., non-judgmental attention to present-moment experience). This leads to the question: what are the most important elements of a yoga class for treating depression? In this study, we designed yoga classes that included asanas, pranayama, and meditation; that were moderate in physical activity; that included some flow through postures; that emphasized attention to physical experiences in the present moment as well as acceptance of one's own abilities and limitations; and that included options for modifying practices to be appropriate for people with a range of physical abilities. Qualitative data on elements that participants did and did not find useful about the classes may provide hypotheses about key elements of yoga for people with depression.

A related question pertains to mechanisms of action. There are many hypotheses about how yoga may have an impact on depression. These include biological mechanisms such as increased activity in the parasympathetic nervous system and the GABA system in the brain [6], or reduced HPA axis activation and reduced inflammation [7]. There are also possible psychological or cognitive mechanisms, including decreased rumination, increased mindfulness [8], and an increased ability to take the stance of the “observer self” – i.e., observing unpleasant (or pleasant) thoughts, feelings, or sensations without defining oneself by those experiences. Although participants likely cannot comment on changes in biological mechanisms, their comments about classes may help to direct research attention to putative psychological or cognitive mechanisms that merit future study.

As mentioned above, in this report, we present findings from a qualitative data analysis of experiences with yoga amongst participants in a larger study on the use of yoga for treating depression. The aim of the current analyses was to understand, in this sample, elements of yoga classes thought to be useful or not useful by depressed participants, and participants’ thoughts about the longer-term effects of yoga. Comments on specific longer-term effects may point to possible mechanism by which yoga has an impact on depression.

Methods

Participants

Parent study inclusion criteria were: 1) met criteria for major depressive disorder within the prior two years assessed via the Structured Clinical Interview for DSM-IV [SCID; 9]; 2) Quick Inventory for Depressive Symptoms – Clinician Rating [QIDS; 10] score ≥ 8 (mild depression) and ≥ 17 (moderately severe depression); 3) no history of bipolar disorder, schizophrenia, or psychosis; 4) no current hazardous drug or alcohol use assessed using the Alcohol Use Disorders Identification Test [11] and Drug Use Disorders Identification Test [12]; 5) no suicidal ideation requiring immediate attention; 6) currently taking an antidepressant at a dose with demonstrated effectiveness [13] for at least 8 weeks; 7) antidepressant dose had not changed in the previous 4 weeks and no plans to change the dose in the next 10 weeks; 8) if in psychotherapy, frequency of sessions stable in the past 6 weeks AND no plans to change it in the next 10 weeks; 9) medically cleared for moderate physical activity; 10) not pregnant or planning to become pregnant; 11) no more than 4 yoga, tai chi, Mindfulness Based Stress Reduction or health education classes or home practice sessions in the previous year, no more than 8 yoga classes in the previous 2 years, and had not practiced yoga weekly for 8 weeks or more in the previous 5 years; 12) no weekly meditation practice; 13) fluent in English; and 14) aged 18 or older. To be included in the current data analysis, participants had to: 15) be included in the parent study; 16) be assigned to the yoga arm of the parent study; and 17) have completed the qualitative data questionnaire (n=50).

Procedures

All study procedures were approved by the institutional review board at Butler Hospital. Please see [5] for information about study procedures and CONSORT chart. Briefly, participants were recruited from multiple community sites. Once staff determined that

potential participants met inclusion criteria and participants provided informed consent, we randomized them to either 10 weeks of hatha yoga or 10 weeks of health education classes. After classes ended, participants were also assessed over a 6-month follow-up period.

Assessments

Qualitative assessment—At week 10, we asked participants to complete a self-report questionnaire specific to the arm of the study (hatha yoga vs. health education) to which they had been assigned. Open-ended questions included:

- What did you like about the study program? Please tell us specific things that you liked.
- What did you NOT like about the program? How could it be improved? Again, please tell us specific details.
- What is the most important thing that you learned?

Yoga Program

Based on expert opinion [authors TG and GT; also 14], feedback from pilot research participants [15], and existing literature, we developed a manualized yoga program. Each participant received an introductory 20–30 minute individual meeting with a yoga instructor. We offered group classes twice per week; participants were expected to attend at least one class per week with the option of attending two per week for 10 weeks. Classes were 80-minutes. Classes included breathing exercises (*pranayama*) and seated meditation; warm-ups and half sun salutations; standing postures; seated postures; inversion and knee-down twist; *savasana* (relaxation); and wrap-up and discussion of home practice. Instructors had a list of practices from which they chose. Instructors were asked to encourage mindful attention to the present moment throughout class, and to repeatedly guide participants through the connection between breath and movement. Instructors tailored the pace of class to the participants present; generally, the class occurred at a gentle pace. To facilitate home practice, we gave each participant a yoga mat, descriptions of suggested practices, 2 videos featuring study instructors, and a commercial yoga DVD (*LifeForce Yoga® to Beat the Blues – Level 1* by Amy Weintraub).

All yoga instructors were Registered Yoga Teachers® with the Yoga Alliance and additionally received study-specific training. Using audio recordings and a structured rating tool, yoga supervisors rated a subset of 55 classes for instructor manual fidelity. Fidelity was excellent for class content (mean fidelity = 95%) and teaching style (mean fidelity= 94%). Yoga instructors met monthly for peer consultation. Yoga supervisors provided feedback about any observed manual deviations.

Data Analysis

We summarized responses to the open-ended questions using thematic analysis based in an essential/ realist epistemology [16]. First, one author (LU) reviewed all participant responses and developed a preliminary codebook of themes that were grouped into larger categories. Originally we planned to have two categories of themes that corresponded to key research

questions outlined in the introduction, i.e., notable elements of classes and effects of yoga. However, in developing the themes, it became clear that there were so many comments on the qualities of the instructors that this merited its own category. The fourth category was a miscellaneous category that included recurring and seemingly relevant themes that did not fit into one of the other three categories. Once LU developed the codebook, she and another author (MK) used the codebook to independently assign themes to each participant's set of responses and proposed additional themes when needed. Subsequently, authors compared coding and resolved discrepancies by consensus. Next, a third author (MB) reviewed all themes and associated quotes, and made suggestions for coding modifications. The list of categories, themes, and quotes was finalized by consensus amongst the three authors. In this paper, we report on all themes that corresponded to responses for 5 or more participants, including all critical quotes related to these themes. We also present additional critical quotes so as to have a full picture of all participants' concerns and suggestions for improvement.

Results

In the parent study, 63 people were randomized to the yoga arm. Of these, we collected qualitative data from 50 individuals. The first 5 people randomized to yoga were not given the opportunity to complete the qualitative questionnaire, as it was added after the study started. Thus, 86% (50 of 58) completed this questionnaire. Please see Table 1 for demographic, clinical, and other information for participants in the yoga arm who did and did not provide qualitative data. The only significant difference between the two groups was in education level, with the group that did not complete the qualitative questionnaire being less likely to have a college degree. The majority of participants had chronic depression, with the average depression severity level being moderate (i.e., mean QIDS = 12.78) at the start of the 10 weeks of yoga classes. On average, participants attended almost 9 classes during the 10 week intervention period. Of the 50 participants who completed the qualitative questionnaire, all but 1 attended at least one yoga class. The one participant who did not attend any classes reported engaging in yoga at home

The first category of themes that we identified was notable elements of yoga class. See Table 2 for themes, number of participants with a response corresponding to that theme, and sample quotes. As noted, important elements of class include having a non-competitive, non-judgmental, and accepting atmosphere; being relaxing; including postures; having a theme, spiritual element, or central idea for class; involving physical activity; being at the right level of difficulty; including meditation, concentration, and mindfulness; including breathing practices; and being a comfortable environment.

The second category of themes was important instructor characteristics. As shown in Table 2, many participants commented on the instructors even though there were no specific prompts to do so. Many comments were non-specific but positive comments on the quality of the instructors. Many participants appreciated the fact that the instructors provided individualized attention and modifications, and two participants were critical when instructors did not do this. Participants also liked that instructors were knowledgeable, helpful, or competent; that they were pleasant, kind and warm; and that that they provided

clear instructors. Of note, there was typically one “regular” instructor for each of the two weekly class times, and 4–5 substitute instructors. The regular instructors changed over the course of the 4 year study. Thus, these comments appear to apply to the group of instructors and not to any single instructor.

The next category of themes was effects of yoga. Themes and sample quotes are listed in Table 2. Participants noted that they learned breathing techniques and skills; learned to focus, concentrate, and be in the present moment; learned relaxation skills; experienced improved physical health, strength, and flexibility; experienced improved mental health or mood; learned self-acceptance; learned to be more self-aware or aware of their bodies; experienced self-efficacy; developed a healthier attitude or way of coping with negative thoughts; learned how to quiet their mind; learned to center or ground themselves, and learned to decrease negative reactivity.

Finally, there were a few themes that recurred but did not fit into the other categories, and are not included in Table 2. Twelve participants made general comments about liking yoga, with one person saying it was “a life-changing experience” and another saying “I went from not having a clue about yoga to loving it.” One goal of the program was to have participants practice at home. Eighteen participants spoke about yoga practice outside of class, with statements such as “I’ve learned to use the yoga in many situations and throughout the day” and [I learned] “that I can do yoga anywhere.” Participants also commented on how these skills were particularly useful in stressful situations, finding it useful to learn “how yoga and the breathing can help calm me and refocus me during stressful times” and “the breathing [is]...something I can do at work whenever I feel stressed.” For two of the 18 people, comments reflected the fact that using yoga at home was challenging (i.e., “realized I’d have to dedicate time every day for a longer-term benefit I think – and I’m too depressed at the moment to feel motivated.”)

Participants commented on the class size, which typically ranged from 1–4 participants. Four participants liked the small class size and two did not. Five participants commented on their attendance, including 3 who would have liked to have been able to make up classes (i.e., “I missed when I was too depressed to leave the house”) or classes missed for other reasons.

We highlight themes with 3 or more critical comments or ideas for improvement. These include: difficulties with participation because of physical limitations (3 participants); wanting more individualized instruction (3 participants); not liking the class time (6 participants); wishing there were more classes offered per week (3 participants); wanting an opportunity to participate more, and particularly to attend make up classes (4 participants); not liking to complete research assessments (4 participants); and wishing that we had provided written materials with illustrations to take home (4 participants).

Discussion

We used qualitative data from participants in a randomized trial of yoga for persistent depression to shed light on important elements of yoga classes for depressed patients and

potential mechanisms of action. There were three important categories of themes: notable elements of yoga classes, important instructor characteristics, and effects of yoga. A fourth category of themes covered a range of topics, including how participants liked yoga, home practice, class size, and attendance at class. We discuss particular themes below.

When asked to comment on what they liked about classes, participants often commented on how the class was taught. Several participants stated that they liked that classes were taught in a non-competitive and non-judgmental way, and that instructors provided individualized attention and modifications. Participants also appreciated the fact that instructors were knowledgeable, gave clear instructions, and were kind and warm. They liked that classes were relaxing and wanted classes geared to the right level of difficulty for their physical abilities. To make an analogy to psychotherapy literature [17], these elements of class are akin to “common factors” that make therapy effective, and may be particularly important for acceptability and retention. These class elements are likely vitally important in that they set the stage to allow the participant to fully engage in the class, and effectively learn yoga practices.

Several participants commented on a specific element of class: they appreciated when classes had a “theme.” No participant objected to themes presented in classes. In our yoga instructor manual, instructors were asked to: “gently introduce yogic philosophy by ‘sprinkling’ brief comments related to oneness/ interconnection and the observer self throughout the practice.” Instructors could also choose a theme for class; themes were to be “simple, concrete, and related to the ideas of oneness/ interconnection or the observer self.” We chose to emphasize oneness and interconnection as an alternative to a sense of isolation or loneliness that depressed individuals often experience [18, 19]. We chose to emphasize the observer self as a way to increase “metacognitive awareness” [20] or decrease “fusion” [21] with thoughts and feelings. Other researchers have shown that increasing metacognitive awareness [20] or decreasing loneliness [22] may mediate the association between treatments and improvement in depression-related outcomes.

Participants also appreciated a second specific element of classes, i.e., when classes promoted meditation, concentration, or mindfulness. In our instructor manual, we asked instructors to “frequently demonstrate and encourage mindfulness...for example, instruct participants to focus on feelings in specific parts of their body as they move into particular asanas, as they practice pranayama, or as they meditate....” There were no extended periods of silent meditation, but classes ended with a 10-minute guided meditation while participants were in savasana. Practicing mindfulness in class is likely associated with some of the notable effects of yoga cited by our participants, including learning to focus, concentrate, or be in the present moment; learning self-acceptance; and learning self-awareness. These can be seen as key facets of mindfulness [23]. Other studies have also found that mindfulness may improve with yoga practice [24, 25], although one study that has looked at mindfulness as a mediator between yoga and stress failed to support this relationship [26]. Still, teaching mindfulness may be an important element of yoga class for depression, and future research should include mindfulness as a potential mechanism of action.

Many participants discussed the use of breathing techniques in the context of their life outside of yoga class, and particularly to cope with stressful situations. This is consistent with yoga instructors' explicit promotion of home practice in the trial. Instructors spent a few minutes in every class talking about how to practice yoga in everyday life; we also gave participants materials and written ideas for home yoga practices, including breathing practices. We note that not only did participants report engaging in home practice, but they found they found breathing practices in particular to be helpful. Streeter et al. [6] hypothesized that yogic breathing practices may have an impact on stress because these practices could directly alter activity in the autonomic nervous system. Additionally, focus on the breath can be a way to bring the practice of mindfulness into one's everyday experience. To the extent that mindful breathing can readily be used in everyday situations, they represent a way to extend the impact of yoga classes. Use of these breathing practices outside of class may serve to mediate the effect of yoga on depression.

As outlined in the data analysis section, we paid special attention to any critical or negative comments about the yoga classes. Many such comments were about the facilities or the time of classes. One set of comments we thought to be notable were concerns that classes were too difficult given participants' physical limitations. On the one hand, our classes were small and oriented toward people who were yoga-naïve, and many participants experienced instructors as being available to make individualized modifications. On the other hand, instructors tried to teach classes that reached a moderate level of physical activity, and were interesting to people with more athletic ability. As a result, for a few participants, these classes may have been too physically challenging. This is a limitation of a research project in which we were unable to offer multiple classes at different ability levels. In contrast, in the community, people can choose classes based in part on the level of physical challenge (as well as class timing and the quality of the facilities).

Weaknesses of this study include the fact that there were relatively few people enrolled who were Latino or who came from a non-White racial background. There were also few men enrolled. It is important to understand how yoga is perceived by men and by people from different cultural and religious backgrounds. Second, qualitative data analysis has both strengths and limitations. Listening to comments from participants allows researchers to be open to new ideas. However, these analyses tend to be hypothesis-generating rather than confirmatory. Finally, the use of a written survey for qualitative data analysis rather than an oral interview also carries limitations. A written survey does not provide an opportunity for the researcher ask questions to gain a deeper understanding of the participants' experiences.

In sum, important elements of yoga classes that may increase acceptability for depressed individuals include having instructors who promote a non-competitive and non-judgmental atmosphere, who are knowledgeable and able to provide individualized attention, and who are kind and warm. Providing classes that are small in size may promote individualized attention. Offering depression-related themes in classes, instructing in non-judgmental attention to one's internal experience in the present-moment, teaching breathing practices, and paying attention to how practice yoga at home may be important elements for making a class effective in targeting depression. Comments from participants reinforced the importance of aspects of mindfulness as potential mechanisms of action, including attention

to the present moment and acceptance of one's self and one's own experience. Other potential mechanisms include use of breathing practices in everyday life and related biological mechanisms that may underlie the positive impact of yogic breathing.

There are several directions for future research. First, one might ask whether people with more mild vs. more severe depression experience yoga classes differently. Similarly, one might examine the differing experiences of people whose depression improved while taking classes vs. those who did not improve. This might lead to insights about how to help more people improve. Second, future research on yoga for depression should include a way of formally assessing use of brief breathing practices outside of the classroom so as to measure the impact of these practices on depression. Third, current results provide ideas about potentially important class elements in future studies of yoga for depression. Experimental studies might vary some of these elements --e.g., comparing a class series in which breathing practices are taught vs. one that does not include breathing practices in order to understand the true impact of these practices.

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Highlights

- Question: What are the most important elements of a yoga class for treating depression, and what types of effects does yoga have on depressed individuals?
- Findings: We included participants in a larger randomized controlled trial who were assigned to receive hatha yoga classes. We conducted thematic analysis on free-text responses to a questionnaire completed after 10 weeks of yoga classes. Important elements of yoga classes that may increase acceptability for depressed individuals include having instructors who promote a non-competitive and non-judgmental atmosphere, who are knowledgeable and able to provide individualized attention, and who are kind and warm. Providing classes that are small in size may promote individualized attention. Offering depression-related themes in classes, instructing in non-judgmental attention to one's internal experience in the present-moment, teaching breathing practices, and paying attention to how practice yoga at home may be important elements for making a class effective in targeting depression.
- Meaning: Hatha yoga may be a reasonable adjunctive intervention for individuals with a partial or incomplete response to antidepressants.

Table 1
Baseline demographic and clinical characteristics, and baseline values of outcome variables

Variable	Overall (n=63)			Completed Qualitative Questionnaire (n=50)			Did Not Complete Questionnaire (n=13)			Between Group Differences		
	n	%	SD	n	%	SD	n	%	SD	X ² /t	df	p
Demographics												
Gender										1.03	1	0.31
	Male	9	14%	6	12%		3	23%				
	Female	54	86%	44	88%		10	77%				
Age ^a		46.78	12.27	47.8	12.2		43.0	12.4		-1.25	61	0.22
Marital Status ^b										-0.59	1	0.45
	Married/Cohabiting	25	40%	19	38%		6	50%				
	Single/Divorced/Separated/Widowed	37	60%	31	62%		6	50%		0.97	2	0.62
Race												
	White or Caucasian	53	84%	41	82%		12	92%				
	Black or African American	2	3%	2	4%		0	0%				
	Other or Multiracial	8	13%	7	14%		1	8%				
Ethnicity ^b										1.05	1	0.31
	Not Latino	60	97%	48	98%		12	92%				
	Latino	2	3%	1	2%		1	8%				
Education												
	High School or Less	10	16%	8	16%		2	15%		6.38	2	0.04
	Some College	17	27%	10	20%		7	54%				
	College or Graduate Degree	36	57%	32	64%		4	31%				
Income ^c										2.26	3	0.52
	\$0-25000	17	28%	12	26%		5	38%				
	\$25000-49,999	23	38%	18	38%		5	38%				
	\$50000-99999	14	23%	11	23%		3	23%				
	>\$100	6	10%	6	13%		0	0%				

Variable	Overall (n=63)			Completed Qualitative Questionnaire (n=50)			Did Not Complete Questionnaire (n=13)			Between Group Differences		
	n	or mean	% or SD	n	or mean	% or SD	n	or mean	% or SD	X ² /t	df	p
Clinical and Participation Characteristics												
Has Chronic Depression ^d	43		71%	34		68%	9		82%	0.83	1	0.36
<i>Level of Depressive Symptoms (QIDS)^e</i>	<i>12.92</i>		<i>2.9</i>	<i>12.78</i>		<i>2.97</i>	<i>13.46</i>		<i>2.63</i>	<i>0.75</i>	<i>61</i>	<i>0.45</i>
<i>Number of classes attended in 10 week intervention period</i>	<i>8.87</i>		<i>5.13</i>	<i>9.00</i>		<i>4.82</i>	<i>8.38</i>		<i>6.38</i>	<i>-0.38</i>	<i>61</i>	<i>0.70</i>
Attended at least one yoga class	61		97%	49		98%	12		92%	1.09	1	0.30

Note. MDE = major depressive episode. QIDS = Quick Inventory of Depression Symptomatology.

^aContinuous variables are in italics and differences between groups are compared using a t-test. Variables not in italics are categorical.

^bOne participant had missing data for these variables.

^cThree participants had missing data for this variable.

^dAll participants had a current episode of major depression or an episode in the previous 2 years. To assess whether their depression would be considered chronic, after assessing the depressive episode, we asked whether they had experienced depressed mood and other symptoms discussed for at least 2 years, more than half the days, with no more than 2 months of feeling okay. Two people had missing data for this variables.

^eScores of 6–10 reflect mild depression symptoms; 11–15 reflect moderate depression symptoms, and scores 16 or greater reflect severe or very severe symptoms.

Table 2

Themes and sample quotes.

Theme	Number of participants with quotes falling under the theme	Sample Quotes
Code Category: Notable Elements of Yoga Class		
Non-competitive, non-judgmental, accepting atmosphere	14 participants, all positive	<p>“It was comfortable, non-competitive, reassuring + encouraging all at the same time.”</p> <p>“I liked the tone set by the instructors – the attitude of not judging or comparing yourself to others.”</p> <p>“There was no pressure to ‘do well’ at it.”</p>
Relaxing	11 participants, all positive	<p>“The time I spent doing yoga in class really did calm me down”</p> <p>“I loved feeling relaxed at the end.”</p>
Postures	10 participants, all positive	<p>“I liked the way the yoga person tells you what each position does for you.”</p> <p>“I enjoyed learning about yoga and learning the different postures.”</p> <p>“I liked the way the instructors helped me to change a pose to a way I would be getting the same effect and it was comfortable to me.”</p>
Theme, concept, spiritual element, or central idea for class	7 participants; 1 critical comment	<p><i>(What did you like about the program?)</i> “Positive words incorporated in yoga”</p> <p><i>(What did you like about the program?)</i> “Repetitive messages”</p> <p>“I also did not like when there was no ‘theme’ to the practice, just clear your mind which made my mind wander instead of centering it.”</p>
Physical activity	6 participants; all positive	<p>“I liked the exercise.”</p> <p>“I liked the physical-ness of the class, the stretching.”</p>
Level of difficulty	6 participants; including 3 with critical comments	<p>“Challenging poses yet good for beginners”</p> <p>“I loved the easy, introductory way yoga was presented.”</p> <p>“I liked that the class was beginner based.”</p> <p>“Didn’t work with my physical limitations. Needed more ‘baby’ step techniques. I am aware that I need to go beyond my comfort level but trying to do things way beyond my ability is disheartening.”</p> <p>“Some poses were hard on injured joints – i.e., shoulders or knees.”</p> <p>“I could not fully participate because of my physical limitations.”</p>
Meditation, concentration, mindfulness	5 participants; all positive	<p>“I enjoyed the breathing and meditation”</p> <p>“I loved how the instructors had us stop and reflect on how we were feeling at certain points in the classes.”</p>
Breathing	5 participants; 1 critical comment	<p>“I loved the focus on breathing.</p> <p>“I liked when the yoga instructors tied the poses and the breathing to a concept like thinking about control, or judgment, or courage.”</p> <p>“My only problem was the breathing doing certain ones and remembering to breathe into certain postures.”</p>

Theme	Number of participants with quotes falling under the theme	Sample Quotes
Comfortable environment	5 participants; all positive	"I felt very comfortable"
Code Category: Important Instructor Characteristics		
Non-specific comments on the quality of the instructors	24 participants; all positive	"Great instructors" "The teachers were all wonderful." "The right leaders for someone like me – giving encouragement."
Individualized attention and modifications	16 participants; 1 critical; 2 participants with a mix of critical and positive comments	"I liked the way the instructors helped me to change a pose to a way I would be getting the same effect and it was comfortable to me." "The moves were explained clearly and in versions were offered or blocks to make the moves easier." <i>(What did you not like about the program?)</i> "Sometimes instructors talk too much/ they should go around + make sure each of us are in correct position." This participant also said: "If I couldn't do a move it was changed for me and then I could." "I did not like when certain instructor would stay in front of the class and did not know people's names or give any individual feedback." This person also said: "I also liked when the yoga teacher would help an individual with a pose, giving feedback to each participant so I could know if I needed to adjust a pose or if I was doing the pose well." "I could not fully participate because of my physical limitations and more focus could have been put on ability levels"
Knowledge, helpfulness, or competence	12 participants; all positive	"Instructors also were very knowledgeable + were great at answering questions." <i>(What did you like about the program?)</i> "Helpfulness of instructor."
Pleasantness, kindness, warmth	11 participants; all positive	"The teachers were very courteous and non-judgmental" "The teachers were all great! They were gentle, non-judgmental, helpful, loving, caring." "I felt 'cared for.'"
Clarity of instructions	7 participants; all positive	"They took their time to explain and show us the right way to do the exercises." "I liked the following about the program: ... -thorough explanations and demonstration"
Code Category: Effects of Yoga		
Learned to use breathing techniques or how to focus on the breath	17 participants; all positive	<i>(What is the most important thing you learned?)</i> "learning how to breathe" "The most important thing I learned was when I feel overwhelmed or anxious or fidgety that I can take a minute and just focus on my breathing -- can help relax me and make me feel more focused and less overwhelmed." "the different breathing techniques were helpful for diffusing everyday challenges."

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Theme	Number of participants with quotes falling under the theme	Sample Quotes
Learned to focus, concentrate, be in the present moment	15 participants; all positive	<p><i>(What is the most important thing you learned?)</i> “Live in the present. Everything starts to look more manageable from this perspective.”</p> <p>“To relax and tune in with my physical and emotional self. To stay in the moment.”</p> <p>“Concentration to get more in tune with the moment”</p> <p>“How to be at peace with self and learn to focus more.”</p>
Learned relaxation skills	12 participants; all positive	<p><i>(What is the most important thing you learned?)</i> “how to be at peace with myself.”</p> <p>“The yoga taught me to relax.”</p> <p>“Yoga can help me feel calmer.”</p>
Experienced improved physical health, strength, and flexibility	12 participants, all positive	<p>“I found that it has helped tremendously with somatic symptoms I have had in the past year.”</p> <p>“Physically, I feel stronger and more balanced.”</p> <p>“I also gained more flexibility.”</p>
Experienced improved mental health or mood	10 participants; all positive	<p><i>(What did you like about the program?)</i> “Working my body, stretching it and such helped me to work it so that I was not so sad all the time.”</p> <p>“It felt good to my physical and emotional body.”</p>
Learned self-acceptance; to be non-judgmental about self; built self-esteem	10 participants; all positive	<p><i>(What is the most important thing you learned?)</i> “to be kinder to yourself”</p> <p><i>(What is the most important thing you learned?)</i> “to accept my limitations”</p> <p><i>(What is the most important thing you learned?)</i> “My body is not my enemy, and that physical strength and emotional strength are connected.”</p>
Learned to be more self-aware or aware of their bodies	8 participants; all positive	<p>“I liked the exercise and getting more in touch with my body.”</p> <p><i>(What is the most important thing you learned?)</i> Learning how to “feel” my body + learning how to listen to it.</p> <p><i>(What is the most important thing you learned?)</i> To be aware of myself in the world, my breath, feelings, sensations, etc.</p>
Experienced self-efficacy	10 participants; all positive	<p>“I have been encouraged by my progress in yoga and feel that it has given me a new source of self-esteem.”</p> <p>“I’m physically more competent than I realized.”</p>
Developed a healthier attitude or way of coping with negative thoughts	8 participants; all positive	<p>“I felt it helped me with... looking at things in a better way.”</p> <p><i>(What is the most important thing you learned?)</i> “...How to change negative thought patterns (though it is still difficult to do, but at least I have the skills and can continue building on them”</p>
Learned how to quiet or clear one’s mind, slow thoughts down	7 participants; all positive	<p><i>(What did you like about the program?)</i> “learning how to breathe and relax, clear your mind”</p> <p>“I learned that doing a “practice” can be a place to put your mind for a while. That if the practice is a healthy physical activity it will improve your body + clear your mind”</p> <p>“I felt it helped me with slowing my thoughts.”</p>
Learned to center or ground myself	5 participants, all positive	<p>“I learned more about balance, centering.”</p>

Theme	Number of participants with quotes falling under the theme	Sample Quotes
Learned to decrease negative reactivity	5 participants, all positive	<p>“Physically, I fell in much better shape and more grounded and connected to my body.”</p> <p><i>(What is the most important thing that you learned?)</i> How to channel my feelings and breathe step back and look at the situation without feeling overwhelmed</p> <p><i>(What is the most important thing that you learned?)</i> “Being self aware & letting things go”</p>

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