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## Yoga for the Prevention of Eating Disorders

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Eating disorders (EDs) are a set of disorders that affect aspects of the physical, mental, and social worlds of those struggling with them. The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013) recognizes three major types of EDs, including anorexia nervosa, bulimia nervosa, and binge-eating disorder. According to the *DSM-5*, there are three main features of *anorexia nervosa* (AN): (a) limiting energy intake resulting in extremely low body weight, (b) intense fear of weight gain, and (c) a disturbance in one's experience of their body image. *Bulimia nervosa* (BN) is characterized by (a) episodes of binge eating (eating a significantly large portion of food, in secret, along with feeling a lack of control over eating) and (b) recurring inappropriate compensatory behaviors to prevent weight gain (e.g., use of laxatives, self-induced vomiting, excessive exercise). Both of these behaviors must have been occurring at least once a week for the past 3 months. Finally, *binge-eating disorder* (BED) is characterized as engagement in compulsive bouts of binge eating, paired with marked distress during or after the binge (American Psychiatric Association, 2013). Unlike BN, BED does not involve inappropriate compensatory behaviors. AN, BN, and BED are all similar in that they each involve a disturbance in the experience of one's weight or shape (Cook-Cottone & Lampard, 2017). EDs that are below diagnostic thresholds for AN, BN, or BED can be classified as "other specified feeding or eating disorders" or "unspecified feeding or eating disorders" (American Psychiatric Association, 2013). The *International Classification of*

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*Diseases for Mortality and Statistics* (11th rev.), lists similar features of AN, BN, and BED (World Health Organization, 2018).

## PREVALENCE

Although EDs typically are diagnosed in later adolescence and early adulthood, symptoms have been shown to develop at much earlier ages (Rohde, Stice, & Marti, 2015). Between 1999 and 2006, there was a 119% increase in hospitalizations among children and adolescents presenting with EDs (Agency for Healthcare Research and Quality, 2009). Increases in EDs may be explained by the cultural emphasis on dieting and weight loss in these age groups due to the prevalence of childhood obesity (Haines & Neumark-Sztainer, 2006). In a U.S. national survey of 10,000 adolescents aged 13 to 18, approximately 0.3% met diagnostic criteria for AN, 0.9% met criteria for BN, and 1.6% met criteria for BED (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Notably, about 5% to 10% of EDs occur in males (Rosen, 2010). These estimates may be lower than in actuality because those with subthreshold EDs and those who failed to report accurately are not accounted for (Cook-Cottone & Vujnovic, 2017). Therefore, a more accurate prevalence rate of EDs among adolescents may be between 0.8% to 4.6% (Stice, Marti, Shaw, & Jaconis, 2009; Swanson et al., 2011). Although the onset of EDs is often in older adolescents (Swanson et al., 2011), some research shows that body weight and shape concerns have been seen in females as young as 6 years old (Smolak, 2011). Similarly, findings show that in elementary-aged females, 40% to 60% reported having weight-related concerns (Smolak, 2011). With body image concerns spanning throughout the formative years of schooling, the school environment can be a place of prevention through the use of evidence-based wellness initiatives, such as yoga and yogic principles, within the daily structure of schools.

## ETIOLOGY

It is theorized that ED behavior develops over time as individuals work to negotiate both their internal needs and experiences (i.e., physical, emotional, cognitive) while also meeting the challenges and perceived expectations present in their external world (i.e., family, friends, community, culture; Cook-Cottone, 2006, 2015a; Cook-Cottone & Kane, 2013). This is especially true for school-aged children. Internally, they may feel negative affect, physical changes related to puberty and growth, and substantial cognitive challenges as they move from concrete thinking to more formal or conceptual understanding of the world around them. At the same time, there are many media and cultural messages about how the body should look and feel, that teens and young people should look effortlessly perfect and

happy, and that they should be successful socially as well as academically. ED symptoms may be an attempt to self-regulate in the absence of effective tools and practices (Cook-Cottone, 2015b). Cognitions begin to center on the narrative of food and body control as a pathway to mood regulation and happiness (e.g., “I will be okay when I get to my ideal weight”). Through restriction of food intake, bingeing, purging, and excessive exercise there is an attempt to control the size and shape of the body and as well as to control and/or avoid negative emotions (Cook-Cottone, 2015b). Authentic connection to the body is lost, and any attunement between mind and body is in service of symptoms and maintenance of the disorder (Cook-Cottone, 2015b).

The result is a loss of positive embodiment, which may be one of the primary causes of risk and a key to prevention and intervention (Cook-Cottone, 2015b, 2017). *Embodiment* refers to using the body as a source for emotions, cognitions, and actions (Cook-Cottone, 2015a; Cook-Cottone & Guyker, 2018; Khoury et al., 2017). The body is our sensing, experiencing, and acting system, our interface between our inner and outer worlds, and how we experience the body, perceive it, identify with it, treat it, and move from it is an aggregation of both our internal and external experiences (Cook-Cottone, 2015b). It is theorized that awareness of and connection with the body is prerequisite to and part of embodiment and maintenance of well-being (Cook-Cottone, 2015a, 2015b; Ogden & Fisher, 2015).

## YOGA FOR THE PREVENTION OF EATING DISORDERS

Change in the mind–body relationship requires more than a cognitive reframing—it must be lived and experienced (Cook-Cottone, 2015b; 2016; Ogden & Fisher, 2015). This has already been acknowledged in ED research; methods used in ED prevention research have been interactive and are based on a cognitive or behavioral theory to promote behavior and attitude change (Ciao, Loth, & Neumark-Sztainer, 2014). Further, many of the comprehensive prevention programs promote moderate to heavy physical activity (Ciao et al., 2014). However, interactions and physical activity may be qualitatively distinct from physical practices designed to promote embodiment (e.g., yoga; Cook-Cottone, 2015b). Interventions, such as yoga, that facilitate a healthy mind and body integration are being studied for both treatment and prevention of EDs. Yoga is a physical practice that allows for active integration of internal and external experiences (Flynn, 2013). This chapter discusses the evidence for using yoga as an ED prevention method for children and adolescents and outlines the application of yoga within the school environment.

Through yoga, children and adolescents can be taught how to navigate their external lives through accessing their inner selves. To effectively prevent EDs, children and adolescents must learn how to negotiate the stresses and challenges in any given moment without disconnecting from their inner experiences or turning against the body (Cook-Cottone, 2016). Yoga has

ancient roots in the Eastern hemisphere (see Cook-Cottone, 2017, for a brief history of yoga and yoga in schools). Yoga taught in schools today shares the main tenet of connection of the mind and body through the practice of postures (*asanas*), relaxation (*savasana*), meditation (*dhyana*), and breath work (*pranayama*; Cook-Cottone, 2015b, 2017; Serwacki & Cook-Cottone, 2012). These practices work simultaneously, interweaving the physical stretching, strengthening, and relaxation of the muscles through each posture with mindful breathing and relaxation exercises and work with sensations, feelings, and thoughts through meditation practice (Scime & Cook-Cottone, 2008). Through practice, the body, through the mind-body connection, becomes a resource for self-regulation and calming (Scime & Cook-Cottone, 2008).

Yoga has been gaining ground in research relating to the treatment and prevention of EDs among youth, including minority youth (Carei, Fyfe-Johnson, Breuner, & Brown, 2010; Cook-Cottone, Jones, & Haugli, 2010; Cook-Cottone, Talebkhah, Guyker, & Keddle, 2017). It has been hypothesized that yoga facilitates positive embodiment by encouraging participants to focus on the poses and their breath (i.e., their experiences), rather than having their mind be dominated by food-related thoughts (e.g., judgments; Carei et al., 2010). By moving mindfully into poses, working on stretching, physical balance, and attention to breath, yoga provides opportunities for participants to gain self- and body awareness through direct experience of the body and bodily sensations (Daubenmier, 2005). Theory and emerging research have suggested that positive embodiment through self- and body awareness is a critical step in cultivating resilience to and counteracting symptoms of EDs (Cook-Cottone, 2015a, 2015b; Mahlo & Tiggemann, 2016). Notably, these benefits may be unique to yoga; other forms of exercise have not been shown to have the same psychological and physical effects (Martin, Prichard, Hutchinson, & Wilson, 2013; Prichard & Tiggemann, 2008).

Using yoga for the prevention of EDs is based on the theoretical framework of positive psychology (Cook-Cottone & Lampard, 2017; Steck, Abrams, & Phelps, 2004). Intentionally, positive psychology works by promoting healthy attitudes and positive self-perceptions, rather than emphasizing risk factors and psychoeducation, which has been found to be a weak prevention strategy in schools (Carter, Stewart, Dunn, & Fairburn, 1997; Steck et al., 2004). Positive psychology interventions follow a broaden-and-build framework (Fredrickson, 2013; Garland et al., 2010). The broaden-and-build theory of positive emotions asserts that positive emotions, such as happiness, broaden an individual's awareness and increase the likelihood of the individual experiencing novel, varied, and exploratory thoughts and actions. It is believed that this broadened behavioral experience builds both skills and resources. In yoga, it is not only what you do but also how you do it that makes all the difference. All practices provide a sense of joy, compassion, equanimity, and loving-kindness (i.e., the four immeasurables; Cook-Cottone, 2015b, 2017).

## RESEARCH ON YOGA FOR THE PREVENTION OF EATING DISORDERS

Currently, research on yoga for the prevention of EDs is in its nascent stage. However, there are some promising results from studies completed with school-aged populations. One such program is Girls Growing in Wellness and Balance (GGWB). Designed in 2002, it is the only yoga-based program that has been studied extensively in schools as a prevention for EDs (Cook-Cottone & Kane, 2013; McVey, Tweed, & Blackmore, 2007; Yager, Diedrichs, Ricciardelli, & Halliwell, 2013; see Holt & Ricciardelli, 2008, for a review). GGWB focuses on yoga, relaxation, psychoeducation, and interactive activities specific to ED risk factors and correlates (Cook-Cottone, 2017). The program uses the framework of positive psychology, focusing on helping adolescents build skills and strengths for the enhancement of positive embodiment and personal agency (Cook-Cottone & Kane, 2013). This prevention program curriculum includes the yoga teaching tools (e.g., breath work, emotion and body awareness); active practice of yoga; psychoeducational content, cultural media influences (media literacy), and body image concerns; and cognitive dissonance work in which the participants create and disseminate their own healthy-body magazine filled with content that counters media ideals and messages (see GGWB manual; Cook-Cottone & Kane, 2013). The yoga practice allows for active practice of positive embodiment, which is unique to the GGWB program.

First, each of the 14 sessions of the GGWB group follows the same format: yoga practice, interactive and creative engagement in psychoeducational content, journaling, and relaxation or meditation (Cook-Cottone & Kane, 2013). Over the 14 sessions, the GGWB curriculum is organized in three sections: (a) Me, (b) Me in My World, and (c) Me in This Culture. The first section, Me, delivers content on basic coping skills (e.g., breath work), balancing of internal and external demands, mindful eating, identification of emotions, and self-care (Cook-Cottone & Kane, 2013). The second section, Me in My World, addresses interpersonal skills such as assertiveness and setting boundaries. The third section, Me in This Culture, reviews the roles and expectations of women in our culture, media portrayals of women, and personal beliefs about the media. This section also involves the construction of a group magazine portraying health and wellness for women that is later disseminated in a manner that is selected by the participants. Groups often deliver it to the entire grade at school or send it to a publisher that portrays women in a way the group does not identify with (Cook-Cottone & Kane, 2013).

The GGWB has been studied for over a decade. Research has indicated that it lowers ED risk factors and decreases some ED behaviors (Cook-Cottone, Jones, & Haugli, 2010; Cook-Cottone, Talebkhah, et al., 2017; Scime & Cook-Cottone, 2008). In a series of noncontrolled, controlled, and matched-controlled studies, the GGWB prevention program showed decreases in levels of drive for thinness and body dissatisfaction among fifth-grade girls who participated in the program (Cook-Cottone et al., 2017). In a matched-controlled study,

Cook-Cottone et al. (2010) found the results to be stable across race and ethnicity while controlling for body mass index and socioeconomic status. Across studies, there tended to be no significant change in compensatory behaviors (e.g., purging and excessive exercise). This is consistent with other prevention research and is thought to be due to the young age of the participants and low baseline rates of these behaviors (Cook-Cottone et al., 2017; Scime & Cook-Cottone, 2008; Stice & Shaw, 2004).

Other GGWB findings have included increased rates of self-care behaviors found to be associated with body esteem and reduced risk of ED behaviors in community samples (Cook-Cottone et al., 2017). Specifically, Cook-Cottone et al. (2017) showed participation in the GGWB prevention program to be related to significant improvements in self-care behaviors of 5th-grade females compared with controls. Self-care behaviors found to increase in the intervention group compared with controls included significant reports of increased nutrition (e.g., eating three balanced meals a day, taking vitamins), increased ability to take care of one's responsibilities (e.g., completing schoolwork and other housework), and increased ability to be safe with their bodies (e.g., not engaging in self-harm or allowing others to mistreat them; Cook-Cottone et al., 2017). These changes are not unlike those seen in adult yoga programs, where healthy eating is supported in the yoga participants, but not in the controls (Martin et al., 2013).

The field of positive body image has evolved substantially over the past 15 years. Rather than target EDs directly, many professionals are interested in the role body image plays in ED risk and other adolescent issues such as mood, sexual decision making, agency, and assertiveness. Recent findings in a small controlled study suggest that intentionally structured yoga participation may support positive body image among adolescents. Focusing on body image among adolescents, Cox, Ullrich-French, Howe, and Cole (2017) examined the effects of 12 weeks of a pilot yoga-based physical education (PE) curriculum by testing for change in trait body surveillance, physical self-worth, and body appreciation. Innovating the research design, they also examined the relationships among change in body image variables and the role of state mindfulness in predicting state body surveillance during classes. Cox et al. found significant, moderate decreases in trait body surveillance and minimal nonsignificant increases in physical self-worth among those in the yoga-based PE class ( $n = 20$ ;  $M_{\text{age}} = 16.45$ , 90% female) compared with traditional ( $n = 23$ ;  $M_{\text{age}} = 14.52$ , 57% female) PE. Interestingly, change in trait body surveillance was inversely related to change in physical self-worth and body appreciation in yoga participants. Further, multilevel modeling analyses revealed that more mindful students also surveyed their body less during class (Cox et al., 2017).

## RESEARCH ON YOGA AS A TREATMENT FOR EATING DISORDERS

There is also growing evidence that yoga may be a helpful adjunct in the treatment of EDs (Klein & Cook-Cottone, 2013). Cook-Cottone, Beck, and Kane (2008) found that a yoga-based group helped those in treatment with an

ED show decreased drive for thinness and body dissatisfaction over 6 to 8 weeks. McIver, O'Halloran, and McGartland (2009) randomized 90 women meeting criteria for BED to a yoga or wait-list control group and found that the yoga group showed a self-reported reduction in binge eating and an increase in physical activity compared with controls. In a randomized controlled trial (RCT), Carei et al. (2010) found that when compared with standard care, those who took part in yoga and standard care demonstrated overall greater decreases in ED symptoms from pre- to posttest and decreases in food preoccupation following each yoga session. Pacanowski, Diers, Crosby, and Neumark-Sztainer (2017) conducted an RCT within a residential ED treatment program. Participants were randomized to control or yoga intervention: 1 hour of yoga before dinner for 5 days. Negative affect was assessed pre- and postmeal. Yoga significantly reduced pre-meal negative affect compared with treatment as usual. The effect was attenuated postmeal. Overall, these findings suggest that yoga is safe to be practiced by those struggling with EDs.

## LIMITATIONS

Some limitations to yoga as a prevention for EDs have been noted in the literature. In a study of yoga-based ED prevention among college-age women, Mitchell, Mazzeo, Rausch, and Cooke (2007) randomized 93 women to a dissonance intervention, yoga, or a control group. Although outside of the K–12 age range, this study illustrates an important aspect of yoga-based interventions: dosage. In the Mitchell et al. study, the dissonance group was found to have significantly lower scores than the yoga group and the control group on measures of disordered eating, drive for thinness, body dissatisfaction, alexithymia, and anxiety. Further, the yoga group did not differ at post-intervention from the control group on these measures. In a review of research on yoga-based prevention and treatment of EDs, Klein and Cook-Cottone (2013) suggested that the yoga dosage used by Mitchell et al. of 45 minutes per week over 6 weeks was insufficient for change. Cook-Cottone (2013) suggested a frequency of two or more times per week for 60 to 90 minutes (with at least 45 minutes of yoga practice if combined with psychoeducation) and a duration of more than 6 weeks for significant impact. Further, the body of research on yoga interventions has suggested that internalization of the practice as evidenced by home practice and continued practice after completion of the program may also be important (Cook-Cottone, 2013). To date, dosage issues have yet to be studied for yoga-based ED prevention programs. Also, although studies have suggested that yoga may be a helpful adjunct to therapy, much more research is needed to understand how best to align the yoga with treatment at various levels (e.g., inpatient, day treatment, or outpatient). In addition, the appropriate dosage must also be identified to provide the most optimal chance of lowering risk and ensuring recovery.



## TIERED DELIVERY MODEL

In the past, ED prevention in the schools used a didactic, psychoeducational framework only, leading to initial drops in ED risk; however, long-term effects were ineffective and, at times, even harmful (Carter et al., 1997). Now it is recommended that prevention methods be theoretically based, focused on decreasing risk and increasing protective factors (Scime & Cook-Cottone, 2008). Aligning all aspects of yoga (e.g., postures, relaxation, meditation, breath work) with the main tenets of positive psychology, namely, positive subjective experiences, individual traits, and focus on personal well-being, meaning, and quality of life (Seligman & Csikszentmihalyi, 2000), the school environment has the capacity to be an environment for ED prevention. Cook-Cottone, Tribble, and Tylka (2013) provided a comprehensive framework for a three-tier prevention intervention in schools in their text *Healthy Eating in Schools: Evidence-Based Intervention to Help Kids Thrive*.

It is important to note that caring for a child with an ED calls for a multi-intervention approach. Although yoga can make a paramount difference in correcting the way children view themselves by assisting in the connection between their internal and external worlds (Klein & Cook-Cottone, 2013), it should not be used as the sole intervention for regaining health and well-being. As outlined in the case study at the end of this chapter, mental health professionals, ED specialists, and medical checkups should be used as well.

### Tier 1: Yoga-Based Universal Interventions

The goal in universal prevention for EDs in schools is to cultivate resilience and decrease risk among the entire student body, in hopes of leading to long-lasting resilience against body image issues and weight-related concerns (McVey et al., 2007; Serwacki & Cook-Cottone, 2012). Scime and Cook-Cottone (2008) proposed that universal prevention should occur in elementary schools and early middle school because this is often before body-image and weight-related concerns begin to crystallize. Programs emphasizing healthy eating and physical activity, body acceptance, media literacy, and increased coping and self-care are recommended as efficacious for preventing EDs (Cook-Cottone, 2009; McVey et al., 2007; Yager et al., 2013). Yoga may be offered as a school-wide program, with all students participating as a means of fulfilling the social-emotional learning program within the school district (Cook-Cottone, 2017). Because the practice of yoga is associated with increased body awareness, understanding one's unique body cues such as hunger, satiation, and even moods may improve and become more regulated within these universal sessions. Universal prevention programs include specific class time dedicated to yoga (i.e., yoga classes) both during and after school, as well as yoga mini-sessions, workshops, and breaks during class to help students learn to self-regulate through movement and breath (e.g., movement to get engaged and breath work to calm; Cook-Cottone, 2017). See Cook-Cottone and Douglass's (2017) article, "Yoga Communities and Eating Disorders:



Creating a Safe Space for Positive Embodiment,” for a set of guidelines on how best to use language, interactions, and yoga practices to support positive embodiment.

Aside from the physical practice of yoga, yogic principles could be easily incorporated into the school atmosphere to create a healthy environment for reducing ED risk. For example, appearance-based teasing and conversations about weight loss from school personnel in front of or with students could be suspended under a zero-tolerance policy (Cook-Cottone, Tribole, & Tylka, 2013; Puhl, Neumark-Sztainer, Austin, Luedicke, & King, 2014). This would allow students to foster an attitude of acceptance toward their bodies, rather than an attitude of comparison or desire for change—an important principle in yoga. Similarly, healthy eating habits can be reinforced by offering healthy options for school lunches, along with the integration of nutritional knowledge, coping skills, and self-care behaviors in health and science classes (Cook-Cottone, Tribole, & Tylka, 2013). Proper nutrition and healthy eating are related to the ability to self-regulate, which can be a protective factor against ED risk (Cook-Cottone, Tribole, & Tylka, 2013). Breath work has also been explored in schools, with Schonert-Reichl and Lawlor (2010) examining the feasibility of incorporating a few minutes of attention to the breath in the school day.

Last, yoga practice can also be offered through a set of cognitive guidelines. Cook-Cottone (2017) offered *12 Practices of Embodied Growth and Learning*, which were sourced from the body of literature on yoga and mindfulness in schools. These are embodied, mindful principles that can be adapted in schools as universal and subtle but powerful ways of increasing a child’s ability to recognize, manage, and regulate both internal and external factors. Briefly, the principles are split into three mechanisms of action: (a) mindful embodiment, including principles of worth, breath, awareness, presence, and feeling; (b) embodied self-regulation, including principles of inquiry, choice, self-determination, and sustainability; and (c) mindful growth, including principles of compassion, kindness, and possibility (see Exhibit 20.1; Cook-Cottone, 2017). By reminding students of these principles, teachers and other school personnel can instill elements of the yogic tradition into the classroom and within the student. A complete, comprehensive review of these principles and specifics on how to apply them in the classroom can be found in *Mindfulness and Yoga in Schools* (Cook-Cottone, 2017).

## **Tier 2: Yoga-Based, Target Interventions**

Students who continue to show risk of EDs, such as diet-related behaviors (e.g., weight loss, excessive exercise, dieting, and/or purging), body image distress and appearance-focused behaviors (e.g., monitoring body parts by constantly touching or looking at stomach, thighs, arms, chin, etc., or comparing self with others), should be targeted for Tier 2 intervention to correct budding ED attitudes as early, quickly, and effectively as possible. Referrals of such students can come from multiple sources, such as teachers, other school

**EXHIBIT 20.1****The 12 Principles for Embodied Growth and Learning****Mindful embodiment**

- Worth: I am worth the effort.
- Breath: My breath is my most powerful tool.
- Awareness: I am mindfully aware.
- Presence: I work toward presence in my physical body.
- Feeling: I feel my emotions to grow and learn.

**Embodied self-regulation**

- Inquiry: I ask questions about my physical experiences, feelings, and thoughts.
- Choice: I choose my focus and actions.
- Self-determination: I do the work.
- Sustainability: I find balance between effort and rest.

**Mindful growth**

- Compassion: I honor efforts to grow and learn.
- Kindness: I am kind to myself and others.
- Possibility: I work toward the possibility of effectiveness and growth in my life.

personnel, the school psychologist, and even concerned parents and friends (Cook-Cottone & Lampard, 2017). Students in middle or high school may be particularly at risk because this is the time when ED attitudes and behaviors begin to crystallize and take shape in adolescence (Scime & Cook-Cottone, 2008). Tier 2 programs should be targeted, focused on decreasing ED risk factors and correlates. This should be done in small groups of eight to 12 students who have been referred due to concerns associated with ED risk: dieting, fat talk, exposure to weight-related teasing, body dissatisfaction, thin-ideal internalization, higher body mass, and negative affect (Cook-Cottone, Tribble, & Tylka, 2013). GGWB is an example of an appropriate Tier 2 program.

**Tier 3: Indicated Programs and Interventions**

Students who require Tier 3 attention for ED prevention have already begun experiencing symptoms of AN, BN, or BED (Cook-Cottone & Vujnovic, 2017). At this point, they require an individualized intervention strategy that matches their particular needs (Stoiber & Gettinger, 2016). This usually requires an interdisciplinary team approach within the school in coordination with medical and psychological professionals. Treatment for EDs is typically conducted using a team approach with a medical doctor, nutritionist, and mental health professional all specializing in the treatment of EDs (Cook-Cottone, Tribble, & Tylka, 2013). Because the best outcomes for clinical levels of EDs occur when interventions are secured early in the onset of a disorder, all schools should have a point person who is comfortable with and knowledgeable about the disorders (Yager & O'Dea, 2005). Along with conducting proper screening

and making appropriate referrals, this person can also be a body positive role model within the school, which research has shown to be crucial in the crystallization of ED attitudes (Yager & O'Dea, 2005).

## **SPECIAL CONSIDERATIONS**

It is most important to remain inclusive in any attempts of incorporating yoga into the schools. Diversity includes race, ethnicity, socioeconomic status, the location and characteristics of the school and neighborhood, ability levels, skills and challenges, sexuality, gender identity, personal history and trauma, religion, body size and shape, family and neighborhood values, family educational backgrounds, and many other variables and qualities (Rechtschaffen, 2014). A common, beautiful phrase about yoga is “Yoga is for every body.” The basic tenets of diversity and inclusion apply, of course, in that all children should be provided a safe space to be heard, valued, and celebrated. Yoga can align with these tenets. Inclusion in all aspects of yoga—postures, breath work, relaxation and meditation—can be adapted for and modified to the individual needs of each student. Remember this, and engage in continuous learning when you feel you need extra training in cultural competence, diversity, and inclusion. For example, Childress and Harper (2015) offered a comprehensive guide for making yoga inclusive and accessible in their book, *Best Practices for Yoga in Schools*. Also, the National Education Association’s (2019) “Diversity Toolkit: Cultural Competence for Educators” can be accessed to further one’s knowledge on addressing diversity within the classroom.

## **CASE EXAMPLE SHOWING APPLICATION OF THE INTERVENTION**

Mattie is a biracial, eighth-grade girl who does well in school, plays the violin, and presents as social and happy. Teachers frequently describe her as a pleasure to have in class and as engaged in positive peer relations. She is normal weight. Her mother, a dental assistant, is a chronic dieter, and her younger sister has always been a picky eater and is below the 25th percentile for weight. Her father, a dentist, is a normal weight and has never been diagnosed with any mental illness. However, his side of the family has a history of depression and substance use. Her middle school does not have a universal yoga program, and Mattie has never practiced yoga. She does not like her body, wishing she was smaller. She also does not like her hair and saves her money from babysitting and chores for hair extensions. She also struggles in PE class and is often chosen last by her peers when they play as teams.

Over the summer, Mattie stayed for 2 weeks with her paternal grandmother, who drinks alcohol daily and is quite critical of people. Each night after she had a few drinks, she told Mattie that Mattie would look so much better if she lost a few pounds. She would also tell Mattie things about her

personal life and Mattie's father's life that were overwhelming for Mattie to hear. Mattie had nowhere to go and did not know how to stop her grandmother. She would sit and listen and wish she were somewhere else. She never told her parents about it because she was afraid they would get upset. It was then that she decided to go on a diet. She began to secretly follow her mom's latest diet plan emphasizing protein and eliminating dairy and carbohydrates. Mattie has been slowly losing weight. At first, it was just one or two pounds a month. However, in December and January, she lost four and five pounds each month and has now lost a total of 13 pounds, a substantial weight loss for someone who is within the normal range. A group of her friends went to the school psychologist, Dr. Cruize, to tell her that they were concerned about Mattie's eating habits.

Dr. Cruize met with Mattie and asked her to take the Eating Attitudes Test (<https://www.eat-26.com>), a widely used standardized self-report measure of symptoms and concerns characteristic of EDs. Mattie's score indicated that she was at risk. The interview revealed that Mattie had been feeling stressed and overwhelmed at school and did not want anyone to know how sad she was feeling. Dr. Cruize referred Mattie to the GGWB group that was beginning the following week as well as to the local ED specialist for further screening and a medical checkup. Ultimately, Mattie was treated by an interdisciplinary team that included a medical doctor, nutritionist, and psychologist who specialized in the treatment of eating disorders. She had weekly appointments with her nutritionist and psychologist and biweekly check-ins with the medical doctor.

Mattie loved learning the breathing skills for self-regulation in group. During each group, they practiced grounding their feet and using their bodies as a resource for calming and focusing. She had never felt so empowered. The yoga helped her to feel the difference between feeling stressed and tensing your muscles and feeling relaxed and softening your muscles. She learned poses and skills for how to strengthen and relax her muscles. During group work, in the section on feeling feelings and then again during the section on setting limits, Mattie wrote in her journal about what had happened the past summer with her grandmother. The group leader encouraged her to talk to the psychologist about these feelings in her next session. Mattie felt as if there was a team of people that cared about her well-being. Her diet became less important to her as her body and feelings shifted from something that she needed to control to resources she could use. She was going to use the tools she learned in yoga group to help her tell her parents that she did not want to stay at her grandmother's alone again and why.

## CONCLUSION

EDs are difficult to treat, affecting individuals' relationship with their body and food. Risk factors include a drive for thinness, internalization of the thin ideal, difficulty with negative affect, body mass, and body dissatisfaction.

Embodiment is disrupted as the body becomes an object that is judged, measured, and weighed. Behaviors such as food restriction, overeating, bingeing, purging, and compensatory exercise complicate eating and hydration, creating further dysregulation. Attunement between the mind and body is lost, and those who struggle can no longer effectively take care of their body, respond to emotions, and evaluate and select cognitions and behaviors.

Prevention programs focus on cognitions and integrate interactive curricular content to engage those at risk in activities that create cognitive dissonance related to media ideals, encourage healthy eating behaviors and exercise, and help kids process emotions. However, only yoga-based programs focus specifically on the body and how to engage the body as a resource in self-regulation. Using yoga as a part of a school's three-tier prevention programming can help prevent EDs and support all students in their use of the body as a resource for self-regulation. Further, research has suggested that yoga can also be an effective Tier 2 and 3 intervention for the prevention and treatment of EDs. See Cook-Cottone (2017); Cook-Cottone and Kane (2013); and Cook-Cottone, Tribble, and Tylka (2013) for more resources and how to implement yoga as a prevention intervention in your schools.

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