

Body Awareness, Eating Attitudes, and Spiritual Beliefs of Women Practicing Yoga

K. A. DITTMANN and M. R. FREEDMAN

*Department of Nutrition, Food Science, & Packaging, San José State University,
San José, California, USA*

This research evaluated attitudes about body image and eating in women practicing postural yoga. Study 1 described scores from questionnaires on variables related to body awareness, intuitive eating, spirituality, and reasons for practicing. Scores were favorable on all measures with significant correlations ($p < .01$) among all main variables except between spiritual readiness and intuitive eating, and between BMI and both body awareness and spiritual readiness. Reasons for practicing did not affect scores. Study 2 evaluated interviews in a sub-sample. Qualitative data reported improvements in body satisfaction and disordered eating due in part to yoga and its associated spirituality.

Body image disturbances and eating disorders affect more than five million Americans, mainly women and girls (American Dietetic Association, 2001). Theories explaining these phenomena range from medical models of psychological pathologies to feminist social theories (Daubenmier, 2005; Garrett, 1996; Lester, 1997). Women in Western cultures experience a paradox: susceptibility to over-valuation of the female physical form coupled with the desire to be respected for thoughts and abilities. When femaleness is seen as a liability, women may rebel against their own bodies, seen as confining and preventing them from reaching their full potential (Lester,

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Address correspondence to M. R. Freedman, One Washington Square, San Jose, CA 95192–0058. E-mail: marjorie.freedman@sjsu.edu

1997). This can mark the descent on the continuum from nagging body dissatisfaction to a life-threatening eating disorder (Polivy & Herman, 1987).

Women experiencing body dissatisfaction are apt to place great importance on their physical appearance and to simultaneously devalue other personal characteristics, strengths, and skills (Garrett, 1996). This tendency, dubbed self-objectification (Fredrickson & Roberts, 1997), is a form of self-consciousness that causes a woman to view herself primarily from an observer's perspective as if her physical body were perennially on display. This may create distance between a woman and her internal bodily cues and sensations. Lack of interoceptive awareness is one characteristic of anorexia nervosa and bulimia nervosa (Garner, Olmstead, & Polivy, 1983).

Extreme body image disturbance and eating disorders can be conceptualized as a dualistic split between mind and body or a spiritual crisis (Garrett, 1996; Lester, 1997). Yogic philosophy offers a perspective that joins the two and provides a methodology for unification of mind, body, and spirit. One aspect of the eight-limbed yoga philosophy involves specific physical postures called *asanas*, through which attention is focused inward and the practitioner transcends the mind-body divide and experiences the true self or soul (Iyengar, 1993). Thus, postural yoga uses the body as a vehicle for self-discovery through observation and attention.

This study explores how postural yoga and perceived spirituality relate to factors that influence body dissatisfaction and disordered eating. The study aimed to determine levels of body awareness (BA), body responsiveness (BR), intuitive eating (IE), and overall body satisfaction (BS) as indicators of healthy body image and eating attitudes in a group of women who practice yoga; to explore whether women's reasons for practicing yoga made a difference on these measures; and to investigate women's stories about yoga's role in recovery from disordered eating and body dissatisfaction. It was predicted that women who practiced yoga would have high scores on measures of BA, BR, IE, BS, and spiritual readiness (SR), and that reasons for practicing yoga would account for these differences.

This study is clinically relevant because even the most widely researched modalities (e.g., cognitive behavioral therapy) are ineffective for a large number of eating disordered patients (Fairburn, Cooper, & Shafran, 2003), calling for a multi-faceted, collaborative approach (APA, 2006). Some have suggested exercise as a way to increase interoceptive awareness and body satisfaction (Frederickson & Roberts, 1997), but evidence indicates exercise does not promote increased body satisfaction in young women, and in some cases, may even be harmful (Strelan, Mehaffey, & Tiggemann, 2003; Tiggemann & Williamson, 2000). Daubenmier (2005) reported an association between yoga practice and a greater sense of body awareness, body satisfaction, and diminished disordered eating attitudes. She differentiated the concept of body awareness into awareness of internal bodily sensations and degree of responsiveness to them, pinpointing *responsiveness* as

the mediating mechanism between self-objectification and disordered eating attitudes. In her two-month Anusara yoga immersion program that measured “embodiment” (body awareness and body responsiveness), self-objectification, and psychological wellbeing (Impett, Daubenmier, & Hirschman, 2006), she reported more frequent yoga practice was associated with increased body awareness, but not responsiveness, among women. Thus, yoga’s effect on body awareness and its relationship to eating disorders remains unclear. In addition, recent research suggests religious or spiritual beliefs may play opposing roles in the maintenance of and recovery from eating disorders (Jacobs-Pilipski et al., 2005; Kim, 2004; Smith, Hardman, Richards, & Fischer, 2003; Smith, Richards, & Maglio 2004). This research aims to help clarify these issues.

METHODS

Research Design

This was a two-part study approved by the Institutional Review Board of San Jose State University. The first part (Study 1) used Likert-type and multiple-choice questionnaires and qualitative commentary to examine body awareness, intuitive eating, spiritual beliefs, and motivations of women practicing yoga. A follow-up study (Study 2) collected information through recorded interviews to clarify questionnaire answers pertaining to history of body dissatisfaction and disordered eating.

Participants and Procedures

Women ≥ 18 years of age who regularly practiced yoga (defined by attending a class or practicing at home at least once a week) were eligible for inclusion and completed either an online or identical paper questionnaire ($N = 157$). Volunteers were recruited from yoga studios and fitness centers in a West Coast metropolitan area. Participants were informed of the study through in-class announcements by the instructor or investigator and offered the option of a paper questionnaire or online version (SurveyMonkey.com, Portland, OR) accessed through the study’s Web page. Additional participants were recruited through individual teacher emailings, flyers, and accompanying cards directing them to the informational Web page and SurveyMonkey.com. All questionnaires took approximately 20 minutes to complete.

Of the 69 respondents who filled out the paper version, 50 were recruited by the investigator at the Yogacharya Festival, July 2007, and entered into a raffle drawing for a \$50 gift certificate. There were 127 responses to the online version. Of the 196 total responses, 39 were discarded as incomplete.

After completing the first survey, participants were asked to participate in a 15-minute recorded phone interview (Study 2) to examine how their

yoga practice may have affected their body satisfaction, eating attitudes and perceived changes in spirituality since beginning yoga practice, by providing a first name and phone number on the final page of the questionnaire. Eighteen women agreed to be interviewed.

Survey Instruments: Study 1

Participants answered questions about duration of regular yoga practice, proficiency, and where they practiced. Additional questions assessed reasons for practicing, demographic information, and self-reported height and weight for determination of BMI. Participants were asked how meaningful several common yoga rituals (e.g., chanting *Om*, ending the practice with hands in a prayer position) were. Questions were designed by the author or modified from Hasselle-Newcombe (2005). All survey instruments (described below) were scored according to author guidelines. Minimum requirement for case inclusion was a valid score for BA, BR, IE, and SR.

Body awareness was measured using the eight-item observe subscale from the validated Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), which assessed observing, noticing, and attending to body sensations, one's surroundings, and perceptions, thoughts and feelings. Cronbach's α was 0.87 in this sample. Body responsiveness, or the extent of a person's responsiveness to bodily sensations, as differentiated from sensitivity to bodily sensations regardless of response was measured using an unvalidated scale (Daubenmier, 2005). Cronbach's α was 0.74. Intuitive eating was assessed using the 21-item Intuitive Eating Scale (IES; Tylka, 2006). Construct validity has been demonstrated by a negative relationship to both eating disorder symptomology and poor interoceptive awareness. Cronbach's α for the IES was 0.87. Finally, a single Likert-type item, "On the whole, I am satisfied with my body" was used to rate body satisfaction on a scale from 1 (*not at all true about me*) to 5 (*very true about me*). A single item was used in order to avoid deconstructing the body into parts and was intended to assess satisfaction of the body as a whole.

Spiritual readiness was measured using items designed by the author. Eight items assessed meaningfulness of ritual elements common to yoga, such as the opening and/or closing chant of *Om* or the significance placed on ending asana practice with the corpse pose. Likert-type responses ranged from 1 (*not at all meaningful*) to 5 (*very meaningful*). Nine items assessed importance of spiritual seeking and purpose (e.g. "Seeking the sacred is important to me," "The search for meaning is important to me," and "Connecting to 'something bigger' is important to me"). Responses ranged from 1 (*not at all important*) to 5 (*very important*). Validity has not been established for these scales, however Cronbach's α was high (0.88, 0.82 and 0.87, Spiritual Readiness Scale, Meaningfulness of Ritual subscale, and Importance of Seeking subscale, respectively).

Interview Protocol: Study 2

Eighteen women (aged 23 to 62 years) participated in 15-minute anonymous and confidential non-scripted phone interviews conducted and recorded on a digital recording device by the primary researcher. No identifying information connected the interviewee to her original questionnaire. Participants were aware interviews were based on the final four survey questions pertaining to disordered eating and body image and agreed to participate based on their answers to these questions. Interviews followed a basic format, but were conducted to allow for variations in experience among interviewees. Participants were asked to talk about history of disordered eating and body image issues, and development of yoga practice. Depending on individual responses, participants answered questions about treatment for eating disorders and childhood experiences that contributed to their development. If participants did not bring up spirituality, they were asked about changes in spirituality since beginning yoga practice and how spirituality affected eating and body image attitudes. Additional questions were included as appropriate and participants made contributions outside the interviewer's line of questioning.

Statistical Analysis

Data were analyzed using SPSS (13.0, Mac, 2006, Chicago, IL); significance was set at $p < .05$. Descriptive statistics were run across the entire sample and between groups. Correlations using Pearson's r compared BA, BR, IE, BS, and SR to BMI. Other variables used in analyses both across and between groups included BMI, age, years of practice, frequency of practice, frequency of home asana practice, main mode of practice, level of proficiency, preferred style, ethnicity, education, and teaching experience. Variables used to describe sample characteristics of spiritual beliefs were God concept, religiosity, spirituality, inclination to think about meaning or purpose to life, and other types of spiritual practice or affiliation. Qualitative data included questions regarding perceived changes in the way a woman feels about her place in the universe, the way she relates to her body, the ability to transfer yoga to other aspects of daily life, and preexisting issues about body image and disordered eating.

RESULTS

Demographics

The majority of the sample ($N = 157$) was white, middle class, and college educated. The mean (\pm SD) age was 47.4 ± 11.19 years (range 22–72 years). Average BMI was 22.2 ± 2.9 (range 16.3–32.8). Average number of years of

yoga practice was 12.1 ± 9.2 (range 4 months to 40 years). Nearly half (48%) reported having attended yoga teacher trainings or advanced yoga courses.

The total sample was divided into two subgroups (e.g., those who practiced for psychospiritual reasons as opposed to those who practiced primarily for physical or appearance reasons) by answers to questions related to “reasons for continuing to practice yoga” (Table 1). (It is important to note that most who practice yoga do so at least in part for physical or appearance reasons; the goal was to separate out those that also practiced for psychospiritual reasons). The scale had an internal reliability greater than 0.80 (not a validated instrument). Age, BMI, and years of practice were normally distributed. Unequal variance of these three variables was determined by the Levene statistic ($p < .05$) when running the independent sample t test for between-group comparison. There were no significant differences between groups regarding age, BMI or years of practice.

A chi-square test showed significant differences between the two groups regarding frequency of home asana practice ($\chi^2(4, N = 129) = 11.48, p < .05$), and “main mode” of practice ($\chi^2(5, N = 129) = 17.10, p < .01$). The psychospiritual group was more likely to have a home practice (87% of respondents) and to practice at home more frequently (e.g., 28% practiced at home ≥ 3 hours/week while only 10% of the physical group practiced at home ≥ 2 hours/week). Twenty-two percent of the psychospiritual group, compared to 7% of the physical group, said their yoga practice was mostly “self-guided.” In addition, more women in the physical group (34%) reported their main mode of yoga practice was in classes at a gym compared to 7% in the psychospiritual group. Yoga class attendance at a dedicated yoga studio was similar between groups (62% vs. 59%, psychospiritual

TABLE 1 Group Selection Criteria

Group 1 ($n = 99$)	Group 2 ($n = 30$)
Primarily psychospiritual reasons (Includes cases in which scores of Psychospiritual Reasons were ≥ 4.0)	Primarily physical/Appearance reasons (Includes cases in which scores of Psychospiritual Reasons were ≤ 3.99)
Questions for Psychospiritual Reasons:	Questions for Physical/Appearance Reasons:
<ul style="list-style-type: none"> • Becoming aware of feelings • Managing moods/feelings • Self-knowledge • An aspect that could be considered spiritual • An aspect that could be considered meditative • To increase mindfulness • The religio-philosophical foundations of yoga 	<ul style="list-style-type: none"> • Physical exercise • Physical strength • Stretching/flexibility • I like how my body looks from doing yoga • Improving physical appearance
(Cronbach's $\alpha = 0.90$)	(Cronbach's $\alpha = 0.84$)

group vs. physical group, respectively). The groups did not differ in proficiency, preferred yoga style, ethnicity, education, or teaching ability.

The two groups differed in self-rated religiosity ($\chi^2(4, N = 129) = 11.57, p < .05$) and spirituality ($\chi^2(4, N = 129) = 21.44, p < .001$). Similarly, the physical group was less likely to report a regular spiritual practice ($\chi^2(3, N = 129) = 9.99, p < .05$). There were no significant between-group differences in God concept, inclination to think about meaning and purpose, religious affiliation, religious tradition practiced, or frequency of such practice.

Main Variables: Study 1

Means for the five main variables (BA, BR, IE, BS, and SR) by group are in Table 2. A between-group comparison (independent samples *t* test, equal variances not assumed) of the main variables showed significant differences in spiritual readiness ($t(35) = 4.66, p < .001$) and body satisfaction ($t(37) = 2.07, p < .05$). There were no significant differences among the two groups and those without strong reasons for practicing when compared as a group. Correlations (along with BMI) for these main variables across the sample are presented in Table 3.

Open-ended questions and responses were examined and coded into like categories by the primary author, verified by a secondary author, and catalogued under common themes (a selection is presented in Tables 4a,b). The final four questions dealt specifically with weight and body image issues and eating disorders (e.g., "Have you ever struggled with weight or body image issues?" "Past or present, have you ever thought you might have an eating disorder?" "Have you ever sought treatment for an eating disorder?" "Are you in recovery from an eating disorder?"). Of the 157 cases analyzed, 118 (74%) responded yes, they had experienced some weight or body image struggle at some point in their lifetime. Fifty-one respondents

TABLE 2 Sample and Group Means for Main Variables

Variable	Sample (N = 157)	Group 1 (N = 99)	Group 2 (N = 30)	<i>t</i> test between groups	Sig. (2-tailed)
Body Awareness	4.1 (±.65)	4.17 (±.64)	4.03 (±.72)	.96	.34
Body Responsiveness	3.9 (±.62)	3.92 (±.64)	3.83 (±.61)	.68	.50
Intuitive Eating	3.5 (±.53)	3.42 (±.53)	3.50 (±.52)	-.73	.46
Body Satisfaction	3.9 (±.93)	4.06 (±.85)	3.59 (±1.15)	2.06	.05*
Spiritual Readiness	4.0 (±.65)	4.22 (±.43)	3.54 (±.75)	4.66	.00**

* $p < .05$.

** $p < .001$.

TABLE 3 Correlations Between Main Variables for Total Sample (N=157)

Variable	BMI	BA	BR	IE	BS
BMI	—	—	—	—	—
Body Awareness	.058	—	—	—	—
Body Responsiveness	-.286*	.409*	—	—	—
Intuitive Eating	-.266*	.220*	.415*	—	—
Body Satisfaction	-.356*	.357*	.460*	.470*	—
Spiritual Readiness	-.112	.292*	.309*	.036	.271*

*Correlation is significant at the .01 level (2-tailed).

TABLE 4a Responses to Open-Ended Questions

Response categories	Sample responses
Since beginning your yoga practice, how has the way you feel about your body changed, if at all?	
<i>a. Improved body image/ acceptance/content/happy/ love (n=65)</i>	“I am now OK with myself.” “I feel more contentment with the way I look.” “I have definitely become more comfortable in my own body.” “I’m more kind with my thoughts about how I look.” “My feelings, although somewhat doubtful, are much improved about my body.” “I feel better both in my body and about it.” “Yoga has been the only thing that has significantly helped me deal with my [body image] issues.”
<i>b. Improved awareness/ connection/more in tune/ more open (n=32)</i>	“Before I found the practice, my body seemed more like a foreign space that I lived in. Now I see my body as a tool, home...” “My ability to read the physical signals of my body [has changed]” “I trust my body to tell me what it needs.” “Better awareness and sensitivity.” “I have better awareness of the connection between mind and body.”
<i>c. Appreciation/functionality/ respect (n =29)</i>	“I find satisfaction in my physical ability over my physical appearance; I treasure the body I’ve been given.” “I feel very grateful for my body and what it does for me each day.” “At 50, I’m just glad it works.”
<i>d. Improved strength/flexibility/ mobility/fluidity/grace (n = 4)</i>	“I walk more gracefully,” “I feel stronger and straight.” “More flexible and relaxed.”
<i>e. No change (n=11)</i>	“Still insecure about my body image.” “Still feel only somewhat satisfied with my body.” “At this moment, I am unhappy about my body.” “I have always had a bad body image. I struggle with accepting the number on the scale.” “I’ve always had an OK relationship to my body—no huge hang-ups.”
<i>f. Other (n=9)</i>	“I feel pleasure that there are things I can do now that I couldn’t do 20 years ago.” “I am 50 now and not as ‘young and beautiful’ as I used to be, but I feel more beautiful in all the other ways.” “I realize as I age that I do not have to stop working the body.” “More accepting of aging.”

TABLE 4b Additional Comments Provided by Respondents

“I believe that every woman can have a healthy outlook about her body image when practicing the principles of yoga! We should all love our unique bodies for the strengths they bring to the world.”
“Yoga has changed my life. It has allowed me to become more confident and more of who I am.”
“I wish I was more attuned to my body—the more yoga I do, the more I feel that way.”
“Yoga was and is life altering and saved my life and the way in which I relate to others and myself.”
“I love yoga and it saved my life. I want to be a student of yoga for the rest of my life. I give thanks to the universe for giving me yoga because I am a better and more complete person because of it.”
“I wish I had found yoga as a child. I think it is one of the best things I have ever done for myself.”
“The women I see in my yoga classes are of various shapes, sizes and ages and you don’t see the low self-esteem or competitiveness you might find in other activities or social situations. I learn from it constantly. I will practice the rest of my life.”
“Yoga has given me, much like religion does for many of the people in my life, something greater to believe in.”
“Without yoga I would be spiritually adrift...”
“I would probably be dead from heroin if not for yoga. I’ve always liked to put myself in ‘other states.’ There was a lot of chaos at home when I was young and yoga gave me tools so I could control something and go to a peaceful place.”

(32%) said they thought they might have had an eating disorder. There was no difference between groups regarding lifetime weight or body image issues questions but there was a significant group difference in the eating disorder item ($\chi^2(1, N = 128) = 9.60, p < .01$). Only 10% of participants in the physical reasons group (3 of 29) compared to 41% (41 of 99) said they might have had an eating disorder at one time.

Interview Results: Study 2

Note: names are provided simply for readability and are not those of actual respondents. Karen, a 24-year-old woman, has been practicing yoga regularly for 3 years. Her first yoga class was in the Bikram method, though now she mainly practices vinyasa/flow style. Karen’s body image issues began in the fourth grade when she was teased for being tall, awkward, and having big feet. In her mind, being the tallest “least petite” girl in the class translated as “fat” and throughout her adolescence, she was on a constant quest to lose weight. “My self-worth relied on my weight,” she says and in college it became even more skewed. “As soon as boys came into the picture, I was under the impression that it mattered even more what I looked like.”

Several participants like Karen linked early episodes of teasing and objectification to later difficulties with dieting and eating behaviors. Shelly, now 59, remembers her mother calling her a “stuffed sausage,” though she

doubts that she was overweight. These comments, she says, led her to a “dieting and excessive exercise lifestyle” that ultimately did not work. Mary, who is 26, recalls when she was 11, her grandmother commented, due to the way she was built, she would probably always have to watch what she ate. She began dieting from that day forward.

Not all women interviewed identified a specific incident serving as a trigger to body dissatisfaction. Kerry, 23, states she simply “never ate enough” and restricted from a very young age. Stacy, 62, remembers feeling “fat” as a kid. Sara describes “hitting puberty early” and gaining weight that stayed with her throughout adolescence. Like other women, Sara, 38, felt she had to look like images in fashion magazines: “tall, fit, and blonde,” accelerating her drive for thinness. “There was a time when I thought that if I did the diet, took the pills, I could actually look like that,” she says. Shelly remembers growing up having feelings of failure, self-repulsion, and lack of control regarding weight, which fluctuated throughout her teens, 20s and 30s. “There was this ideal slimness and I was always veering off from it and just really, really hating that.” Karen recalls wanting to look like a Victoria’s Secret model echoing Sara’s certainty that it was possible using the right method.

Though many women had active lifestyles prior to discovering yoga, each agreed yoga offered something different from other forms of exercise or dance. “Yoga draws you within where there is self-acceptance and also awakening,” says Shelly, “if it’s taught right, as yoga, rather than exercise.” Similarly Wendy, 47, and suffering from anxiety disorder coupled with eating issues, finds yoga “pulls me down into my body” and is very grounding. Amy, 49, was a dance and physical education major in college and has been practicing yoga since high school. “I like my body better and I’m taking care of and respecting it more because I do yoga,” she says adding that yoga is a part of her life that she cannot do without. “It keeps my sanity,” she says.

Several of the women expressed being more accepting and less critical of their bodies after having developed a yoga practice. In Karen’s experience, “Yoga made me appreciate my body because you have to go inside in order to do it properly.” Kerry goes a step further saying her priorities changed with yoga from a focus on appearance to a focus on “being able to feel capable and healthy in my body and enjoy my practice, letting it be beautiful, strong, and graceful.” Sara has also learned to value function over aesthetics. “Yoga gives me a higher level of acceptance for what physically I have to work with,” she says. Karen says, “My body serves a different function than to just look pretty.”

Becky, 29, is in recovery from an eating disorder that landed her in the hospital at age 17. She identifies three areas in which yoga was instrumental to her continued recovery. First, she describes yoga as a safe alternative to running, which had been causing her joint and skeletal injuries. Second, yoga promoted a “friendly connection” to her body. “It blew away the

Cartesian dualism,” she says. Third, yoga gave her a healthy sense of control over her body, which she had seen as “this out of control thing that needed to be tamed.” She discovered she could do things she could never do before, like headstands and backbends. These discoveries led to “a sense of competency and efficacy in my body and power and accomplishment.” She also learned control over her emotions and gained a greater ability at mindfulness. “Before [yoga], it felt like one word would make me fall apart. Anything could knock me over,” she says adding, “Prozac helped a lot too.” Becky believes that if she had been introduced to yoga earlier on, her eating disorder may not have become as chronic.

A heightened sense of body awareness was a theme in many women’s lives from simply being conscious of posture or tension in the body, as in Linda’s case, or becoming more aware of feelings and sensations in the body. “I spent so much of my life judging myself and denying all feelings, good and bad,” says Sara. Through body awareness that comes with yoga, she says she has learned to identify physical sensations that accompany feelings and can work towards calming the mind and letting go of whatever it is that is bothering her. “Then I can address it and go deal with it,” she says. Lynn, 37, has a 10-year viniyoga practice that she came to in an effort to combat depression. She says that, unlike therapy, which she also found helpful, yoga offers the ability to be one’s own therapist 100% of the time by providing a place to go within the body where “you know you are going to be OK,” thus providing a measure of comfort and safety. What’s more, improvements in mood are self-generated, she says, which leads to confidence that one can take care of oneself and improved self efficacy.

Linda, who is 53, has learned tools through yoga to help cope with difficult emotions. “When I’m really upset, I come into awareness ... it’s really important for me to be connected to my body and be grounded ... so when I get out of it I know what to do to get back.” Linda developed a disconnection from her body after learning of her infertility many years ago. “Imagine a big hole from just above your pubic bone to under your ribs and someone rammed a big tree trunk through it,” she describes, saying that she felt like an alien, helpless. Yoga and other bodywork therapies such as massage helped her reconnect to her body. She says it took some time to become conscious of what she was holding in her body and how to correct it, “Like a turtle coming out of its shell.” Linda also practices Zen mindfulness meditation.

There is a sense among these women of increased active spirituality or at least openness to the possibility of a spiritual life. Kerry believes that yoga has helped her define a sense of purpose and reinforce the idea that “we all have a part of the divine within us, there is a reason we are all here and a reason you are in the moment you are in.” Karen says her sense of spirituality was not developed before yoga. “I recognize that there is another dimension to me. Before, I was kind of a body walking on the

Earth, the mind and body without a spirit. When I fed the body, I just fed my body and I wasn't thinking about anything else. And when I did activities, I wasn't thinking there was possibly another element that might be affected." Similar to the way people's lives change when they have children, she says, "I have an energetic body that I need to take care of too." Jill, 49, says that before yoga and menopause, she never felt connected to her body and viewed her body as something sexual, to be adorned, and an object. Now she thinks of her body as "a house that I walk in . . . this is *my* body, not other people's."

Mary, who was a binge eater, found that her weight stabilized with a regular yoga practice along with making dietary and other lifestyle changes. She says now she loves her body, is completely at peace, and accepts her imperfections. She says she had been seeking a "spiritual answer" and yoga was the missing component. Like Karen, Mary felt "there was something in me that wasn't being taken care of." Melinda, 43, also has a history of binge eating that began after the death of her best friend. In addition to therapy and Overeaters Anonymous, both of which she says were helpful for providing accountability in a non-judgmental environment, Melinda says making the spiritual connection through yoga has helped her learn about herself and there is more to life than food and dealing with the death. "I'm not quite as judgmental," she says regarding her body, "Not as hard. It's OK to be a little overweight." She is still in the process of losing weight, but is not as hard on herself emotionally along the way.

Ronda, 67, a ten-year Iyengar yoga practitioner, says she has had habitually negative comments about her body most of her life and through the movement of yoga, she is finding a way towards self-acceptance. "It's not the weight that changed, though I did lose weight, but how I related to my body that changed," she says. "I realize I don't have to be so harsh and yoga has helped with that because it's not just physical," she continues, alluding to yoga's spiritual component. She says yoga has represented an in-depth exploration of beliefs and knowledge and thus, she has become less judgmental and more tolerant of others' points of view.

Lynn describes her experience: "On my worst day, I can slow down and be and then remember that I don't have to do this by myself and what I'm experiencing isn't going to last forever and there is something so much more powerful and greater than me that is holding me all the time and I can only get to that place through yoga." Erin, 35, who is in very recent recovery from anorexia nervosa has found the spiritual, meditative, and mindfulness practices used while connecting with the sensations in her body to be particularly helpful in her recovery. Her three-year practice began with Bikram yoga, in which, for her, the spiritual component was lacking. She has since moved on to explore other yoga methods.

Some practitioners did not take to the spiritual aspect right away. Jill has always stayed away from organized religion finding it "suspect" and

“controlling.” Having grown up in a demanding and high-achieving household, this makes sense for her. It was yoga (and going through menopause) that initiated self-exploration causing her to reexamine her actions, especially in the raising of her son who is currently deployed in Iraq. “Yoga has given me the tools to be able to not only look at these issues I might not have looked at before, but also how to deal with them.” Though she may have done some things differently if given the opportunity, Jill is able to hold her former self in compassion saying, “I can’t throw her away, she is a part of me. I just want to take her into the future in a different way.”

One element of yoga that several women identified as helpful was the focus on the breath. For Liz, “Being in contact with the breath is my time to be with the divine and experience myself in my body as I am.” Stacy, noting that breath can be visualized as energy, or *prana*, moving through the body, talks about learning to send the breath to different parts of the body to identify the different agitations, such as anxiety. In fact, she believes this practice has helped her understand emotions hidden beneath her hunger. Gwen, 53, agrees hunger is a “symptom of not being in touch with feelings.” Growing up in a moderately dysfunctional household, Gwen entered a deprivation-binge cycle of eating as a teenager as a way to cope with her emotions. Later in life, after her mother’s death, Gwen turned to yoga and meditation. It was then that she became fully aware of the pain she was in and began to deal with it. “When life has its challenges,” she says, “I get up, take a shower, and do yoga. If I didn’t have that, I don’t know how I would manage.”

DISCUSSION

Study 1

Results indicate this sample of predominantly white, middle class, college educated female yoga practitioners with normal BMIs have high scores (defined as >3 on measures) of body awareness, body responsiveness, intuitive eating, body satisfaction and spiritual readiness, and several modest to moderate correlations among these variables, the strongest being positive associations between IE and BS as well as BR and BS. A higher level of BR was moderately associated with greater BA and IE. Greater spiritual readiness was correlated with higher scores in BA, BR, and BS. A lower BMI was associated with higher scores in BR, IE, and BS, but not BA.

Intuitive eating was more highly correlated with BR than with BA, which is sensible because IE is more concerned with responding appropriately to the body’s needs than noticing body sensations. Similarly, Daubenmier (2005) found that BR, but not BA, mediated the relationship between self-objectification and disordered eating, and reported BR explained group differences in disordered eating between yoga practitioners and aerobic exercisers.

Similarly, Tylka (2006) found intuitive eating to be negatively correlated with disordered eating attitudes.

In this study, although greater spiritual readiness was associated with higher scores in BA, BR, and BS across the sample, the latter three variables failed to differ significantly between physical- and psychospiritual-reasons groups. Further investigation is needed to determine if spiritual readiness or other factors not explored in this study play a role in BA, BR and BS among women who practice yoga. This is important because qualitative data point strongly to the spiritual component of yoga as being helpful in overcoming eating and body image issues, and it might therefore be useful to assess such a component in patients with eating disorders.

The two groups differed with regard to yoga practices in ways that may have contributed to between-group differences in both spiritual readiness and reasons for practicing. For instance, the psychospiritual reasons group had a higher frequency of home practice. Self-guided practice may contain meditative and/or ritualistic elements not offered in groups. Perhaps a woman who possesses a high degree of spiritual readiness also chooses to practice postural yoga in her home where she can combine it with meditation and reflection. Moreover, spiritual and philosophical concepts may be less likely to be introduced at a gym, a place of practice more often frequented by women in the physical reasons group. For instance, one woman wrote that she would like to learn about the spiritual aspects of yoga not available at her gym.

Examples of open-ended questions about body image were "Have you ever struggled with weight or body image issues?" and "Since beginning your yoga practice, how has the way you feel about your body changed, if at all?" Written responses revealed that while 74% of women in this sample reported some degree of body image or weight related issue at some time in their lives, 75% reported increased body acceptance or appreciation after having developed a postural yoga practice, regardless of number of years of previous practice. The women also reported a high degree of current body satisfaction ("On the whole, I am satisfied with my body"); the average response was 3.9 (out of 5). Both body satisfaction and BMI trended higher in the group that practiced yoga for psychospiritual reasons even though a higher BMI was associated with lower levels of body satisfaction. This suggests that a woman who practices yoga primarily for physical reasons may have a lower BMI, but she is also less satisfied with her body than a woman whose motivation for practicing yoga includes the psychospiritual. Daubenmier (2005) suggested higher levels of both body awareness and body responsiveness mediated more favorable self-objectification and body satisfaction scores in women yoga practitioners when compared to non-yoga participants.

Qualitative data showed women who practice yoga attribute their positive feelings and sense of well being to yoga practice. Responses to the question "Since beginning your yoga practice, how has the way you feel about your place in the world or universe changed, if at all?" were

overwhelmingly positive. Women expressed feeling a greater connection to themselves, to others, and to their notion of the divine. They felt more secure, had a greater sense of perceived purpose, and felt more peaceful or grounded since beginning yoga. These qualities are likely to favor recovery from eating disorders.

Respondents emphasized that yoga is a practice, indicating the repeated performance of behaviors with some goal of improvement in mind. However, this may also connote that one is perpetually in a state of practice without perfection as a goal. In letting go of the drive for perfection, one can more effectively focus on the present, which is important in yoga practice and may also be useful for women with disordered eating who have perfectionist tendencies.

Aspects of yoga asana practice include careful attention to the present moment, observation of how the body feels, and what position the body is in. This kind of attention can be viewed as a form of mindfulness meditation, which is thought to lead to acceptance (Baer et al., 2006). At first the yoga practitioner accepts her own practice and her physical limitations. Then perhaps acceptance can be applied to acceptance of the physical body, just as it is. This may help a woman rectify her desire for an ideal body or relinquish the goal of physical perfection. Thus, yoga may be a good way to learn non-judgmental observation and acceptance—again, important aspects of recovery from eating disorders.

The final four survey questions asked about prevalence of disordered eating and body image disturbance, diagnosis, and treatment. Interestingly, in response to the question “Past or present, have you ever thought you might have had an eating disorder,” a third of the participants indicated they may have had an eating disorder at some time, with 7% expressing having a specific eating disorder. Most women who responded “yes” to this question felt they had struggled with some kind of subclinical disordered eating, emotional eating, or a perceived addiction to food. This figure (7%) is higher than national estimates of 5% of women having an eating disorder diagnosis (ADA, 2001) and points to the importance of examining yoga as a potential adjunctive therapy for eating disorders as women with these issues appear to be both drawn to yoga and state that it is helpful in recovery. Despite the high prevalence of possible eating disorders in this sample, only 27% reported moderate to high overall body dissatisfaction (defined as less than three on a scale of one to five) while national estimates of self-reported body dissatisfaction are 60–80% (Garner, 1997). Though this percentage is of concern, it is possible that, but not known if, the practice of postural yoga helped improve body satisfaction, particularly in the psychospiritual reasons group, who had a higher prevalence of lifetime possible eating disorders than the physical reasons group. Garrett (1996) proposed eating disorders as a spiritual crisis; therefore, yoga may offer an avenue for spiritual seekers that also involves positive experience with the body. Since

women of a certain temperament may be predisposed to eating disorders, it is possible that such women may also be drawn to the psychospiritual component of yoga as a way to manage body image issues.

The large percentage of positive responses relating to body image and intuitive eating in our sample may have been influenced by age (47.4 ± 11.19). Most eating disorder research has been conducted on adolescents and young women who reportedly have the highest rates. Some evidence shows that as a woman ages, her body shape concerns her less. This may be a function of changing priorities (Heatherton, Mahamedi, Striepe, Field, & Keel, 1997; Keel, Baxter, Heatherton, & Joiner, 2007; Landa & Bybee, 2007; Webster & Tiggemann, 2003). However some research suggests that in women whose body image worsens or does not improve, menopause and other physical signs of aging may be the culprit (Gupta, 1994; Harris & Cumella, 2006). Thus, it appears that although age may bring with it less preoccupation with body image for some women, older women are not immune to messages about youth and beauty.

Study 2: Personal Interviews

The 18 women interviewed expressed positive changes in attitudes towards eating and their bodies they attributed in part to both their postural yoga practice and a sense of spirituality that either grew from or was compatible with their practice. From their experiences, yoga appears to have been beneficial by improving both physical and emotional awareness, shifting body focus from appearance to functionality, grounding and stabilizing mood, and providing a method for introspection or spiritual growth. Emerging themes associated with women's yoga practice were reclaiming propriety of the body, rediscovering the body as a functional unit, respecting the body through appropriate diet and exercise, kindness towards the body through words and thoughts, and finding tools for transformation.

Results suggest yoga may have the potential to help women with body image and eating disorders continue recovery, but the stage at which yoga should be introduced to be most beneficial is unknown. The interviewed women seemed to have "found" yoga at a time appropriate for them, which may depend on several unknown factors such as maturity or spiritual seeking, though responses also indicated yoga was not the sole method for recovery. In some cases, it may have been introduced after preparation afforded by therapy or other interventions. The first Yoga Sutra of Patanjali (Bharati, 2007) indicated preparation, desire, and commitment to the process of self-realization was required before beginning a yoga practice. It follows that an individual who has not yet begun the road to recovery may not be as receptive to yoga as one who has begun the process of introspection. This possibility should be considered when introducing yoga early on in recovery. An additional caution with the use of yoga and eating disorders is that those in treatment often have

restrictions on exercise and activity levels. Therefore, gentle yoga is indicated (Carei, 2007).

Study Limitations

The main study limitations were the method of group assignment and potential respondent bias. Since the presence or absence of psychospiritual reasons for practicing yoga was the main sorting variable, it is possible that some women with strong psychospiritual reasons also had compelling physical reasons, but were assigned to the psychospiritual rather than physical reason group. Sorting in this way resulted in a decreased sample size (e.g. a physical reasons group of only 30 subjects of the original 157, and removal of data for 28 subjects who did not fit into either category), reducing statistical power. Although our sample was homogeneous in income, education, and ethnicity, it mirrors those who typically practice yoga. These same demographics tend to also describe disordered eating populations. Nearly 50% of respondents identified themselves as “qualified to teach yoga” and 11% indicated “yoga teacher” as their primary profession. Yoga-teacher-training programs offer a more in depth curriculum than might be found in a public yoga class and women who have undergone such training may have a deeper understanding of yoga philosophy and may practice all eight limbs of yoga. Though no significant differences were found between yoga and non-yoga teachers on the main variables (BA, BR, IE, BS, and SR), our population may not accurately represent all yoga practitioners. Analyses were not conducted to evaluate whether yoga teachers tended to practice for spiritual reasons compared to non-yoga teachers. The average number of practice years in this sample was 12 and there were not sufficient subjects to compare beginners (< 3 years of practice) with those with > 10 years of practice. There were also no data for pre-existing weight or body image issues prior to yoga practice. Retrospective data collection presents the greatest limitation in design.

We hypothesized psychospiritual motivations for practicing would produce differences among variables that influence body image and disordered eating when compared to physical reasons for practicing. From the results, it appears psychospiritual reasons for practicing may not be responsible for high levels of body awareness, body responsiveness, intuitive eating, and body satisfaction in this sample of women who practice yoga. Other factors may be involved.

CONCLUSION AND CLINICAL RELEVANCE

As a group, women yoga practitioners had high scores on measures of body awareness, body responsiveness, intuitive eating and body satisfaction.

According to interviews and qualitative responses, women in this study attributed improvements in body image, body satisfaction, and eating attitudes, in part, to yoga practice and associated spirituality. They also reported greater self-acceptance and appreciation of their bodies. This research supports the clinical application of yoga as an adjunctive therapy in the treatment of eating disorders.

Although this study was unable to determine if spiritual reasons for practicing yoga contributed to increased body awareness, body responsiveness, intuitive eating, and body satisfaction, individual interviews indicated spirituality was perceived as important to a woman's yoga practice and her recovery process. It was unclear how spirituality was fostered, whether by postural yoga practice or through additional methods such as meditation or outside influences. This is an area warranting future study.

In addition, other factors not delineated in this research may be responsible for positive benefits of yoga on body image and eating attitudes. Future research should examine the role of stress reduction, the use of self-guided yoga practice in addition to group classes, and the relationship between yoga and mindfulness and eating disorders. Continued investigation into yoga as a tool for recovery from body dissatisfaction and accompanying eating disorders is recommended.

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