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Toward expert consensus on guidelines for the use of Yoga in the treatment of anxiety in children and adolescents.

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Toward Expert Consensus on Guidelines for the Use of Yoga in the Treatment of Anxiety for Children and Adolescents

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Executive Summary

Problem Statement: Despite clinical evidence to support the use of yoga as a treatment option for children and adolescents with anxiety, clinical practice guidelines do not exist.

Purpose: This project used the modified Delphi technique to determine if consensus exists on the need for clinical practice guidelines among experts in the fields of child and adolescent psychiatry, psychology, and yoga. Additionally, this project aimed to determine if consensus exists on what should be included in clinical practice guidelines for the use of yoga as a therapeutic intervention for anxiety in children and adolescents.

Methods: Three rounds of questionnaires were used to survey identified experts in psychiatry, psychology, and yoga. Quantitative data were collected to describe the sample and to determine consensus using frequencies and percentages as measures of central tendency, and ranges as measures of dispersion. Qualitative data were gathered and a textual content analysis was performed.

Significance: Establishing expert consensus on the need for clinical practice guidelines for the use of yoga as treatment intervention for children and adolescents with anxiety has the potential to improve access to safe and effective mental health care for children and adolescents who might otherwise go untreated.

Outcomes: Consensus ($\geq 80\%$) was found among identified experts in psychiatry and psychology for the need for evidence-based clinical practice guidelines for the use of yoga as a treatment intervention for children and adolescents with anxiety, although consensus was not found among identified yoga experts. Consensus among identified experts was also established on the risks, benefits, and items that should be included in evidence-based clinical practice guidelines.

Toward Expert Consensus on Guidelines for the Use of Yoga in the Treatment of Anxiety for Children and Adolescents

With the rise in teen suicide and school violence, pediatric psychiatric mental health is a high priority topic among mental health initiatives (Substance Abuse and Mental Health Services Administration, 2018). The health, safety, and well-being of adolescents and young adults is also a health care initiative identified by *Healthy People 2020* (Office of Disease Prevention and Health Promotion, n.d.), considering lifestyle behaviors developed between the ages of 10 years and 25 years affect the risk of chronic disease as adults. Priority health concerns for children and adolescents identified by *Healthy People 2020* include mental health disorders, substance use, nutrition and weight concerns, academic problems, homicide, and suicide, all of which are tied to psychiatric mental health initiatives (Office of Disease Prevention and Health Promotion, n.d.).

Anxiety disorders are the most commonly identified psychiatric disorder in children, and the earliest mental health concern to present, with a median age of 6 years at initial diagnosis (Merikangas, He, Burstein, et al., 2010). In the United States, 31.9% of adolescents aged 13-18 years are diagnosed with an anxiety disorder (Merikangas, He, Burstein, et al., 2010). Despite increasing rates of diagnosis and improved awareness of the importance of mental health treatment in children, 80% of children with anxiety do not receive treatment for this mental health condition (Merikangas, He, Brody, et al., 2010; Merikangas et al., 2011).

Reasons identified by parents for not seeking mental health services include, the stigma of seeking mental health services, parental perception that the problem is behavioral, negative perception of mental health services, lack of transportation, and lack of appointment availability (Reardon et al., 2017). Current research highlights a need for pediatric mental health

interventions which are effective, have low perceived stigma, are easily accessible, span multiple languages and cultures, and are of low risk to the child (Reardon et al., 2017).

The American Academy of Child and Adolescent Psychiatry (AACAP) published the *Practice Parameter for the Assessment and Treatment of Children and Adolescents with Anxiety Disorders* in which cognitive behavioral therapy and the use of selective serotonin reuptake inhibitors (SSRIs) are indicated for the treatment of anxiety in children and adolescents (AACAP, 2007). Since this publication became available, evidence now demonstrates that the use of SSRIs in pediatric patients is correlated with increased risk of suicide (Julious, 2011), decreased bone density (Ak et al., 2015), and increased incidence of type 2 diabetes mellitus (Salvi, Grua, Cerveri, Menacacci, & Barone-Adesi, 2017). Additionally, the efficacy of SSRIs in the treatment of anxiety and depressive disorders in children is in question as publication bias and failure to publish negative studies about the use of SSRIs in children have been identified (Wittington et al., 2004).

Several complimentary, integrative, and holistic interventions have demonstrated efficacy in the treatment of anxiety such as the use of meditation, lavender aromatherapy, omega-3 fatty acids, acupuncture, and yoga (National Center for Complementary and Integrative Health, 2017). Although the use of yoga as a treatment intervention for anxiety originated in the adult population, a growing base of scholarly evidence is developing to support the use of yoga as a first-line treatment intervention for anxiety in children and adolescents (Nanthakumar, 2018).

Despite evidence to support the use of yoga as a first-line treatment intervention for children and adolescents with anxiety, evidence-based clinical practice guidelines do not exist. Establishing consensus, on the need for clinical practice guidelines for the use of yoga as an

intervention for children and adolescents with anxiety has the potential to improve access to safe and effective mental health care for children and adolescents.

Problem Statement

Does consensus exist among experts in the fields of child and adolescent psychiatry, psychology, and yoga on the need for evidence-based clinical practice guidelines? Additionally, does consensus exist on what should be included in clinical practice guidelines for the use of yoga as a therapeutic intervention for children and adolescents with anxiety?

Significance to Nursing

Providers of child and adolescent psychiatric mental health are in short supply. The Substance Abuse and Mental Health Services Administration (SAMHSA, 2013) estimated a current shortage of over 7,700 mental health care providers, affecting 91 million Americans. There is a significant shortage of practicing child psychiatrists and psychiatric mental health advanced practice registered nurses (PMH-APRNs), including clinical nurse specialists and nurse practitioners, who are expertly prepared to meet the needs of this population (Association of American Medical Colleges, 2014). With specialization in the diagnosis and treatment of psychiatric mental health disorders, PMH-APRNs are responsible for using scholarly evidence to drive the development of clinical practice guidelines and establish best practices (Moseley, 2012).

Background

Although many Americans use yoga as an exercise modality, yoga is traditionally a holistic lifestyle comprising mind, body, and spirit practices (Butera, Byron, & Elgelid, 2015). Yoga originated more than five-thousand years ago in India, and although many associate only the *asanas* or physical postures with yoga, the comprehensive practice of yoga includes practices

to aid in "stress relief, wellness, vitality, mental clarity, healing, peace of mind and spiritual growth" (Yoga Alliance, n.d., para. 2). Hatha Yoga, which includes Iyengar, Ashtanga, Vini, Kundalini, and Bikram yoga styles, is the most common type of yoga practiced in the United States and focuses on both the *asanas* and *pranayama* or breathing (National Center for Complementary and Integrative Health, 2017). In addition to the *asanas* and *pranayama*, the traditional practice of yoga also includes *yama* or universal ethics, *niyama* or individual ethics, *prathyhara* or withdrawal of senses, *dharana* or concentration, *dhyana* or meditation, and *samadhi* or blissful state (Nanthakumar, 2018). The eight components of a yoga practice are "so flexible that it allows individuals to concentrate on the paths that are beneficial to them and pay less attention to others" (Nanthakumar, 2018, p. 15). This flexibility affords individualization of interventions and leads to "positive effects in an individual's psychological and mental health through the down-regulation of the hypothalamo-pituitary-adrenal axis and sympathetic nervous system" (Nanthakumar, 2018, p. 15).

Reflecting an increased interest in the physiological and psychological benefits of yoga, a number of countries, the United States and India included, as well as several renowned universities, including MIT, Harvard, and Yale, have secured funding to study yoga and other mind-body interventions for the treatment of anxiety (Krishnakumar, Hamblin, & Lakshmanan, 2015).

Physiological Benefits

In the adult population, a correlation exists between decreased gamma-aminobutyric acid (GABA) activity and anxiety, with evidence of increased GABA activity being associated with meditative activities such as yoga, producing a reduction in anxiety symptoms (Bremmer et al, 2000). The correlation between monoamine neurotransmitter activity and anxiety has also been

extensively demonstrated in research, with decreased serotonin and dopamine and increased norepinephrine associated with increased anxiety symptoms (Newberg & Iversen, 2003; Kim & Gorman, 2005; Walton, Pugh, Gelderloos, & Macrae, 1995). Meditative practices such as yoga increased urine serotonin levels, increased dopamine as demonstrated in positron emission topography (PET) scans, and decreased blood norepinephrine levels, all of which are associated with decreased anxiety symptoms (Newberg & Iversen, 2003; Walton, Pugh, Gelderloos & Macrae, 1995).

Meditative practices are also associated with increased alpha and theta electroencephalograph measures which correlate with relaxation and reduced anxiety (Ulett, Geser, Winokur, & Lawler, 1953). Additionally, breathing patterns associated with yoga practice decrease systolic and diastolic blood pressure, decrease resting heart rate, and decrease mean arterial blood pressure, all of which correlate with regulation of the sympathetic nervous system (Divya et al., 2017). Yoga practice inclusive of physical postures, breathing, and meditation "proved to significantly reduce anxiety" as a result of regulation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal system in a range of individuals (Pascoe & Bauer, 2015, Krishnakumar, Hamblin, & Lakshmanan, 2015, p. 17). Yoga is also perceived as having "efficacy greater than that of conventional medication" (Pascoe & Bauer, 2015, p. 280) as a form of stress management, and a growing base of yoga practitioners prefer yoga over psychopharmaceuticals as they feel it is not "artificially affect[ing] biochemical processes" (Pascoe & Bauer, 2015, p. 280).

Psychological Benefits

Research demonstrates a 40% reduction in overall anxiety and depression symptoms using a variety of yoga methods in adult populations ranging from cancer patients, to healthy

volunteers, and those with chronic illness (Skowronek, Mounsey, Handler, & Guthmann, 2014, Vorkapic, 2016). Yoga, is an ancient practice that values the importance of mental health, is able to "dig up the real cause of mental conflicts and eradicate conscious and unconscious problems" (Skowronek, Mounsey, Handler, & Guthmann, 2014, p. 68). Parallels exist between yoga and psychotherapy including identification of subconscious problems, living in the present, acceptance as a precursor of change, desensitization, habit reversal, and coping with negative emotions through relaxation (Vorkapic, 2016).

The International Association of Yoga Therapists (IAYT, n.d.) uses evidence-based practice to provide educational, certification, and accreditation standards for those interested in the application of yoga as a heath care intervention. IAYT (n.d.) describes yoga therapy as an intervention that uses yoga to promote and maintain physical, mental, and spiritual health as well as to alleviate symptoms associated with illness. Additionally, the American Psychological Association (2009) recognizes the use of yoga as a therapeutic tool in mental health care, citing evidence to support improvements in social attachments, stress reduction, anxiety, depression, insomnia and post-traumatic stress disorder.

In today's high-tech, high-cost medical system, yoga also offers an effective and accessible intervention for uninsured and low-income families (Falsafi & Leopard, 2015). The cost of learning yoga and mindfulness was found to be "much less" (Falsafi & Leopard, 2015, p. 290) than antianxiety or antidepressant medications or therapy, and was also considered to be "easy to learn" (Falsafi & Leopard, 2015, p. 290) as well as being an intervention which could be performed at home without cost. Because anxiety has not only psychological, but also physical effects on the body, a mind-body treatment modality, such as yoga, improves the ability to cope with symptoms of anxiety (Falsafi & Leopard, 2015) Several limitations to the use of yoga as an

intervention for anxiety include the disproportionate number of men who believe that yoga is an activity for women, the false belief that yoga conflicts with religious beliefs, and distrust in yoga practice by non-Caucasian participants (Falsafi & Leopard, 2015).

In a meta-analysis of the safety of yoga, yoga as a therapeutic intervention was found to be "as safe as usual care and exercise" (Cramer et. al, 2015, p. 281) when compared with physical interventions, although research did show a higher incidence of non-serious side effects in therapeutic yoga interventions when compared to non-physical interventions such as educational or psychological approaches (Cramer et. al, 2015).

Use of Yoga for Children and Adolescents

Although the body of evidence for the safety, efficacy, cost-benefit, physiological impact, psychological impact, and positive attitude toward yoga in adults is robust, adoption of this practice in the pediatric population has been slow. General consensus identifies key components of yoga intervention guidelines for the reduction of anxiety symptoms in the adult population, with breath regulation, relaxation, postures, and meditation associated with reduction of anxiety symptoms (Manicor, Bensoussan, Smith, Fahey, & Bourchier, 2015). Guidelines do not exist, in current literature, on the use of yoga as an intervention for anxiety in children and adolescents to inform a standard practice between all providers. Standardization of clinical practice guidelines is necessary to allow for the use of best evidence in practice and for research replication and transferability, to drive large scale, randomized trials, and to collect data (Weaver & Darragh, 2015).

Yoga is the most frequently used complementary health intervention in the United States among children ages 4 to 17, reflecting a 5.3% increase in use between 2012 and 2017 (National Center for Health Statistics, 2018). Data suggest that "yoga as a therapeutic intervention has

positive effects on psychological functioning, especially in children coping with emotional, mental and behavioral health problems" also noting yoga has "very few reported adverse effects" (American Academy of Pediatrics, 2016, p. 8). Among parents of children with psychiatric problems, an overall positive attitude toward yoga exists, including the belief that yoga should be used as a regular treatment for children with psychiatric problems (Lalitha & Gaikwad, 2017). In a systematic review of yoga interventions for children and adolescents, "nearly all studies indicated reduced anxiety after a yoga intervention" (Weaver & Darragh, 2015, p.1).

Children with anxiety often report decreased concentration and memory, elevated heart rate, perspiration, stomach aches, headaches, and dizziness (Nanthakumar, 2018). Consistent with findings in the adult population, activation of the sympathetic nervous system results in anxiety, hyperarousal, and flight, fight, or freeze behavior, suggesting that yoga is able to help children and adolescents shift from a sympathetic response to a more calming parasympathetic response (Neiman, 2015). Yoga emphasizes the relationship between body, mind, and spirit, and thus is considered a "mind-body" practice with the ability to improve confidence, self-awareness, decrease stress, and promote relaxation in the child and adolescent population (Neiman, 2015). Down-regulation of the sympathetic nervous system and activation of the parasympathetic nervous system contributes to these benefits (Nanthakumar, 2018). Yoga has the potential to strengthen parasympathetic nervous system responses and modulate neurotransmitter function in children, resulting in increased ability to promote calm, manage stress, regulate emotions, decrease anxiety, improve self-esteem, and improve prefrontal cortex functioning (Flynn, 2016).

Project Implementation and Measures

Theoretical Framework

The framework for this project originates with identification of the ongoing need to update clinical practice guidelines using current, evidence-based research. Updating clinical practice guidelines can be met with reluctance and resistance, which often results in ineffective implementation. Behavior change theories are frequently identified as a necessary theoretical basis for successful evidence-based practice guideline implementation (Michie et al., 2005).

Using Lippitt's Planned Change Theory as a framework which is "purposeful, calculated and collaborative" increases the possibility of success (Mitchell, 2013, p. 32). Lippitt proposed seven phases of planned change which can be aligned with the four elements of the nursing process; assessment, planning, implementation, and evaluation. The scope of this project focuses on implementation of Phases 1 and 2, with Phases 3 through 7 identified as future implications.

Nursing Process	Lippitt's Planned Change Theory	Evidence-Based Practice Guideline Update
Assessment	Phase 1 Diagnose the problem:	Despite evidence to support the use of yoga as a first line treatment intervention for children and adolescents with anxiety, evidence-based clinical practice guidelines do not exist.
	Phase 2 Assess motivation and capacity for change	Survey identified experts to determine if consensus exists for the need for evidence-based clinical practice guidelines.
	Phase 3 Assess the change agent's motivation and resources	Future Implication
Planning	Phase 4 Select progressive change objective	Future Implication
	Phase 5 Chose appropriate role of the change agent	Future Implication
Implementation	Phase 6 Maintain the change	Future Implication
Evaluation	Phase 7 Terminate the helping relationship	Future Implication

(Adapted from Mitchell, 2013).

Project Objectives

The objective of this project was to improve access to safe, effective, evidence-based treatment options for children and adolescents with anxiety. It was necessary to determine if consensus exists among experts in child and adolescent psychiatry, psychology, and yoga on the need for clinical practice guidelines for the use of yoga as an intervention for children and adolescents with anxiety. Additionally, it was necessary to assess expert opinion on what should be included in guidelines for the use of yoga as an intervention for children and adolescents with anxiety.

Methodological Approach

In this project, a modified Delphi technique was used to determine if consensus exists among identified experts in the areas of child and adolescent psychiatry, psychology, and yoga on the need for evidence-based clinical practice guidelines for the use of yoga as a first line intervention for treatment of anxiety disorders in children and adolescents.

The benefits of a modified Delphi method via electronic distribution include the use of e-mailed questionnaires and responses, eliminating the need to organize in-person meetings with a large group of individuals (Thangaratinam & Redman, 2005). Additionally, the modified Delphi technique eliminates hierarchical practice, wherein colleagues may intentionally or unintentionally pressure less experienced individuals to align their opinions with more experienced colleagues (Thangaratinam & Redman, 2005).

Three rounds of questionnaires were electronically distributed to the identified experts via e-mail using Qualtrics. The Round One Questionnaire (Appendix C) collected demographic data and expert opinion on the need for clinical practice guidelines for the use of yoga as a treatment intervention for children and adolescents with anxiety. Responses from the Round One

Questionnaire were used to calculate frequency and determine consensus, and themes were extracted to develop the Round Two Questionnaire. The Round Two Questionnaire (Appendix D) collected demographic data and expert opinion on the identified themes from the Round One Questionnaire. The Round Two Questionnaire focused on refining items which subjects felt should be included in clinical practice guidelines, as well as soliciting expert opinion on which organization(s) should be responsible for developing and publishing clinical practice guidelines. Responses from the Round Two Questionnaire were assessed using measures of frequency, and themes were extracted to develop the Round Three Questionnaire. The Round Three Questionnaire (Appendix E) collected demographic information and solicited expert opinion on elements of the clinical practice guidelines most frequently identified in the Round Two Questionnaire. Results from the Round Three Questionnaire were used to calculate frequency to determine if consensus exists on which elements should be included clinical practice guidelines based on responses from both the Round One and Round Two Questionnaires, and which organization should be responsible for clinical practice guideline development and publication.

Results from quantitative data analysis comprised frequencies and percentages as measures of central tendency and ranges as measures of dispersion and was used to describe the sample and determine consensus. A score of 80% or higher was interpreted as consensus. Qualitative data analysis in the form of textual content analysis was conducted via interpretation by the DNP student and advisor. Qualitative data were used to identify themes within responses from the identified experts. The advisor served to validate the themes as being derived from these data.

Sample

The target population surveyed for this project included experts in the fields of child and adolescent psychiatry, psychology, and yoga. The target sample size for consensus surveys was 100 individuals throughout the United States and internationally. (N = 111) Psychiatry and psychology professionals were identified via professional organizations, networking, certification, and licensure and e-mail addresses were obtained for each individual. Yoga professionals who specialize in interventions with children and adolescents were identified through professional organizations, networking, and certification. Psychiatric professionals included Psychiatrists (n = 17), Psychiatric Advanced Practice Registered Nurses (n = 22), including Clinical Nurse Specialists and Nurse Practitioners, and Psychiatric Registered Nurses (n = 19). Psychology professionals included Psychologists (n = 14), Clinical Counselors (n = 13), and Social Workers (n = 5). Yoga professionals included Yoga Therapists (n = 4) and Yoga Instructors (n = 17).

The Round One Questionnaire was distributed to 111 subjects. Seventeen (17) subjects finished the questionnaire (Psychiatric Advanced Practice Registered Nurses = 4, Psychiatric Registered Nurses = 3, Psychologist = 1, Clinical Counselors = 4, Social Worker = 1, Yoga Instructor = 2, Yoga Instructor and Yoga Therapist = 1, Yoga Instructor and Psychiatrist = 1). One identified expert requested to be removed from the mailing list following the Round One Questionnaire distribution. The Round Two Questionnaire was distributed to 110 subjects. Nine (9) subjects finished the questionnaire, (Psychiatric Advanced Practice Registered Nurses = 4, Clinical Counselors = 2, Social Worker = 1, Yoga Instructor = 1, Psychiatrist = 1), however some subjects did not respond to every question. The Round Three Questionnaire was distributed to 110 subjects. Seven (7) subjects finished the questionnaire, (Psychiatric Advanced Practice

Registered Nurses = 3, Psychiatric Registered Nurses = 1, Psychologist = 1, Social Worker = 1, Psychiatrist = 1).

Protection of Human Subjects

Institutional Review Board (IRB) approval (Appendix F) was solicited and received through Otterbein University (HS # 18/19-02), with the condition that the Round Two Questionnaire (Appendix G) and Round Three Questionnaire (Appendix H) would be submitted for approval as an amendment prior to distribution. All questionnaires were approved.

Budget

Questionnaires were disseminated via Qualtrics, a resource available through Otterbein University available to doctoral students at no extra charge, dissemination of the project results require printing a poster, the cost of which was approximately $100. Project team time for completing this project was not recovered by the project budget and monetary or in-kind recruitment inducements were not offered.

Analysis and Outcome Evaluation

Based on data from the Round One Questionnaire, consensus was found on the need for evidence-based clinical practice guidelines among the psychiatry and psychology professionals (80%). Consensus was not found on the need for evidence-based clinical practice guidelines, however, among the yoga professionals (29%). Consensus was also established (100%) that not just one specific type of yoga should be recommended in clinical practice guidelines. Narrative responses included: “not one size fits all,” “a variation of different systems [should be] utilized to have the greatest benefit,” and “people have different physical capabilities that would make one form of yoga impossible.” One-hundred percent of subjects also agreed that there are benefits to using yoga to treat anxiety in children and adolescents.

Expert opinion was solicited in the Round Two Questionnaire on why the disparity might exist between the psychiatric and psychological professionals and yoga professionals on the need for clinical practice guidelines for the use of yoga in the treatment of anxiety for children and adolescents. Reponses indicate that consensus among the psychiatry and psychology professionals may be because "EBP can be measured and show concrete results," "Evidence-based practice is the current standard of care in medicine," and "if there isn't evidence that it works then there isn't any point in doing it." Responses indicate that consensus for the need for evidence-based clinical practice guidelines among the yoga professionals may not have been found because "the [yoga] instructors are likely not researchers," "they [yoga professionals] don't have degrees with a heavy emphasis on research," and "every child is different and deserves to be treated individually." In the Round Two Questionnaire subjects were also asked to rank the risks of yoga, benefits of yoga, and items which they felt should be included in clinical practice guidelines in order of importance. The most frequently, top-ranked items were used in the development of the Round Three Questionnaire. Professional organizations with published guidelines on the treatment of anxiety in children and adolescents were also listed in the Round Two Questionnaire, and subjects were asked to indicate if they currently use guidelines for the named organization, and if they would use guidelines for the use of yoga in the treatment of anxiety in children and adolescents from these organizations.

In the Round Three Questionnaire consensus was found (86%) among subjects, on the top-ranked risks of using yoga as a treatment intervention for children and adolescent anxiety, and included emotional triggers (negative memories, emotional discomfort, and trauma) and physical injury (muscle strains and sprains). In the Round Three Questionnaire consensus was also found (100%) among subjects, on the top-ranked benefits of using yoga as a treatment

intervention for children and adolescents with anxiety, and include emotional regulation and/or self-regulation, focus on the here and now, mindfulness or calming the mind, physical exercise or stretching, body awareness, and breathing. Additionally, in the Round Three Questionnaire consensus was found (100%) among subjects on top-ranked items to be included in clinical practice guidelines including indications, contraindications, safety measures, professional boundaries, risks, type of assessment to perform, what age children and adolescents can practice yoga without a parent, what age children and adolescents can start practicing yoga, and what type of yoga to use. Lastly, in the Round Three Questionnaire, consensus was found (100%) among subjects that if the American Academy of Child and Adolescent Psychiatry developed guidelines using the risks, benefits, and items outlined in the questionnaire, these guidelines would be beneficial to their practice.

Conclusion and Recommendations

Evidence-based clinical practice guidelines improve care delivery, reduce costs, and improve health outcomes, however development of clinical practice guidelines for complementary and integrative health care interventions is lacking (Kemper, 2015; Hunter, J., Leach, M., Braun, L., & Bensoussan, A., 2017). It is increasingly important to develop evidence-based clinical practice guidelines for complementary and integrative health care interventions, such as yoga, as consumer use of and demand for these interventions increases (Hunter et al., 2017). Additionally, lack of clinical practice guidelines "may widen the gap between what practitioners and users of [complementary and integrative health care] are doing, and what is considered best practice" (Hunter et al., 2017).

Based on the results of this study, psychiatric and psychological mental health care providers report that they feel yoga is beneficial to children and adolescents with anxiety, and they would benefit from the development of evidence-based clinical practice guidelines.

Using the theoretical framework of Lippitt's planned change model, future implications associated with guideline development, dissemination, and implementation can be identified. AACAP, identified by the subjects as the highest ranked organization to develop and disseminate evidence-based clinical practice guidelines, should be assessed for motivation and resources to carry out the identified evidence-based practice change. Evidence-based clinical practice guidelines should be operationalized, through test and retest measures, and disseminated. AACAP should then participate in ongoing feedback collection following dissemination to ensure safety and reliability of the clinical practice guidelines.

Nursing Process	**Lippitt's Planned Change Theory**	**Evidence-Based Practice Guideline Update**
Assessment	Phase 3 Assess the change agent's motivation and resources	Future Implication: Evaluation of motivation of the identified organization in the survey to carry out the change as the identified change agent.
Planning	Phase 4 Select progressive change objective	Future Implication: Development of operationalized evidence-based clinical practice guidelines.
	Phase 5 Chose appropriate role of the change agent	Future Implication: Dissemination of evidence-based clinical practice guidelines by the identified change agent.
Implementation	Phase 6 Maintain the change	Future Implication: Change agent continuously evaluates, receives feedback on progress, dissatisfiers, and maintains open lines of communication with invested parties.
Evaluation	Phase 7 Terminate the helping relationship	Future Implication: Change agent remains available for reinforcement of guidelines but is then able to step back and determine if improvement and satisfaction exists as a result of the change.

(Adapted from Mitchell, 2013).

Limitations

Limitations of this study were a low response rate. Response rate for the Round One Questionnaire was 15%, for the Round Two Questionnaire was 8%, and for the Round Three Questionnaire was 6%. Subjects did not practice outside of the United States. PMH-APRNs (20% of total subjects) represent a disproportionately large response rate to all three questionnaires (Q1 = 24%, Q2 = 44%, Q3 = 43%). Additionally, no yoga professionals responded to the Round Three Questionnaire, which results in heavily weighted outcomes biased toward psychiatric and psychological opinion, particularly that of PMH-APRNs.

Some subjects who completed the Round Two Questionnaire did not respond to all questions. This may have been due to technical difficulties with the ranking question type in the Qualtrics survey interface, which one subject called "very confusing."

The questionnaires used for this modified Delphi method study were not standardized because of the specific nature of the content in question. Interrater reliability between the DNP student and advisor was used for content analysis due to the psychiatric, integrative, specialization of the survey content. Because generalization to a larger population was not a goal of this project, validity and reliability were not appropriate to the work.

Summary

Consensus (≥ 80%) was found among identified experts in psychiatry and psychology for the need for evidence-based clinical practice guidelines for the use of yoga as a treatment intervention for children and adolescents with anxiety, while consensus was not found among identified yoga experts. Consensus among identified experts was also established on the risks, benefits, and items which should be included in evidence-based clinical practice guidelines.

Psychiatric and psychological professional organizations bear the responsibility of development and dissemination of evidence-based clinical practice guidelines for complementary and integrative health care interventions, as demand by consumers, and acceptance by providers increases. Psychiatric mental health care providers including psychiatrists, psychologists, psychiatric APRNs, psychiatric RNs, counselors and therapists as well as children and adolescents diagnosed with anxiety would benefit from the development of evidence-based clinical practice guidelines for the use of yoga in the treatment of anxiety for children and adolescents. The potential for reducing the burden of disease, reducing economic impact, and improving health outcomes in children and adolescents with anxiety affirms the need for guideline development for the use of yoga in the treatment of anxiety for children and adolescents.

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Appendix A

Synthesis Table of Findings for Yoga in Children

Author (year)	Demographics	Intervention	Findings
American Academy of Pediatrics (2016)	Children and "youth"	Yoga	Yoga improves psychological functioning in children with emotional, mental and behavioral health problems Yoga has very few reported adverse effects
Flynn (2016)	Children	Mindfulness and yoga	Yoga has the potential to strengthen parasympathetic nervous system responses and modulate neurotransmitter function Children who practice yoga are better able to calm themselves, manage stress, and regulate their emotions
Lalitha & Gaikwad (2017)	Children and adolescents	Yoga	Overall positive parental attitude toward yoga Yoga should be used as a regular treatment for children with psychiatric problems
Nanthakumar (2017)	Children	Yoga	Yoga causes downregulation of the sympathetic nervous system and activation of the parasympathetic nervous system
Neiman (2015)	Children and adolescents	Mindfulness and yoga	Yoga is able to help children and adolescents shift from a sympathetic response to a more calming parasympathetic response Yoga improves confidence, self-awareness, decreases stress and promotes relaxation
Weaver & Darragh (2015)	Children and adolescents	Yoga	Reduced anxiety after a yoga intervention

Appendix B

Recruitment E-Mail

Dear ____,

My name is Laura Abels, I'm a doctoral student at Otterbein University in Westerville Ohio. I'm a board-certified Advanced Practice Psychiatric Nurse and Advanced Practice Holistic Nurse. My doctoral project is a modified Delphi method study to establish consensus for clinical practice guidelines using yoga as a first line treatment recommendation for kids and teens with anxiety.

Ultimately, I'm trying to determine if child and adolescent psychiatry, psychology, and yoga experts are able to agree, or not agree, on the need for, and what should be included in a set of clinical practice guidelines for using yoga as a treatment for anxiety in children and adolescents. The research supporting yoga as a first line treatment is strong, yet many psychiatric care providers aren't recommending it.

I need to recruit professionals in child and adolescent psychiatry, psychology, and yoga to volunteer to take a series of two to three surveys over the next year. I would appreciate your input on a series of surveys if you would be willing. I just need to know the best e-mail to reach you at as the surveys roll out.

Also, if you have other child yoga or child psychiatry professionals that you know (nationally or internationally) I would appreciate if you are able share their contact information with me.

Thank you for taking the time to consider my request.

Sincerely,

Laura Abels

Appendix C

Round One Questionnaire

Written Instructions to Participants

Toward expert consensus for evidence-based practice guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.

Introduction: Thank you for participating in this project. This questionnaire is the first in an anticipated series of three questionnaires.

The purpose of this project is to move toward expert consensus on the use of yoga as a treatment intervention for children and adolescents with anxiety.

This questionnaire should take about 15 minutes to complete. Please answer all questions to the best of your knowledge. There are no right or wrong answers.

Participation is voluntary. Completion of instrument will indicate your consent. If you have a question or concern regarding the project or questionnaire, you may contact the project team leader, Laura Abels at laura.abels@otterbein.edu or the Principal Investigator, Dr. John Chovan at jchovan@otterbein.edu.

Definitions: For the purpose of this project:

Child: at least 2 years old and prepubescent. Adolescent: onset of puberty to not yet 18 years old.

Anxiety: any mental health disorder which is categorized by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2010) as an Anxiety Disorder including Separation Anxiety Disorder, Selective Mutism, Specific Phobia, Social Anxiety Disorder (Social Phobia), Panic Disorder, Agoraphobia, Generalized Anxiety Disorder, Other Specified Anxiety Disorder, or Unspecified Anxiety Disorder.

Evidence-based practice guidelines: systematically-derived recommendations of best clinical practice based on review and integration of external evidence (Melnyk, 2018).

Yoga: any type of wellness and relaxation practice which may include controlled breathing techniques, meditation or mindfulness, and defined physical postures, including, but not limited to Anusara, Ashtanga, Bikram, Iyengar, Jivamukti, Kundalini, Restorative, Vini, Vinyasa, and Yin systems.

Do you currently work with or have experience working with children or adolescents?
Yes, children only
Yes, adolescents only
Yes, children and adolescents
No.

If NO: Thank you for your participation. This project is intended for only those individuals who have experience working with children or adolescents. EXIT

If YES: How long do you have experience working with children or adolescents?
less than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

I have professional experience working in yoga or mental health. Yes or No
If NO: Thank you . . .

I hold a professional license to practice:
Advanced Psychiatric and Mental Health Nursing as an advanced practice registered nurse.
Clinical or Counseling psychology as a psychologist
Counseling as a professional counselor.
Psychiatric nursing as a registered nurse.
Psychiatry as a physician
Social Work as an social worker.
Yoga Instructor
Yoga Therapist
None of the above: Thank you for your participation. This questionnaire is intended for only those individuals who have experience in psychiatry, psychology, or yoga. EXIT

How long have you been practicing?
fewer than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Do you have experience teaching yoga, practicing yoga, or using yoga as a treatment modality? (Select all that apply)
Yes, teaching yoga
Yes, practicing yoga
Yes, using yoga as a treatment modality
No

With which system(s) of yoga are you most experienced? (Select all that apply)
Anusara
Ashtanga
Bikram
Iyengar
Jivamukti
Kundalini
Restorative
Vini
Vinyasa
Yin
Other (please explain)

How many years of experience do you have teaching/practicing/using yoga?
fewer than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Where do you practice? (Select all that apply)
Asia (please specify)
Australia
Canada
Europe (please specify)
United States
Other (please specify)

What is your current primary practice setting?
Hospital or inpatient acute care facility
Long term acute care or residential facility
Outpatient clinic
Nursing Education
Yoga studio/Community center
Public or private elementary, middle, or high school
Other (please describe)

What is your current secondary practice setting, if any?
Not applicable
Hospital or inpatient acute care facility
Long term acute care or residential facility

Outpatient clinic
Nursing Education
Yoga studio/Community center
Public or private elementary, middle, or high school
Other (please describe)

Do you see persons with anxiety in your practice?
Yes – continue to next question.
No - Thank you for your participation. This questionnaire is intended for only those individuals who encounter individuals with anxiety. EXIT

What do you use to guide your treatment of anxiety in your practice in children and adolescents? (please be specific, e.g., nothing, the name of a particular journal, the URL of a website, title of professional guidelines, continuing educational experience)

Do you agree or disagree? Treating anxiety in children and adolescents should be guided by evidence-based clinical guidelines? Explain your answer.

Do you agree or disagree? There are benefits to using yoga to treat anxiety in children and adolescents. Explain your answer.

Do you agree or disagree? There are risks to using yoga to treat anxiety in children and adolescents. Explain your answer.

What do you use to guide your inclusion of yoga as a treatment modality for anxiety in children and adolescents? (please be specific, e.g., nothing, the name of a particular journal, the URL of a website, title of professional guidelines, continuing educational experience)

Do you agree or disagree? Using yoga to treat anxiety in children and adolescents should be guided by evidence-based clinical guidelines? Explain your answer.

Do you agree or disagree? Evidence-based guidelines for using yoga to treat anxiety in children and adolescents are needed. Explain your answer.

If guidelines for the use of yoga as a treatment intervention for children and adolescents with anxiety are developed, what should they include? Why?

Do you agree or disagree? Only one specific system of yoga should be used for the treatment of anxiety in children and adolescents. Explain your answer.

Appendix D

Written Instructions to Participants

Round Two Questionnaire

Toward expert consensus for evidence-based practice guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.

Introduction: Thank you for participating in this project. This questionnaire is the second in an anticipated series of three questionnaires. You may respond to this questionnaire even if you did not respond to the first questionnaire in this series.

The purpose of this project is to move toward expert consensus on the use of yoga as a treatment intervention for children and adolescents with anxiety.

This questionnaire should take about 15 minutes to complete. Please answer all questions to the best of your knowledge. There are no right or wrong answers. Please note demographic data will be collected in each questionnaire.

Participation is voluntary, and you are free with withdraw from the study at any time, without penalty, by not responding to any questionnaire. Selecting the "Begin the Questionnaire" button on the screen below indicates you consent to participate in this project, that you affirm that you are at least 18 years of age, and you consent to having your name included in a list of experts in the final report and I any publications disseminated thereof, without your individual response being linked to your name. If you do not consent to participate, you will have the option to exit the system by selecting the "Exit" button on the screen below.

If you have a question or concern regarding the project or questionnaire, you may contact the project team leader, Laura Abels at laura.abels@otterbein.edu or the Principal Investigator, Dr. John Chovan at jchovan@otterbein.edu.

Definitions: For the purpose of this project:

Child: at least 2 years old and prepubescent. Adolescent: onset of puberty to not yet 18 years old.

Anxiety: any mental health disorder which is categorized by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2010) as an Anxiety Disorder including Separation Anxiety Disorder, Selective Mutism, Specific Phobia, Social Anxiety Disorder (Social Phobia), Panic Disorder, Agoraphobia, Generalized Anxiety Disorder, Other Specified Anxiety Disorder, or Unspecified Anxiety Disorder.

Evidence-based practice guidelines: systematically-derived recommendations of best clinical practice based on review and integration of external evidence (Melnyk, 2018).

Yoga: any type of wellness and relaxation practice which may include controlled breathing techniques, meditation or mindfulness, and defined physical postures, including, but not limited

to Anusara, Ashtanga, Bikram, Iyengar, Jivamukti, Kundalini, Restorative, Vini, Vinyasa, and Yin systems.

Begin Questionnaire or Exit

Do you currently work with or have experience working with children or adolescents?
Yes, children only
Yes, adolescents only
Yes, children and adolescents
No.

If NO: Thank you for your participation. This project is intended for only those individuals who have experience working with children or adolescents. EXIT

If YES: How long do you have experience working with children or adolescents?
less than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Do you see children and/or adolescents with anxiety in your practice?
Yes – continue to next question.
No - Thank you for your participation. This questionnaire is intended for only those individuals who encounter individuals with anxiety. EXIT

I have professional experience working in yoga or mental health. Yes or No
If NO: Thank you . . .

I hold a professional license to practice as a:
Advanced Psychiatric and Mental Health Nursing as an advanced practice registered nurse
Clinical or Counseling psychology as a psychologist
Counseling as a professional counselor
Psychiatric nursing as a registered nurse
Psychiatry as a physician
Social Work as a social worker.
Yoga Instructor
Yoga Therapist
None of the above: Thank you for your participation. This questionnaire is intended for only those individuals who have experience in psychiatry, psychology, or yoga. EXIT

How long have you been practicing psychiatry, psychology, and/or yoga?

fewer than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Do you have experience teaching yoga, practicing yoga, or using yoga as a treatment modality? (Select all that apply)
Yes, teaching yoga
Yes, practicing yoga
Yes, using yoga as a treatment modality
No

With which system(s) of yoga are you most experienced? (Select all that apply)
Anusara
Ashtanga
Bikram
Classical
Iyengar
Jivamukti
Kripalu
Kundalini
Restorative
Urban Zen
Vini
Vinyasa
Vipassana (meditation)
Yin
YogaFit
Other (please explain)

How many years of experience do you have teaching, practicing, or using yoga?
none
fewer than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Where do you practice? (Select all that apply)
Asia (please specify)
Australia
Canada
Europe (please specify)
United States
Other (please specify)

What is your current primary practice setting?
Hospital or inpatient acute care facility
Long term acute care or residential facility
Outpatient clinic
Nursing Education
Yoga studio
Community center
Public or private preschool, elementary, middle, or high school
Correctional Facility
Home
Other (please describe)

What is your current secondary practice setting, if any?
Not applicable
Hospital or inpatient acute care facility
Long term acute care or residential facility
Outpatient clinic
Nursing Education
Yoga studio/Community center
Public or private preschool elementary, middle, or high school
Correctional Facility
Home
Other (please describe)

Respondents to Questionnaire 1 identified the following items as being important to include in clinical practice guidelines for the use of yoga as a treatment intervention for children and adolescents with anxiety. Please rank the top 25 items, in order of importance, to include in clinical practice guidelines.

Breathing practices
Contraindications
Documentation of poses
Education
Homework
How long to practice in a session
How many days per week
How to handle and emotional response to the activity

How to incorporate trauma informed care
Indications
Instruction on mindfulness
Instructor role
Parent/guardian interviews
Parent role
Professional boundaries
Recommendations for group vs. individual interventions
Risks associated with the intervention
Safety measures
Teacher education
Tools to measure anxiety symptoms before and after intervention (pre and post measures)
Type of assessment to perform (written, oral, physical)
What age they can practice without a parent
What age they can start practicing yoga
What type of yoga to use
Which poses promote a parasympathetic response, and which are activating

Explain why you prioritized the items you did:

Respondents to Questionnaire 1 identified the following professional resources which guide their treatment of **anxiety** in practice. Please rank the top 5 resources in order of *how frequently you use these resource* in your practice; with 1 being the most frequent, and 5 being the least frequent.

American Academy of Child and Adolescent Psychiatry (AACAP) Guidelines
Childlight Yoga Manual
Childlight Yoga Website
Clinical Psychiatry (publication)
Current Psychiatry (publication)
Harvard Medical School Research Studies (website)
KidsYogaStories.com
Mindfulness Based Stress Reduction by Jon Kabat Zinn
Neuroscience Education Institute (website)
Psychology Today (publication)
Using Yoga Therapy to Promote Mental Health in Children and Adolescents by Michelle Fury
YogaFit.com
Yoga Studio Magazine
Yoga Therapy for Anxiety by Erin Byron & Dr. Bob Butera
You Tube [please specify] (if you rate this in your top 3, what are some of the videos you recommend)

Respondents to Questionnaire 1 identified the following professional resources which guide their use of **yoga** as a treatment modality for children and adolescents with anxiety in practice. Please rank the top 5 resources in order of *how frequently you use these resource* in your practice; with

1 being the most frequent, and 5 being the least frequent, or select "N/A" if you do not use yoga in your practice:

N/A
A Still Quiet Place for Teens by Amy Saltzman
Books by Dawn Huebner [Please specify]
Brain Storm by Dan Siegel
Child Light Yoga
Get out of your Mind and Into Your Life by Steven C. Hayes and Spencer Smith
Growing Up Mindful by Christopher Willard
Mind Up Curriculum
Mindfulness Based Stress Reduction by Jon Kabat-Zinn
Mindfulness for Teen Anxiety by Christopher Willard
Mindfulness Training by Christopher Willard
Teaching Mindfulness Skills to Kids and Teens by Christopher Willard
The Mindful Teen by Dzung X. Vo
The Stress Reduction Workbook for Teens by Gina Biegel
Yoga 4 Classrooms
Yoga as Mind-Body Medicine by Bo Forbes

What factors give you confidence in the resources which you have identified as guiding your psychiatry, psychology, and/or yoga practice?
Open box for write in

Respondents to Questionnaire 1 identified the following benefits to using yoga in the treatment of children and adolescents. Please rank all items from 1 to 9, with 1 being the most beneficial and 9 being the least beneficial.

Focus on or presence in the here and now
Mindfulness or "calming the mind"
Physical exercise and/or stretching
Breathing
Meditation
Pre and post intervention tests or measures
Homework assignments
Body awareness
Emotional regulation and/or self-regulation

Explain why you prioritized the items you did:

Respondents to Questionnaire 1 identified the following potential risks of using yoga as a treatment intervention for children and adolescents with anxiety, please rank all 3 items which should be addressed in clinical practice guidelines, in order of importance with 1 being the most important and 3 being the least important.

Physical injury (muscle strains, sprains)
Emotional triggers (negative memories, emotional discomfort, trauma)
Untrained/undertrained yoga instructors

Explain why you prioritized the items you did:

Based on response to Questionnaire 1: Consensus was found (≥80% of respondents) within the group of **psychiatry and psychology** professionals, that treatment of anxiety using yoga in children and adolescents should be guided by evidence-based clinical guidelines. Explain why you believe consensus **was** found on this item:

Based on response to Questionnaire 1: Consensus was **not** found (<80% of respondents) within the group of **yoga** professionals, that treatment of anxiety using yoga in children and adolescents should be guided by evidence-based clinical practice guidelines: Explain why you believe consensus **was not** found on this item:

Do you agree or disagree? Having clinical practice guidelines would increase my confidence when recommending yoga as a treatment intervention for children and adolescents with anxiety. Explain your answer:

Evidence-based clinical practice guidelines for the treatment of anxiety in children and adolescents are available from the following organizations:
The American Academy of Child and Adolescent Psychiatry (AACAP)
The American Academy of Pediatrics (AAP)
The American Psychiatric Association (APA)
The World Health Organization (WHO)
Up To Date (UTD)

For each organization above, do you agree or disagree with the following statements?

The American Academy of Child and Adolescent Psychiatry (AACAP)

- I use guidelines from this organization to guide my treatment of adolescents and children with anxiety.
  ___ Agree
  ___ Disagree
  Comment:

- I would use evidence-based clinical practice guidelines from this organization to guide the use of yoga as a treatment modality for children and adolescents with anxiety, if this organization wrote the guidelines.
  ___ Agree
  ___ Disagree
  Comment:

- If this organization recommended yoga as a treatment modality, I would be more inclined to use or recommend yoga as a treatment intervention for children and adolescents with anxiety.

___ Agree
___ Disagree
Comment:

- If this organization recommended that I **not** use yoga as a treatment modality, I would be more inclined to **not** recommend or use yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- This organization should be responsible for writing the evidence-based guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

The American Academy of Pediatrics (AAP)

- I use guidelines from this organization to guide my treatment of adolescents and children with anxiety.
___ Agree
___ Disagree
Comment:

- I would use evidence-based clinical practice guidelines from this organization to guide the use of yoga as a treatment modality for children and adolescents with anxiety, if this organization wrote the guidelines.
___ Agree
___ Disagree
Comment:

- If this organization recommended yoga as a treatment modality, I would be more inclined to use or recommend yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- If this organization recommended that I **not** use yoga as a treatment modality, I would be more inclined to **not** recommend or use yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- This organization should be responsible for writing the evidence-based guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.

___ Agree
___ Disagree
Comment:

The American Psychiatric Association (APA)

- I use guidelines from this organization to guide my treatment of adolescents and children with anxiety.
  ___ Agree
  ___ Disagree
  Comment:

- I would use evidence-based clinical practice guidelines from this organization to guide the use of yoga as a treatment modality for children and adolescents with anxiety, if this organization wrote the guidelines.
  ___ Agree
  ___ Disagree
  Comment:

- If this organization recommended yoga as a treatment modality, I would be more inclined to use or recommend yoga as a treatment intervention for children and adolescents with anxiety.
  ___ Agree
  ___ Disagree
  Comment:

- If this organization recommended that I **not** use yoga as a treatment modality, I would be more inclined to **not** recommend or use yoga as a treatment intervention for children and adolescents with anxiety.
  ___ Agree
  ___ Disagree
  Comment:

- This organization should be responsible for writing the evidence-based guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.
  ___ Agree
  ___ Disagree
  Comment:

The World Health Organization (WHO)

- I use guidelines from this organization to guide my treatment of adolescents and children with anxiety.
  ___ Agree
  ___ Disagree
  Comment:

- I would use evidence-based clinical practice guidelines from this organization to guide the

use of yoga as a treatment modality for children and adolescents with anxiety, if this organization wrote the guidelines.
___ Agree
___ Disagree
Comment:

- If this organization recommended yoga as a treatment modality, I would be more inclined to use or recommend yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- If this organization recommended that I **not** use yoga as a treatment modality, I would be more inclined to **not** recommend or use yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- This organization should be responsible for writing the evidence-based guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

Up To Date (UTD)

- I use guidelines from this organization to guide my treatment of adolescents and children with anxiety.
___ Agree
___ Disagree
Comment:

- I would use evidence-based clinical practice guidelines from this organization to guide the use of yoga as a treatment modality for children and adolescents with anxiety, if this organization wrote the guidelines.
___ Agree
___ Disagree
Comment:

- If this organization recommended yoga as a treatment modality, I would be more inclined to use or recommend yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- If this organization recommended that I **not** use yoga as a treatment modality, I would be

more inclined to **not** recommend or use yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

- This organization should be responsible for writing the evidence-based guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.
___ Agree
___ Disagree
Comment:

Agree or Disagree? If any of the previously named organizations wrote clinical practice guidelines on the use of yoga to treat anxiety in children or adolescents, I would NOT use them.
Explain your answer:

Agree or Disagree? I would use clinical practice guidelines on the use of yoga to treat anxiety in children or adolescents if they were written by an organization unnamed above.
Explain your answer, including the name of the organization:

Do you have any additional comments?

THANK YOU

Appendix E

Written Instructions to Participants

Round Three Questionnaire

Toward expert consensus for evidence-based practice guidelines on the use of yoga as a treatment intervention for children and adolescents with anxiety.

Introduction: Thank you for participating in this project. This questionnaire is the third in an anticipated series of three questionnaires. You may respond to this questionnaire even if you did not respond to the first two questionnaires in this series.

The purpose of this project is to move toward expert consensus on the use of yoga as a treatment intervention for children and adolescents with anxiety.

This questionnaire should take about 15 minutes to complete. Please answer all questions to the best of your knowledge. There are no right or wrong answers. Please note demographic data will be collected in each questionnaire.

Participation is voluntary, and you are free with withdraw from the study at any time, without penalty, by not responding to any questionnaire. Selecting the "Begin the Questionnaire" button on the screen below indicates you consent to participate in this project, that you affirm that you are at least 18 years of age, and you consent to having your name included in a list of experts in the final report and I any publications disseminated thereof, without your individual response being linked to your name. If you do not consent to participate, you will have the option to exit the system by selecting the "Exit" button on the screen below.

If you have a question or concern regarding the project or questionnaire, you may contact the project team leader, Laura Abels at laura.abels@otterbein.edu or the Principal Investigator, Dr. John Chovan at jchovan@otterbein.edu.

Definitions: For the purpose of this project:

Child: at least 2 years old and prepubescent. Adolescent: onset of puberty to not yet 18 years old.

Anxiety: any mental health disorder which is categorized by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2010) as an Anxiety Disorder including Separation Anxiety Disorder, Selective Mutism, Specific Phobia, Social Anxiety Disorder (Social Phobia), Panic Disorder, Agoraphobia, Generalized Anxiety Disorder, Other Specified Anxiety Disorder, or Unspecified Anxiety Disorder.

Evidence-based practice guidelines: systematically-derived recommendations of best clinical practice based on review and integration of external evidence (Melnyk, 2018).

Yoga: any type of wellness and relaxation practice which may include controlled breathing techniques, meditation or mindfulness, and defined physical postures, including, but not limited

to Anusara, Ashtanga, Bikram, Iyengar, Jivamukti, Kundalini, Restorative, Vini, Vinyasa, and Yin systems.

Begin Questionnaire or Exit

Do you currently work with or have experience working with children or adolescents?
Yes, children only
Yes, adolescents only
Yes, children and adolescents
No.

If NO: Thank you for your participation. This project is intended for only those individuals who have experience working with children or adolescents. EXIT

If YES: How long do you have experience working with children or adolescents?
less than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Do you see children and/or adolescents with anxiety in your practice?
Yes – continue to next question.
No - Thank you for your participation. This questionnaire is intended for only those individuals who encounter individuals with anxiety. EXIT

I have professional experience working in yoga or mental health. Yes or No
If NO: Thank you . . .

I hold a professional license to practice as a:
Advanced Psychiatric and Mental Health Nursing as an advanced practice registered nurse
Clinical or Counseling psychology as a psychologist
Counseling as a professional counselor
Psychiatric nursing as a registered nurse
Psychiatry as a physician
Social Work as a social worker.
Yoga Instructor
Yoga Therapist
None of the above: Thank you for your participation. This questionnaire is intended for only those individuals who have experience in psychiatry, psychology, or yoga. EXIT

How long have you been practicing psychiatry, psychology, and/or yoga?

fewer than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Do you have experience teaching yoga, practicing yoga, or using yoga as a treatment modality? (Select all that apply)
Yes, teaching yoga
Yes, practicing yoga
Yes, using yoga as a treatment modality
No

With which system(s) of yoga are you most experienced? (Select all that apply)
Anusara
Ashtanga
Bikram
Classical
Iyengar
Jivamukti
Kripalu
Kundalini
Restorative
Urban Zen
Vini
Vinyasa
Vipassana (meditation)
Yin
YogaFit
Other (please explain)

How many years of experience do you have teaching, practicing, or using yoga?
none
fewer than 5 years
5-9 years
10-14 years
15-19 years
20-24 years
25-29 years
30-34 years
35-39 years
40 or more years

Where do you practice? (Select all that apply)
Asia (please specify)
Australia
Canada
Europe (please specify)
United States
Other (please specify)

What is your current primary practice setting?
Hospital or inpatient acute care facility
Long term acute care or residential facility
Outpatient clinic
Nursing Education
Yoga studio
Community center
Public or private preschool, elementary, middle, or high school
Correctional Facility
Home
Other (please describe)

What is your current secondary practice setting, if any?
Not applicable
Hospital or inpatient acute care facility
Long term acute care or residential facility
Outpatient clinic
Nursing Education
Yoga studio/Community center
Public or private preschool elementary, middle, or high school
Correctional Facility
Home
Other (please describe)

Based on responses to the second questionnaire in this series, respondents identified the following data as they relate to clinical practice guidelines for the treatment and anxiety in children and adolescents:

The following items were ranked as the **most important** to include in clinical practice guidelines for using yoga as a treatment intervention for children and adolescents with anxiety. Do you agree or disagree with these findings?

Indications
Contraindications
Safety Measures
Professional Boundaries
Risks

Type of assessment to perform (written, oral, physical)
What age they can practice without a parent
What age they can start practicing yoga
What type of yoga to use

Agree or Disagree

If Disagree, Why?

What type of assessment should be performed by a yoga instructor prior to starting yoga with a child or adolescent with anxiety? (free text)

At what age are children and adolescents able to practice yoga? (free text)

At what age are children and adolescents able to practice yoga without a parent? (free text)

What contraindications would prevent children or adolescents from participating in yoga? (free text)

The following **benefits** were ranked highest for the use of yoga as a treatment intervention for children and adolescents with anxiety. Do you agree or disagree with these findings?

Emotional Regulation and/or self regulation
Focus on the Here and now
Mindfulness, or calming the mind
Physical exercise or stretching
Body Awareness
Breathing

Agree or Disagree?

If disagree: Why?

The following **risks** were ranked most significant, for using yoga as a treatment intervention for children and adolescents with anxiety. Do you agree or disagree with these findings?

Emotional Triggers (negative memories, emotional discomfort, trauma)
Physical Injury (muscle strains, sprains).

Agree or Disagree

If Disagree: Why?

What training would you recommend for yoga instructors related to mitigating the risk of **Physical Injury**? (free text)

What training would you recommend for yoga instructors related to mitigating the risk of **Emotional Triggers**? (free text)

The American Academy of Child and Adolescent Psychiatry (AACAP) was ranked as the most frequently used professional resource to guide treatment of anxiety in practice.

Do you agree or disagree with the following statement: If AACAP developed guidelines using the risks, benefits, and items outlined above, these guidelines would be beneficial to my practice?

Agree or Disagree

If Disagree, Why?

Do you have any additional comments?

Thank you for your participation!

Appendix F

Institutional Review Board Approval

INSTITUTIONAL REVIEW BOARD
RESEARCH INVOLVING HUMAN SUBJECTS
OTTERBEIN UNIVERSITY

__X__ Original Review
_____ Continuing Review
_____ Five-Year Review
_____ Amendment

ACTION OF THE INSTITUTIONAL REVIEW BOARD

With regard to the employment of human subjects in the proposed research:

HS # 18/19-02
Chovan & Abels: Toward expert consensus for evidence based practice guidelines …

THE INSTITUTIONAL REVIEW BOARD HAS TAKEN THE FOLLOWING ACTION:

_____ Approved
__✓__ Approved with Stipulations*
_____ Deferred
_____ Disapproved
_____ Waiver of Written Consent Granted

*Stipulations stated by the IRB have been met by the investigator and, therefore, the protocol is APPROVED.

It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the college, signed consent forms are to be transferred to the Institutional Review Board for the required retention period. This application has been approved for the period of one year. You are reminded that you must promptly report any problems to the IRB, and that no procedural changes may be made without prior review and approval. You are also reminded that the identity of the research participants must be kept confidential.

Date: 9 September 2018 Signed: [signature] Chairperson

OC HS Form AF

* Approval for first round questionnaire. Additional surveys, measures, etc. will be submitted to IRB as they are developed, and before they are administered to subjects.

Appendix G

Institutional Review Board Amendment for Round Two Questionnaire

INSTITUTIONAL REVIEW BOARD
RESEARCH INVOLVING HUMAN SUBJECTS
OTTERBEIN UNIVERSITY

X Original Review
____ Continuing Review
____ Five-Year Review
X Amendment 29 Nov 18

ACTION OF THE INSTITUTIONAL REVIEW BOARD

With regard to the employment of human subjects in the proposed research:

HS # 18/19-02
Chovan & Abels: Toward expert consensus for evidence based practice guidelines …

THE INSTITUTIONAL REVIEW BOARD HAS TAKEN THE FOLLOWING ACTION:

____ Approved
✓ Approved with Stipulations*
____ Deferred
____ Disapproved
____ Waiver of Written Consent Granted

*Stipulations stated by the IRB have been met by the investigator and, therefore, the protocol is APPROVED.

It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the college, signed consent forms are to be transferred to the Institutional Review Board for the required retention period. This application has been approved for the period of one year. You are reminded that you must promptly report any problems to the IRB, and that no procedural changes may be made without prior review and approval. You are also reminded that the identity of the research participants must be kept confidential.

Date: 9 September 2018
** 29 November 2018

Signed: Meredith C. Frey
Chairperson

OC HS Form AF

* Approval for first round questionnaire. Additional surveys, measures, etc. will be submitted to IRB as they are developed, and before they are administered to subjects.

** 2nd round questionnaire received and approved

Appendix H

Institutional Review Board Amendment for Round Three Questionnaire

INSTITUTIONAL REVIEW BOARD
RESEARCH INVOLVING HUMAN SUBJECTS
OTTERBEIN UNIVERSITY

X Original Review
____ Continuing Review
____ Five-Year Review
X Amendment 29 Nov 18
X 28 Jan 19

ACTION OF THE INSTITUTIONAL REVIEW BOARD

With regard to the employment of human subjects in the proposed research:

HS # 18/19-02
Chovan & Abels: Toward expert consensus for evidence based practice guidelines …

THE INSTITUTIONAL REVIEW BOARD HAS TAKEN THE FOLLOWING ACTION:

____ Approved
✓ Approved with Stipulations*
____ Deferred
____ Disapproved
____ Waiver of Written Consent Granted

*Stipulations stated by the IRB have been met by the investigator and, therefore, the protocol is APPROVED.

It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the college, signed consent forms are to be transferred to the Institutional Review Board for the required retention period. This application has been approved for the period of one year. You are reminded that you must promptly report any problems to the IRB, and that no procedural changes may be made without prior review and approval. You are also reminded that the identity of the research participants must be kept confidential.

Date: 9 September 2018
** 29 November 2018
*** 28 January 2019

Signed: Meredith C. Frey
Chairperson

OC HS Form AF

* Approval for first round questionnaire. Additional surveys, measures, etc. will be submitted to IRB as they are developed, and before they are administered to subjects.

** 2nd round questionnaire received and approved.

*** 3rd round questionnaire received & approved

Appendix I

Timeline

June 2018
• Met with project advisor, Dr. John Chovan • Created draft of project proposal • Began obtaining e-mail addresses for individuals who can serve as experts • Created draft of recruitment e-mail (Appendix B)
July 2018
• Created project proposal presentation • Presented project proposal to advisor, faculty, and peers on 7/16/18 • Completed project proposal document 7/26/18 • Began draft of IRB application • Developed Round One Questionnaire
August 2018
• Compiled final e-mail distribution list of identified experts
September 2018
• IRB Approval for Round One Questionnaire Received 9/9/18
October 2018
• Distributed of Round One Questionnaire 10/3/18 • Closed Round One Questionnaire Collector 10/15/18 • Conducted Data Analysis of Round One Questionnaire
November 2018
• Developed Round Two Questionnaire • IRB Ammendment Approval for Round Two Questionnaire Received 11/29/18
December 2018
• Distributed of Round Two Questionnaire 12/6/18 • Closed Round Two Questionnaire Collector 12/24/18 • Conducted Data Analysis of Round Two Questionnaire • Developed Round Three Questionnaire

January 2019
• IRB Amendment Approval for Round Three Questionnaire Received 1/28/19 • Distributed of Round Three Questionnaire 1/30/19
February 2019
• Closed Round Three Questionnaire Collector 2/11/19 • Conducted Data Analysis of Round Three Questionnaire • Wrote Analysis and Outcome Evaluation
March 2019
• Finalized DNP Final Project Report, Presentation, and Poster • Final DNP Scholarly Project Presented 3/26/19
April 2019
• Submitted DNP Final Scholarly Project Report to ETD and Digital commons at Otterbein • Submitted DNP Final Scholarly Project Poster to Digital Commons at Otterbein • Received Doctor of Nursing Practice Degree on Saturday, April 27, 2019