



Minding the Body: Yoga, Embodiment, and Well-Being

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Abstract: The second half of the twentieth century witnessed a dramatic influx of yoga into the West. Hatha yoga is a movement-based form of relaxation and meditation that combines physical postures, exercises, and breathing techniques. The current study examined the potential of yoga to buffer against the harmful effects of self-objectification as well as to promote embodiment (i.e., body awareness and responsiveness) and well-being in a sample of 19 participants enrolled in a 2-month yoga immersion program. Participants completed a short survey at six time points during the yoga immersion. Results showed that the women in the study objectified their own bodies less after participation in the program. Furthermore, among both men and women, more frequent yoga practice was associated with increased body awareness, positive affect, and satisfaction with life, as well as decreased negative affect. Policy implications are discussed, particularly the importance of teaching yoga in schools.

Key words: body image; Eastern philosophy; alternative therapy; objectification theory; mental health

Feminist theorists have argued that women are sexually objectified in Western cultures (Bartky, 1990; de Beauvoir, 1952). Sexual objectification occurs when individuals are treated as bodies for the use and pleasure of others (Bartky; Fredrickson & Roberts, 1997). From representations in mass media to daily social interactions, women are more likely than men to be viewed as sex objects and subjected to evaluations of their appearance (e.g., Swim, Hyers, Cohen, & Ferguson, 2001; Ward, 2003). These evaluations may influence women's life outcomes, as studies have found that physical attractiveness is more strongly linked to social and economic outcomes for women than it is for men (Crandall, 1991, 1995; Davis, 1990; Marlowe, Schneider, & Nelson, 1996; Smith, Waldorf, & Trembath, 1990). In an effort to maximize favorable treatment from others, girls and women may monitor and shape their appearance to increase their physical attractiveness. The act of observing and evaluating one's own appearance from an outside perspective is termed *self-objectification* (Fredrickson & Roberts).

A constant preoccupation with one's own physical appearance, although socially and economically adaptive, is posited to have negative psychological consequences (Fredrickson & Roberts, 1997). In particular, an objectified view of the self increases vulnerability to negative emotions such as shame and anxiety when one's appearance falls short of the desired appearance. Greater self-objectification has been linked to increased negative emotions (Miner-Rubino, Twenge, & Fredrickson, 2002) and lower self-esteem (Tolman, Impett, Tracy, & Michael, 2006). A daily experience study showed that on days when female undergraduates reported increases in self-objectification, they also reported decreased positive affect, increased negative affect, and lower self-esteem (Breines, Crocker, & Garcia, 2006). Self-objectification is also associated with decreased sexual health, including less sexual assertiveness and less consistent use of condoms and contraceptives (Hirschman, Impett, & Schooler, 2006; Impett, Schooler, & Tolman, 2006; Schooler, Ward, Merriwether, & Caruthers, 2005). Several studies also have indicated that self-objectification

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is related to greater symptoms of disordered eating, presumably caused by attempts to regulate weight in order to enhance attractiveness (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Noll & Fredrickson, 1998).

Given the evidence that self-objectification is linked to compromised mental and physical well-being, strategies that buffer girls and women against the internalization of a sexually objectified view of self are needed. Efforts that refocus attention on what the body does and how it feels (rather than how it looks) may provide new, direct, and positive bodily experiences (Fredrickson & Roberts, 1997). A healthy alternative to self-objectification is experience grounded in embodiment. In this article, the authors define *embodiment* as an awareness of and responsiveness to bodily sensations. Internal awareness of bodily signals is an important aspect of self-knowledge and emotional experience (Cameron, 2001). Greater awareness of one's feelings and bodily desires may increase the self-confidence necessary to make decisions that feel right, contributing to positive emotions and psychological well-being (Shiffmann, 1996).

Mind-body exercises, such as yoga, may provide one way to enhance embodiment and reduce experiences of self-objectification. Yoga originated in India more than 4,000 years ago and, in its original form, consisted of a complex system of spiritual, moral, and physical practices aimed at attaining self-awareness. Hatha yoga, the system on which much of Western yoga is based, involves physical postures, breathing exercises, and meditation (Riley, 2004). Yoga is now a popular mind-body exercise in the United States. Health clubs and yoga studios around the country teach a variety of yoga styles. A 2002 national representative survey estimated that 15.2 million adults, or 7.5% of the U.S. population, have practiced yoga (Barnes, Power-Griner, McFann, & Nahin, 2004). The physical benefits of yoga include increased flexibility, balance, and strength. Yoga is considered a mind-body exercise in part because of its emphasis on a nonjudgmental awareness of the felt-experience of the body. In combination with body awareness, yoga emphasizes responsiveness to body sensations. Yoga practitioners learn to value and listen to their body's sensations and feedback in order to move within a zone of comfort while still providing a physical challenge to the body (Shiffmann, 1996). Practitioners are encouraged to work at their own pace by synchronizing breath with movement. This internal awareness contrasts with the external awareness required for physical exercises that rely on external cues for bodily movement—cues such as music, mirrors, imitation of an instructor, machine readouts, or the movement of others in team sports.

Preliminary evidence indicates that yoga is associated with increased body awareness and body responsiveness. Rani and Rao (1994) found that participants who underwent 3 months of yoga practice reported greater awareness of bodily processes compared with a nonrandomized lecture control group. A recent study by Daubenmier (2005) found that yoga practitioners reported greater levels of body awareness and body responsiveness than participants taking aerobics classes or those who were not practicing yoga, aerobics, or any other mind-body practices. Furthermore, yoga practice was associated with less self-objectification and greater body satisfaction (Daubenmier).

A large body of research suggests that yoga is associated with enhanced mood and reduced stress. Mental health concerns such as depression and anxiety are among the most common reasons that individuals seek treatment with complementary therapies such as yoga (e.g., Davidson et al., 1998; Kessler et al., 2001). In a comprehensive review of 35 studies on yoga and depression, Pilkington, Kirkwood, Rampes, and Richardson (2005) concluded that yoga-based interventions may have potentially beneficial effects on depressive disorders. In particular, they highlighted five randomized controlled trials, each of which used a different yoga intervention. For instance, one study found that young adults with elevated symptoms of depression who were randomly placed in a 5-week Iyengar yoga intervention reported significant decreases in symptoms of depression and trait anxiety relative to young adults in a wait-list control group (Woolery, Myers, Sternlieb, & Zeltzer, 2004). Another recent review evaluated the effectiveness of yoga for the treatment of anxiety and anxiety disorders (Kirkwood, Rampes, Tuffrey, Richardson, & Pilkington, 2005). The authors reported the results of eight controlled trials with participants who suffered from anxiety or had a diagnosed anxiety disorder and documented positive findings for the use of yoga in certain specific anxiety disorders. For instance, two hospital-based studies conducted in India showed, respectively, greater improvements for participants in a yoga intervention group compared with those in a placebo control group (Sharma, Azmi, & Settivar, 1991) and with those receiving a commonly prescribed anxiolytic (Sahasi, Mohan, & Kacker, 1989). In short, several randomized controlled studies provide evidence for a link between yoga and increased well-being.

The Current Study

The current study examined associations between yoga practice and well-being, embodiment, and self-objectification over a 2-month yoga immersion program at a community yoga studio in San Francisco, California.

Unlike previous studies that used either cross-sectional or short-term longitudinal designs, the current study used an experience sampling method to collect repeated assessments of yoga practice, embodiment, self-objectification, and well-being. For each of six weekends, participants completed a short survey with measures of well-being (i.e., positive and negative affect, satisfaction with life, and self-acceptance); embodiment (i.e., body awareness and body responsiveness); and self-objectification.

Three sets of hypotheses guided this investigation. The first set of hypotheses predicted that participants would experience increased well-being and embodiment and decreased self-objectification from preimmersion to postimmersion. The second set of hypotheses predicted that during a given week, participants who reported increases in time spent practicing yoga (more than their own mean across the entire study) would report greater psychological well-being, greater embodiment, and lower self-objectification. The third set of hypotheses predicted that increased embodiment and decreased self-objectification would be associated with greater psychological well-being.

Method

Participants and Procedure

The authors recruited 20 women and 3 men who were enrolled in a 2-month Anusara yoga immersion program at Yoga Sangha in San Francisco, California, to participate in the study.¹ Anusara, a type of Hatha yoga founded in 1997 by John Friend, is currently one of the most popular and fastest-growing styles of yoga in the world (Friend, 2005). During the first day of the immersion program, the first author told potential participants that involvement in the study would entail completing a short survey for each of the six weekend sessions of the yoga immersion. Nineteen people (17 women and 2 men) agreed to participate in the study. Participants, 90% of whom were White, ranged in age from 23 to 57 years ($M = 34.4$, $SD = 8.6$). Over 2 months, participants attended six of each of the following: (a) 4-hour Saturday and Sunday yoga classes, (b) 1.5-hour Thursday classes, and (c) 2-hour Friday classes. In addition to practicing yoga *asanas* (i.e., physical postures), participants learned about yoga philosophy, meditation, and breathing exercises.

For each of the six weekend sessions of the yoga immersion, participants were asked to complete a survey

¹ We did not specifically try to recruit more women than men. Rather, the gender imbalance in the current study reflects a greater number of women than men enrolling in the yoga immersion program.

assessing total number of hours of weekly yoga practice, embodiment, self-objectification, and well-being. On the first weekend, participants completed a baseline survey, which assessed basic demographic information and measured embodiment, self-objectification, and well-being. Participants then received weekly surveys each subsequent Saturday, completed them at home, and returned them the following day. To bolster compliance, each time participants returned a survey on time, they received raffle tickets for 1 of 3 five-class passes to Yoga Sangha, which were awarded at the conclusion of the study. Participants who did not return a particular survey on time were reminded by phone or e-mail. Only weekly surveys returned on time (or 1 day late) were treated as valid and retained for data analysis. Participants completed 73 weekly surveys on time, an average of 3.8 out of 5 post-baseline surveys per person. Seventy-four percent of participants completed at least 4 of the 5 post-baseline surveys on time.

Measures

Each weekly survey included measures of embodiment, self-objectification, and psychological well-being. All variables were created by taking the mean of all of the items in a particular measure.

Demographic questions. Several questions included in the initial survey assessed body mass index, education level, and extent of yoga experience. Current self-reported weight and height data were used to calculate body mass index ($BMI = \text{kg}/\text{m}^2$). Higher scores indicate greater body mass. To assess education level, participants were asked, "What is the highest level of education you completed?" Participants responded using the following options: 1 = less than high school, 2 = high school diploma, 3 = college degree, 4 = postgraduate degree. The extent of participants' yoga experience was measured in three ways. Participants were asked how many months or years they had been practicing yoga, how many hours per week they practiced on average, and how they would rate their level of proficiency using the following response choices: (a) beginning, (b) beginning-intermediate, (c) intermediate, (d) intermediate-advanced, and (e) advanced.

Frequency of yoga practice. Participants were asked to indicate the number of hours and minutes they spent practicing yoga on each day of the previous week. A composite score was created representing the total number of hours participants practiced yoga each week.

Well-being. Well-being was measured on four dimensions: positive affect, negative affect, satisfaction with life, and self-acceptance. The 20-item Positive and Negative

Affect Schedule (Watson, Tellegen, & Clark, 1988) was used to measure positive affect and negative affect. Participants were instructed to indicate the extent to which they felt each of the emotions (e.g., excited, guilty) on 7-point scales ranging from 1 (*not at all*) to 7 (*extremely*) over the previous week. Satisfaction with life was assessed with the 5-item Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Participants indicated the extent to which they agreed with such statements as "In most ways my life was close to my ideal" on 7-point scales ranging from 1 (*not at all*) to 7 (*very much*). Self-acceptance was assessed with the 14-item self-acceptance subscale of Ryff's (1989) measure of psychological well-being. Participants indicated the extent to which they agreed with such statements as "In general, I feel confident and positive about myself" and "Given the opportunity, there are many things about myself I would change" on 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Average within-person reliability coefficients for positive affect, negative affect, satisfaction with life, and self-acceptance were .90, .90, .92, and .92, respectively.

Embodiment. Embodiment was measured in terms of body awareness and responsiveness to bodily sensations. Body awareness was assessed using the 18-item Body Awareness Questionnaire (Shields, Mallory, & Simon, 1989). Participants indicated the extent to which such statements as "I am aware of a cycle in my activity level throughout the day" and "I notice distinct body reactions when I am fatigued" were true about them using 7-point scales ranging from 1 (*not at all true about me*) to 7 (*very true about me*). Seven items assessed responsiveness to bodily sensations (Daubenmier, 2005). Participants indicated the extent to which such statements as "I am confident that my body will let me know what is good for me" and "It is important for me to know how my body is feeling throughout the day" applied to them using 7-point scales ranging from 1 (*not at all true about me*) to 7 (*very true about me*). The average within-person reliability coefficients for body awareness and body responsiveness were .89 and .81, respectively.

Self-objectification. The 8-item surveillance subscale of the Objectified Body Consciousness Scale (McKinley & Hyde, 1996) was used to measure self-objectification for women participants only.² Women indicated the extent to

² Self-objectification is a theoretical construct that applies specifically to girls and women. As such, the measure of self-objectification used in this study was designed for women (McKinley & Hyde, 1996) and was only completed by the female participants in the study.

which they agreed with such statements as "I often worry about whether the clothes I am wearing make me look good" and "I think more about how my body feels than how my body looks" (reverse-scored) on 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores represent greater self-objectification. The average within-person reliability coefficient for this measure was .77.

Results

Sample Characteristics

Participants indicated that they practiced yoga an average of 4.4 hours per week ($SD = 1.8$; range = 1.8 hours to 8.5 hours) over the course of the immersion. They reported practicing yoga for an average of 5 years and 6 months ($SD = 36.7$ months). The majority of participants ($n = 12$) described themselves as intermediate-level yoga students; 3 participants reported being beginning-intermediate, 3 intermediate-advanced, and 1 a beginning yoga student. The mean body mass index of participants was 22.2 ($SD = 3.1$). The participants were, on the whole, highly educated. A majority of participants ($n = 11$) had obtained a college degree; 7 had received a postgraduate degree; and 1 participant had received a high school diploma.

Changes From Preimmersion to Postimmersion

The first set of hypotheses concerned possible changes in embodiment, self-objectification, and well-being from preimmersion to postimmersion. Of the 19 original participants, 79% ($n = 15$) completed the final survey during the last weekend of the yoga immersion program. Compared with participants who completed the final survey, those who failed to complete it did not differ significantly on any of the initial measures of embodiment, self-objectification, and well-being. Therefore, the following analyses are based on data from the 15 participants (14 women and 1 man) who completed both the first and the last survey.

To test the short-term longitudinal hypotheses, the authors compared participants' scores on the measures in the initial survey with the measures in the final survey using a series of paired-sample *t* tests. As indicated previously, self-objectification was measured only among women participants. The only variable that showed a significant change from preimmersion to postimmersion was self-objectification. Women scored significantly lower in self-objectification after participation in the yoga immersion ($M = 3.18$, $SD = .96$) than they did at the beginning of the yoga immersion ($M = 3.71$, $SD = .93$),

$t(13) = 2.68, p < .05$. Participants showed no significant changes (all $ps > .05$) on any of the other variables from preimmersion to postimmersion.

Because we found improvements in only one of the seven measures for change related to this set of hypotheses, a set of follow-up analyses was conducted to determine whether increased yoga practice over the course of the immersion predicted possible increases in embodiment and well-being. In other words, participation in the yoga immersion alone may not have led to increases in embodiment and well-being, but improvements in these variables may, instead, have been linked with actual increased time spent practicing yoga.

To test this question, we created an aggregate score representing the mean number of hours participants spent practicing yoga per week over the course of the immersion. We then performed a series of regression analyses in which the baseline measures (each entered in separate regression equations) were entered on the first step and the aggregate yoga variable was entered on the second step to predict the follow-up measures. The equation for positive affect, for example, regressed follow-up positive affect on both the aggregate yoga variable and baseline positive affect. Two effects emerged for well-being. After controlling for baseline satisfaction with life, the more often participants practiced yoga over the course of the immersion, the higher their follow-up satisfaction with life ($\beta = .46, p = .08$), although this effect was only marginally significant. In addition, after controlling for baseline self-acceptance, the more often participants practiced yoga over the course of the immersion, the higher their follow-up self-acceptance ($\beta = .53, p = .02$). In short, the more often participants practiced yoga, the greater their improvements in satisfaction with life and self-acceptance from the beginning to the end of the yoga immersion.

Links Between Weekly Yoga Practice and Embodiment, Self-Objectification, and Well-Being

A second set of hypotheses concerned weekly associations between frequency of yoga practice and well-being, embodiment, and self-objectification during the 2-month yoga immersion program. Traditional analysis of variance methods assume independence of observations, a criterion that is clearly violated when the same individual completes the same measures on a repeated basis. Consequently, the data were analyzed with Hierarchical Linear Modeling (HLM) techniques using HLMwin v. 5.02 (Raudenbush, Bryk, Cheong, & Congdon, 2000). HLM provides independent estimates of the associations among constructs at the lower level (within persons) and models

them at the upper level (between persons) as a random effect using maximum likelihood estimation. One strength of HLM techniques is that they can readily handle an unbalanced number of cases per person (i.e., number of surveys provided), giving greater weight to participants who provide more data (Snijders & Bosker, 1999). In addition, lower-level (i.e., weekly) predictors were centered around each individual's mean across the 6-week study. This technique, known as group-mean centering, accounts for differences between persons in the sample and assesses whether weekly changes from a participant's own mean are associated with changes in the outcome variable, consequently unconfounding between- and within-person effects.

A series of HLM equations was constructed to examine the lower-level, within-person associations between total number of hours of yoga practice each week and positive affect, negative affect, satisfaction with life, self-acceptance, body awareness, body responsiveness, and self-objectification. For example, the equation testing the association between hours of yoga practice and positive affect is $\text{Positive Affect}_{ij} = b_{0j} + b_{1j}(\text{Yoga Practice}) + r_{ij}$. In this equation, b_{0j} refers to the intercept (i.e., the person's positive affect on their average week); b_{1j} represents the slope between positive affect and total hours of yoga practice; and r_{ij} represents error. Yoga practice was centered around each person's mean; therefore, b_{1j} represents the degree to which an individual's total hours of yoga practice on the i th week deviated from his or her average level of yoga practice. Thus, person j 's positive affect on the i th week was predicted from his or her average positive affect and hours of yoga practice (on the i th week), weighted by its coefficient (b_{1j}) and error.

Table 1 reports maximum likelihood estimates relating the total number of hours of yoga practice each week to each of the measures of well-being, embodiment, and self-objectification. For example, the coefficient for the association between total number of hours of yoga practice and positive affect can be interpreted as follows: Each unit increase in yoga practice (i.e., practicing yoga for 1 hour more during a given week than one's own average) was associated with a .25 unit increase in positive affect that week. As predicted, frequency of weekly yoga practice was associated with some of the measures of embodiment and well-being. Specifically, during weeks when participants practiced yoga more frequently (than their own average), they experienced increased positive affect, decreased negative affect, increased satisfaction with life, and increased body awareness (but this effect was marginal at $p = .056$). Contrary to expectations, more frequent yoga practice was not associated with

Table 1. HLM Analyses Predicting Well-Being, Self-Objectification, and Embodiment From Hours of Weekly Yoga Practice

Predictor Variable	Well-being			Self-objectification		Embodiment	
	Positive Affect (SE)	Negative Affect (SE)	Satisfaction with Life (SE)	Self-acceptance (SE)	Self-objectification (SE)	Body Awareness (SE)	Body Responsiveness (SE)
Hours of weekly yoga practice	.25** (.07)	-.15* (.06)	.14 [†] (.07)	.03 (.03)	-.02 (.05)	.04 [†] (.02)	.02 (.03)

Note. $n = 15$ for self-objectification. $n = 19$ for well-being and embodiment variables. All numbers are unstandardized HLM coefficients with standard errors.

[†] $p < .10$. * $p < .05$. ** $p < .01$.

self-acceptance, self-objectification, or body responsiveness.

Links of Embodiment and Self-Objectification With Well-Being

The third set of hypotheses concerned within-person associations between embodiment and objectification on the one hand and well-being on the other. Lower-level equations tested the within-person associations between self-objectification and embodiment (i.e., body awareness and body responsiveness) and well-being (i.e., positive affect, negative affect, satisfaction with life, and self-acceptance). For example, the equation testing the association between self-objectification and positive affect is $\text{Positive Affect}_{ij} = b_{oj} + b_{ij}(\text{Objectification}) + r_{ij}$.

As shown in Table 2, body awareness and body responsiveness were associated with some of the measures of well-being. Body awareness was positively associated (marginally at $p = .06$) with positive affect. Body responsiveness was positively associated with positive affect, satisfaction with life, and self-acceptance and was negatively associated with negative affect. That is, during weeks when participants reported increases in body awareness (above their own average), they reported marginally higher positive affect; during weeks when participants reported increases in body responsiveness, they reported higher positive affect, satisfaction with life,

and self-acceptance and reported lower negative affect. Self-objectification was not associated with any of the measures of well-being.

Discussion and Policy Implications

Results of this study replicate previous research suggesting that mind-body practices such as yoga may be powerful tools to decrease self-objectification among women and increase embodiment and well-being (Daubenmier, 2005; Kirkwood et al., 2005; Pilkington et al., 2005). This study replicates previous research that linked yoga with decreased self-objectification for women (Daubenmier), but it is the first such study to document a decrease in self-objectification for women after participation in a yoga intervention. After the yoga immersion, women in this study reported that they cared less about how their bodies appeared to others and more about how their bodies felt to themselves. Although the authors cannot draw conclusions about cause and effect (without having randomly assigned women to a treatment versus a control group), the documented change in self-objectification suggests that yoga may be a powerful way to decrease the extent to which women distance themselves from their own bodies and take an observer's perspective on the self. Although the small sample size in this study prevented the authors from properly testing mediation, results from this study further suggest that body awareness

Table 2. HLM Analyses Predicting Well-Being Outcomes From Self-Objectification and Embodiment Measures

Predictor Variables	Well-being			
	Positive Affect (SE)	Negative Affect (SE)	Satisfaction with Life (SE)	Self-acceptance (SE)
Self-objectification	-.29 (.26)	-.07 (.12)	-.14 (.23)	-.03 (.13)
Embodiment				
Body awareness	.59 [†] (.33)	-.23 (.36)	.51 (.39)	.30 (.24)
Body responsiveness	.79** (.27)	-.76** (.29)	.60 [†] (.36)	.30* (.14)

Note. $n = 15$ for self-objectification. $n = 19$ for well-being and embodiment variables. All numbers are unstandardized HLM coefficients with standard errors.

[†] $p < .10$. * $p < .05$. ** $p < .01$.

and responsiveness may be important mediators linking self-objectification and well-being. That is, the process of objectifying their own bodies may make it difficult for women to be mindful of their own inner body states, leading them to experience poorer well-being in general. The results of this study provide much-needed pilot data for a larger, controlled study that can better examine whether increased embodiment mediates the link between self-objectification and well-being.

This study extends previous research in several important ways. The authors used an innovative experience sampling method to examine within-person associations between frequency of yoga practice, embodiment, and well-being. During weeks when participants reported increases in the number of hours spent practicing yoga, they reported improvements in mood (i.e., higher positive affect and lower negative affect), as well as marginal increases in body awareness. In other words, the more often participants practiced yoga, the greater their awareness of internal body sensations and the greater their well-being. Whereas previous studies have compared participants who practice yoga with those who do not (i.e., a between-persons design), the experience sampling portion of this study essentially compared participants with themselves (i.e., a within-persons design) using their average frequency of yoga practice as a basis for comparison. As such, the findings suggest that it is not that people who practice yoga more frequently than others are happier and more satisfied with their lives; rather, the results suggest that increasing the frequency of one's own yoga practice may lead to increased embodiment and well-being.

It is also important to point out differences between the weekly and the longitudinal effects documented over the course of the immersion. Increased yoga practice was linked with more positive emotions and fewer negative emotions during a given week. However, increased yoga practice over the course of the study was associated with increases in more general measures of well-being (i.e., satisfaction with life and self-acceptance). Taken together, these results point to the possibility that shorter-term emotional experiences may mediate the link between yoga and well-being, an important direction for future research.

This study also suggests that increased embodiment may mediate the link between yoga practice and enhanced psychological well-being. Swami Shivapremanada (1997), who developed a 3-month yoga program for stress relief, maintains that yoga improves the ability to recognize signs of stress and differentiate between states of relaxation and tension. For example, recognition of shallow breathing during a stressful experience may lead to

deepening of the breath, facilitating relaxation and more adaptive coping strategies. In short, awareness of discomfort may be the first step toward becoming empowered to create change to enhance well-being. Future research would do well to focus on body awareness and responsiveness as key mediators of the association between yoga and psychological well-being.

Yoga may have important implications for sexual health as well. By reducing the extent to which women objectify their own bodies, yoga may promote improvements in sexual health. Several studies have shown that self-objectification is associated with decreased sexual health, including less sexual assertiveness and less consistent use of condoms and contraceptives (Hirschman et al., 2006; Schooler et al., 2005). By enabling girls and women to become more aware of their own bodies' feelings and desires, practicing yoga may help them to make more responsible sexual choices, the study of which is another important direction for future research.

Several limitations of this research deserve comment. One major limitation of this study concerns the unique nature of the sample, which consisted of relatively healthy, fit, and experienced yoga practitioners who chose to participate in an intensive yoga immersion program. Furthermore, the sample almost entirely comprised highly educated White women. One way in which the choice of experienced yoga practitioners may have influenced the results concerns the extent to which women objectified their bodies before they entered the immersion program. Indeed, participants' scores on the measure of self-objectification before they began the study ($M = 3.71$, $SD = .93$) were lower than women's scores in the original scale-development study reported by McKinley and Hyde (1996; $M = 4.22$, $SD = .91$). Thus, our findings may actually underestimate the power of yoga to reduce self-objectification, given that the women in this sample were already on the lower end of this construct and had less room for improvement. This example shows just one of the ways that the uniqueness of this sample may have influenced the results of this study. Future research could assess the potential of yoga to increase embodiment and well-being for individuals with less yoga experience.

Another major limitation concerns the study design. Although the weekly collection of data coincided nicely with the structure of the immersion, this structure may not appropriately correspond to the timing by which yoga influences embodiment and well-being. For example, yoga may be more likely to influence well-being on the day of or the day after one's yoga practice. Future research could employ a more fine-grained daily experience study to examine the more immediate effects of yoga practice. In

addition, the current study was cross-sectional in nature, limiting the authors' ability to draw causal conclusions. Although yoga practice may improve well-being, it is also possible that well-being influences when and how much people practice yoga. A larger, controlled study is needed to draw causal conclusions about the effects of yoga on embodiment and well-being.

The results of this study have many important potential implications for policies aimed at improving and alleviating common mental health concerns such as eating disorders, depression, and anxiety. More specifically, the finding documenting a reduction in self-objectification for women suggests that yoga may be a powerful tool for improving body satisfaction and potentially reducing disordered eating patterns among girls and women. Excessive diets, unhealthy weight loss practices, disordered eating, and body dissatisfaction are common among adolescent girls and young adult women (Cash & Henry, 1995; Hill, 2002). Schools may be a key place where girls develop body dissatisfaction and disordered eating behavior, as studies have shown that girls' binge eating and body image are correlated with that of their peers (Crandall, 1988; Dohnt & Tiggeman, 2005). The few prevention programs for eating disorders that have been evaluated in schools have met with limited success (Piran, 2002). The results of the present study suggest that mind-body exercises such as yoga may promote body awareness and acceptance. Given that disordered eating behavior and body dissatisfaction are prevalent in secondary and high school children, yoga and other mind-body exercises should be considered for inclusion in school curricula as a way to prevent eating disorders.

The current study also documented associations between yoga and both positive (e.g., joyful and happy) and negative (e.g., nervous and irritable) emotional states. As such, this study has implications for the treatment of common mental illnesses such as depression and anxiety. Because of the early onset and lasting nature of anxiety and depression, preventive programs should start in childhood, giving young people tools to deal with stress and other factors leading to depression and anxiety. A recent review (Paluska & Schwenk, 2000) suggested that physical activity plays an important role in the management of mild-to-moderate mental health disorders, especially depression and anxiety; however, the study also suggested that excessive physical activity may lead to overtraining and generate psychological symptoms that mimic depression. The results of this review point to the importance of the right level, amount, and type of physical activity in the treatment of anxiety and depression. Some doctors recommend relaxation techniques, correct breathing

techniques, exercise, and dietary adjustments as methods to cope with anxiety (U.S. Preventive Services Task Force, 1996). To varying extents based on the specific type of yoga practiced, yoga combines practices that relate to many or all of these components.

Because health and lifestyle patterns begin in childhood and continue throughout the life span, the physical education classroom is an ideal site for intervention and prevention (Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). The American Association of Pediatrics stated that "advocacy is sorely needed for physical education programs that emphasize and model learning of daily activities for personal fitness (as opposed to physical education limited to a few team sports)" (Krebs & Jacobson, 2003, p. 426). Several observations support the idea that physical education programs would benefit from expanding beyond team sports and including mind-body practices such as yoga. First, traditional team sports may create intense performance pressures and foster a sense of competition, both of which deter some youth from participating (Weiss & Duncan, 1992). Second, pressures to gain and lose weight in particular sports and physical activities (e.g., wrestling, gymnastics) can have negative effects on young athletes' self-esteem, body image, and eating behaviors (Smolak, Murnen, & Ruble, 2000). Third, the potential for girls specifically to derive positive experience from participation in physical activities and sports is often marred by a lack of opportunity, gender stereotypes, and homophobia. Yoga's focus on listening to one's own inner cues and guidance has potential to fill the gaps in team sports interventions. Many urban schools have already started to include yoga in physical education programs (Guthrie, 2002). Although research has yet to be conducted on the potential benefits of these programs, teachers have reported positive outcomes for their students, including improved self-esteem and increased attention span. The inclusion of yoga and other noncompetitive embodied activities in the health education curriculum may enable young people to learn physically beneficial practices that they can engage in throughout their lives.

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