

Practitioners' Perceptions of Yoga within

Speech-Language Pathology

A Thesis

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the Requirements for the Degree of
Master of Science in Communication Disorders

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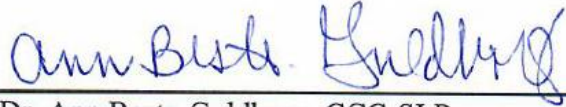
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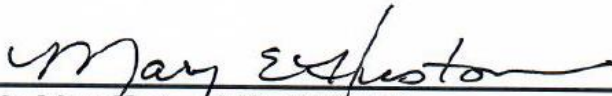
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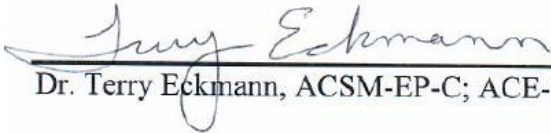
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Abstract

Yoga originated in India as a spiritual discipline thousands of years ago and relatively recently has been borrowed and adapted for use in health care as a complementary practice alongside conventional therapies as well as for use in educational settings. Limited research has been carried out regarding yoga as a complementary practice in speech-language therapy. This study investigated how yoga is used as a complementary practice in current speech-language therapy, including how commonly it is used in speech-language therapy and its perceived benefits as identified by speech-language pathologists (SLPs), SLP assistants (SLP-As), and SLP students (SLP-Ss). A mixed methods design was employed. Using the survey research method, a voluntary online multiple-choice survey was given to SLPs, SLP-As, and SLP-Ss who provide speech-language therapy to children and/or adults in a variety of settings. The study concluded that, despite approximately half of the participants in the study expressing positive views about yoga, very few incorporated yoga as a complementary practice into conventional speech-language therapy. Participants used yoga in a non-systematic way with many localized adaptations depending on client population and treatment setting. Qualitative analysis using narrative inquiry of the short answers showed that participants generally incorporate yoga as a complementary practice into speech-language therapy in ways that are based on their own personal experiences and are shaped by their beliefs, values, workplace policies, and client needs.

Keywords: yoga, integrative therapy, speech-language therapy

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Chapter 1

Introduction

Yoga originated in India approximately 3,000 years ago as a spiritual and ascetic discipline (Newcombe, 2009; Woodyard, 2011). It has entered the Western world in the past century as a means for developing physical, intellectual, mental, and spiritual well-being (Askegaard & Eckhardt, 2012; Douglass, 2007; Newcombe, 2009). The practice of yoga involves *asanas* (poses), *pranayama* (breathing exercises), and meditation (Askegaard & Eckhardt, 2012; Boudette, 2006; Kauffman, 2016). It includes both muscular activity and an increased focus and awareness of well-being, energy, and breath (Askegaard & Eckhardt, 2012; Boudette, 2006; Ross & Thomas, 2010; Woodyard, 2011).

A number of health disciplines like occupational therapy and clinical medicine have begun studying the efficacy of yoga for various conditions in clinical applications (Brown, 2002; Douglass, 2007; Gura, 2010). Yoga has been shown to produce measurable benefits for orthopedic, metabolic, neurologic, and psychosomatic disorders (Posadzki & Parekh, 2009; Ross & Thomas, 2010; Wattamwar & Nadkarni, 2013). In addition, these practices can be modified to meet the needs of individuals with a variety of conditions (Schmid et al., 2015). According to studies carried out in other disciplines, yoga is efficacious for controlling the autonomic nervous system and strengthening voluntary muscles, which are vital for the development of speech, language, voice, and swallowing (Alexander, Innes, Selfe, & Brown, 2013; Grossman, Niemann, Schmidt, & Walach, 2004; Schmid et al., 2015).

Other health disciplines such as speech-language therapy have only begun studying the incorporation of yoga in clinical settings and its efficacy for specific conditions. The review of the literature points to a lack of research related to yoga as a complementary practice in speech-

language therapy (Kenny, 2002; Radhakrishma, 2010). The purpose of this research is to explore how yoga is used as a complementary practice in current speech-language therapy, including how commonly it is used in speech-language therapy and its perceived benefits as identified by SLPs, SLP-As, and SLP-Ss.

Terminology

Speech-language pathologists provide therapy for speech sounds, language, voice, swallowing, and fluency delays and disorders. Throughout this study, this is referred to as speech-language therapy.

The terms “complementary” and “alternative” have been used interchangeably in academia and the public domain to describe therapeutic and health care systems. Since these terms are distinct concepts, this study adopts the definitions developed by the National Institutes of Health’s National Center for Complementary and Integrative Health (NCCIH). According to NCCIH (2016), a health care system or practice is considered “complementary” because it is regarded as a non-mainstream practice (i.e., not Western medicine) and is used together with conventional health care practices either in the same setting or as part of a treatment program. In clinical settings, these non-mainstream practices have adopted elements and techniques from traditional health care systems, although they have not adopted the associated meanings. The NCCIH defines practices as “alternative” if they are non-mainstream practices and are used instead of conventional health care practices. Based on these definitions, this study regards yoga as a complementary practice because it explores incorporating yoga into conventional clinical speech-language therapy. This terminology allows for the broadest understandings of yoga in the literature as well as views expressed by participants of the survey.

Background

Yoga was introduced to North America only in the last hundred years and since then it has entered several health disciplines such as clinical medicine and clinical psychology as a complementary practice (Bridges & Sharma, 2017; Douglass, 2007; Newcombe, 2009). Yoga has gained public popularity and acceptance in the United States as a means to improve wellness (Kaley-Isley, Peterson, Fischer, & Peterson, 2010). According to the National Health Interview Survey (NHIS, 2007), yoga is the sixth most commonly used complementary health practice among American adults (Kiecolt-Glaser, Oken, Sherman, Glowa, & Killen, 2013). The National Institutes of Health (NIH) and the National Center for Complementary and Alternative Medicine (NCCAM) recognize yoga as an effective form of complementary and alternative medicine in the category of “mind-body” medicine (Kaley-Isley et al., 2010). Mind-body medicine generally focuses on intervention strategies that are thought to promote one’s health (Kaley-Isley et al., 2010).

Over the past 30 years, yoga has developed into a physical system of health exercises that is unconnected to its beginnings in religious systems (Douglass, 2007). Yoga is practiced in group settings led by certified instructors to achieve general wellness by learning techniques, poses, and its philosophical foundations (Kraftsow, 2016). These practices, however, are not designed to ameliorate a specific health condition, only to bring about holistic wellness.

Traditional Yoga Therapy

Yoga is used in North America in several ways for physical, mental, and spiritual purposes, according to various schools of practice. There are many schools and practices of yoga. One branch of practice within yoga is called “yoga therapy.” Yoga therapy is a very specific term and it refers to the practice of postures, meditation, breathing, and exercises to

improve mental and physical health and to treat medical disorders (Garfinkel, 2006; Good Therapy, 2017; Posadzki & Parekh, 2009). It should be noted that yoga therapy is led by a certified yoga instructor. In yoga therapy, techniques and postures can be adapted and tailored to address specific concerns for individuals with health conditions or mobility limitations (Kaley-Isley et al., 2010; Swanson, 2016). The International Association of Yoga Therapists (IAYT) defines yoga therapy as “the process of empowering individuals to progress toward improved health and well-being through the application of the philosophy and practice of yoga” (Kaley-Isley et al., 2010). Much of the research on the clinical efficacy of yoga has been conducted with yoga therapy. This research has also shown that yoga therapy can offer health benefits, including the improvement of depressive, stressful, and anxious states, as well as the relief of painful physical conditions (Villemure, Åæeko , Cotton, & Bushnell, 2015). Health care practitioners such as physicians are beginning to recommend that their clients practice yoga therapy for specific conditions (Swanson, 2016).

Yoga therapy may be referred to as both an alternative and complementary practice depending on the conditions of its application. Yoga therapy is considered an alternative practice when it is performed outside of conventional health care, when it has not been recommended by a health care practitioner as part of a course of therapy, or when an individual has begun practicing yoga for health goals instead of seeking out conventional therapies for a specific health condition (Kaley-Isley et al., 2010, Swanson, 2016, Villemure et al., 2015). At the same time, yoga therapy may be regarded as a complementary practice when it is recommended by a health care practitioner as part of a treatment plan for a specific condition and the techniques used are aimed at improving this condition.

Complementary Yoga Therapy

An alternative to yoga therapy is complementary yoga therapy, which is the practice of incorporating elements of yoga into conventional clinical health care. Complementary yoga therapy is the subject of this research. Within the complementary and alternative medicine (CAM) movement in health care, health care professionals have become interested in yoga for its wellness benefits (Schmid et al., 2015). They have been looking to incorporate yoga techniques (specific poses, breathing, meditations) into their conventional therapies to enhance the efficacy of treatments (Macy, Jones, Graham, & Roach, 2015). Incorporating yoga techniques into conventional therapies to enhance treatment efficacy is regarded in the CAM field as “complementary therapy or medicine” because the yoga techniques within conventional therapeutic sessions are conducted for the purpose of enhancing or aiding the use of a conventional treatment and are led by the practitioner of the conventional health care.

One of the features of yoga as a complementary practice is that specific techniques are taken out of the traditional context and are adapted to the therapeutic setting. For example, a pose is usually practiced in sequence with other poses in a yoga studio, but as a complementary practice it may be used on its own in a therapy room and may not even be referred to by its traditional name. Another feature of yoga as a complementary practice is that it is led by a professional in conventional health care who may not be certified in yoga. Also, a specific yoga technique may be carried out in a variety of ways because it is adapted to the needs of clients and to the therapeutic setting and may not be carried out precisely as it is in a yoga class. In other words, the emphasis is not on doing yoga, but on improving the benefits of the conventional treatment.

As with other health disciplines, yoga has potential applications in speech-language therapy because of its combination of postures, breathing, and meditation, which may impact on the processes involved in the development of speech and language (Villemure et al., 2015). For example, individuals with speech and/or language delays often encounter psychological, emotional, and anxiety issues in addition to their physiological, speech, or language condition (Kauffman, 2016). In a study by Kenny (2002), SLPs noted that when clients were engaged in physical movement such as a yoga-based co-treatment, they produced more spontaneous and complex speech. In a 2015 study, SLPs who incorporated yoga techniques into conventional therapy noticed improvements in clients' well-being and ability to stimulate language and spontaneous speech (Schmid et al., 2015). More research, however, is needed to explore yoga as a complementary practice in speech-language therapy, including the adaptation of yoga to specific client populations. The purpose of this research is to explore how yoga is used as a complementary practice in current speech-language therapy, including how commonly it is used in speech-language therapy and its perceived benefits as identified by SLPs, SLP-As, and SLP-Ss.

Chapter 2

Review of Literature

Yoga originated in India thousands of years ago (Stewart, 1994) and has developed into a comprehensive system designed to enhance overall well-being (Woodyard, 2011). The practice of yoga has evolved over time into a science, philosophy, and psychology (Kaley-Isle et al., 2010). The United States National Institutes of Health (NIH) recognizes yoga as a complementary practice in the fields of medicine, education, physical therapy, occupational therapy, and psychotherapy. There is a growing volume of research on the use of yoga as complementary practice in many health sciences as well as education (Askegaard & Eckhardt, 2012; Davis & Hayes, 2011; Ehrlich, 2015; Gura, 2010; Wattamwar & Nadkarni, 2013; Williams et al., 2005). Educators are adapting yoga for use in the classroom to enhance and stimulate the overall learning environment for the children they teach (Birdee et al., 2009; Goldberg, 2013; Khalsa & Butzer, 2016). Thus, there is significant crossover in research between topics in education (e.g., language learning disorders, attention disorders, autism, disability research) and topics in health disciplines such as physical therapy and speech-language therapy.

Yoga in Speech-Language Therapy

Research on the use of yoga in the discipline of speech-language therapy is limited (Longtin & Fitzpatrick, 2017). Yoga has been used to complement therapy for stuttering and voice disorders as a way to incorporate breath control and vocal relaxation (Beilby & Byrnes, 2012; Longtin & Fitzpatrick, 2017). Goldberg (2013) found visual cues, hand positions, gestures, and modeling through yoga can help increase the development of delayed speech and language. In addition, yoga has been reported to enhance the quality of life for individuals with visual and

auditory impairments by combining verbal instructions, demonstrations, and auditory and visual cues (Goldberg, 2013).

Moore (2012) examined the application of modified yoga techniques in the area of voice therapy with 55 participants. This study specifically examined the application of yoga in the treatment of muscle tension dysphonia, which involves extra-laryngeal muscle activity from overactivity of the autonomic and voluntary nervous systems. Moore found that four key elements that must be considered when incorporating yoga into voice therapy: integrating the instructor's rhythm, intonation, and vocal tone to increase relaxation and body awareness; increasing a positive mind-set through internal imagery; including stretches to different muscle groups with specific attention to breathing processes and sensations; and using specific language to enhance mindfulness. Moore determined that yoga was beneficial for clients to de-stress and focus prior to initiating vocal exercises (Moore, 2012).

Kauffman (2016) also studied the inclusion of the yoga breathing technique *pranayama* in stuttering therapy. The study examined whether *pranayama* was effective in decreasing speech disfluencies, decreasing anxiety, and improving self-perceptions related to stuttering in adults. The study consisted of four participants. After learning breathing exercises, one participant stated, "I have less anxiety and worry less about my speech" (p. 196). Another participant reported how the breathing techniques reduced tension in her chest, which allowed better flow of her speech output. Overall, the application of yoga breathing techniques helped participants in stuttering therapy experience a reduction in syllables stuttered and experience more positive perceptions of their overall communication, including reduced anxiety (Kauffman, 2016).

A single subject case study conducted by Rivkin (2013) incorporated *asana* (postures), *pranayama* (breathing), and meditation into the treatment of a patient with aphasia due to a stroke. The purpose of the study was to explore the potential relationship yoga therapy and language restoration have with one another. Rivkin used the *Western Aphasia Battery – Revised* (WAB-R), a standardized assessment prior to and following intervention to measure the participant's linguistic and nonlinguistic skills, to explore the possible relationship between yoga therapy and language restoration. Using the WAB-R measure, Rivkin found a 9.1-point improvement from baseline to post-test scores after yoga therapy, which included: spontaneous speech total, auditory verbal, repetition total, and naming and word finding. In addition, after yoga therapy the participant had a 3.9-point improvement from baseline to post-test scores in the language quotient area which included: spontaneous speech, auditory verbal, repetition, reading score, and writing score (Rivkin, 2013).

Yoga in Physical Therapy

Physical therapy as a discipline has been an early adopter of yoga (Raub, 2002; Wattamwar & Nadkarni, 2013; Williams et al., 2005). Yoga can be beneficial in conjunction with physical therapy in both clinical and non-clinical settings for a variety of body structures and systems (Posadzki & Parekh, 2009). Khoshaba (2013) noted yoga can reduce muscle tension, strain, and inflammation, as well as increase body awareness, concentration, and attention. Ehrlich (2015) identified improved fitness, anxiety, stress, flexibility, sleep habits, digestion, range of motion, coordination, posture, and concentration with the practice of yoga. Posadzki and Parekh (2009) found that patients reported a reduced amount of pain and improved range of motion, flexibility and muscle strength when incorporating yoga as a complementary

practice into physical therapy. Patients also reported improved psychological states such as improved stress coping, self-efficacy, self-actualization, and self-confidence.

Yoga in Psychology and Psychotherapy

During the past decade, clinical psychology practice has experienced a shift from treatment to prevention, and, at the same time, the field has witnessed a rise in conditions such as PTSD, ADHD, stress, and anxiety (Kamradt, 2017). As a result, yoga's use in clinical psychology and psychotherapy has become widespread for a variety of conditions in adults and children (Cabral, Meyer & Ames, 2011; Emerson, Sharma, Chaudhry & Turner, 2009; Hamilton, 2006). Psychology has borrowed and adapted some of yoga's mental practices such as visualization, mindfulness, and breathing relaxation (Coward, 2002). In the past decade, there has been more widespread use of mindfulness-based therapy, which also includes mindfulness-based cognitive therapy and mindfulness-based stress reduction therapy as a form of treatment in contemporary psychotherapy (Hofmann, Sawyer, Witt, & Oh, 2010). Goldberg (2013) found that individuals can develop a sense of self-awareness through the practice of mindfulness. Yoga mindfulness techniques can also facilitate cognitive abilities, increase awareness, decrease stress, and reduce tension (Beck, Verticchino, Seeman, Milliken, & Schaab, 2017).

Various yoga techniques have been used to supplement conventional treatments for clients who have mental health disorders (Forfylow, 2011). For example, Bridges and Sharma (2017) examined the use of yoga for depression and found that yoga interventions were effective in reducing depression. According to Ware (2007), psychotherapy shares many of the same principles, including promoting health, introspection, self-awareness, and creating behavioral, emotional, and cognitive change. Macy, Jones, Graham, and Roach (2015) examined yoga as a

complementary practice for individuals experiencing trauma and found that yoga improved anxiety, depression, PTSD, and psychological effects of trauma in children and adults.

Yoga in Education

Learning can be more difficult when students experience behavioral and anxiety issues. In the past decade there has been a growth in the adaptation of yoga to school settings to support students. The National Institutes of Health has reported that the percentage of American children who have used yoga has increased from 3.1% in 2012 to 8.4% in 2017 (Black, Barnes, Clarke, Sussman, & Nahins, 2018). More recent attention has been given in the literature regarding applications of yoga in educational settings, especially related to young children (Birdee et al., 2009; Galantino, Galbavy & Quinn, 2008; Khalsa & Butzer, 2016; Longtin & Fitzpatrick, 2017). In a teacher interview conducted at Westminster Center School in Vermont, Thomas (2008) determined that yoga helped students stay on task and remain focused throughout the day because yoga gave children the opportunity to move, focus, slow down, and calm their bodies. Out of the three teachers interviewed, one teacher noted that yoga allowed her students to express themselves and gain confidence in a safe manner in the classroom. Another teacher noted yoga's versatility in the school setting because it could be "integrated into many things the class is studying" (p. 4).

Yoga and Children

The practice of yoga has beneficial effects for children (Birdee, Yeh, Wayne, Phillips, Davis & Gardiner, 2009; Khalsa & Butzer, 2016). Within the health disciplines, this research focuses on the efficacy of yoga for child development, language acquisition and development, breathing, motor planning, symbolic play, and literacy, as well on as conditions prevalent in children such as anxiety, attention deficit, and autism. Yoga may also have a positive impact on the motor performance, memory, academic learning, concentration, and working efficiency of

children (Galantino, Galbavy, & Quinn, 2008). Goldberg (2013) found that yoga can assist children in acquiring social skills and self-esteem, and developing a connection between play, social interaction, and speech and language development. In particular, yoga can improve the quality of life for children with special needs because it helps to develop physical strength and improve muscle tone (Goldberg, 2013; Kenny, 2002). Yoga also provides nonspecific benefits that can lead to positive experiences and increase the success of intervention strategies for children with special needs (Goldberg, 2013).

A strong focus of this research involving children and yoga has been the impact of yoga practices on child development. Yoga classes for children typically focus on enjoyment and exploration, incorporating books, puppets, and music rather than the aims of alignment and breath associated with adult yoga practice (Longtin & Fitzpatrick, 2017). While studies find the use of yoga as a complementary practice may be feasible and effective for building wellness in general populations and in the treatment of disorders in clinical populations, the research also cautions there is still not enough evidence supporting the efficacy of the use of yoga with children, despite the enthusiasm among those promoting yoga practices (Galantino & Galbavy, 2008; Greenberg & Harris, 2011).

Stages of language development. Another area of research centers on language development. Cognitive, neurobiological, social-emotional, and affective aspects of children's development all contribute to language acquisition (Longtin & Fitzpatrick, 2017). Longtin and Fitzpatrick (2017) found that yoga may enhance speech, language, cognition, and play skills during different developmental periods. Yoga techniques for infants are reported to facilitate pre-linguistic communication skills (e.g., eye gaze, turn-taking), as well as to facilitate caregiver responses (Garabedian, 2004). Yoga poses for infant-adult direct contact are shown in Figure 1.



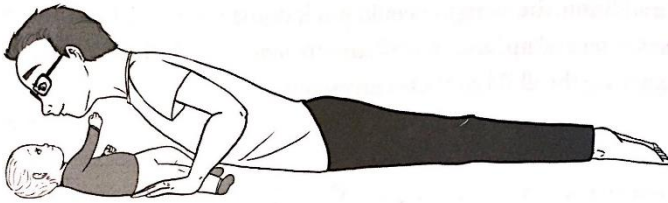
Boat pose



Bound angle pose



Bridge pose



Cobra pose



Cat pose

Figure 1. Five main poses of child-infant yoga focusing on developing eye-gaze, turn-taking, and syllable development. Reprinted from *Yoga for Speech-Language Development* by Longtin and Fitzpatrick (2017).

Research also examined the adoption of yoga techniques for speech-language development of children with neurodevelopmental disabilities, including language disorders, speech sound disorders, intellectual disabilities, autism spectrum disorder, and attention deficit/hyperactivity disorders (Beilby & Byrnes, 2012; Jensen & Kenny, 2004; Koenig, Buckley-Reen & Garg, 2012; Radhakrishna, 2010). Considerable attention has been given to research on autism spectrum disorder (ASD) and attention disorders (Ehleringer, 2010; Koenig, Buckley-Reen & Garg, 2012; Radhakrishna, 2010). Yoga is also reported to improve focus and

attention, sensory information processing, communication, and self-regulation in children with ASD (Ehleringer, 2010).

Breath support. Studies on yoga have focused on the breath and breathing (Courtney, 2009; Jerath, Edry, Barnes, & Jerath, 2006). Breath support and control are important aspects in communication, exercising, relaxation, and eating (Daymut, 2010). Breathing is one of the core practices of yoga. Breathing involves two physiological processes: inspiration and expiration (Courtney, 2009; Sherwood, 2010). As shown in Figure 2, inspiration (inhalation) involves bringing in air to the cells of the body, while expiration (exhalation), forces air out, releasing carbon dioxide (Sherwood, 2010).

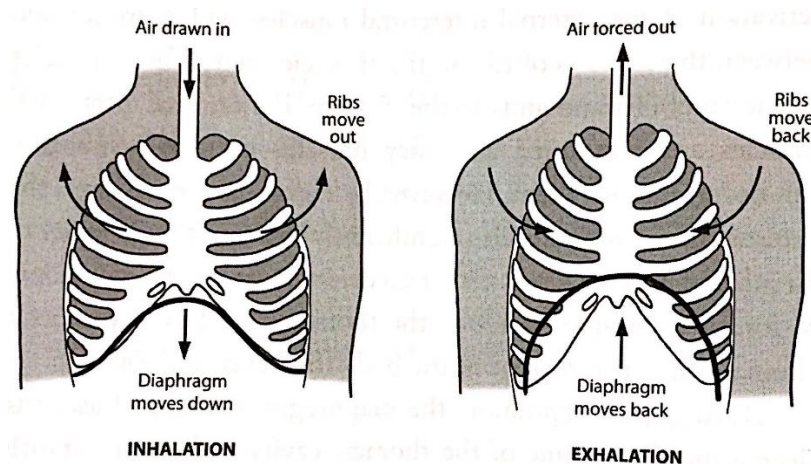


Figure 2. Inhalation and exhalation phases of respiration (breathing). Reprinted from *Yoga for Speech-Language Development* by Longtin and Fitzpatrick (2017).

Certain yoga poses are purported to promote breath support while opening and stretching the chest, such as Bridge, Cobra, Wheel, and Upward-Facing Dog (Bhavanani, 2010). *Hatha* yoga, which synchronizes breathing and poses, can promote healthy breathing practices for well-being of mind and body (Woodyard, 2011; Zolotow, 2016). According to yoga practice, long, deep inhalations and exhalations help increase oxygen levels in the body and eliminate toxins (Brown & Gerbarg, 2009; Dhruva et al., 2012). Breath support for speech develops in children

and continues into adolescence as the number of words spoken per minute, speech intelligibility, and vocal intensity change (Longtin & Fitzpatrick, 2017). Studies have determined the practice of yoga can strengthen and elongate muscles to make breathing more efficient (Courtney, 2009; Dhruva et al., 2012; Jerath et al., 2006). Thus, yoga breathing practices can help enhance speech for individuals with disorders.

Language and vocabulary acquisition. The practice of yoga has also been studied in relationship to language and vocabulary. Children with language impairments often struggle to learn verbs, and using verbs is common in the instruction of yoga poses (Longtin & Fitzpatrick, 2017). Kenny (2002) found that as children develop, physical movement increases language learning. Thus, yoga was shown to improve language learning and receptive language skills (Jensen & Kenny, 2004; Kenny, 2002; Ortiz, 2016). Yoga practice exposes individuals to new words and provides them with new contexts for using words (Longtin & Fitzpatrick, 2017), both of which aid in the overall development of language.

Summary

Yoga practices have been borrowed and adapted for use in health care as a complementary practice alongside conventional therapies as well as for use in educational settings. Some disciplines (e.g., physical therapy, psychotherapy) have accepted yoga as a complementary therapy or as a topic of research more than others. This review of the literature has found, however, that there is limited evidence-based research on the application of yoga as a complementary practice in speech-language therapy. The purpose of this research is to explore how yoga is used as a complementary practice in current speech-language therapy, including how commonly it is used in speech-language therapy and its perceived benefits as identified by SLPs, SLP-As, and SLP-Ss.

Chapter 3

Research Methods

This study used a mixed methods design to explore how yoga is used as a complementary practice in current speech-language therapy, including how commonly it is used in speech-language therapy and its perceived benefits as identified by SLPs, SLP-As, and SLP-Ss. The analysis looked at the diversity of ways yoga was incorporated by the participants, the conditions for the incorporation of yoga, and the patient populations. A voluntary multiple-choice survey (see Appendix A) was posted online to speech-language therapy Facebook sites and websites. This study was approved by the Minot State University Institutional Review Board on March 2, 2018 (see Appendix B).

The research questions in the study were as follows:

1. Examine how commonly yoga is used as a complementary practice in current speech-language therapy by SLPs, SLP-As, and SLP-Ss;
2. Explore how SLPs, SLP-As, and SLP-Ss use yoga as a complementary practice in speech-language therapy;
3. Identify the benefits of using yoga as a complementary practice in speech-language therapy sessions as perceived by SLPs, SLP-As, and SLP-Ss.

Participants

The participants in this study were practicing SLPs, speech-language pathology assistants (SLP-As), speech-language pathology undergraduate and graduate students (SLP-Ss).

Participants acknowledged understanding the survey and voluntarily participated. These

participants were recruited from the American Speech-Language-Hearing Association (ASHA)

website, as well as 20 closed Facebook groups (see Appendix C). The website and Facebook groups were in the English language and USA-based.

The web page postings included a recruitment statement (see Appendix D) which contained a link to the survey hosted on SurveyMonkey. Participants were presented with a consent form (see Appendix E) describing the benefits of the research, length of the survey, and information regarding data storage and accessibility. Participation in the survey was anonymous and voluntary. The data was presented in aggregate form with no identifying markers. Participants could withdraw from the survey at any time.

Since multiple sites were used to recruit individuals, participants were instructed to exit the survey if they had completed it elsewhere. Throughout the five-week recruitment period, invitations were posted on a weekly basis. The survey was accessible to everyone with access to the Internet and who were members of the ASHA web community as well as the various SLP Facebook groups.

Survey Instrument

The survey was presented as a single instrument with five distinct sections. The survey was distributed electronically using SurveyMonkey. Participants were directed to answer only the questions in the sections of the survey that were applicable to their situation. The survey was made up of 30 multiple-choice questions, which included short-answer question options, as well as an optional open-ended question at the end. The survey was designed to elicit a maximum amount of information to answer the research questions, while requiring a minimal amount of time for participants to complete the survey. Both quantitative and qualitative data were collected for analysis because this study investigated a new topic in the discipline of speech-language

therapy. Participants were not permitted to skip questions but could exit the survey and discontinue participation at any time during the survey.

The survey questions were developed based on conclusions drawn from previous studies relating to speech-language therapy pathology and yoga, including the works of Hernandez (2015), Farnell (2015), and Longtin & Fitzpatrick (2017). The researcher received feedback about the survey questions from three practicing SLPs, a certified yoga instructor, and a research designer to ensure ease of understanding as well as to check for validity of the questions. The survey questions were adjusted based on feedback comments.

The survey was divided into five distinct sections. In Section 1, all participants were asked to self-identify as either a professional speech-language pathologist (SLP), speech-language pathologist assistant (SLP-A), or student (SLP-S). Section 2 explored participant demographics and contained a set of questions for SLPs and SLP-As and a different set of questions for SLP-Ss. In Section 2(A), SLPs and SLP-As were directed to answer questions about their practice (e.g., location, client base, clinical setting, years of practice, educational background, and knowledge of yoga). In Section 2(B), SLP-Ss were directed to questions related to their practice within their program of study (e.g., location and name of current school of study, student status, and yoga knowledge).

Section 3 and Section 4 explored participants' knowledge of yoga. SLPs and SLP-As were directed to answer questions in Section 3. SLP-Ss were asked to complete questions in Section 4. Section 3 collected information about current use of yoga as a complementary practice in speech-language therapy or consideration of yoga in speech-language therapy practice. The intent was to gather as much data as possible about the use of yoga as a complementary practice in speech-language therapy. Therefore, some of the questions in part A of this section were

designed for participants who currently incorporated yoga (sources of information, client population, frequency of use, reasons for use of yoga). Part B questions were aimed at participants who did not incorporate yoga into speech-language therapy and were designed to explore their motivations and barriers for not using yoga as a complementary practice within speech-language therapy practice. In Section 4, SLP students completed similar questions about incorporation of yoga as a complementary practice in speech-language therapy. They were asked to share what they considered to be their resource base regarding yoga. The majority of questions in Section 3 and Section 4 contained an optional short answer space for participants to describe their knowledge and use of yoga in their own words. Section 5 contained one open-ended question for all participants to complete. It was a voluntary optional question designed to permit participants to express their viewpoints about using yoga as a complementary practice in speech-language therapy clinical settings.

Statistical Analysis

Following the closure of the data collection period, responses were collated and tabulated. A total of 560 participants attempted to take the survey, with 529 fully completing the survey. A mixed methods design was employed to analyze the data. Numerical data from the responses to each multiple-choice question were analyzed for frequency and correlation using the Statistical Package for the Social Sciences (SPSS) with descriptive and inferential statistics. For each survey question, frequencies and percentages were calculated. Correlations were also examined with chi-square tests.

The qualitative data contained within the short answers and open-ended questions were analyzed using narrative inquiry. The narrative inquiry method was based on the method of Polkinghorne (1995), which examines individual episodes and experiences. The qualitative data

were organized into categories and subcategories for analysis and interpretation, and the diversity within individual categories were analyzed. The categories were also coded for emergent themes.

Chapter 4

Results

The online multiple-choice survey consisted of five parts: classification, demographics, yoga knowledge, professional background, and an open-ended short answer question. There were 560 participants of the survey with 529 of these participants completing the survey in its entirety. Therefore, the analysis includes data from 529 participants in total.

Participant Classification

The first question in the survey examined how participants self-classified: undergraduate student seeking a bachelor's degree in communication disorders, graduate student seeking a master's degree in communications disorders, SLP assistant (SLP-A), or SLP. The question also allowed for an "other" response where participants provided a written short answer. Most participants, 68.81% (n = 364), categorized themselves as SLPs; 22.12% (n = 117) identified as graduate students seeking a master's degree in communication disorders, 4.54% (n = 24) identified as undergraduate students seeking a bachelor's degree in communication disorders, and 4.54% (n = 24) as SLP assistants (SLP-As). There were no responses for "other." In total, 388 SLP professionals (SLPs and SLP assistants) and 141 SLP-Ss (undergraduate and graduate students) finished the survey in its entirety. Figure 3 illustrates the breakdown of participant classification.

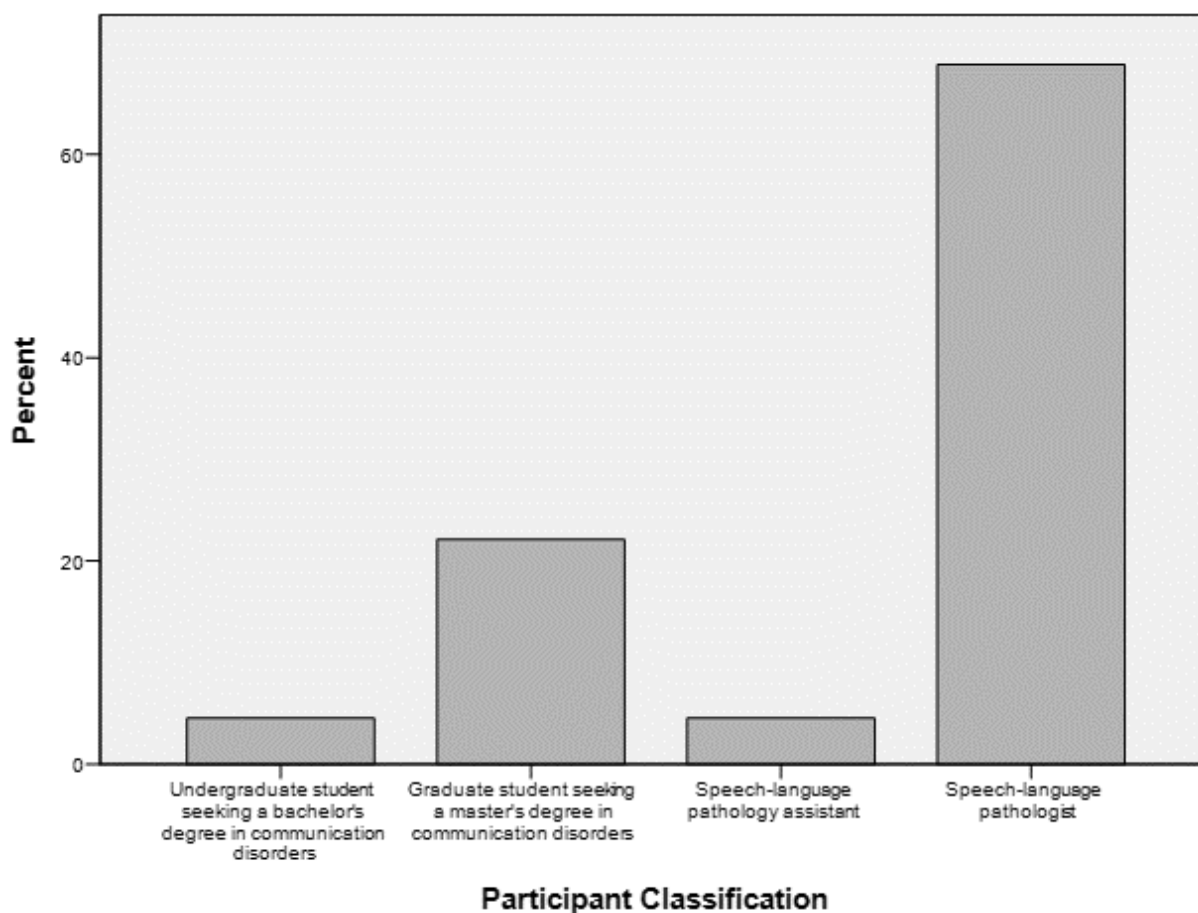


Figure 3. Bar chart of the classification of participants.

Demographics

Part two of the survey explored participant demographics. Questions asked of SLPs and SLP-As included the country of practice, the number of years of practice, client population participants worked with most often, primary work setting, the highest degree received, and whether participants practiced yoga. Questions asked of SLP-Ss included which country participants attended school, student status, and whether participants practiced yoga.

In order to determine location and experience levels, participants were asked to answer questions related to their country of practice and the number of years practiced. To determine the type of client populations served, participants were asked to identify their primary client

population and primary work settings. Participants were then asked to identify their education levels in both speech-language pathology and in yoga. Participants were also asked about their current views and practices of implementing yoga into therapeutic practices.

The researcher examined the correlation using a chi-square test of association between the factors associated with the participants and the use of yoga in conventional speech-language therapy. The comparisons were found to be significant if the value was less than .05. The comparisons were not significant if the value was more than .05 and indicated the expected outcome.

Country of practice. The first question of this section asked SLPs and SLP-As to select their country of practice. There were three choices for responses: Canada, the United States and “other,” which allowed participants to write another location. Of the 388 responses, the majority, 80.67% (n = 313), indicated they practiced in the United States and 8.25% (n = 32) in Canada. The remaining 11.08% (n = 43) stated they practiced in another country. The breakdown of country of practice is located in Appendix F.

Years practiced. The next question in this section elicited information about the years of experience in clinical practice. There was an almost even spread of responses across the time span choices. Just over a quarter of participants 28.87% (n = 112), had been working as an SLP or SLP-A for less than five years and slightly fewer, 26.55% (n = 103) worked 5-10 years. SLPs or SLP-As with more than 21 years of experience included 19.33% (n = 75) of participants, whereas 12.89% (n = 50) practiced for 11-15 years and 12.37% (n = 48) worked for 16-20 years. Figure 4 depicts these responses in a bar chart.

The researcher examined the relationship between the number of years practiced by the SLP participant and the use of yoga in speech therapy. A chi-square test was performed, and

there was no significant difference found in the relationship between the number of years practiced by the professional and the use of yoga in speech-language therapy, $X^2(4, N = 388) = 7.25, p = 0.12$ (see Table 1).

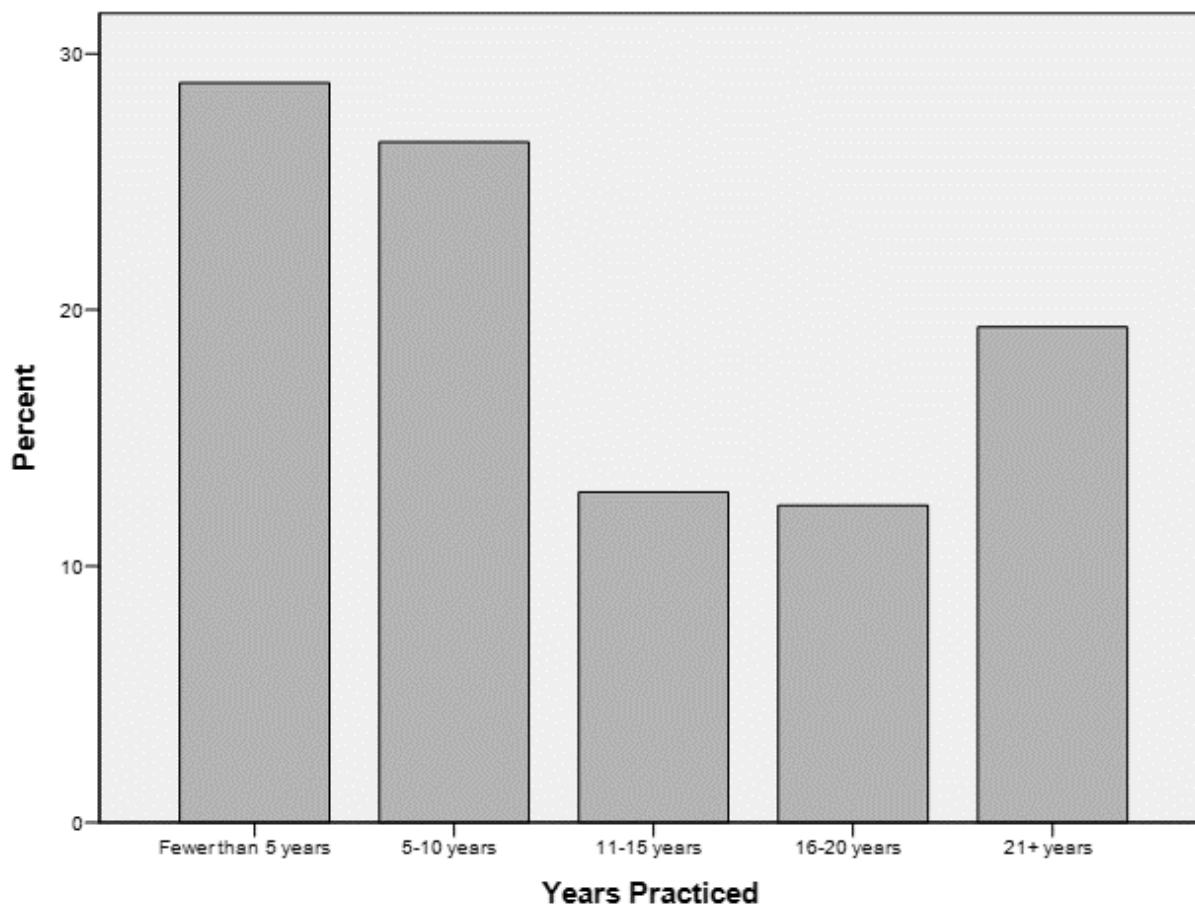


Figure 4. Bar chart of the number of years participants have practiced as a speech-language pathologist or SLP assistant.

Table 1

Years Practiced vs. Whether or Not SLPs Use Yoga in Speech Therapy

| | | Use Yoga in Therapy | |
|-----------------|--------------------|---------------------|-----|
| | | No | Yes |
| Years Practiced | Fewer than 5 years | 100 | 12 |
| | 5-10 years | 85 | 18 |
| | 11-15 years | 45 | 5 |
| | 16-20 years | 44 | 4 |
| | 21+ years | 59 | 16 |

$X^2 (4, N = 388) = 7.25, p = 0.12$

The chi-square test showed no meaningful difference between these two variables. One factor influencing both tests was the sample size, which may be too small to influence the results of the testing. The test results can be depicted by the large interest in incorporating yoga by the group practicing over 21 years. Most interest in using yoga in conventional therapy came from the SLP groups with fewer than ten years and more than 21 years of practice.

The researcher also surmised that other factors may play a greater role in determining use of yoga, other than years of practice, or that several factors exerted only a partial influence which was difficult to measure. The written answers provided greater insight into participating speech-language professionals' motivations. For example, some of the reasons cited for not using yoga by the participating SLPs included: it was not appropriate for the client or the SLP lacked sufficient knowledge about yoga to employ it in a professional setting. One participant stated, "I don't have enough experience." Another participant added, "Not sure if a 3-year-old would be able to do yoga." Future studies may be able to shed more light on the reasons for interest in yoga among these groups.

Client population. Another comparison examined the relationship between the primary population served by the SLP participants and the use of yoga in speech-language therapy by SLP professionals. There were six answer choices, of which the "other" response allowed

participants to write a longer description of their client base. Of the 388 responses, 35.31% (n = 137) reported working most in an elementary school (Grades K-5), 22.42% (n = 87) in a preschool (3-5 years) setting, 18.56% (n = 72) in adult client populations, 9.54% (n = 37) in middle and high school (Grades 6-12), 8.76% (n = 34) in other populations, and 5.41% (n = 21) worked with infants from birth to three years old. Of those who selected other populations, two worked in management supervising SLPs, 10 worked with clients of all ages, three specialized in geriatric clients, whereas the remaining 19 worked with some combination of children and youth under 21 years. Figure 5 illustrates the primary client base for professional SLPs and SLP-As participating in the survey.

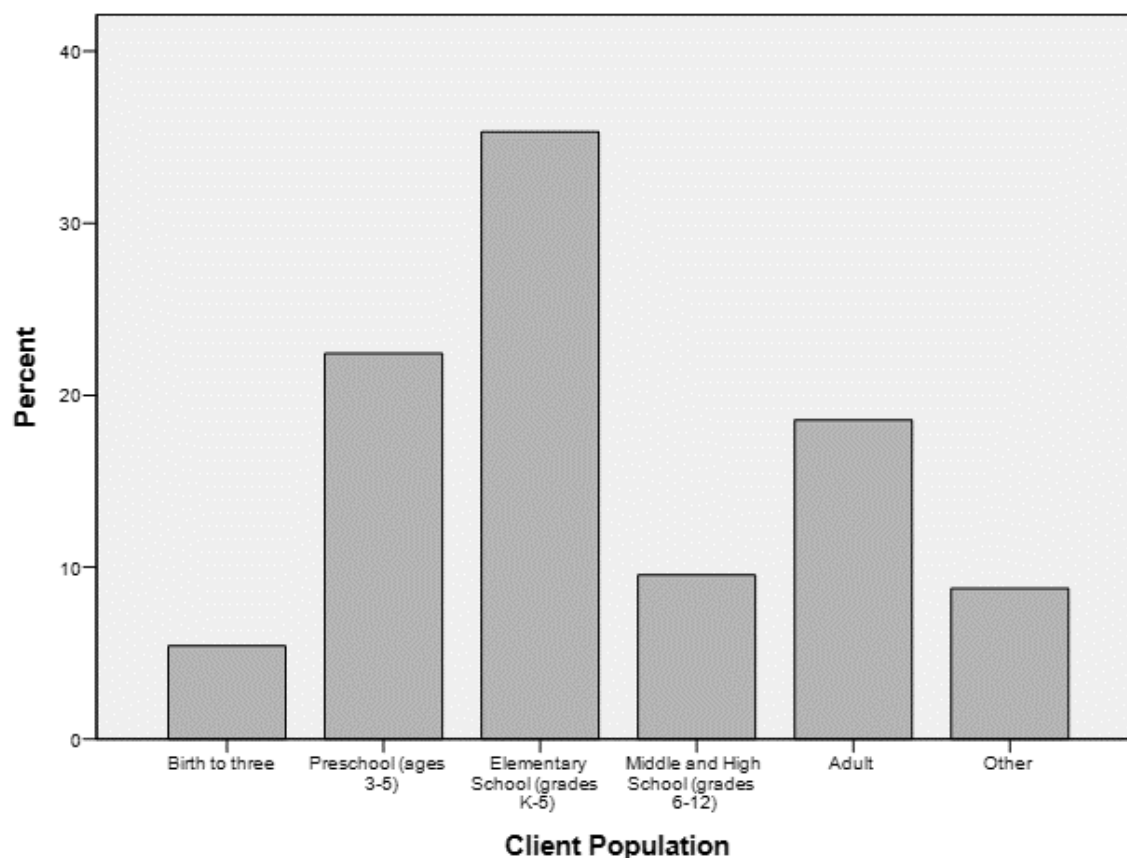


Figure 5. Bar chart of participant primary client population.

The frequency analysis showed the client group was a factor in determining the use of yoga because of the large number of SLP participants who worked with children. It was also assumed from the data that the participating SLPs may have been limited in their application of yoga based on client perception of yoga. For example, one participant commented, “Children are too young.” Thus, the client group was expected to influence the decision to use yoga. A chi-square test was performed, and no significant relationship was found between the primary client population served and the use of yoga in speech-language therapy, $X^2 (5, N = 388) = 0.99, p = 0.96$ (see Table 2). This result may be attributed to the small sample size; the difference between the individual groups of the client population are difficult to distinguish in testing.

Table 2

Client Population vs. Use of Yoga in Speech Therapy

| | | Use Yoga in Therapy | |
|----------------------|--------------------------------------|---------------------|-----|
| | | No | Yes |
| Client Population | Birth to three | 17 | 4 |
| | Preschool (ages 3-5) | 74 | 13 |
| | Elementary School (grades K-5) | 117 | 20 |
| | Middle and High School (grades 6-12) | 33 | 4 |
| | Adult | 63 | 9 |
| | Other | 29 | 5 |

$X^2 (5, N = 388) = 0.99, p = 0.96$

Table 3 illustrates the correlation between the primary client population served by the participants and the likelihood of those who do not use yoga in speech-language therapy to attend a continuing education course. A chi-square test was performed. There was no significant relationship between the primary client population served by the participants and the likelihood of those who do not use yoga in speech-language therapy to attend a continuing education course, $X^2 (10, N = 333) = 14.98, p = 0.13$. Thus, while there appeared to be tendencies in the use and non-use of yoga for various client populations, the relationship was not significant. Supplementary studies would need to be conducted to explain this relationship.

Table 3

Client Population vs. Likelihood of Professionals Who Do Not Use Yoga in Speech Therapy to Attend a Continuing Education Course

| | | Continuing Education Course | | |
|----------------------|--------------------------------------|-----------------------------|-----|----------|
| | | No | Yes | Not Sure |
| Client Population | Birth to three | 1 | 9 | 7 |
| | Preschool (ages 3-5) | 6 | 45 | 23 |
| | Elementary School (grades K-5) | 23 | 71 | 23 |
| | Middle and High School (grades 6-12) | 5 | 18 | 10 |
| | Adult | 8 | 36 | 19 |
| | Other | 5 | 11 | 13 |

$X^2 (10, N = 333) = 14.98, p = 0.13$

Primary work settings. SLPs and SLP-As were asked to specify their primary work setting, of which all 388 provided this information. There were 8 work locations listed as answer choices as well as an “other” selection to permit participants to specify a location not listed. The majority of SLPs and SLP-As, 42.78% (n = 166), worked in schools, followed by those in private practice, 14.18% (n = 55) and medical settings, 10.57% (n = 41) (see Appendix F). Table 4 compared the work setting of the professional and the use yoga in speech-language therapy. The frequency analysis demonstrated work setting to be related to the client group. Like the client group, it was assumed the use of yoga was determined by the setting of the therapy, that is, for some workplaces it was more conducive or appropriate for yoga than others. A chi-square test was performed. There was no significance found in the relationship between the primary work setting of the professional and the use of yoga in speech-language therapy, $X^2(10, N = 388) = 8.65, p = 0.57$.

Table 4

Work Setting vs. Use of Yoga in Speech Therapy

| | | Use Yoga in Therapy | |
|--------------|------------------------------|---------------------|-----|
| | | No | Yes |
| Work Setting | Early Intervention | 24 | 1 |
| | Preschool/Headstart | 18 | 6 |
| | Schools | 142 | 24 |
| | Medical Setting | 32 | 9 |
| | Colleges/University Clinic | 11 | 1 |
| | Rehabilitation Facility | 18 | 2 |
| | Nursing Home/Assisted Living | 14 | 1 |
| | Private Practice | 47 | 8 |
| | Home Health | 9 | 1 |
| | Telepractice | 4 | 0 |
| | Other | 14 | 2 |

$X^2(10, N = 388) = 8.65, p = 0.57$

This result points to the influence of sample size in testing factors related to the SLPs who did include yoga in their practice. The sample size of the number of SLP participants who did not use yoga in their practice was larger than the sample of those who did use yoga, and, therefore, any chi-square tests carried out using this larger sample and other factors may potentially detect relationships. The smaller sample size of SLPs who did use yoga may have made it more difficult to detect possible relationships using the chi-square test.

SLPs who did not use yoga but worked in schools may still be influenced by the needs of the educational setting to consider further professional development about yoga in therapy. One participant stated, “Our local school districts have been using yoga in the classrooms...” Although SLPs might personally disagree with the incorporation of yoga into conventional therapy, they still may take professional development related to yoga to meet workplace requirements. At the same time, those who would not consider further education about yoga might not feel the need for a continuing education course on yoga in speech-language therapy because in their work setting the caregivers might object to the use of yoga or their institution may not support complementary therapies.

Highest degree completed. SLPs or SLP-As participating in the survey were asked to indicate the highest degree that they had obtained. There were five choices of degree types as well as an “other” category for participants to write other accreditation types not listed. The majority of SLPs and SLP-As (81.70%, n = 317) specified they had received a masters-level degree. The other 71 participants responded they had a bachelor-level degree (10.82%, n = 42), research doctorate (2.84%, n = 11), clinical doctorate (1.29%, n = 5), and SLP-associate degree (0.52%, n = 2). Within the “other” responses, at least 4 participants had backgrounds in education, one had an MBA, two were currently completing post-graduate studies, and one had a

graduate certificate. Three of the responses were undetermined as the participants did not explicitly state their highest degree completed.

A chi-square test was conducted to determine whether the number of years SLPs practiced influenced whether they would consider taking a continuing education course on yoga in speech-language therapy. Following the previous expectations regarding years in practice and tendency to incorporate yoga into conventional practice, the researcher expected speech-language professionals recently entering the profession would show more interest in new developments in their field, that is, they would more often pursue professional education about yoga than other groups. No significant difference was found in the relationship between the number of years practiced and the likelihood of those who use yoga in speech-language therapy to attend a continuing education course, $X^2 (8, N = 55) = 3.99, p = 0.86$. Table 5 illustrates this correlation. At the same time, the sample size of participating SLPs practicing yoga may be too small to detect a significant difference.

Table 5

Years Practiced vs. Likelihood of Professionals Who Use Yoga in Speech Therapy to Attend a Continuing Education Course

| | | Continuing Education Course | | |
|-----------------|--------------------|-----------------------------|-----|----------|
| | | No | Yes | Not Sure |
| Years Practiced | Fewer than 5 years | 1 | 10 | 1 |
| | 5-10 years | 2 | 16 | 0 |
| | 11-15 years | 0 | 5 | 0 |
| | 16-20 years | 1 | 3 | 0 |
| | 21+ years | 1 | 14 | 1 |

$X^2 (8, N = 55) = 3.99, p = 0.86$

Yoga practice and certification. The next question elicited information about participant familiarity with yoga in two separate questions. One question asked whether SLPs practiced yoga. Of the 388 SLP professionals responding, slightly more than half (51.80%, $n = 201$) indicated they practiced yoga and the remaining 48.20% ($n = 187$) indicated they did not

practice yoga. Another question sought to determine whether participants were certified yoga teachers. Of those participating, 3.35% (n = 13) answered they were certified yoga teachers, whereas the remaining 96.65% (n = 375) participants indicated they were not certified yoga teachers.

The research also examined the relationship between the SLPs' personal practice of yoga and the use of yoga in speech therapy. At least half of the SLPs in the survey practice yoga and it was expected this personal connection would influence their interest in using yoga in their workplace. A chi-square test indicated a significant relationship between the speech-language professionals personally practicing yoga and whether they incorporated yoga into their speech-language therapy, $X^2(1, N = 388) = 23.12, p = 0.00$ (see Table 6). This result confirms the tendencies observed in the frequency data.

Table 6

Practice Yoga Personally vs. Use of Yoga in Speech Therapy

| | | Use Yoga in Therapy | |
|---------------|-----|---------------------|-----|
| | | No | Yes |
| Practice Yoga | No | 177 | 10 |
| | Yes | 156 | 45 |

$X^2(1, N = 388) = 23.12, p = 0.00$

The researcher also performed a chi-square test to examine the potential relationship between the SLP participants who personally practice yoga and the possibility that they would include yoga in their conventional speech-language therapy. The chi-square test result reveals a significant relationship between whether SLPs would consider using yoga in speech therapy and their personal practice of yoga, $X^2(1, N = 388) = 10.94, p = 0.001$ (see Table 7).

The researcher assumed the speech-language professionals with previous knowledge of yoga from personal practice would more likely incorporate yoga into their conventional practice. The frequency analysis supported this assumption with a large majority of speech-language

professionals responding they would consider incorporating yoga in their conventional practice. The chi-square test result also supports this assumption. Furthermore, participant comments in the short answer question also underscore this finding. One participant stated, “I see the benefits of yoga for myself so I would learn more about the benefits of incorporating it into my therapy sessions.” Another participant agreed, stating, “I recently started learning about yoga for myself. I would love to learn more about any benefits for my patients.”

Table 7

Consider Using Yoga in Speech Therapy vs. Practice Yoga Personally

| | | Practice Yoga | |
|---------------------|-----|---------------|-----|
| | | No | Yes |
| Consider Using Yoga | No | 77 | 51 |
| | Yes | 110 | 150 |

$X^2 (1, N = 388) = 10.94, p = 0.001$

Yoga and continuing education. A series of chi-square tests were performed to determine the relationships between various factors and the likelihood for participants to attend a continuing education course in yoga.

The first chi-square test was performed to test the relationship between the work setting of SLPs using yoga in speech therapy and their desire to attend a continuing education course about yoga. It was previously assumed SLPs having an interest in yoga and working with children in settings such as schools would express a desire to attend continuing education about yoga in conventional therapy. The chi-square test, however, found no relationship between the primary work setting of the professional and the likelihood of those who use yoga to attend a continuing education course, $X^2 (18, N = 55) = 18.57, p = 0.42$ (see Table 8).

Table 8

Work Setting vs. Likelihood of Professionals Who Use Yoga in Speech Therapy to Attend a Continuing Education Course

| Work Setting | Continuing Education | | |
|------------------------------|----------------------|-----|----------|
| | No | Yes | Not Sure |
| Early Intervention | 1 | 0 | 0 |
| Preschool/Headstart | 0 | 5 | 1 |
| Schools | 4 | 19 | 1 |
| Medical Setting | 0 | 9 | 0 |
| Colleges/University Clinic | 0 | 1 | 0 |
| Rehabilitation Facility | 0 | 2 | 0 |
| Nursing Home/Assisted Living | 0 | 1 | 0 |
| Private Practice | 0 | 8 | 0 |
| Home Health | 0 | 1 | 0 |
| Other | 0 | 2 | 0 |

$X^2 (18, N = 55) = 18.57, p = 0.42$

The researcher also examined the relationship between the work setting and the decision of SLP professionals who do not use yoga in speech therapy to attend a continuing education course in the future (see Table 9). A chi-square test was performed to test this possible relationship. In contrast to the chi-square test results between work setting of SLPs who use yoga in speech therapy and their desire to attend a yoga continuing education course, a significant relationship was found between the primary work setting and the likelihood of those SLPs who did not use yoga in speech-language therapy to attend a continuing education course, $X^2 (20, N = 333) = 45.93, p = 0.001$.

Table 9

Work Setting vs. Likelihood of Professionals Who Do Not Use Yoga in Speech Therapy to Attend a Continuing Education Course

| | | Continuing Education Course | | |
|--------------|------------------------------|-----------------------------|-----|----------|
| | | No | Yes | Not Sure |
| Work Setting | Early Intervention | 3 | 15 | 6 |
| | Preschool/Headstart | 1 | 11 | 6 |
| | Schools | 22 | 91 | 29 |
| | Medical Setting | 6 | 12 | 14 |
| | Colleges/University Clinic | 2 | 2 | 7 |
| | Rehabilitation Facility | 2 | 15 | 1 |
| | Nursing Home/Assisted Living | 0 | 12 | 2 |
| | Private Practice | 9 | 21 | 17 |
| | Home Health | 3 | 4 | 2 |
| | Telepractice | 0 | 2 | 2 |
| | Other | 0 | 5 | 9 |

$X^2 (20, N = 333) = 45.93, p = 0.001$

The researcher also examined the possible relationship between the primary client population and the likelihood of those who use yoga in speech-language therapy to attend a continuing education course. The frequency analysis supported the assumption that SLPs already using yoga in their therapy practice would likely want to receive further education about yoga for their work, especially those SLPs working with particular client groups such as children. A chi-square test demonstrated no significant relationship between the primary client population served and the likelihood of those who use yoga in speech-language therapy to attend a continuing education course, $X^2 (10, N = 55) = 12.28, p = 0.27$ (see Table 10). The small sample population may have influenced this result. There were too few participants being tested to distinguish differences between categories of client population.

Table 10

Client Population vs. Likelihood of Professionals Who Use Yoga in Speech Therapy to Attend a Continuing Education Course

| | | Continuing Education | | |
|----------------------|--------------------------------------|----------------------|-----|----------|
| | | No | Yes | Not Sure |
| Client Population | Birth to three | 1 | 3 | 0 |
| | Preschool (ages 3-5) | 0 | 12 | 1 |
| | Elementary School (grades K-5) | 3 | 17 | 0 |
| | Middle and High School (grades 6-12) | 0 | 3 | 1 |
| | Adult | 0 | 9 | 0 |
| | Other | 1 | 4 | 0 |

$$X^2 (10, N = 55) = 12.28, p = 0.27$$

A chi-square was also carried out to test the relationship between the willingness of SLPs who do not use yoga in conventional speech therapy to attend a continuing education course about using yoga in speech-language therapy and the number of years they had spent in practice. There was no relationship found between the number of years practiced and the likelihood of those who do not use yoga in speech-language therapy to attend a continuing education course, $X^2 (8, N = 333) = 3.25, p = 0.92$ (see Table 11). While the frequency analysis pointed to SLPs in the early stages of their practice showing more interest in learning about yoga for their professional practice, this analysis did not detect a significant difference. The small sample size, however, may have made differences difficult to detect. A larger sample size would be needed in future studies to retest this factor.

Table 11

Years Practiced vs. Likelihood of Professionals Who Do Not Use Yoga in Speech Therapy to Attend a Continuing Education Course

| | | Continuing Education Course | | |
|-----------------|--------------------|-----------------------------|-----|----------|
| | | No | Yes | Not Sure |
| Years Practiced | Fewer than 5 years | 15 | 55 | 30 |
| | 5-10 years | 13 | 49 | 23 |
| | 11-15 years | 4 | 30 | 11 |
| | 16-20 years | 8 | 22 | 14 |
| | 21+ years | 8 | 34 | 17 |

$X^2 (8, N = 333) = 3.25, p = 0.92$

Yoga as a Complementary Practice in Speech-Language Therapy

Professionals were asked if they currently used yoga in their practice. Of those responding, 85.82% (n = 333) of the SLPs and SLP-As stated they did not apply yoga as a complementary practice in speech-language therapy while 14.18% (n = 55) of SLPs and SLP-As indicated they utilized yoga. Participants who answered that they used yoga as a complementary practice in speech-language therapy were asked to respond to a set of questions exploring such factors as frequency of use, types of techniques and types of clients. Those who did not use yoga were asked to complete a different set of questions to explore the reasons for not using yoga.

The 55 participants who responded that they used yoga in speech-language therapy were further prompted to identify the resources from which they learned to incorporate yoga. SLPs and SLP-As could select more than one resource. There were 11 choices of answers, as well as the “other” response where participants could detail sources not listed.

The primary information resources were identified as: yoga class (38.18%, n = 21), yoga cards/sheets of yoga poses (38.18%, n = 21), occupational therapist/physical therapist (32.73%, n = 18), external professional development/workshop (27.27%, n = 15), and blogs or other internet resources (25.45%, n = 14). Other resources included professional journals, workshops, and supervisors. Table 12 presents the various sources of information SLPs and SLP-As who

included yoga in their conventional speech-language therapy accessed when learning about incorporating yoga as a complementary practice in speech-language therapy.

Table 12

Sources SLPs and SLP-As Access to Learn About Using Yoga in Speech-Language Therapy

| Sources of Learning | Frequency | Percent |
|---|-----------|---------|
| Yoga class | 21 | 38.18% |
| Yoga cards/sheets of yoga poses | 21 | 38.18% |
| Occupational therapist/Physical therapist | 18 | 32.73% |
| External professional development/workshop | 15 | 27.27% |
| Blogs or other internet resources | 14 | 25.45% |
| Other | 11 | 20.00% |
| Colleague: Speech-language pathologist | 5 | 9.09% |
| Speech-language pathology literature/journals | 5 | 9.09% |
| Magazine article | 3 | 5.45% |
| In-house professional development/workshop | 3 | 5.45% |
| Occupational/physical therapy literature/journals | 3 | 5.45% |
| Supervisor speech-language pathologist | 1 | 1.82% |

Frequency of yoga use in speech-language therapy. SLPs and SLP-As complementing conventional therapy with yoga were asked about the frequency of yoga use. There were four answer choices. Just over half of participants using yoga, 52.73% (n = 29), stated they sometimes (4-6 times/month) made use of yoga, 36.36% (n = 20) stated they seldom used yoga (1-3 times/month), and 10.91% (n = 6) stated they often (7 or more times/month) used yoga in therapy with their clients. Figure 6 illustrates the frequency of use of yoga as a complementary practice in speech-language therapy.

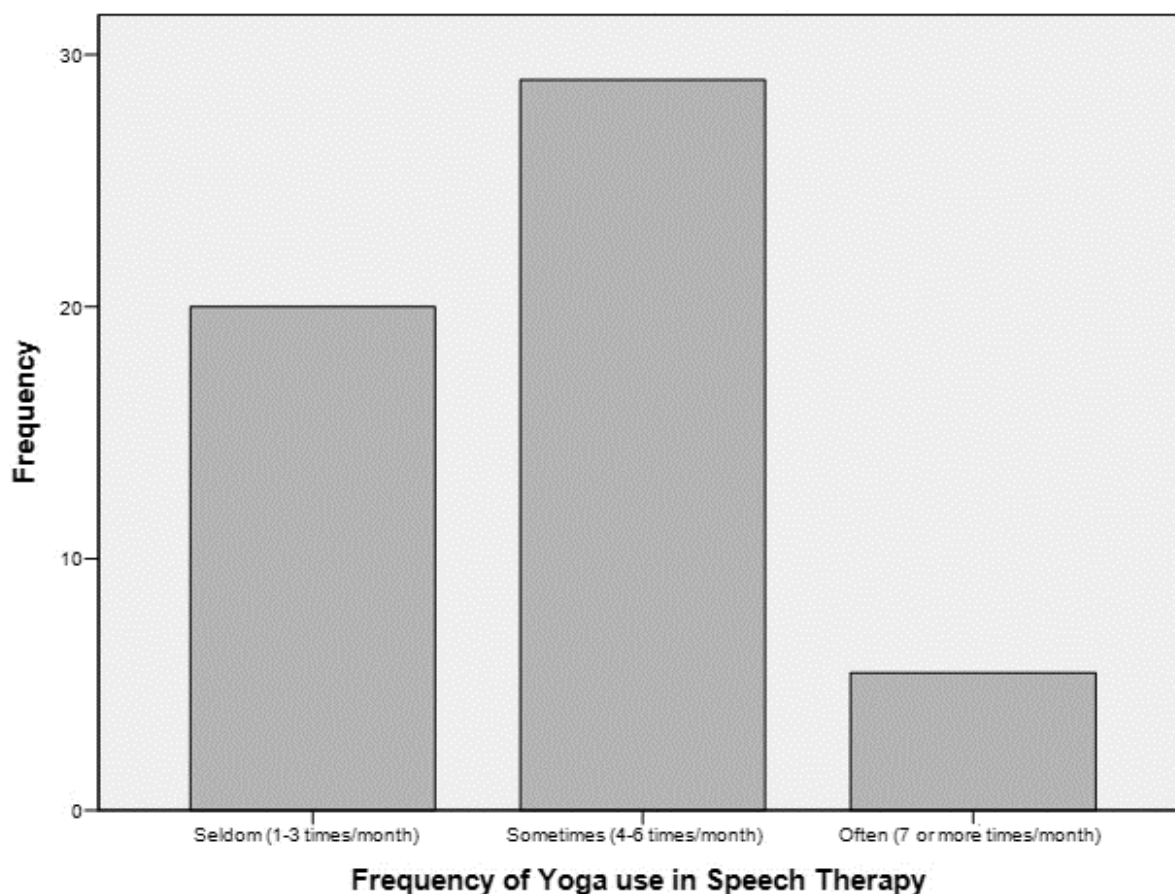


Figure 6. Bar chart of the frequency of incorporating yoga into daily sessions by SLPs and SLP-As using yoga in speech-language therapy.

Yoga use for client conditions. SLPs and SLP-As using yoga were asked about their use of yoga under various client conditions. There were 15 choices of answers, including an “other” category to specify conditions not listed. SLPs and SLP-As could select more than one condition. The most common conditions for which SLPs and SLP-As adopted yoga into conventional treatment are listed in Table 13.

Table 13

Client Conditions for which SLPs and SLP-As Incorporate Yoga into Speech-Language Therapy

| Condition | Frequency | Percent |
|---|-----------|---------|
| Autism | 30 | 54.55% |
| Childhood Language Delays or Disorders | 30 | 54.55% |
| Speech Sound Disorders (e.g., Childhood Apraxia of Speech, Phonological, Articulation) | 23 | 41.82% |
| Developmental Disabilities (e.g., Down Syndrome, Cerebral Palsy) | 23 | 41.82% |
| Stuttering/Cluttering | 21 | 38.18% |
| Intellectual Disability | 16 | 29.09% |
| Voice Disorders (e.g., Vocal Nodules and Polyps, Vocal Fold Paralysis, Paradoxical Vocal Fold Movement, Spasmodic Dysphonia, Resonance) | 12 | 21.82% |
| Other | 11 | 20.00% |
| Apraxia | 10 | 18.18% |
| Dysarthria | 9 | 16.36% |
| Neurological Impairment (e.g., Stroke, TBI, Concussion) | 9 | 16.36% |
| Aphasia | 7 | 12.73% |
| Degenerative Diseases (e.g., Parkinson's, Dementia, ALS) | 6 | 10.91% |
| Dysphagia | 4 | 7.27% |
| Deaf/Hard of Hearing | 2 | 3.64% |

Purposes of yoga in speech-language therapy. In the next question, participants were asked the purpose of incorporating yoga into speech therapy. There were 14 choices for answers as well as the “other” category and participants could select more than one answer. A list of the answers can be found in Table 14. Responses for other uses of yoga, included sensory regulation, self-awareness and sequencing.

Table 14

Purposes of Using Yoga in Speech-Language Therapy

| Condition | Frequency | Percent |
|------------------------------------|-----------|---------|
| To reduce stress/anxiety | 49 | 89.09% |
| To focus attention | 46 | 83.64% |
| To help with breathing/respiration | 45 | 81.82% |
| To assist with body breaks | 39 | 70.91% |
| To relax muscles | 32 | 58.18% |
| To improve motor planning | 24 | 43.64% |
| To increase motivation | 23 | 41.82% |
| To improve posture | 22 | 40.00% |
| To increase coordination | 17 | 30.91% |
| To increase language output | 17 | 30.91% |
| For vocabulary development | 15 | 27.27% |
| To increase speech output | 13 | 23.64% |
| To develop symbolic play | 7 | 12.73% |
| To develop emergent literacy | 6 | 10.91% |
| Other | 4 | 7.27% |

Perceived benefits. Participants were asked about the perceived benefit(s) of incorporating yoga into conventional speech-language therapy sessions. There were 15 choices for answers and participants were able to select more than one answer. The main benefits participants are listed in Table 15. Two responses in the other category included using yoga for confidence and independent recommendations for clients.

Table 15

Perceived Benefits of Incorporating Yoga into Speech-Language Therapy

| Perceived Benefits | Frequency | Percent |
|--|-----------|---------|
| Improved attention skills | 44 | 80.00% |
| Reduced stress/anxiety levels | 44 | 80.00% |
| Improved body awareness | 34 | 61.82% |
| Improved breathing/respiration | 33 | 60.00% |
| Improved listening skills/following directions | 33 | 60.00% |
| Improved relaxation of muscles | 28 | 50.91% |
| Improved motivation | 19 | 34.55% |
| Improved posture | 18 | 32.73% |
| Improved motor planning | 17 | 30.91% |
| Improved coordination | 16 | 29.09% |
| Improved speech output | 15 | 27.27% |
| Improved language output | 12 | 21.82% |
| Improved vocabulary development | 9 | 16.36% |
| Improved symbolic play | 4 | 7.27% |
| Improved emergent literacy | 2 | 3.64% |
| Other | 2 | 3.64% |

Yoga poses/techniques. The survey also explored in a question the types of yoga techniques utilized during conventional speech-language therapy. SLPs and SLP-As were allowed to select multiple types of yoga techniques. There were two techniques listed, as well as an “other” category that allowed participants to specify techniques not on the list. Breathing techniques were most commonly used and were selected 87.27% (n = 48) times by participants, whereas traditional yoga poses/techniques were selected 67.27% (n = 37) times by participants and 20.00% (n = 11) selected other techniques. These other techniques included affirmations, mindfulness and meditation (7.27%, n = 4), modified poses or poses “made up myself” (5.45%, n = 3), Yogarilla cards (3.63%, 2), Kundalini yoga (1.81%, n = 1), and poses for children (1.81%, n = 1).

The survey asked those SLPs and SLP-As practicing traditional yoga poses about the types of traditional yoga practices used in conventional speech-language therapy. The open-

ended question allowed SLPs and SLP-As to list any or all of the poses and techniques that they currently included in their practice. Of the 52 responses, 86.53% (n = 45) listed multiple poses and breathing techniques. The most common yoga poses/techniques were the mountain pose, warrior pose, downward dog, child pose, tree pose, and cat/cow pose. Some participants (5.76%, n = 3) did not know the names of the poses. The most commonly cited breathing techniques were single nostril breathing, alternate nostril breathing, deep breathing, lion's breath, and ocean breathing.

Continuing education. The final question for SLPs and SLP-As who used yoga in their therapy sought to determine whether practitioners would consider pursuing continuing education in yoga training developed specifically for speech-language pathologists. There were three options for answers: yes, no or unsure. Well over half of the participants, 87.27% (n = 48), indicated that they would attend continuing yoga education specific to, 9.09% (n = 5) selected they would not attend and 3.64% (n = 2) indicated they were unsure.

SLPs and SLP-As Not Using Yoga in Speech-Language Therapy

The participating SLP professionals were asked whether they would consider using yoga as a complementary practice in speech-language therapy. There were only two answers: yes or no. Over half of the participants, 67.01% (n = 260), responded that they would consider adopting yoga into conventional speech-language therapy, whereas the remaining 32.99% (n = 128) indicated they would not consider using yoga as a complementary practice in speech-language therapy.

The survey asked SLPs and SLP-As who were not using yoga in their conventional therapy to answer the next set of three questions. These questions explored the reasons for not using yoga in therapy. There were 333 SLPs and SLP-As who self-identified they did not use

yoga in their speech-language therapy practice. There was a choice of five answers as well as an “other” category that allowed participants to detail additional reasons not listed. SLPs and SLP-As could select more than one answer. The “other” category generated responses describing a range of reasons ranging from a lack of experience and knowledge about how to implement yoga into therapy to understanding yoga as being outside the scope of conventional practice. Table 16 provides an overview of the responses.

Table 16

Reasons SLPs and SLP-As Do Not Use Yoga as a Complementary Practice in Speech-Language Therapy

| Do not use yoga | Frequency | Percent |
|--|-----------|---------|
| I don't know the value of yoga for speech-language therapy | 211 | 63.36% |
| It is not evidence based | 117 | 35.14% |
| I know nothing about yoga | 82 | 24.62% |
| It is not appropriate for the clients/students I serve | 71 | 21.32% |
| Other | 51 | 15.32% |
| Parents/caregivers/families would not approve | 32 | 9.61% |

SLPs and SLP-As considering yoga in speech-language therapy. The second question asked SLPs and SLP-As who did not use yoga as a complementary practice in speech-language therapy about the conditions for the possible use of yoga as a complementary practice in speech-language therapy in the future. Participants were able to select from four answers as well as from an “other” category that permitted participants to describe answers not listed. Participants could select multiple answers. See Table 17 for a breakdown of reasons when SLPs and SLP-As would use yoga in speech-language therapy.

Table 17

Reasons When SLPs and SLP-As Would Consider Using Yoga as a Complementary Practice in Speech-Language Therapy

| Consider Using Yoga | Frequency | Percent |
|---|-----------|---------|
| If there were established evidence-based resources for using yoga in speech-language therapy | 256 | 76.88% |
| If I knew the potential benefits to enhance speech-language or swallowing development, remediation, or habilitation | 199 | 59.76% |
| If I knew the various yoga poses that may enhance speech-language or swallowing development, remediation, or habilitation | 153 | 45.95% |
| I am not interested in using yoga to augment speech-language or swallowing treatment | 27 | 8.11% |
| Other | 25 | 7.51% |

SLPs and SLP-As considering continuing education. The final question of this set was specifically directed at SLPs and SLP-As who did not use yoga as a complementary practice in speech-language therapy and asked whether SLPs and SLP-As would consider attending a continuing education course specifically developed for implementing yoga as a complementary practice in speech-language therapy. There were three possible answers available: yes, no and unsure. Over half of the participants (57.06%, $n = 190$) responded positively and would consider attending a continuing education course, 14.41% ($n = 48$) indicated they would not attend and just over a quarter, 28.53% ($n = 95$), were unsure about attending a continuing education course.

Speech-Language Pathology Students

SLP-Ss participating in the survey were asked to respond to a separate set of questions about their location and program of study as well as background in yoga. A total of 141 (26.66%) speech-language pathology students participated in the study.

Classification. The first question of the set asked SLP-Ss to self-define their level of study. There were two answer choices: graduate or undergraduate level of study. Most responses

(22.12%, n = 117) came from graduate-level students and the remaining 4.54% (n = 24) of students were undergraduate.

Country of school. The SLP-Ss were asked to specify their country of study. There were three choices of answers. The majority of SLP-Ss (68.79%, n = 97) were studying in the United States, followed by Canada (23.40%, n = 33), with the remainder taking their education in other countries (7.80%, n = 11). The question allowed SLP-Ss to specify other countries of study not listed (see Appendix F).

Name of school. SLP-Ss were asked to name the school they attended. There were 49 different universities listed located in the United States, Canada, United Kingdom and other countries. Most participating SLP students attended Minot State University and Adelphi University in the United States and the University of Alberta in Canada.

SLP-Ss and yoga practice. SLP-Ss were asked to indicate whether they currently practiced yoga. There were two choices for answers: yes or no. Slightly more than half of students responding did not practice yoga as a personal practice (see Table 18).

A follow-up question asked SLP-Ss whether they were a certified yoga teacher. There were two answers to the question: yes or no. Most SLP-Ss were not certified teachers with only three students self-defining as certified yoga teachers (see Table 18).

SLP-Ss and speech-language therapy. The survey also sought to determine whether SLP-Ss provided speech-language therapy services to clients. The vast majority of SLP-Ss indicated they had provided speech-language therapy services to clients, whereas fewer than one quarter of SLP-Ss had not provided speech-language therapy services (see Table 18).

SLP-Ss' understanding of yoga in speech-language therapy. The survey also explored the SLP-Ss' knowledge about yoga as a complementary practice in speech-language therapy.

There were two possible answers: yes or no. SLP-Ss were asked about their knowledge of using yoga as a complementary practice in speech-language therapy (see Table 18).

Table 18

SLP Student Demographics

| Demographics | Use | Frequency | Percent |
|--|-----|-----------|---------|
| Practice Yoga Personally | Yes | 73 | 51.77% |
| | No | 68 | 48.23% |
| Certified Yoga Teacher | Yes | 3 | 2.13% |
| | No | 138 | 97.87% |
| Provide Speech-Language Therapy | Yes | 113 | 80.14% |
| | No | 28 | 19.86% |
| Understanding of Yoga in Speech-Language Therapy | Yes | 15 | 10.64% |
| | No | 126 | 89.36% |

Sources of information about yoga in speech-language therapy. Those SLP-Ss stating they had prior knowledge about using yoga as a complementary practice in speech-language therapy were prompted to answer a question to determine the sources of their information about yoga. There were 12 answers to select as well as an “other” category where students could list additional sources not named. SLP-Ss could select more than one answer. Table 19 presents a complete description of the responses of SLP-Ss.

Table 19

Sources for SLP-Ss Learning About Using Yoga in Speech-Language Therapy

| Sources Learned from | Frequency | Percent |
|--|-----------|---------|
| Supervising speech-language pathologist | 8 | 53.33% |
| Communication disorders class | 8 | 53.33% |
| Blogs or other internet resources | 5 | 33.33% |
| Speech-language pathology literature/journal | 5 | 33.33% |
| Other | 2 | 13.33% |
| Occupational therapist/Physical therapist | 2 | 13.33% |
| Yoga cards/sheets of yoga poses | 1 | 6.67% |
| Magazine article | 0 | 0.00% |
| Yoga class | 0 | 0.00% |
| In-house professional development/workshop | 0 | 0.00% |
| External professional development/workshop | 0 | 0.00% |
| Other college class | 0 | 0.00% |
| Occupational/physical therapy literature/journal | 0 | 0.00% |

Uses of yoga in speech-language therapy. The next question asked participating SLP-Ss about the different ways they knew in which yoga was being employed in speech-language therapy. There were 15 possible answers to the question as well as an “other” category. SLP-Ss could select more than one source. See Table 20 for the ways SLP students have seen/heard about yoga as a complementary practice in speech-language therapy.

Table 20

SLP-Ss Have Seen/Heard About Yoga Being Used in Speech-Language Therapy

| Reasons | Frequency | Percent |
|-----------------------------|-----------|---------|
| For breathing/respiration | 12 | 80.00% |
| To reduce stress/anxiety | 11 | 73.33% |
| To relax muscles | 10 | 66.67% |
| To focus attention | 9 | 60.00% |
| To increase body awareness | 9 | 60.00% |
| For body breaks | 9 | 60.00% |
| To increase motivation | 6 | 40.00% |
| To increase coordination | 5 | 33.33% |
| To improve posture | 4 | 26.67% |
| Other | 3 | 20.00% |
| For motor planning | 3 | 20.00% |
| For symbolic play | 2 | 13.33% |
| For emergent literacy | 1 | 6.67% |
| To increase language output | 1 | 6.67% |
| To increase speech output | 1 | 6.67% |
| For vocabulary development | 0 | 0.00% |

Qualitative Data Results

As a mixed methods study, qualitative data were collected from short answers. The short answers to these questions were valuable in the qualitative analysis because they provided a broader context for meaning. They created a space for the participants to personalize and individualize their responses. The resulting data reveals a complexity and texture in the everyday practice of SLPs, SLP-As, and SLP-Ss. The short answer space allowed the participants to give full expression about their work settings, clients, their location of work or study, and their experiences with yoga. The study gains an understanding about the range of diversity in the practice of SLPs and SLP-As. It provides important insight into the meaning of yoga for SLPs, SLP-As, and SLP-Ss within everyday contexts.

The bulk of the data for analysis came from the final open-ended question, Question 33, which asked participants to “Please state any additional information you would like to tell us

about using yoga as a complementary practice in therapy.” About a third of participants provided an answer (see Appendix G). This suggests that they felt strongly about the topic to express their emotions, beliefs or opinions.

Framing. Framing is a method of organizing ideas or narratives into a system that provides meaning (Pan & Kosicki, 1993). In the context of his study, the researcher used framing to understand how participants perceive yoga in relation to their conventional speech-language therapy. It is an evaluation of the worthiness of yoga which can be expressed as positive, negative or somewhere in-between by the participants. The data revealed four main ways that participants framed yoga in relation to their conventional speech-language therapy – as personal experience, as a novelty, as a complementary activity, and from a professional or science-based perspective.

The concept of positioning in narrative analysis is used to explore the relations with other individuals and to explain interactions with processes (Harré & Langenhove, 1991). Positioning refers to how the participants place themselves, yoga and their clients in the therapeutic setting. It also reflects the way that the participant presents their experience with yoga to the researcher. Three subcategories of positioning were identified: didactic, non-expert, and experiential.

Short-answer written responses were collected and organized into categories based on framing and positioning and were further coded for emergent themes (see Table 21).

Table 21

Categories and Subcategories of Analysis of Short Answer Responses

| Category | Subcategory |
|-------------|------------------------|
| Framing | Personal Experience |
| | Novelty |
| | Complementary activity |
| | Professional/science |
| Positioning | Didactic |
| | Non-expert |
| | Experiential |

Personal experience. The dominant way of framing in this study was through personal experience. The word “I” or “my” was used to start almost every comment in the open-ended question section. Some examples are: “I have not used...,” “I would love to learn...,” “I sometimes co-treat...,” “I feel...,” “I would not attend...,” “In my clinic...,” and “I feel concerned.” When the written statements began with the personal pronoun “I,” it signaled the perspective of yoga (in the rest of the sentence) was grounded in personal experience, personal values, and personal identity. Furthermore, yoga’s value as a complementary technique and its place in conventional therapy was adjudicated, not on independent external criteria (scientific evidence), but on the participants’ own knowledge base about yoga, their positive or negative experience with yoga and their personal thoughts about yoga.

This example illustrates the use of the personal pronoun and the sharing of personal experience: “I have seen an increasing number of students present with anxiety disorders and I feel yoga would be beneficial to this population as well.” It also shows how yoga’s merit as a complementary therapy was judged based on the participant’s own experience. The second example also demonstrates how the participant’s knowledge determined the worthiness of yoga in speech-language therapy. “I’ve never heard of using yoga for our field to rehab adults. My

experience shows that only physical and occupational therapists are appropriately trained to move severely debilitated patients into different poses.” In this study, very few SLPs worked in an adult rehabilitation setting. The participation level may signal a low number of SLPs in rehabilitation in the general population. This participant did not value yoga very highly as a technique in this particular setting, implying a low valuation of yoga as a therapy in general.

Novelty. Another approach through which yoga was framed in this study was novelty. Characteristic of this framing, the participants injected some emotion into their phrasing and expressed wonder and surprise. Some examples are: “I didn’t know...,” “I never heard...,” “I am interested...,” and “What a great idea!” Because the information about yoga was new to these participants, they also expressed interest or curiosity in finding out more about the incorporation of yoga in conventional therapy.

When processing the novel information about yoga, the participants in the study followed one of several mental-emotional reaction pathways. It is through each of these pathways that their perspectives of yoga in SLP therapy were framed. In one pathway, the participants expressed interest or enthusiasm; “This survey made me really excited because this is something I am passionate about – teaching using natural approaches. Also I love teaching mindfulness so this fits with that. Way to go!” For others, however, this enthusiasm was also shown, but quickly dampened by considering how to use yoga in their own workplaces. One participant stated, “Sounds interesting and would like to learn but I’m not sure I’d ever be able to implement.” Because the participant was unlikely to use yoga in the workplace, yoga as a complementary technique in speech-language therapy became framed as a theoretical possibility, not as a valid existing technique. Other participants followed pathways expressing skepticism or views of uncertainty: “I currently know little about using yoga as a complementary practice in SLP

therapy. I think it sounds interesting.” The next example voiced a similar placement of the expression of interest. “I can see there being speech/swallowing benefits in practicing yoga given the importance of respiration. I look forward to further research.” These two participants framed the use of yoga in conventional therapy as tentatively hopeful. Placing the word “interesting” at the end of the phrase moderates the emotion in both examples.

Complementary activity. Another perspective through which SLPs in this study framed yoga was as a complementary activity. Yoga was perceived by SLPs as an optional technique, as a means to relaxation, as a technique for taking movement breaks, and as unscientific “mumbo jumbo.” This framing approach illustrates the misunderstanding and confusion which exists between yoga as a spiritual and exercise practice and yoga as a therapy. Some participants could not distinguish the difference and disregarded yoga for its therapeutic value because they understood it as solely as an exercise system of stretching and breathing: “We barely have time to do ‘actual’ therapy in schools, when would we have time to do non-scientific woo-woo ‘complementary treatments’?” This participant as well as others also emphasized time constraints. SLPs with full client schedules expressed they only have time to consider activities they perceived as research-based or within their scope of expertise. “Seems like a waste of time. This is not in our scope of practice.” Furthermore, this comment demonstrates how participating SLPs perceived yoga as an entertainment or free-time activity outside of conventional speech-language therapy techniques. Some also noted yoga lacked seriousness.

Other survey participants recognized value in some aspects of yoga: “I’ve heard of it used for sensory movement breaks for kids during therapy, but I’ve never heard of it being used specifically for speech/language/swallowing skills.” Nevertheless, this participant shared doubts about yoga’s efficacy for particular speech-language conditions:

I don't view it as a complementary therapy so much as a treatment activity. For example, a way to incorporate movement breaks for children with ADHD, incorporate body awareness into following directions activities, or establishing opening/closing routines. If we're going to call it a complementary therapy or say that yoga specifically enhances speech/language/swallowing function, then I would need to see evidence.

Still other participants valued yoga for its general effects, such as relaxation, and shared the concerns expressed by other participants: "I use it more for relaxation and movement breaks. I would need evidence to determine how it would be helpful for any other use." At least half of the participants did not practice yoga. Therefore, they would have had limited knowledge about the applications of yoga and were likely basing their comments on general cultural presentations of yoga. They also may have been unfamiliar with complementary therapies in general and perhaps unaware that therapeutic use of a complementary practice requires systematic protocols for specific effects.

Professional/Science. The final major perspective through which SLP participants framed yoga as a complementary technique in conventional speech-language therapy was through a professional/scientific lens. In this way, yoga is subjected to the same evidence-based criteria as other therapy techniques. Some participants had positive reactions to the idea of adding yoga as a complementary technique to their conventional therapy, but only if yoga therapy met participants' evidenced-based criteria: "I think it's a neat idea and I love to see some evidence backing this up!" In the following comment, the ordering of ideas in the sentence illustrates an even greater stress on the need for research because the word "research" is mentioned first and only then does the SLP consider willingness to add it to their conventional therapy: "I would like to know the research behind it and would definitely incorporate it into

therapy (with supporting evidence).” For other participants, the need for evidence-based research was their reason to reject incorporating yoga. “I don’t understand the link between speech/language/swallow and yoga. If there is no evidence, we can’t use it.” This participant makes evidence-based criteria the condition for attending some types of professional development: “I would attend a CEU presenting a high-fidelity research study to support yoga as an effective complementary practice for speech/language. I would not attend a training purely based on the experience of SLPs.” Notably, this participant rejected experiential evidence of professional colleagues as a mechanism of knowledge transfer.

Some participants demonstrated concern for the integrity of the profession and clinicians by expressing a need for certification and appropriate training for clinicians to use yoga therapy techniques: “I feel this would have to be controlled by a certification process to ensure clinicians were confident and effective to incorporate these techniques.” In effect, they were calling for a systematization of using yoga therapy in conventional speech-language therapy.

Some participants’ comments addressed the professional standards of speech-language therapy. The following comment is inquisitive because, unlike the comment above, this participant had experience with yoga and its positive benefits for speech-language therapy. Yet, the second part of the quotation provides a caution to the profession and an ultimate rejection of incorporation of yoga into speech-language therapy:

Yoga is awesome. I work with students on the spectrum that take yoga each day instead of P.E. and we find it helpful. That does not, however, make me want to be the one to implement yoga with my clients. I think we need to preserve the professionalism of Speech-Language Pathology and guard ourselves from looking like we are willing to do

therapies that are not speech-language pathology. There are certified yoga instructors whom we could refer patients to for this aspect of related intervention.

Another SLP comment considered within the framework of professional/science context raises the important core issue of measurement and testing the efficacy of incorporating yoga therapy into conventional speech-language therapy:

I feel concerned that it may be difficult to truly test; I am confused about how yoga would target a specific, testable area of skill that directly improves speech outcomes. I have seen yoga being used to target social/emotional skills (ex. Calm breathing) but have never considered how we might use yoga techniques to work on speech.

The frequency analysis also points to the tendency of those SLPs using yoga in their practice to focus and value highly the general effects of yoga, such as reduced anxiety and muscle relaxation. Even if yoga therapy could be incorporated for specific conditions, this SLP questioned the ability to target a yoga technique or pose for a specific outcome, specifically related to speech-language.

The professional/science perspective of framing yoga therapy for conventional speech-language therapy maintains that incorporating yoga into conventional speech-language therapy depends on efficacy for speech-language outcomes and evidence-based research criteria. It also follows an evidence-based approach of evaluating whether yoga should be incorporated into conventional speech-language therapy. Personal belief in yoga and feelings do not play a part in framing this particular understanding of yoga.

Positioning. Positioning is another important element for considering how speech-language pathologists in the survey perceived incorporating yoga as a complementary technique into their conventional therapy. Since narrative is experiential, participants have to place

themselves into their experience and show how they relate to what they are talking about, which in this study is yoga. In this study there are three aspects of positioning to consider: (1) How the participants position themselves in relation to yoga techniques in therapy and their clients; (2) How they position yoga in the space of their speech-language pathology profession; and (3) How they position the researcher. In this study, participants used three methods of positioning: didactic, non-expert, and experiential.

Didactic. In the first method, didactic, some participants positioned themselves as experts. Citing their own knowledge or referencing research, some SLPs attempted to teach the researcher or explained in their comment how they instructed clients on yoga techniques. Some also described the positive or negative aspects of yoga as a complementary technique for conventional speech-language therapy. In the following example, this participant related ways to incorporate yoga into conventional therapy with specific client groups:

It is a great way to gather data on a client's receptive abilities. I've used Yoga [sic] with a PPA client and it is the perfect activity to incorporate in therapy when they are low functioning and very limited in their verbal productions.

In this example, the roles are reversed: The participant becomes the teacher-expert and the researcher becomes the student, learning about ways to incorporate yoga for specific client populations. Yoga is positioned as a valid complementary technique for conventional therapy.

In the next example, the participant began answering the question, detailing types of yoga techniques used, but switched to a detailed description on the fundamentals of yoga. As in the previous example, the participant becomes an expert and teacher about yoga to the researcher who is relegated to a student-like position. Again, yoga is positioned as an effective health

system, and the SLP concluded with a wish that yoga could become a complementary technique in speech-language therapy.

I incorporate breathing, meditation, visualization, and motivational counseling - sometimes reminiscent of a dharma talk - when appropriate. Yoga is the union of body, mind, and spirit. Effective communication involves all three and requires that they work together. It's not surprising that there is interest in this topic; yoga has been shown to improve focus and reduce negative behaviors in school-age children. It would be great to see research applied directly to our profession.

Non-expert. In the non-expert positioning approach, the participants position themselves as having no knowledge or expertise. There are several formats participants used to describe their lack of expertise. Some examples were: “I don’t know much about it,” “I didn’t know,” “Don’t know much about it,” “Never seen any research on this or learned about it in class,” and “Never heard of it being used in speech/language therapy.” SLPs positioned themselves as experts within the area of speech-language pathology and they also positioned their own personal knowledge as the criteria for assessing yoga therapy’s validity within the context of conventional speech-language therapy. In other words, if they as experts in speech-language pathology had not heard about yoga within the context of conventional speech-language therapy, they did not perceive incorporating yoga therapy as a worthwhile consideration. Furthermore, these types of comments imply yoga occupies a position outside of the main evidence-based profession of .

Experiential. A final positioning approach in narrative analysis is the experiential method; “I have used yoga previously” and “We use yoga in our Playschool daily for helping children with movement and relaxation.” In these comments, these participants have positioned themselves as having had experience using yoga but have assumed the researcher did not have

experience with yoga and therefore required a full explanation. These participants included a lengthy description of their yoga experience. “I usually teach the pose/technique in layman's terms, and then after noting improved proficiency/independence, I explain the reasoning & overlap with yoga.” Those who rejected yoga for conventional therapy also employed this mode of interpretation. The following example described a negative perspective on yoga's incorporation into conventional therapy. “I've seen the OT use it for the preschoolers and I've yet to see any positive results. This is not a bias statement.” In this case, the participant was positioned as a witness to yoga as a complementary therapy in another therapy system. Yoga was positioned as an ineffective technique which was employed by others. The comment implies that because yoga appears to be ineffective in other therapies, speech-language pathology should reject yoga's incorporation into conventional therapy.

Modes of Interpretation. The participants may also evaluate yoga in conventional speech-language therapy based on modes of interpretation. Modes of interpretation can be considered a super-category because it is the lens through which the participants understand and approach the categories of framing and positioning (see Table 22). Three modes of interpretation emerge from the data: feelings, belief, and mental/knowledge. Approaching an understanding of yoga through one of these modes, the participants are able to frame their experience of yoga and position themselves in relation to yoga and their clients in the space of a therapeutic session.

Table 22

Modes of Interpretation of Short Answer Responses

| Mode Type |
|------------------|
| Feelings |
| Beliefs |
| Mental/Knowledge |

Feelings. The first mode or interpretation approach is based on participants' feelings. Using this approach, participants take an emotive approach when evaluating yoga. Whether expressing positive or negative opinions about yoga, framing and positioning through feelings takes place very overtly. For example, SLPs began sentences with phrases like "I feel..." This participant gave yoga a positive value judgement: "I feel like many of the techniques and exercises could be of benefit for a variety of clients that are open to incorporating yoga & [sic] fits with their priorities." In this case, the use of yoga in this particular participant's practice becomes validated through the participant's own feelings, and this validation has an implied extension to yoga in the whole profession of speech therapy.

Belief. Another interpretation approach to consider in narrative analysis centers on belief. In this mode, the participant's value system or beliefs correspond in whole or in part to the underlying value system of yoga. This includes positive and negative perceptions and misconceptions about what yoga is and how it is used. From this perspective, SLPs openly framed their personal experience of yoga within the structure of their own beliefs: "I believe that yoga has great potential." Therefore, if the participant personally values yoga, then by extension yoga has general value to speech-language therapy. Participants held values which either agreed or disagreed with yoga. Regardless of actual evidence-based effects of yoga in therapy, yoga was evaluated based on the criteria of the belief. Some of the participants understood yoga to be a spiritual practice and did not share the same views. This comment illustrates the difference of beliefs for both yoga and speech-language therapy:

It sounds interesting and not something I learned anything about. With a lot of people that believe in holistic approaches and yoga, I think people may like it. Although I can also see a big fight against as well. I have sides of families that don't believe in Speech [sic]

therapy and if I came in with downward dog, they'd definitely not go along. I think it's for certain families.

Yoga is viewed in this example as a complementary practice, but some of the SLP's client family members did not believe in complementary practices. There are also some cases, as in the following example, in which the participant shared beliefs with yoga. "This sounds awesome! Very aligned with my beliefs as to the benefits of yoga, although I don't feel my clients would be convinced or would pay the same rate for the service."

Mental/Knowledge. A final mode focuses on knowledge and understanding. It is most often expressed by participants as "I think...", "I am interested...", or "I don't know..." In this mode the idea of incorporating yoga stretches the possibilities in their mind and knowledge capacities and peaks their imagination. This SLP's comment illustrated this approach: "I am highly interested in whole body treatment and how yoga or other complementary services can enhance outcomes for my patients. I very much hope someone is developing a CEU!!" These participants did not require conditions of evidence for yoga's inclusion into conventional speech-language therapy because the idea stimulated them to think about the possibilities and imagine the potential for yoga. "I would like to know more about how yoga breathing could help stuttering." These participants were oriented positively, displaying an interest in learning more about yoga's potential benefits within conventional therapy: "I find this interesting and would enjoy learning more about the benefits."

Themes. A thematic approach is taken in narrative analysis to find overarching thematic contextual elements across participants and events (Riessman, 2005). The analysis identified three main themes emerging from the data: Personalization, emotion, substantiation.

Personalization was a theme that reflected the private or individual experience of the participant

with yoga and their concomitant beliefs, values and stance toward yoga and its incorporation into conventional speech-language therapy. Emotion emerged as a theme because the idea of incorporating yoga into conventional speech-language therapy evoked a strong emotive response. The third theme was substantiation in which the participants validated their positions on yoga.

Personalization. Unlike other health care fields, yoga as a complementary technique is a late entry into speech-language pathology. In this study, approximately half of the SLPs had some experience with yoga as a practice, but very few included yoga techniques in their professional practice and very little literature about incorporating yoga into this health care field was available for SLPs as a reference. Hence, the participants in this study tended to rely on their own knowledge and expertise and filtered this knowledge through the lens of their personal experience and personal value system. Therefore, yoga as a complementary technique in speech-language therapy appears to be used on an informal basis and its therapeutic efficacy for various speech-language conditions are evaluated by SLPs through the lens of personal experience. Participants who had already incorporated yoga or had practiced yoga personally tended to view its incorporation into speech therapy as a positive development in the profession. If yoga in conventional therapy was unknown to participants, they were more likely tended to downplay its benefits and implied yoga is a minor fad in the profession.

Emotion. The idea of yoga being adopted into speech-language pathology evoked strong feelings and thoughts among all participants. These feelings and thoughts were either positive or negative. Speech-language pathologists' comments tended to show either a high level of enthusiasm or, at the other end of the spectrum, a high level of skepticism and concern. Even punctuation elements such as exclamation marks and question marks were used for emotive

effect. Phrases like “What a great idea!,” “Good luck!,” and “I’m glad...” illustrated the intensity of emotions among participants. The emotive effects resulted in many of the participants falling into two categories: they were either advocates of incorporating yoga or they resisted the idea of yoga’s inclusion into conventional speech-language therapy. Comments by advocates often were structured with information about the benefits of yoga, evidence of it being used in their personal practice, and a value judgement about its worthiness as a complementary therapy. Those who resisted yoga presented in their comments logical critiques of yoga, pointing out a lack of evidence-based support for the therapy and questioning measurements of outcomes. Some participants were subtler about their resistance, expressing various barriers to incorporating yoga in conventional therapy. These reasons included clients who would object, personal discomfort demonstrating yoga poses and personal objections to the religious aspects of yoga.

Substantiation. A third overarching theme emerging from the data involved substantiation or validation through evidence-based criteria. Almost all survey participants were looking for validation for their understandings of incorporating yoga into conventional speech-language therapy. For many, they expressed this as a need for evidence-based science or research about the benefits of yoga for speech-language conditions or a call for certification of SLPs. Other participants who expressed personal thoughts and valuations also backed up their statements with evidence from personal experience. Furthermore, participants’ views, beliefs, and feelings were employed to validate their positive or negative perceptions of yoga.

Summary

The researcher tested some of the main assumptions and tendencies from the frequency analysis by examining the correlation between various factors using the chi-square test of association. Only three chi-square tests revealed a significant relationship between factors. Among the SLPs who did not use yoga in conventional therapy, their work setting influenced

their future decision to attend continuing education on using yoga in their therapy. Thus, regardless of SLPs' own views regarding incorporating yoga into conventional therapy, workplace needs determined their future use of yoga in conventional therapy. The personal use of yoga by SLPs influenced their decision to incorporate yoga into their workplace and their decision to include yoga in the future. Of those SLPs who practiced yoga themselves, a significant number included yoga in their therapy practice or expressed the desire to use yoga in their practice in the future.

The remaining eight relationships tested based on tendencies seen in the frequency analysis did not show significant correlations. It appears this study's small sample size may have made it difficult to detect group differences. Therefore, it would be valuable in future studies to retest these correlations using larger sample sizes. Tendencies revealed by the frequency analysis point to significant relationships, and these are supported by comments from the qualitative data, but the group size was too small to detect any differences. When a larger group size was used (such as the large group of participants not using yoga in their practice), the group differences were detected if they existed.

The results of this analysis reveal a complex picture of yoga's place in conventional speech-language pathology. SLPs hold personal beliefs and values about the position of yoga in speech-language therapy, which may differ from views of their clients and the position of their workplace towards yoga. Some survey participants feel positively towards yoga, but still reject the use of yoga in conventional therapy. Some SLPs might also hold misconceptions about yoga as a complementary therapy. The data provide valuable insight into SLPs understanding of yoga as complementary speech-language therapy given the little research on the experience of yoga in

speech pathology practice. Many speech-language pathologists expressed a need for evidence-based research about the benefits of yoga for speech-language conditions.

Chapter 5

Discussion

The purpose of this research is to explore how yoga is used as a complementary practice in current speech-language therapy, including how commonly it is used in speech-language therapy and its perceived benefits as identified by SLPs, SLP-As, and SLP-Ss. The research questions were as follows:

1. Examine how commonly yoga is used as a complementary practice in current speech-language therapy by SLPs, SLP-As, and SLP-Ss;
2. Explore how SLPs, SLP-As, and SLP-Ss use yoga as a complementary practice in speech-language therapy;
3. Identify the benefits of using yoga as a complementary practice in speech-language therapy sessions as perceived by SLPs, SLP-As, and SLP-Ss.

Using a mixed methods design, a multiple-choice survey collected quantitative and qualitative data. A total of 560 participants attempted to take the survey, with 529 completing the entire survey. Speech-language pathologists and SLP students who provide speech-language treatment to children and adults in a variety of settings took part in the survey on a voluntary basis.

Conclusions

A number of conclusions emerged from this study. One of the principle conclusions emerging focused on the lack of evidence-based research on the therapeutic efficacy of yoga for speech-language therapy. Unlike other health care fields, yoga as a complementary technique is a late entry into speech-language pathology, which is a contributing factor to the lack of evidence-based research on the subject. Having empirical evidence to support the use of yoga in speech-

language therapy was important to the majority of participants in this study. The lack of evidence proved to be a major contributing reason why participating SLPs did not practice yoga in speech-language therapy, even though they personally favored using yoga in conventional therapy.

How Commonly Yoga Is Used Among SLPs, SLP-As, and SLP-Ss

The first research questions sought to examine how commonly yoga is used as a complementary practice in current speech-language therapy by SLPs, SLP-As, and SLP-Ss. The large majority of SLPs did not use yoga in conventional speech-language therapy, although most expressed interest in learning more about using yoga for speech-language therapy. Among SLPs incorporating yoga into their practice, almost all would take professional development education on adapting yoga specifically to speech-language therapy. These SLPs, however, indicated they would like to see more evidence-based research regarding the efficacy of yoga as a complementary therapy within speech-language therapy before adopting it into their conventional therapies. Among those SLPs who did not use yoga in conventional therapy, a portion of them rejected the use of yoga as a complementary therapy in speech therapy based on their own personal beliefs and values, while others expressed that they were simply unaware yoga could be incorporated into speech-language therapy. Closely linked with the perceived lack of evidence-based research among SLPs is the conclusion that the speech-language pathology profession as a whole has yet to develop a resource of best practices for yoga use in conventional therapy or a resource of prescriptive uses of yoga for individual conditions or symptoms.

How SLPs, SLP-As, and SLP-Ss Use Yoga

The second research question explored how SLPs, SLP-As, and SLP-Ss use yoga as a complementary practice in speech-language therapy. This research indicated SLPs who used yoga in their practices did so in an informal, non-systematic, and non-prescriptive way. Apart

from 16 certified yoga instructors, most of the participating SLPs were not specialists in yoga therapy and they adapted the poses and techniques from the practice of yoga to suit the client contexts.

The main yoga techniques SLPs used were poses, breathing, and mindfulness techniques taken from their yoga classes conducted for other purposes (for example, exercise or meditation) and not specifically for speech-language therapy purposes. One of the main reasons SLPs gave for using yoga in conventional therapy was to achieve general effects such as relaxation and focused attention in children. Therefore, it is unlikely that those SLPs who were including yoga into their conventional therapy were using yoga specifically for speech-language disorders, but rather were borrowing techniques from yoga practice and using them for other general-purpose targets.

Some SLPs misunderstood the difference between yoga practice and yoga for therapy. This influenced their perception of yoga and their willingness to incorporate it into conventional therapy. The comments indicate these SLPs view yoga from the same perspective as conventional therapy techniques, which includes being able to provide a direct benefit to speech and language disorders such as reducing dysfluencies. Many of the SLPs commented they did not see a link between yoga and speech-language therapy practices, given that yoga is commonly used for general effects such as relaxation. Some SLPs expressed concerns that yoga could replace speech-language therapy techniques, thus becoming an alternative modality and not a complementary technique. For those SLPs who rejected yoga as a complementary therapy for speech-language therapy, one issue was whether there is a demonstrated clinical benefit for incorporating yoga into conventional therapy.

Perceived Benefits of Using Yoga in Speech-Language Therapy

The third research question sought to identify the benefits of using yoga as a complementary practice in speech-language therapy sessions as perceived by SLPs, SLP-As, and SLP-Ss. This study identified three types of SLPs. The smallest group appeared to be monitoring their clients and were primed to observe generalized improvements, but they did not distinguish how yoga or effective speech therapy techniques each contributed to perceived improvements. They attributed general effects such as more focus to the application of yoga therapy.

Another group of SLPs did not incorporate yoga into their conventional speech therapy. This group felt or thought positively about yoga. Some had even observed the beneficial effects of yoga in other therapies such as occupational therapy. They do not, however, incorporate yoga because of client acceptance and acceptance of the institution where the therapy occurred. This group also expressed a lack of evidence-based evidence supporting yoga's incorporation into conventional therapy and would not include yoga until more research was done.

A third group included SLPs who did not incorporate yoga into their conventional speech therapy. This group rejected yoga as a therapeutic technique for speech-language therapy and did not perceive there was any benefit from yoga. Their perceptions of yoga were shaped by their own personal experience and knowledge. For some SLPs, their beliefs and values shaped their perception of yoga, whereas for others, yoga practice was perceived as existing outside the professional sphere of speech-language therapy. Some SLPs did not use yoga for therapy because they did not know the value or perceived benefits of yoga for speech-language therapy, they did not feel there was sufficient evidence-based research to support its inclusion, or they did not have enough knowledge about yoga practice.

There was a difference in the expectations about the benefits of yoga within each group of SLPs. Those who incorporated yoga regarded it as a complement to the main techniques of conventional therapy with the aim of boosting the effects of speech therapy practices or producing secondary effects such as relaxation. These SLPs applied yoga for more general effects such as increased focus and breath control. SLPs in this study perceived yoga as helping clients reduce anxiety and improve focus and listening. By reducing anxiety, yoga can help clients better perform certain speech therapy techniques. Future research would be better able to define these beneficial effects. This study also concludes that individuals in the field of speech-language therapy gain their awareness and knowledge base about yoga for their professional practice from multiple sources. This speaks to the lack of specific resources about yoga directly related to speech-language therapy. Given the high level of interest in yoga therapy from SLPs who work with children, it appears there is a lack of informational resources on yoga as therapy for children. Students relied on channels which were traditional to them, such as teachers, their classes and research from the Internet. Thus, SLP professionals, especially those who instruct students, are an important resource for SLP-Ss. In contrast to SLP-Ss, SLPs relied more on personal contacts, personal communications with therapists from other health fields and professional journals. Interdisciplinary channels and workplace colleagues become an important knowledge resource for practicing speech-language pathologists.

A final conclusion is that SLPs incorporation of yoga in their practice depended on several factors, including personal belief and values, client acceptance, and the acceptance of the institution where the therapy occurs. In this study, approximately half of the participants had some experience with yoga as a practice, but only a fifth of SLPs used yoga techniques in their professional practice. The SLPs evaluated yoga through their own personal experience, through

their professional lens, as a novel experience, and as a complementary activity. They also valued judgements about yoga using three modes of interpretation: feelings, beliefs, and knowledge.

Speech-language pathologists had to rely on their own personal knowledge and experience when considering yoga in speech-language therapy because of the lack of professional literature on the subject, and they included several considerations into their professional decision-making.

Study Limitations

Some limitations of this study emerged during the course of the research. Regarding the methodology, the survey was conducted in the English language, thus limiting the participation to only those SLPs who were competent in English. As a result, the majority of participants came from the United States, Canada, and other English-speaking countries. Future studies could be designed for other major language groups. The survey was distributed on several Facebook groups and passed on to others, potentially skewing the sample toward professionals interested in the topic of yoga and speech-language therapy. This limited participation to those who use Facebook and to those with high levels of interest in yoga and speech therapy. Future studies could perhaps utilize alternate methods of distribution such as websites, social media, parent and school newsletters, postal mail, and printed copies.

The survey relied on participants answering the survey truthfully. The researcher cannot verify participant information. Some of the questions, however, took some time to complete, requiring a certain amount of effort and dedication to participate. Therefore, the researcher is confident SLP participants answered truthfully because they participated voluntarily and had opportunities to exit the survey if they did not wish to continue. As well, participants expended significant energy to answer all of the questions and type short answers.

Clinical Implications

There were some clinical implications emerging from this study. This study's results reveal a gap in the research as well as in clinical practice. Speech-language therapy has not adopted yoga as a complementary therapy as quickly as other therapeutic settings such as physical and occupational therapy, where much research has already taken place. Therefore, more evidence-based research needs to be conducted so clinical SLPs may adopt valid yoga techniques into their conventional practice.

With the increase of interest in adopting yoga into speech-language therapy, the issue arises about certification, standards of practice, and training for SLPs. Clinicians will need specific training to implement yoga techniques and to be able to adapt techniques. The speech-language therapy profession will need to address these concerns in the future as a professional body. In addition, it will have to be determined what constitutes a clinical outcome for yoga in speech-language therapy. If yoga is intended to enhance the techniques of speech-language therapy, its haphazard application may not provide consistent, effective results, and it is difficult to measure indirect effects. Implementation will require collaboration of professionals across disciplines and therapies and across complementary methods

The study identified a tendency for yoga techniques to have both general and secondary benefits in speech-language therapy. General benefits of yoga include calming children before therapy, using yoga as a movement break, helping to control breathing, and for mindfulness to reduce stress. Secondary benefits include clients who were less stressed and better able to focus were reported to have achieved better results in their conventional therapy outcomes. Thus, yoga has the potential to be used for primary clinical outcomes and secondary effects.

Recommendations for Future Study

Future research can add to understandings about incorporating yoga as a complementary practice into speech-language therapy. The results of this study raised topics for several areas of future research.

One direction of future research is to expand on findings in this study by exploring how SLPs utilize yoga with their diverse client populations. For example, future research might explore whether SLPs who work with adults use yoga. The majority of participating SLPs in this study worked with children from birth to 18 years and reported a main workplace as educational institutions. Further studies on the application of yoga for therapy involving children could help identify the types of yoga techniques used in therapy with children, with the aim of standardizing of yoga techniques within the profession of speech-language therapy. These studies would assist in building a research base to develop protocols for yoga as a complementary therapy with speech-language therapy.

Similarly, it would be valuable to conduct future studies on the specific effects of yoga techniques and develop standard measuring for the outcomes of yoga techniques used in speech-language therapy. This research would contribute to the body of scientific evidence involving yoga in speech-language therapy which would support clinical practice and lead to the development of a resource of best practices for yoga use in conventional therapy or a resource of prescriptive uses of yoga for individual conditions or symptoms.

Another area of future research stemming from this study's findings involves exploring in detail the information pathways of SLPs and future SLPs as they learn about complementary techniques such as yoga. The profession would benefit by having a better understanding about where SLPs and future SLPs obtain their knowledge and understanding of yoga therapy, which

would assist with effective professional development implementation about yoga as a complementary therapy.

Other studies could expand survey research to non-English countries by translating the same survey in other languages. Global research using the Internet and web-based technologies can assist researchers in standardizing yoga techniques for use in speech-language therapy. There may be existing research on yoga therapy in countries such as India which could be translated and shared with English-language researchers.

Future research directions can also develop interdisciplinary research. Speech-language therapy could gain from an understanding of yoga's incorporation in other health and wellness areas. Occupational therapy, physical therapy, nursing, and clinical psychology already use a number of complementary therapies such as yoga in their clinical practices, and these health professions have also developed large bodies of scientific research which could be used to support the incorporation of yoga into speech-language therapy.

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Appendices

Appendix A

Survey of Practitioners Perceptions of Yoga within the Practice of Speech-Language Pathology *Required

Section 1: Classification (For ALL participants)

1. How do you classify yourself?*
- Undergraduate student seeking a bachelor's degree in communication disorders
- Graduate student seeking a master's degree in communication disorders
- Speech-language pathology assistant
- Speech-language pathologist
- *If participant answers "Student," they will be directed to number Section 2b***
- *If participant answers "SLP/A," they will be directed to number Section 2a***

Section 2a: Demographics (For SLPs/SLP-As)

1. In which country do you practice?*
 - Canada
 - United States
 - Other (please specify): _____
 - *If participant answers "Canada," they will be directed to number 1a***
 - *If participant answers "United States," they will be directed to number 1b***
 - *If participant answers "Other," they will be directed to number 2***
- 1a. In what province do you practice?*
 - ON – Ontario
 - QC – Quebec
 - NS – Nova Scotia
 - NB – New Brunswick
 - MB – Manitoba
 - BC – British Columbia
 - PEI – Prince Edward Island
 - SK – Saskatchewan
 - AB – Alberta
 - NL – Newfoundland and Labrador
 - YT – Yukon
 - NU – Nunavut
 - NT – Northwest Territories
- 1b. In what state do you practice?*
 - AL – Alabama
 - AK – Alaska
 - AZ – Arizona
 - AR – Arkansas
 - CA – California
 - CO – Colorado

- CT – Connecticut
- DE – Delaware
- DC – District of Columbia
- FL – Florida
- GA – Georgia
- HI – Hawaii
- ID – Idaho
- IL – Illinois
- IN – Indiana
- IA – Iowa
- KS – Kansas
- KY – Kentucky
- LA – Louisiana
- ME – Maine
- MD – Maryland
- MA – Massachusetts
- MI – Michigan
- MN – Minnesota
- MS – Mississippi
- MO – Missouri
- MT – Montana
- NE – Nebraska
- NV – Nevada
- NH – New Hampshire
- NJ – New Jersey
- NM – New Mexico
- NY – New York
- NC – North Carolina
- ND – North Dakota
- OH – Ohio
- OK – Oklahoma
- OR – Oregon
- PA – Pennsylvania
- RI – Rhode Island
- SC – South Carolina
- SD – South Dakota
- TN – Tennessee
- TX – Texas
- UT – Utah
- VT – Vermont
- VA – Virginia
- WA – Washington
- WV – West Virginia
- WI – Wisconsin
- WY – Wyoming

2. How many years have you practiced as a speech-language pathologist or assistant?*
- Less than 5 years
 - 5-10 years
 - 11-15 years
 - 16-20 years
 - 21+ years
3. Which client population do you work with most often?*
- Birth to three
 - Preschool (ages 3-5)
 - Elementary school (grades K-5)
 - Middle and High School (grades 6-12)
 - Adult
 - Other (please specify): _____
4. What is your primary work setting?*
- Early intervention
 - Preschool/Headstart
 - Schools
 - Medical Setting
 - Colleges/University Clinic
 - Rehabilitation Facility
 - Nursing Home/Assisted Living
 - Private Practice
 - Other (please specify): _____
5. What is the highest degree you have received?*
- Associate's
 - Bachelor's
 - Master's
 - Clinical Doctorate
 - Research Doctorate
 - Other (please specify): _____
6. Do you practice yoga?*
- Yes
 - No
7. Are you a certified yoga teacher?*
- Yes
 - No

Following response to this section, the participant will be directed to Section 3

Section 2b: Demographics (SLP students)

1. In which country do you attend school?*
 - Canada
 - United States
 - Other (please specify): _____
2. What is your student status?*
 - Undergraduate
 - Graduate
3. What school do you attend?* _____
4. Do you practice yoga?*
 - Yes
 - No
5. Are you a certified yoga teacher?*
 - Yes
 - No

****Following section 2b, participants (SLP students) will go to section 4****

Section 3: Yoga and Speech-Language Therapy (For SLPs/SLP-As)

1. Would you consider using yoga as a complementary augmentation to speech-language therapy?*
 - Yes
 - No
2. Do you currently use yoga with your clients/students in therapy sessions?*
 - Yes
 - No

If participant answers “Yes,” they will be directed to Section 3a

If participant answers “No,” they will be directed to Section 3b

Section 3a: Yoga and Speech-Language Therapy (For SLPs who currently use yoga in speech-language/swallowing/voice therapy)

1. From what source(s) did you learn to incorporate yoga into speech-language therapy (check all that apply)?*

- Supervising speech-language pathologist
- Magazine article
- Blogs or other internet resources
- Yoga class
- Yoga cards/sheet of yoga poses
- In-house professional development/workshop
- External professional development/workshop
- Colleague: Speech-language pathologist
- Speech-language pathology literature/journal
- Occupational therapist/Physical therapist
- Occupational/physical therapy literature/journal
- Other (please specify): _____

2. For what type(s) of conditions do you incorporate yoga (check all that apply)?*

- Aphasia
- Apraxia
- Dysarthria
- Dysphagia
- Autism
- Developmental Disabilities (i.e. Down Syndrome, Cerebral Palsy)
- Intellectual Disability
- Deaf/Hard of Hearing
- Deaf/Blindness
- Stuttering/Cluttering
- Childhood Language Delays or Disorders
- Speech Sound Disorders (i.e. Childhood Apraxia of Speech, Phonological, Articulation)
- Voice Disorders (Vocal Nodules and Polyps, Vocal Fold Paralysis, Paradoxical Vocal Fold Movement, Spasmodic Dysphonia, Resonance)
- Neurological Impairment (i.e. Stroke, TBI, Concussion)
- Degenerative Diseases (i.e. Parkinson's Disease, Dementia, ALS, Huntington's)
- Other (please specify): _____

3. How often do you use yoga with your clients/students?*

- Often (7 or more times/month)
- Sometimes (4-6 times/month)
- Seldom (1-3 times/month)
- Never

4. For what purpose(s) do you incorporate yoga into therapy sessions (check all that apply)?*

- To assist with body breaks
- To help with breathing/respiration
- To improve motor planning
- To develop symbolic play
- To develop emergent literacy
- For vocabulary development
- To improve posture
- To increase motivation
- To increase coordination
- To increase language output
- To increase speech output
- To relax muscles
- To focus attention
- To reduce stress/anxiety
- Other (please specify): _____

5. What perceived benefit(s) have you seen when incorporating yoga in therapy sessions (check all that apply)?*

- Improved attention skills
- Improved listening skills/following directions
- Improved vocabulary development
- Improved emergent literacy
- Improved coordination
- Improved motivation
- Improved motor planning
- Improved body awareness
- Improved speech output
- Improved language output
- Improved posture
- Improved breathing/respiration
- Improved relaxation of muscles
- Improved symbolic play
- Reduced stress/anxiety levels
- Other (please specify): _____

6. What type(s) of yoga poses/techniques are you using in your therapy (check all that apply)?*

- Traditional Yoga Poses/Techniques
- Breathing Techniques
- Other (please specify): _____

If participant answers “Traditional Yoga Poses or Breathing Techniques,” they will be directed to number 7

If participant answers “Other,” they will be directed to Section 5

7. Please list what type(s) of traditional yoga poses (i.e. mountain pose, tree pose, hero pose, etc.) or breathing techniques (i.e. single nostril breath, lion pose, alternate nostril breathing, etc.) you use in therapy:*
-
-

8. Would you consider attending a continuing education course developed specifically for speech-language pathologists to enhance your knowledge of how to implement yoga poses/techniques in speech-language/swallowing/voice therapy?
- Yes
 - No
 - Not sure

Following response, participant will be directed to Section 5

Section 3b: Yoga and Speech-Language Therapy (For SLPs who currently do NOT use yoga in speech-language/swallowing/voice therapy)

1. I don't use yoga in therapy because (check all that apply):*
- It is not evidence based
 - I know nothing about yoga
 - It is not appropriate for the clients/students I serve
 - Parents/caregivers/families would not approve
 - I don't know the value of yoga for speech language therapy
 - Other (please specify): _____
2. When would you consider using yoga in therapy (check all that apply)?*
- If I knew the potential benefits to enhance speech/language, swallowing, or voice development, remediation or habilitation
 - If I knew various yoga poses that may enhance speech/language development, swallowing, or voice, radiation, or habilitation
 - If there were established evidence-based resources for using yoga in speech language/swallowing/voice therapy
 - I am not interested in using yoga to augment speech-language/swallowing/voice therapy
 - Other (please specify): _____
3. Would you consider attending a continuing education course developed specifically for speech-language pathologists on how to implement yoga poses/techniques in speech-language/swallowing/voice therapy?*
- Yes
 - No
 - Not sure

Section 4: Emerging SLP Professionals (For SLP students)

1. Have you provided speech-language services to clients as a student?*
 - Yes
 - No

2. Have you learned about using yoga as a complementary therapy technique in speech-language/swallowing/voice therapy?*
 - Yes
 - No

If participant answers “Yes,” they will be directed to number 3
If participant answers “No,” they will be directed to Section 5

3. From what source(s) did you learn about incorporating yoga into speech-language therapy (check all that apply)?*
 - Supervising speech-language pathologist
 - Magazine article
 - Blogs or other internet resources
 - Yoga class
 - Yoga cards/sheet of yoga poses
 - In-house professional development/workshop
 - External professional development/workshop
 - Speech-language pathology literature/journal
 - Communication disorders class
 - Other college class
 - Occupational Therapist/Physical Therapist or literature
 - Other (please specify): _____

4. In what way(s) have you seen/heard of yoga being used in speech-language therapy (check all that apply)?*
 - For body breaks
 - For breathing/respiration
 - For motor planning
 - For symbolic play
 - For emergent literacy
 - For vocabulary development
 - To improve posture
 - To increase motivation
 - To increase coordination
 - To increase language output
 - To increase speech output
 - To relax muscles
 - To focus attention
 - To reduce stress/anxiety
 - To increase body awareness
 - Other (please specify): _____

Section 5: Additional Information – Open-ended (optional)

1. Please state any additional information you would like to tell us about using yoga as a complementary practice in speech-language/swallowing/voice therapy.

Appendix B

Institutional Review Board Approval Form

Name of Principal Investigator: Christina Beck

Faculty Supervisor: Ann Beste-Guldborg

University Address: CD

Title of Project: SLP Perceptions of Employing Yoga as a Complementary Treatment Methods in
Speech-Language/Swallowing/Voice Therapy

Protocol Number: #1847

March 2, 2018

The above project has been reviewed and **Approved Exempt** by the IRB under the provisions of Federal Regulations 45 CFR 46.

This approval is based on the following conditions:

1. The materials you submitted to the IRB provide a complete and accurate account of how human subjects are involved in your project.
2. You will carry on your research strictly according to the procedures as described in materials presented to the IRB.
3. You will report to the chair of the Institutional Review Board any changes in procedures that may have a bearing on this approval and require another IRB review.
4. If any changes are made, you will submit the modified project for IRB review.
5. You will immediately report to the IRB Chair any problems that you encounter while using human subjects in your research.

Good Luck with your research!

Dr. Linda Cresap
IRB Chairperson
misu.irbchair@minotstateu.edu

Appendix C

Facebook Groups

1. AAC for the SLP
2. Adult Rehab Speech Therapy
3. Early Intervention SLPs ~ Birth to 3
4. Early Intervention Speech-Language Pathologists for SLPs Only
5. Future SLPs (Speech-Language Pathologists)
6. Geriatric OT, PT, and SLP Collaborative Group
7. Med SLP Newbies
8. North Dakota Speech Language Hearing Association
9. NSSLHA – Minot State University Chapter
10. PRESCHOOL Speech Language Pathologists
11. School-Based SLPs: For Professionals Only
12. SLBeeps Media (book, podcast, etc.) club
13. SLP Medical Research Group
14. SLP Students Group
15. Speech Language Pathologists role in Language and Literacy
16. Speech Language Pathology Assistants
17. Speech Therapy Aphasia Rehabilitation
18. Speech Therapy Experts
19. Speech-Language Pathologists & Autism Spectrum Disorders
20. University of Alberta Speech-Language Pathology Class of 2019

Appendix D

Recruitment Statement

Dear Participant,

My name is Christina Beck and I am a first-year graduate student studying speech-language pathology at Minot State University. I am currently working on my graduate thesis and I would appreciate your participation in taking a survey. You are invited to complete an online survey regarding your perceptions of incorporating yoga into speech-language therapy as a complementary therapy intervention. Participation in this survey is strictly voluntary. You may omit any items or withdraw your participation at any time by closing the online survey and not submitting it. Once submitted, your survey responses cannot be withdrawn.

If you are willing to participate in this survey, which should take approximately 5-10 minutes, please click on the link below or copy and paste the link into your browser. A complete consent statement is provided at the beginning of the survey form. If you have taken this survey already, I kindly ask that you do not take it again.

Take the survey:

<https://www.surveymonkey.com/r/SLP-YOGA>

Thank you for your time and assistance.

Christina Beck, B.S.
Graduate Communication Disorders Student

Dr. Ann Beste-Guldborg, CCC-SLP
Thesis Chair Committee Member

Appendix E

Consent Statement

Dear Participant,

My name is Christina Beck and I am a first-year graduate student studying speech-language pathology at Minot State University, Minot, North Dakota. I am currently working on my graduate thesis and I would appreciate your participation in taking a survey. You are invited to complete an online survey regarding your perceptions of incorporating yoga into speech-language therapy as a complementary therapy intervention. Participation in this survey is strictly voluntary. You may omit any items or withdraw your participation at any time by closing the online survey and not submitting it. Once submitted, your survey responses cannot be withdrawn.

There are no risks associated with completion of the survey. The survey results will be used to answer my research questions and complete my graduate thesis to fulfill the requirements at Minot State University. Completing this survey will provide you the opportunity to share your awareness, attitudes, and perceptions regarding using yoga as a complementary treatment method in speech-language/swallowing/voice therapy. My research seeks to gather information about whether speech-language pathologists and degree seeking communication disorder students use yoga as a complementary treatment technique, in what ways do they incorporate yoga into their current practice if they do include yoga, and what they perceive as the benefits of incorporating yoga into their current speech-language practice.

To ensure your confidentiality, your name will not appear on any portion of the survey form. My communication disorders committee chair (Dr. Ann Beste-Guldborg), graduate faculty member from within communication disorders (Ms. Mary Huston), and graduate faculty member from outside communication disorders (Dr. Terry Eckmann), and I, the researcher, will be the only parties to review the raw data. The raw data obtained from this survey will be kept on a secure computer only accessible via password until my graduate thesis is complete. After such time, the raw data will be deleted. The survey results will be published in my graduate thesis and be submitted for possible presentation at national conferences related to speech-language therapy or special education. No individuals will be named and identifiers in quotations cited will be removed.

If you have any questions regarding your participation in this survey, please contact Dr. Ann Beste-Guldborg, my faculty advisor at 701-858-3046 or ann.beste.guldborg@minotstateu.edu or the IRB Chair Dr. Linda Creasap at 701-858-3316, or linda.creasap@minotstateu.edu. Finally, if you would like to receive information on the findings of this study, you may contact Christina Beck at christina.beck@ndus.edu.

I encourage you to take advantage of the opportunity to share your viewpoint and experiences. The survey will take approximately 5-10 minutes to answer. Please complete the survey as

accurately and honestly as you are able. Participation in the survey will indicate consent. If you have taken this survey already, I kindly ask that you do not take it again.

Appendix F
Description of Participants

Table F1

SLPs' and SLP-As' Country of Practice

| Country | Frequency | Percent |
|----------------|-----------|---------|
| Australia | 19 | 44.17% |
| United Kingdom | 8 | 18.59% |
| South Africa | 4 | 9.30% |
| Qatar | 2 | 4.64% |
| Finland | 1 | 2.33% |
| England | 1 | 2.33% |
| Cayman Islands | 1 | 2.33% |
| Europe | 1 | 2.33% |
| Oman | 1 | 2.33% |
| New Zealand | 1 | 2.33% |
| India | 1 | 2.33% |
| Europe | 1 | 2.33% |
| Telepractice | 1 | 2.33% |
| Unidentified | 1 | 2.33% |

Table F2

SLPs' and SLP-As' Primary Work Setting

| Work Setting | Frequency | Percent |
|------------------------------|-----------|---------|
| Schools | 166 | 42.78% |
| Private Practice | 55 | 14.18% |
| Medical Setting | 41 | 10.57% |
| Other | 30 | 7.73% |
| Early Intervention | 25 | 6.44% |
| Preschool/Headstart | 24 | 6.19% |
| Rehabilitation Facility | 20 | 5.15% |
| Nursing Home/Assisted Living | 15 | 3.87% |
| Colleges/University Clinic | 12 | 3.09% |

Table F3

SLP-Ss' Country of Practice

| Country | Frequency | Percent |
|---------------|-----------|---------|
| United States | 97 | 44.17% |
| Canada | 33 | 23.40% |
| Other | 11 | 7.80% |

Appendix G

Long Answer Responses

| |
|--|
| It sounds interesting and not something I learned anything about. With a lot of people that believe in holistic approaches and yoga, I think people may like it. Although I can also see a big fight against as well. I have sides of families that don't believe in Speech therapy and if I came in with downward dog, they'd definitely not go along. I think it's for certain families |
| I feel this would have to be controlled by a certification process to ensure clinicians were confident and effective to incorporate these techniques. |
| Bodily awareness and control over movement is so vital to my work, and I've been very interested in methods of reducing my own awareness. I feel like you got would be fantastic starting point |
| I sometimes co treat with the OT and we use yoga with our prek kids. |
| I would attend a continuing ed class in yoga for SLPs in a heartbeat. Fun! |
| I would love to learn more. |
| I've heard of it used for sensory movement breaks for kids during therapy, but I've never heard of it being useful specifically for speech/language/swallowing skills. With young kids you could use it to increase language the same way you could with any routine or play, but beyond that I don't know. |
| My business partner and I have developed a curriculum including poses that target speech and language milestones for Articulation and language development in addition to mindfulness and breathing. It's called Talk Yoga. |
| Don't know much about it |
| Please do not work toward the advancement of this practice in our field. It is not something any serious scientist would ever consider doing. |
| We use yoga in our Playschool daily for helping children with movement and relaxation. |
| The mental health benefits |
| I recently started learning about yoga for myself. I would love to learn about any benefits for my patients. |
| My concerns with considering this are several: 1) lack of supporting evidence 2) use of therapy time implementing a therapy without an established literature base, when time available to offer services is so limited 3) risk to patients/clinical governance (if a patient was injured in a session, how would you defend your practice? Is this within our scope of practice? How do we establish physical suitability/patient risks? Etc). I do practice yoga myself and can imagine there to be some benefits that may have a flow on effect to SLP goals (e.g. improved motivation/decreased anxiety, therefore greater engagement in rehabilitation). If there was good evidence and established referral pathway to access yoga within my health service for this purpose, I would see the benefits. However, I would not feel comfortable recommending any specific exercises, or suggesting a referral to a particular community/private teacher due to risk of possible adverse outcome. Outside of this, I don't think i would be comfortable making even a general recommendation, as I am not sure this is the most suitable approach (e.g. if a patient had high |

| |
|---|
| anxiety, whilst I think yoga might be helpful I would simply make a referral to psychology or social work and allow them to determine how best to manage this concern). |
| I have not used yoga poses but have talked about yoga and drawn on yoga Breathing techniques in voice/ dysarthria sessions |
| i've seen the OT use it for the preschoolers and I've yet to see any positive results. This is not a bias statement |
| I do find that I have a better knowledge of practical breathing approaches from my yoga training that I do incorporate. General principles of movement apply in basic voice therapy. I do use quiet meditation in sessions to allow the mind to settle after a particularly intensive activity (especially where verbal apraxia is involved). I do draw on yoga mind body ideas to understand the relationship between speech/voice and stress and body tension |
| I find that introducing yoga to my adult patients is usually very well-received, and they report numerous benefits and feelings of well-being. |
| I've never heard of them being combined before. |
| I see the benefits of yoga for myself so I would like to learn more about the benefits of incorporating it into my therapy sessions |
| I've used some short yoga sequences with students who need a movement break or help transitioning. They seem to really enjoy it. I've also used some breathing techniques that I learned in yoga classes with pediatric and adult clients as a relaxation technique. |
| Generally I incorporate mindfulness and growth mindset practices in all therapy sessions for speech and language. I do not do swallowing therapy at this time. |
| I am very interested in using yoga/mindfulness in my future practice but not sure how that would work at this stage, looking forward to learning more about it! |
| I wouldn't attend a CEU class, but I'd love to see some research supporting yoga's use in for speech and language disorders proper (i.e., not just for EF skills). |
| This sounds awesome! Very aligned with my beliefs as to the benefits of yoga, although I don't feel my clients would be convinced or would pay the same rate for the service. |
| I am highly interested in whole body treatment and how yoga or other complementary services can enhance outcomes for my patients. I very much hope someone is developing a CEU!! |
| I would like to know more about how yoga breathing could help stuttering. |
| Research demonstrates the impact on cognition that cardiovascular ex. Meditation is documented to relieve stress (which often co occurs with communication difficulties, CVA, etc. I just find "yoga" to be too specific and narrow |
| I have used focused breathing with my pediatric clients paired with "whole body listening" and would love to learn more about using yoga! I want to know more about how these activities are supported by EBP. Thanks for looking into this! |
| We don't like when other professions infringe on our practice stick to SLP |
| It is a great way to gather data on a client's receptive abilities. I've used Yoga with a PPA client and it is the perfect activity to incorporate in therapy when they are low functioning and very limited in their verbal productions. |
| We should learn more about it in our graduate studies! The theory and principles of yoga make perfect sense as to why we'd use it in therapy. |

| |
|---|
| I have seen an increasing number of students present with anxiety disorders and I feel yoga would be beneficial to this population as well |
| We barely have time to do *actual* therapy in schools, when would we have time to do nonscientific woo-woo "complementary treatments"? |
| Interesting study! I know it says to e-mail if we are interested in hearing results, but I do not want to bombard the e-mail account! Would be interested in seeing a post of your findings upon completion of the study! |
| Please can you keep me updated with developments in this field as am really interested in it! |
| I work mostly with the ASD population and I'm not sure how well yoga would fit into my practice. |
| Have used yoga previously with children with ASD, as part of a social skills camp program, and in the classroom (teacher-directed activity for students with ASD) |
| Never seen any research on this or learned about it in class |
| Never heard of it being used in speech/language therapy. |
| In combination with brain breaks, Bal-A-Vis-X, and other calming practices, my therapy room is a calm place students are able to focus, work hard, and benefit from the sometimes short sessions necessitated by school days. Yoga is motivation for many of my students and serves as a wonderful transition from busy school day to calm, focused body ready to work. Thank you for studying this. I'm eager for the results. |
| I incorporate breathing, meditation, visualization, and motivational counseling - sometimes reminiscent of a dharma talk - when appropriate. Yoga is the union of body, mind, and spirit. Effective communication involves all three and requires that they work together. It's not surprising that there is interest in this topic; yoga has been shown to improve focus and reduce negative behaviors in school-age children. It would be great to see research applied directly to our profession. |
| I am not very familiar with yoga techniques, but I can imagine that certain stretching or relaxation exercises may contribute to effective speech-language and/or swallowing therapy, specifically in the areas of swallowing or voice therapy. |
| I do not understand the correlation between the two, but I would like to be informed from a valid study. |
| Yoga is extremely beneficial for all in calming the CNS...this will always benefit all clients who have a disorder. A calm and more regulated CNS is the key ingredient for all students/people to listen, comprehend, and express themselves in a succinct, calm, cohesive manner. |
| I feel like many of the techniques & exercises could be of benefit for a variety of clients that are open to incorporating yoga & fits with their priorities. |
| It is difficult to justify spending the limited therapy funding we have on a practice that does not require an SLP. Our provided services should be highly specialized and evidence based. We should not be spending therapy time on 'complementary' practices that have no evidence base. |
| Would like to read the outcome of your study. Can be emailed to nicole-randall@hotmail.com |
| i have not heard about this idea yet, although it makes total sense as yoga unites one with breath, and breath is vital to speech, swallowing, life, ect...! |
| Very interesting study. Could it not perhaps help in fluency disorders as well? |

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| I usually teach the pose/technique in layman's terms, and then after noting improved proficiency/independence I explain the reasoning & overlap with yoga. |
| I am currently completing my final placements. One of my clinical educators uses conscious breathing including belly breathing to support some of our clientele. It works very well. |
| I'm glad to see research being done on this area for our field! |
| I honestly had never thought about combining the two. I could see its benefits with some populations. |
| I would use more if more evidence based literature existed |
| I can see there being speech/swallowing benefits in practicing yoga given the importance of respiration. I look forward to further research! |
| I've never heard of using yoga for our field to rehab adults. My experience shows that only physical and occupational therapists are appropriately trained to move severely debilitated patients into different poses. |
| Yoga techniques for toddlers |
| In my clinic, we often co-treat with OTR/COTA. Using visual imagery and breathing/yoga to improve regulation in children with SPD have been key to our programs. Our clients learn to breaths and poses and have led exercises within small pragmatic groups. Our local school districts have also been using yoga in the classrooms so our patients are carrying over the exercises across environments. Good luck with your thesis! |
| I'd be interested in learning more on how it MIGHT help and the research behind it. Until conclusive studies are performed, SLPs should steer clear of it in therapy but tell patients that it may help overall health. |
| I feel it helps my patients regain a sense of control over their bodies and their lives! |
| I've never heard anything about it |
| I have personally never heard of the benefits of using yoga in speech-language or swallowing therapy. |
| It helps me understand how to breathe well. |
| I know my personal benefits from practicing yoga and believe it would benefit children. However I would want specific training as to how to incorporate yoga in targeting communication goals and development. |
| Would be interested in if there is evidence behind using yoga as a therapy technique for either swallowing or speech/language! |
| I currently know little about using yoga as a complementary practice in SLP therapy. I think it sounds interesting. |
| I always discuss with patients who have vocal cord dysfunction the benefit of yoga focused breathing techniques. I could see a ton of benefit from yoga for voice and head neck ca patients. Good luck! Love this initiative! |
| Mindfulness/meditation is an adjunct that I do implement when appropriate, would love more evidence base and education. |
| If there was continuing ed for the use of yoga in speech language therapy would it include videos of the poses vs descriptions? |

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| I use it more for relaxation and movement breaks. I would need Evidence to determine how it would be helpful for any other use. |
| I would attend a CEU presenting a high fidelity research study to support yoga as an effective complementary practice for speech/language. I would not attend a training purely based on the experience of SLPs. |
| Once a week, the OT at my school and myself set out yoga mats and tea lights and soft music for the kids in the center of his classroom and conduct a half hour yoga session. Their teacher says it has helped with focus, calm and relaxation. They look forward to it every week |
| Will it work via Telepractice? |
| In our structured autism classes, the Special Ed teachers practice yoga with the kids daily. In my clinical placements with adults, yoga type breathing practices were used for voice therapy and were very effective. |
| What a great idea! Please post results in our telepractice fb group. |
| I don't understand the link between speech/language/swallow and yoga. If there is no evidence, we can't use it. |
| I would need to see evidence of its effectiveness in treating communication disorders before I would consider it or attend a seminar on it. |
| I feel concerned that it may be difficult to truly test; I am confused about how yoga would target a specific, testable area of skill that directly improves speech outcomes. I have seen yoga being used to target social/emotional skills (ex. Calm breathing) but have never considered how we might use yoga techniques to work on speech. |
| I do not know anything about using yoga in therapy, although I can see how aspects of yoga like mindfulness, breath control, stretching, etc. could assist some clients |
| Emphasis of adapting poses to create more effective respiratory patterns and increase postural stability in our clients with special needs is key, learned much from the following as a foundation: Neurodevelopmental treatment approach (NDT), Yogonalign by Michaelle Edwards, and Breathe for Change. I use these techniques to better prepare my clients for language and feeding activities, which has become a "game changer" in my practice. Good luck! |
| I would be interested in learning more about this. One of my favourite parts of this field is that therapy can be integrated in to almost any activity. |
| I would like to learn more about it if it works as a therapy approach! |
| It works well in the classroom. They use the Maximo videos. |
| I think it's a neat idea and I love to see some evidence backing this up! |
| Sounds cool but I'm not really sure how it would help. Seems like more of a physical therapy thing but I guess it could increase awareness and breath support which might help certain dysarthria clients |
| I think it is an interesting concept that I have never heard about before. I can see if this was something the client was interested in, the mindset that practicing yoga can bring to people could be helpful for certain aspects of speech-language and swallowing therapy. |
| I would like to know the research behind it and would definitely incorporate it into therapy (with supporting evidence!) |

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| I have read that relaxation techniques can help individuals in the classroom, such as students with ADHD. I found this while researching interventions for students with ADHD, but we as SLPs do not include yoga as an intervention. I think it would be great to incorporate relaxation techniques in the classroom or in group therapy because of the benefits it provides to students. |
| I believe that yoga has great potential and I have many clients who have seen a benefit from yoga. I have worked on posture and breathing in treatment and would gladly incorporate yoga into my practice after training. This is a daily activity for many of my clients and so it would actually help as a carryover task. |
| I have recommended yoga to adults who stutter and need to working on breathing. I wouldn't feel comfortable applying or teaching it myself though |
| I have read about the use of yoga and mindfulness practice in treating fluency disorders. When treating children with fluency disorders, I have incorporated deep/yoga breathing into treatment, though I haven't used yoga movements. |
| Sounds interesting and would like to learn but I'm not sure I'd ever be able to implement |
| Would only use specifically for speech/language if valid studies show significant positive results. Would potentially use to manage student behaviors. |
| Liability issues |
| I have never heard about using yoga in speech-language/swallowing therapy! I am very interested in learning more. |
| I have never heard of this. |
| I could see myself using yoga to help a child calm themselves/prepare for a seated assessment or seated work (I would do this in consultation with their OT, if they had one. I work with OTs who use some yoga and yoga-inspired poses as "heavy work" activities). I am not sure how yoga would be useful for improving the language or speech skills of the children I work with. |
| I've always wondered how mindfulness & yoga might compliment speech-language pathology but haven't found much information about it. I think it's awesome that you are doing you're thesis on this topic! - Nadia Karim (CDA from Victoria, BC) |
| Seems like a waste of time. This is not in our scope of practice! |
| I think there would be potential for this as yoga certainly taps into motor planning across the midline, which has shown to increase cognition. |
| I have seen mindfulness meditation used successfully in aphasia therapy and for patients that have anxiety secondary to their primary communication or cognitive deficits |
| Yoga is awesome. I work with students on the spectrum that take yoga each day instead of P.E. and we find it helpful. That does not, however, make me want to be the one to implement yoga with my clients. I think we need to preserve the professionalism of Speech-Language Pathology and guard ourselves from looking like we are willing to do therapies that are not speech-language pathology. There are certified yoga instructors whom we could refer patients to for this aspect of related interventions. |
| I use massage therapy and see the benefits. Yoga would further increase cognition, mobility, and relaxation. It would also decrease depression and agitation. |
| I am currently unaware of any evidence to support using yoga in therapy. I have also only done yoga a few times and would feel uncomfortable teaching my students. I do try to get my |

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| students moving as often as possible (standing up to answer questions, moving around the room, etc.) and would consider using yoga in this way if I was more comfortable with it. |
| I have used yoga-like breathing techniques in therapy sessions, when a client needs to relax their speech-related musculature or needs to calm their body and focus. There is a big difference between using yoga postures and actually using yoga. The practice of Yoga includes religious elements such as “chakras.” I would not want to use the religious elements in my sessions, as religious instruction and practices is up to the parent or the adult client. |
| I am a fan of yoga as a complementary practice related to general wellbeing and good mental health, but I am not sure I would present it as part of my therapy provision over other lifestyle practices. Some breathing/relaxation techniques are similar to those in yoga anyway. Yoga is part of a religious and spiritual practice, and I feel it would not be appropriate for a clinical setting if named "yoga". |
| My trans voice clients found it helpful to incorporate yoga and mindfulness in each session. I have also used yoga for behavior breaks for kids with autism. |
| I had a supervisor in a public school entertain the idea of using an app or video with child-centered yoga moves as a calming/centering start to sessions, although we never ended up implementing it |
| I am interested in the research because I find that progressive relaxation and diaphragmatic breathing techniques are similar to yoga exercises. |
| I would be concerned if I had to demonstrate yoga techniques to clients - that I would be unable to do so due to my own physical limitations. |
| I have substantial concerns about this recommendation as an addition to practice. This seems like pseudo-science or the wrong place to apply holistic approaches. |
| In the past, I have used yoga within the Get Ready To Learn program developed by an OT in order to align and get brains ready to focus and learn before class and also meditation parts of yoga for behavioral students. |
| I find this interesting and would enjoy learning more about the benefits. |
| What wonderful modality to assist students, caregivers in becoming more aware in making changes we as therapists often ask of our students and caregivers |
| I only use it with students who have expressed interest in it. We don't call it Yoga; for us it is counted breathing, breathing practice and/or body movement. |
| I do think yoga could be useful as a relaxation technique before starting and perhaps when ending a therapy session. Yoga might be particularly helpful when working with students who stutter. I think there are potential benefits overall though. |
| I would like to know the results of the survey and sources for EBP. |
| This sounds like such an interesting idea, especially for swallowing therapy, but it's not my area of expertise. |
| Is this a thing??? |
| This seems more like OT than ST. |

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| I don't view it as a complementary therapy so much as a treatment activity. For example, a way to incorporate movement breaks for children with ADHD, incorporate body awareness into following directions activities, or establishing opening/closing routines. If we're going to call it a complementary therapy or say that yoga specifically enhances speech/language/swallowing function, then I would need to see evidence. |
| I think it could be very helpful but I would first want to see clinical research that supports this approach. |
| In addition to my school based job, I also do all the feeding assessments for my school division. I would have concerns about introducing a therapy that was not evidence based, especially for feeding and swallowing students. This could have ethical implications, even as a complimentary practice, as all therapy should be evidenced based. I would be concerned about false perceptions from both family and staff members. In regards to language or class lessons, I have used yoga breathing and poses for "brain breaks" and as a calming activity following an alerting activity on the consult of an occupational therapist, with whom I work closely with in the school setting. |
| If I was still a practicing clinician, I may have answered the last question differently and been interested in attending professional development around this topic. |
| I'm very intrigued. It could work with our highly impulsive kiddos |
| I deliver whole class instruction for kids on the spectrum . Thursdays our warm up is brain breaks". |
| There are many forms of exercise. Perhaps, a question to look at might be: Are non speech/swallowing exercises useful when they don't directly involve practice of speech or swallowing? If so, what types? |
| Looking at the neurodevelopmental approaches to supporting people with experience of trauma or developmental disability - yoga could be part of the therapeutic approach in assisting the person with self regulation, which increases their capacity for relationship development and communication. |
| I studied EBP with mindful meditation and yoga with adult neuro patients for a full year to present to our study group. Only strong evidence I see is to improve executive function. I coordinate SLP work with OT and PT |
| I love it & am very interested in your findings. It's been of huge benefit to me as an anxious person & I find it helps my patients relax, breath better, better understand their anatomy & reduce tension for voice/dysarthria. |
| School psych. wondered why SLP would do yoga. Good opportunity for education. |
| I would attend continuing education about this area provided that I could find EBP about it before signing up. |
| I think that with our Baby Boomers aging, it is going to be important to incorporate alternate methods of treatment (ex: yoga) into our medical practices. |
| This survey made me really excited because this is something I am passionate about -teaching using natural approaches. Also love teaching mindfulness so this fits with that. Way to go! |
| I think yoga has the potential to break up some of the monotony of doing the same type of TX which could be good for both the PT and the therapist. |

In addition to talking about benefits, I think it is important to note risks, and the chance for risk or adverse effects.

I've participated in yoga in an aphasia center in the past for participants further out in their recovery (1 year post +), but it may be more challenging logistically in the acute rehab setting, where there are other more immediate goal areas to address. However, would be very open to evidence-based research involving yoga in acute/sub-acute (and beyond) settings.