



Published in final edited form as:

Complement Ther Med. 2021 June ; 59: 102723. doi:10.1016/j.ctim.2021.102723.

Teens' perspectives on yoga as a treatment for stress and depression.

L. A. Uebelacker, PhD^{1,2}, J.C. Wolff, PhD^{1,3}, J. Guo, BS², S. Feltus, BA², C. M. Caviness, PhD^{1,2}, G. Tremont, PhD^{1,3}, K. Conte, MA³, R. K. Rosen, PhD⁴, S. Yen, PhD^{1,5}

¹Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, Providence, RI

²Butler Hospital, Providence, RI

³Rhode Island Hospital, Providence, RI

⁴Department of Behavioral and Social Sciences, Brown School of Public Health, Providence, RI

⁵Massachusetts Mental Health Center at Beth Israel Deaconess Medical Center / Harvard Medical School, Boston, MA

Abstract

Objective: To understand adolescents' experiences and attitudes toward yoga, with a particular focus on acceptability and feasibility of a yoga intervention for depressed adolescents.

Design: Qualitative analysis of data from three focus groups and eight individual interviews, for a total of 22 teen participants.

Setting: Outpatient setting in a psychiatric hospital in the U.S.

Main outcome measures: Teens were asked about their own and their peers' attitudes toward, and experiences with, hatha yoga; reactions to a study-created yoga video; and opinions on class logistics.

Results: Teens had both positive and negative attitudes toward, and experiences with, hatha yoga. They commented on "who does yoga;" many responses suggested a limited group (e.g., moms; people with money and time). Participants agreed that yoga could be potentially beneficial for depressed or stressed teens. Self-consciousness while being in a yoga class was a major concern.

Please address correspondence to: Lisa A. Uebelacker, Ph.D., Butler Hospital, 345 Blackstone Blvd., Providence, RI, 02906. Tel: 401-455-6381. Fax: 401-455-6235. lisa_uebelacker@brown.edu.

Author statement: **Lisa Uebelacker:** Conceptualization, Methodology, Formal analysis, Investigation, Writing – Original Draft, Supervision, Funding acquisition. **Jennifer Wolff:** Methodology, Investigation, Writing – Review and Editing. **Jennifer Guo:** Methodology, Formal analysis, Investigation, Writing – Review and Editing. **Sage Feltus:** Formal analysis, Investigation, Writing – Review and Editing. **Celeste Caviness:** Conceptualization, Investigation, Writing – Review and Editing. **Geoffrey Tremont:** Conceptualization, Investigation, Writing – Review and Editing. **Katherine Conte:** Methodology, Investigation, Writing – Review and Editing. **Rochelle Rosen:** Formal analysis, Writing – Reviewing and Editing. **Shirley Yen:** Conceptualization, Methodology, Investigation, Writing – Review and Editing, Supervision, Funding acquisition.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Declarations of interest: Dr. Uebelacker's spouse is employed by Abbvie Pharmaceuticals.

Overall, teens reacted favorably to the study-created yoga video. Teens had varied opinions about class logistics including class duration and size. Teens cited barriers to class, such as transportation, as well as barriers to home yoga practice.

Conclusions: Key points for developing a yoga class that might be appealing to depressed or stressed teens include: creating a class with variety that teens will find interesting; taking concrete steps to decrease teen self-consciousness; incorporating messages relevant for teens and consistent with yoga philosophy; and actively countering stereotypes about who practices yoga. Limitations of this study include the lack of data from male teens.

Keywords

yoga; adolescent; depression

1. Introduction

Depression is a leading cause of disability for adolescents globally.¹ In the US, the 12-month prevalence rate of Major Depressive Episodes in teens increased from 8.7% in 2005 to 13.2% in 2017.² However, many adolescents do not receive treatment for depression.³ Barriers to existing treatments include low perceived need, a preference to manage depression on one's own,⁴ cost, medication side effects, and a limited number of adolescent behavioral health professionals. Thus, there is an urgent need to develop and test novel approaches for depressed adolescents.

Yoga is a system of philosophy and practice with roots in ancient India.⁵ In addition to physical practices, yoga includes ethical precepts for healthy living, called *yamas* and *niyamas*. In the west, *hatha* yoga, which emphasizes physical aspects of yoga, is the most commonly practiced form of yoga. Although hatha yoga may include breath control exercises, physical postures, and meditation, styles of hatha yoga vary greatly in vigor and emphasis.⁶ Despite heterogeneity, a meta-analysis of 12 randomized controlled trials (RCTs) of yoga for depression in adults documented that yoga was significantly better than usual care, relaxation exercises, or aerobic exercise, in decreasing depressive symptoms.⁷ Recent research supports these findings.⁸⁻¹⁰ There is also evidence that yoga reduces stress.¹¹

Several studies have examined yoga for adolescents; however, to date, no published study addresses yoga specifically for adolescent depression. Single yoga classes can have a positive impact on mood or distress in non-depressed adolescents¹² and adolescent psychiatric patients.¹³ Studies of yoga for other conditions, including weight management,¹⁴ eating disorders,^{15,16} and irritable bowel syndrome,¹⁷ demonstrate the acceptability of yoga with adolescents.

In this study, we conducted individual interviews and focus groups to collect qualitative data from adolescents regarding their experiences with and attitudes toward yoga, with a particular focus on how yoga may ameliorate stress or depression. We also asked logistical questions about conducting yoga classes. All questions were developed to inform marketing, content, and structure of a yoga program for depressed adolescents. That is, we were

interested on learning how to increase acceptability and feasibility of a yoga intervention for depressed adolescents.

2. Materials and Methods

2.1. Participants.

To meet criteria for inclusion, adolescents: 1) reported elevated depressive symptoms (i.e., PHQ-8¹⁸ score ≥ 8) including sad mood or anhedonia; 2) were aged 13-18; 3) were medically cleared for physical activity by a physician per adolescent/parent report; 4) were able to read and write English; 5) assented to study participation, and their parent/legal guardian consented to their participation (if aged 13-17); OR consented to participation (if aged 18). Adolescents were excluded for: 1) suicide ideation or behavior warranting immediate treatment; or 2) regular attendance at yoga classes.

2.2. Procedures.

Butler Hospital IRB approved the protocol. We recruited via social media and community advertisements, seeking teens with depression or stress. Research staff conducted a telephone screen with interested individuals to determine eligibility. Of 122 teens expressing interest, 71 completed the screen, 45 were not eligible (primarily due to insufficient depression severity, $n=36$), and four chose to not participate, resulting in 22 teens who were enrolled.

We conducted three focus groups with 14 teens and eight individual interviews (format determined by teen's schedule). Focus groups ranged from 71 to 84 minutes; interviews ranged from 23 to 59 minutes. We used the same agenda for both formats; relevant questions are in Table 1. Initial questions were about perceptions of yoga. The interviewer then provided a brief overview of yoga, describing yoga as a practice that includes postures, breathing exercises, and meditation, and emphasizing that yoga is about the internal experience of self-exploration and acceptance, and NOT about being flexible or being able to do challenging poses. Next, teens watched a short video of a yoga teacher illustrating simple yoga practices. While seated, the teacher invited participants to notice their breathing, and then led them through sitting cat-cow postures, side stretches, and prayer breath. The interviewer invited teens to simply watch the video or to engage in the practices as they watched. Subsequent discussion questions covered reactions to the video.

Next, interviewers handed out a list of potential "messages" that could be emphasized in yoga classes. These included: accepting ourselves exactly as we are; being kind to ourselves; using breath to increase calm and cope with stress; gratitude; noticing thoughts, feelings, and sensations right now; and physical and emotional balance. These messages were developed by the research team to be consistent with traditional yoga philosophy and potentially relevant to teens' experiences. Subsequent questions focused on these messages. Finally, the third set of questions covered class logistics.

Participants were paid \$30 for participation. Interviews and focus groups were audio recorded and transcribed.

2.3. Data Analysis.

We used applied thematic analysis¹⁹ to guide analysis. One of the study PIs developed an initial codebook, with deductive codes derived from interview questions. Four staff members reviewed the initial codes and then independently coded transcripts, adding inductive codes as needed to capture emergent concepts. The revised codebook was reviewed by the study team. Each remaining transcript was then independently coded by two raters who met to review codes. They assigned final codes via consensus and entered them into NVivo qualitative data analysis software. One study PI and two staff members wrote thematic memos summarizing each code. Another staff member read each memo and associated codes, adding comments or clarifications as needed. Codes fell into three major categories: beliefs and experiences with yoga, reactions to study materials, and class logistics. Below, codes are demarcated with an underline.

3. Results

3.1. Demographics.

The 22 teens were aged 14-18 and predominantly female. Table 2 provides more demographic and clinical information.

3.2. Beliefs About and Experiences with Yoga.

We asked teens to tell us their first thoughts regarding “yoga.” Responses included basic elements of yoga: stretching, postures, balance, flexibility, relaxation, and meditation. Two teens mentioned thinking of their mothers (who practiced yoga). Some teens commented that yoga may be difficult or not easily accessible because it requires strength, flexibility, time, effort, or patience. Teens reflected on who does yoga. By far the largest group was “moms” (n=7). Some teens specified middle-aged women; others talked about young adults (but not teenagers). Participants largely identified women as people who did yoga. Some teens (n=5) talked about people with “alternative” lifestyles – i.e., “hippies,” “vegans,” “people who are into astrology or essential oils,” or people who “want their chakras to be aligned” (ID#8, Focus Group [hereafter FG] 2). Other characteristics of people who do yoga included people with money and time, who want to improve themselves or cope with stress, or who are “super flexible.” (ID#5, FG2). Only one teen noted that “pretty much anyone” can do yoga (ID#16, Interview).

We asked participants what their friends or peers think about yoga. Several teens thought yoga is or would be acceptable to peers, and knew of peers who had positive experiences with yoga (n=6). Two teens talked about yoga being viewed as a workout of insufficient intensity, i.e., “the easy way out” (ID#14, FG3). Two teens talked about negative experiences doing yoga with peers, describing yoga as this “tedious thing you have to do” (ID#3, FG1) or having been to a class where peers were “giggling and talking the whole time” (ID#14, FG3). Participants also stated that yoga may be seen as only for women or girls, with a male teen stating that he has been criticized for doing yoga and it is “frowned upon for boys of my age” (ID#11, FG3). One teen with some experience practicing yoga stated “my friends think I’m insane” (ID#6, FG2) but did not explain why. Three teens stated that their peers did not think or talk about yoga.

We learned about teens' prior experience with yoga. Many, but not all, had tried yoga at school (n=7), with friends outside of school (n=4), with a parent at home (n=3) in a studio as part of an adult class (n=4), or as part of an outpatient program (n=2). Many previous experiences had been positive (n=8): they found yoga to be calming and relaxing; to provide relief from stress; and even to be fun. One teen said, "yoga is definitely something that always calms me down and I think it's really helpful for stress" (#14, FG2). However, two teens noted that they would be less likely to do yoga if they were feeling stressed at the time. Some reported feeling self-conscious in class (n=3), not feeling it was enough of a workout (n=2), and difficulty sitting still (n=2). One discussed a negative first-time experience doing yoga in gym class, in which the teacher encouraged them to push themselves beyond their comfort zone when doing postures.

We asked about attitudinal or emotional barriers and facilitators of yoga class attendance. Self-consciousness was a major concern (n=15). Self-consciousness could be related to not being able to do yoga "right" (n=10), and included worry about others being judgmental even though "You might think the other people think you're bad, but... like, at least from what I've noticed, nobody really cares" (ID#6, FG2). Other contributors to self-consciousness included having a larger body and/or wearing tight clothes. Finally, two people were concerned that quiet in class could lead to others hearing noises their body might make, including breathing. Other barriers reflected characteristics of the individual, including not being flexible, not having good balance, not wanting to meet new people, being anxious about coming to a new place, and low motivation. Yoga was perceived as being for others: older people, or girls/women. Finally, one person mentioned yoga being boring and another mentioned physical discomfort with breathing exercises (felt like hyperventilating).

Facilitators included being in class with others who were similar (n=5), i.e., yoga beginners, friends, nice people, and people doing yoga for similar reasons. Teaching style was important (n=5), with preference for teachers who were non-judgmental, welcoming, and gave participants alternate choices for postures. Teens mentioned aspects of the class environment, preferring low lights (to minimize self-consciousness), being allowed to bring a friend, and calming aromatherapy. One teen stated that sending a fact sheet ahead of time, with a class description and suggestions for clothing, would be helpful. Another said it was important to make class "open to anyone who wants to do it" and "something they don't have to do" (ID#10, FG3).

We asked teens about benefits of yoga for stressed or depressed teens. Many said that it could be calming or relaxing (n=7), or helpful (n=8). Four noted that yoga might give a teen something to focus on besides feeling stressed or down: "Yoga can really help me ... just be focused on something else other than what I'm feeling and just like help me feel really calm" (ID#18, Interview). Others commented that yoga might be helpful because it guided one to focus on oneself (n=3), or allowed a teen to be with others (n=2). Individual teens also noted each of the following: yoga could give one a sense of accomplishment, increased patience, more flexibility, and increased ability to cope with problems. One teen commented on a potential pitfall: "When you tell a teen who...has a lot going on in their head to just try to like clear their head, it's even more frustrating" (ID#21, interview).

Teens told us about desired features of yoga classes. Two teens thought it would be important to start with slower movements and have the class become more challenging over time; three others spoke about simply having the class be relaxing and calming. Two teens indicated they would not enjoy a vigorous class because it would be too challenging and they were not flexible enough. Finally, one teen noted: “I feel like it needs to be a good balance between not like constantly moving and not like sitting there like doing just two different exercises for the whole period” (ID#22, interview).

3.3. Reactions to Study Materials.

We asked teens to provide reactions to the video they viewed. Eleven participants had positive response: they found the video to be calming and relaxing, they liked that the teacher was non-judgmental, and they felt better after viewing it. Others commented on uncomfortable reactions, with many of these relating to self-consciousness (n=6). Teens stated “I was nervous that my neck was going to creak” (ID#5, FG2) and “I was making fun of myself the whole time” (ID#6, FG2). Two teens who were individually interviewed said it would have been uncomfortable to do the practices in the individual interview, but it would have been okay in a group. Other reactions included that the video made them feel tired (n=2) or brought attention to the fact their body hurt (n=1), and they thought the poses were odd (n=1).

After this introduction to yoga, we asked what teens want to get out of a yoga class. They wanted a physical, mental, and emotional experience (n=3), to feel good (n=1), to feel relief or relaxation (n=4), to reduce stress or anxiety (n=3), and to learn something that they could practice at home (n=2).

We asked teens to provide reactions to the yoga messages handout. Overall the messages were acceptable; several said that all the messages were appealing (n=4), and at least a few participants commented positively on each message. For example, regarding being kind to ourselves, one teen said: “Yeah especially since in our society we are judging ourselves a lot based off ...social media and ... magazines and... TV” (ID#4, FG1). Another teen said “Well, accepting ourselves exactly as we are, that’s important. Whether in yoga or in life ... if you don’t accept yourself, you’re not going to be happy” (ID#7, FG2). A few teens had nuanced understandings of the messages, including the need to balance self-acceptance with motivation to change, or the fact that it may be overwhelming for someone who is depressed to focus on (negative) thoughts. Three teens asked to have the word “gratitude” explained, suggesting this was an unfamiliar word.

3.4. Class Logistics.

Teens had a mix of responses about being in class with other depressed teens. Many reacted positively because they would not feel judged or isolated – they would be with people who could relate to their experience. Two participants were indifferent and two were ambivalent. For example, one thought that teens would like being with others “in the same boat” but also said “it might make someone uncomfortable knowing that the people around them know that they’re depressed” (ID#19, Interview). With regard to age range in class, many (n=7) had indifferent or positive responses to being in a class with teens from aged 13-18, although

four expressed concern about older teens not wanting to be with younger teens, and one was concerned about younger teens being intimidated by older teens. Regarding gender composition of class, many were indifferent or responded positively to mixed gender classes (n=8), with one teen commenting that having gender-specific classes may not feel inclusive to transgender or non-binary people. Three teens expressed some level of discomfort with mixed gender classes, but also said they would be willing to try it. Finally, when considering a class of people with diverse body sizes and physical abilities, two teens commented that people with larger body sizes may feel uncomfortable in a yoga class.

We asked about timing and frequency of class attendance. Teens mostly preferred early evening during the week (n=7) or sometime on the weekend (n=6). Only three preferred the afternoon immediately after school. Teens had a variety of opinions on how often they'd like to attend class. Responses included once per week (n=3) or twice per week (n=4); however, one person said more than once every other week might be too much. Teens also had a variety of ideas about the optimal class size, ranging from 1-2 people, to 20 people. As one teen, who preferred 15 people, said "it's just enough where it is not a ridiculous amount of people, but where I don't have to worry about people staring at me" (ID#6, FG2). Optimal class length was varied, with teens suggesting 20 mins (n=2), 30-35 mins (n=2), 30-45 mins (n=2), 45 mins (n=5), one hour (n=2), and one hour or longer (n=4). Three participants thought that an hour was too long, one thought 1 hour 30 minutes was too long, and one thought 45 minutes felt "like that's a long period of time, but might be okay with a break in the middle" (ID#19, Interview). Reasons for concern about longer classes included "you think whoa that's a long time" (ID#4, FG1), difficulty fitting class into schedules, an hour and half feeling tedious, and loss of focus over time. One teen said "Because after like 60 minutes, you're kind of like 'okay, I'm done here. Yeah, I got it'" (ID#22, Interview). In contrast, some teens thought longer was better, with one stating: "Definitely an hour...I mean like you could do yoga for 30 minutes but is it really going to help? Are you really going to be stress free in 30 minutes?" (ID#16, Interview). Finally, some teens had creative ideas about class length: one suggested one longer class and a couple of shorter classes per week; one stated that the length of class depended on when it was offered, with classes during the school week needing to be shorter; and one suggested starting initially with a 45 minute class then gradually increasing class length as participants became more comfortable.

When asked about potential practical barriers to class attendance, teens identified the following barriers: school work (n=2), paid work (n=1), cost (n=3), and living too far away (n=1). We asked teens to comment on transportation to class. Some said they would get a ride from a family member (n=7), three said they would drive themselves, one mentioned possibly taking the bus, and another mentioned taking an app-based rideshare, although another teen noted that their parent probably would not allow that. Summing up potential barriers to attendance, one teen said "some people can't like just take the bus or walk, so like finding a time when your parents can drive you. And also, everybody, a lot of people I know are crazy, crazy busy after school, so it'd be difficult to get people who are not all busy at the same time every week who can all have like a reliable mode of transportation to get here" (ID#8, FG 2).

We asked about barriers and facilitators to home practice. One barrier was making time to practice (n= 5), with teens suggesting that scheduling a time could be a solution. Another teen stated that spending time on video games and other hobbies would take precedence over home practice. Three teens were concerned about boredom with home practice, and suggested a solution may be to have short videos (5-10 mins) for home practice. Another teen was concerned about not knowing what to do for home practice, with a potential solution being to use a video or to practice what they had done in class. One teen said that finding a quiet place to practice at home was a barrier, and another cited the need for a yoga mat. One teen was unable to provide specific barriers, but said “I think just knowing myself, I probably wouldn’t, but like there wouldn’t be anything stopping me” (ID#8, FG2). Possible motivators for home practice included having another person to practice with, or making it into a competition.

4. Discussion

We interviewed 22 teens as preparation for developing a yoga intervention for depressed or stressed teens. We discuss results with a focus on implications for increasing feasibility and acceptability of such a yoga intervention.

Given that these teens agreed to an interview or focus group on this topic, it is not surprising that many teens were open to engaging in yoga and/or had tried yoga, and understood how it could be helpful. Many had positive experiences with yoga previously, and they thought that it could help reduce stress. Many also enjoyed the brief yoga practice during the focus group or interview, finding it relaxing. This is consistent with a survey of adults, in which one of the most common reasons reported for starting yoga was relaxation.²⁰ Some teens, however reported negative experiences with yoga, including being pushed outside of their physical comfort zone, friends being critical of them, others in a yoga class not taking it seriously, and finding yoga to be tedious or odd. Implications for development of a yoga program for teen depression or stress include: making sure that participants are listening to their own bodies and not feeling pressure to move outside their comfort zone, providing enough variety in classes that teens find them to be interesting, and minimizing aspects of yoga that might considered “odd” such as extensive use of Sanskrit or chanting.

Concerns about feeling self-conscious pervaded many responses. Teens were concerned about self-judgment and judgment by others for how they looked and even how they sounded (e.g., when breathing). Related, previous researchers have reported that teens may be concerned about what clothing to wear to a yoga class and may be self-conscious about removing their shoes.²¹ Other researchers have noted that adolescent girls are very vulnerable to body-related embarrassment or self-consciousness,²² although adults with chronic pain may also have concerns about being embarrassed or judged by others.²³ The pervasiveness of this particular concern suggests that this is very important to consider when designing a class for teens. Principles from trauma-informed yoga may be useful,²⁴ i.e., taking concrete steps to make sure yoga participants feel safe in their environment and emphasizing choice in classes. Class may be set up so that no one is physically behind another person; everyone is side by side. Teachers may specifically emphasize the importance of the internal experience of yoga (vs. trying to have a “perfect” external form),

and may emphasize that they expect that each person will look different in each posture. Quiet music and low lights may also help decrease self-consciousness and concern about audible body sounds.

With regard to what yoga classes for depressed or stressed teens should look like and include, there was consensus that “yoga messages” were appreciated. Teens were mixed on whether a class should be calming, more vigorous, or balanced. There was no consensus on best day/time of classes, frequency of classes, class length, or optimal size of class. Regarding class composition, being with other depressed or stressed teens was mostly considered to be a positive attribute. Some had concerns about a wide 13-18 age range, although others did not. Finally, although a few teens expressed some discomfort with multi-gender classes, most did not, and all were willing to try them. These results suggest that there is no single best option for classes, and “middle” options might be the best place to start. That is, teachers could strive for a medium level of physical activity that incorporates a mix of challenge and relaxation. It appears acceptable to introduce aspects of yoga philosophy using every-day language. Teens might be invited to attend class once per week; and 45 minutes may be long enough to hold a substantive class while avoiding anxiety about the class being too long.

Teens discussed both practical and attitudinal barriers to attending yoga class. A recurring theme was that yoga was for “moms.” For boys, one significant barrier may be the belief that yoga is not appropriate for boys or men. Adult men have reported similar concerns.²⁵ In addition, the belief that one must be flexible, strong, or have a certain body type can serve as a barrier. Others have noted similar barriers in US adults,²⁶ and have critiqued prevalent images of “yoga bodies” in the West.²⁷ These results suggest an opportunity to promote a counter-image of hatha yoga. When marketing classes, yoga should be portrayed as being accessible to teens, regardless of gender or body type. The focus should be not on appearance, but on yoga as method for improving mental and physical strength and flexibility over time. One way to make yoga more appealing to some teen male participants may be to emphasize how it could help with sports skills.²¹ Furthermore, it will be important to provide teens with information about classes prior to attendance so that they know what to expect.

There were limitations to this research. First, we were able to recruit very few boys. It is likely that advertisements focused on stress and physical activity more generally would yield more interest from boys, enabling questions about yoga in the context of other options. Second, we used a mix of focus groups and individual interviews. It is possible that varying methods of data collection led to somewhat different responses. However, interviews were shorter than focus groups, making the time available to collect data from each participant more comparable. To provide transparency, for each quote, we provided information on whether it was from a focus group or individual interview. Third, this study was not broadly focused on teens’ attitudes toward yoga, but was instead more tightly focused on understanding ways to increase acceptability and feasibility of a yoga intervention for depressed teens.

In sum, teens provided useful information about their experiences with, and perceptions of, hatha yoga. We will use this feedback to develop and test a hatha yoga program for depressed teens.

Acknowledgments

This research was funded by grant # R34 AT009886 from the National Institutes of Health, U.S.A (Pis: Uebelacker & Yen). Study sponsors had no role in the design, collection, analysis and interpretation of data, or the manuscript writing. This research was also supported by Advance Clinical and Translational Research (Advance – CTR; grant # U54 GM115677).

References

1. World Health Organization. Adolescent mental health. 2019; <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>. Accessed July 6,, 2020.
2. Twenge JM, Cooper AB, Joiner TE, Duffy ME, Binau SG. Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005-2017. *J Abnorm Psychol.* 4 2019;128(3):185–199. [PubMed: 30869927]
3. Mojtabai R, Olfson M, Han B. National Trends in the Prevalence and Treatment of Depression in Adolescents and Young Adults. *Pediatrics.* 2016;138(6).
4. Andrade LH, Alonso J, Mneimneh Z, et al. Barriers to mental health treatment: results from the WHO World Mental Health surveys. *Psychol Med.* 4 2014;44(6):1303–1317. [PubMed: 23931656]
5. Iyengar BKS. *Light on the Yoga Sutras of Patanjali.* London: The Aquarian Press; 1993.
6. Park CL, Elwy AR, Maiya M, et al. The Essential Properties of Yoga Questionnaire (EPYQ): Psychometric Properties. *International journal of yoga therapy.* 3 2 2018.
7. Cramer H, Lauche R, Langhorst J, Dobos G. Yoga for depression: a systematic review and meta-analysis. *Depression and Anxiety.* 11 2013;30(11): 1068–1083. [PubMed: 23922209]
8. Prathikanti S, Rivera R, Cochran A, Tungol JG, Fayazmanesh N, Weinmann E. Treating major depression with yoga: A prospective, randomized, controlled pilot trial. *PloS one.* 2017;12(3):e0173869. [PubMed: 28301561]
9. de Manincor M, Bensoussan A, Smith CA, et al. Individualized Yoga for Reducing Depression and Anxiety, and Improving Well-Being: A Randomized Controlled Trial. *Depress Anxiety.* 9 2016;33(9):816–828. [PubMed: 27030303]
10. Zou L, Yeung A, Li C, et al. Effects of Meditative Movements on Major Depressive Disorder: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Journal of clinical medicine.* 8 1 2018;7(8).
11. Wang F, Szabo A. Effects of Yoga on Stress Among Healthy Adults: A Systematic Review. *Altern Ther Health Med.* 7 2020;26(4).
12. Felver JC, Butzer B, Olson KJ, Smith IM, Khalsa SB. Yoga in public school improves adolescent mood and affect. *Contemporary school psychology.* 9 2015;19(3):184–192. [PubMed: 26478825]
13. Re P, McConnell JW, Reidinger G, Schweit R, Hendron A. Effects of yoga on patients in an adolescent mental health hospital and the relationship between those effects and the patients' sensory-processing patterns. *Journal of child and adolescent psychiatric nursing : official publication of the Association of Child and Adolescent Psychiatric Nurses, Inc.* 11 2014;27(4):175–182.
14. Benavides S, Caballero J. Ashtanga yoga for children and adolescents for weight management and psychological well being: an uncontrolled open pilot study. *Complement Ther Clin Pract.* 5 2009;15(2):110–114. [PubMed: 19341991]
15. Carei TR, Fyfe-Johnson AL, Breuner CC, Brown MA. Randomized controlled clinical trial of yoga in the treatment of eating disorders. *J Adolesc Health.* 4 2010;46(4):346–351. [PubMed: 20307823]
16. Hall A, Ofei-Tenkorang NA, Machan JT, Gordon CM. Use of yoga in outpatient eating disorder treatment: a pilot study. *Journal of eating disorders.* 2016;4:38. [PubMed: 27980773]

17. Kuttner L, Chambers CT, Hardial J, Israel DM, Jacobson K, Evans K. A randomized trial of yoga for adolescents with irritable bowel syndrome. *Pain Res Manag.* Winter 2006;11(4):217–223. [PubMed: 17149454]
18. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: Validity of a brief depression severity measure. *J Gen Intern Med.* 2001;16:606–613. [PubMed: 11556941]
19. Guest G, MacQueen KM, Namey EE. *Applied thematic Analysis.* Sage; 2011.
20. Park CL, Quinker D, Dobos G, Cramer H. Motivations for Adopting and Maintaining a Yoga Practice: A National Cross-Sectional Survey. *J Altern Complement Med.* 10 2019;25(10):1009–1014. [PubMed: 31460773]
21. Spadola CE, Varga LM, Fernandez SB, et al. A qualitative investigation to inform yoga intervention recruitment practices for racial/ethnic minority adolescents in outpatient mental health treatment. *Explore.* Jan-Feb 2020;16(1):21–25. [PubMed: 31401017]
22. Vani MF, Pila E, Willson E, Sabiston CM. Body-related embarrassment: The overlooked self-conscious emotion. *Body image.* 3 2020;32:14–23. [PubMed: 31733410]
23. Combs MA, Thorn BE. Barriers and facilitators to yoga use in a population of individuals with self-reported chronic low back pain: a qualitative approach. *Complement Ther Clin Pract.* 11 2014;20(4):268–275. [PubMed: 25130139]
24. Justice L, Brems C, Ehlers K. Bridging Body and Mind: Considerations for Trauma-Informed Yoga. *International journal of yoga therapy.* 11 2018;28(1):39–50. [PubMed: 29419338]
25. Cagas JY, Biddle SJH, Vergeer I. Yoga not a (physical) culture for men? Understanding the barriers for yoga participation among men. *Complement Ther Clin Pract.* 2 2021;42:101262. [PubMed: 33276223]
26. Brems C, Justice L, Sulenes K, et al. Improving access to yoga: barriers to and motivators for practice among health professions students. *Advances in mind-body medicine.* Summer 2015;29(3):6–13.
27. Webb JB, Rogers CB, Thomas EV. Realizing Yoga's all-access pass: a social justice critique of westernized yoga and inclusive embodiment. *Eating disorders.* 3 9 2020:1–27.

Highlights

- We conducted focus groups and interviews to understand teens' attitudes toward yoga.
- Teens had both positive and negative attitudes toward, and experiences with, hatha yoga.
- They saw a clear benefit of yoga for depressed or stressed teens.
- Self-consciousness while being in a yoga class was a major concern.
- Teens had varied opinions about long a class should be or how many participants should be in a class.

Table 1.

Focus group and interview questions

Questions about Yoga	
•	What is the first thing that comes to mind when you think of yoga?
•	Have you or your friends or family ever done yoga before?
–	What was it like?
–	What did you like about it? What did you not like?
•	What kinds of people do you think do yoga?
•	What do your friends or peers think about yoga?
•	What might make you (or other teens) uncomfortable in a yoga class? Are there barriers to fully participating?
•	What do you think the benefits of yoga might be for teens who are feeling stressed, down, or depressed?
Reactions to Yoga Education, Video, and Materials	
[Interviewers asked these questions immediately after teens watched the video.]	
•	How did you feel about that?
–	Did anything make you feel uncomfortable?
•	If you were in yoga classes, what would you hope to get out of them?
–	Physical, mental, or emotional results?
[Interviewers asked these questions while teens reviewed a list of potential themes for yoga classes.]	
•	What do you think of [these themes]? What do you think would be useful to you or others you know? What would NOT be useful?
•	What else do you think would help?
Questions about Class Logistics	
•	How would you feel about being in a class with other teens who might have depression?
•	How would you feel about being in a class with teens of different ages?
•	What would make you feel more comfortable in such a diverse group?
•	What do you think about mixed gender in one class?
–	What could be done to make a mixed gender class feel more comfortable?
•	How long do you think the optimal class length is?
•	What time of day is the best time to have a yoga class?
•	What about group size?
–	What do you think the best group size is?
•	How often would you be willing and able to attend?
•	Would you be willing to practice yoga in between sessions at home?
–	What are the barriers to practicing at home?
–	What could make it easier for you to practice yoga at home?
•	How would you get to class? What kinds of transportation would you use?
•	What kinds of barriers do you think would keep you or other teens from getting to class?

Table 2.

Teen Demographics

Demographic Category	n	%
Age		
14	6	27%
15	5	23%
16	2	9%
17	5	23%
18	4	18%
Gender Identity		
Female	18	82%
Male	3	14%
Non-binary	1	5%
Race		
American Indian/ Alaskan Native	1	5%
Asian	1	5%
Black / African American	0	0%
White/ Caucasian	13	59%
Multiracial	3	14%
Other	1	5%
Chose not to answer	3	14%
Ethnicity		
Hispanic / Latinx	3	14%
Not Hispanic/ Latinx	16	73%
Chose not to answer	3	14%
Whom teen lives with most often		
Two parents	7	32%
Mother	14	64%
Father	0	0%
Chose not to answer	1	5%
Other treatment		
Currently engaged in psychotherapy ^a	13	59%

^aWe did not collect data on psychiatric medication use.