

A NEEDS ASSESSMENT FOR THE IMPLEMENTATION OF A YOGA PROGRAM
WITHIN A SENIOR LIVING FACILITY

by
Sara Ameli

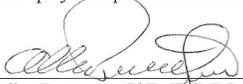
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A DNP Project Submitted to the Faculty of the
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In Partial Fulfillment of the Requirements
For the Degree of
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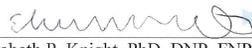
2017

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Sara Ameli entitled "A Needs Assessment for the Implementation of a Yoga Program Within a Senior Living Facility" and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

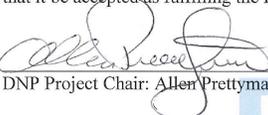

Allen Prettyman, PhD, FNP-BC, FAANP Date: November 17, 2017

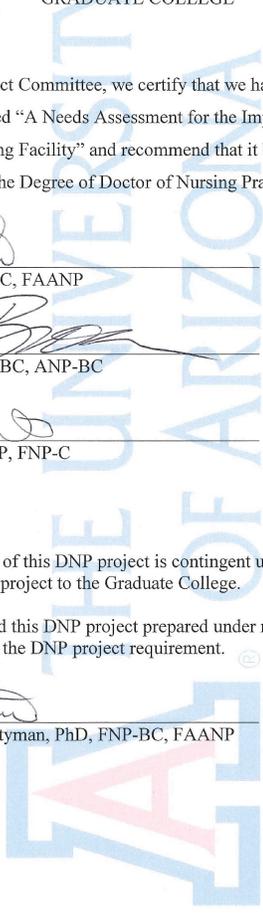

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Final approval and acceptance of this DNP project is contingent upon the candidate's submission of the final copies of the DNP project to the Graduate College.

I hereby certify that I have read this DNP project prepared under my direction and recommend that it be accepted as fulfilling the DNP project requirement.


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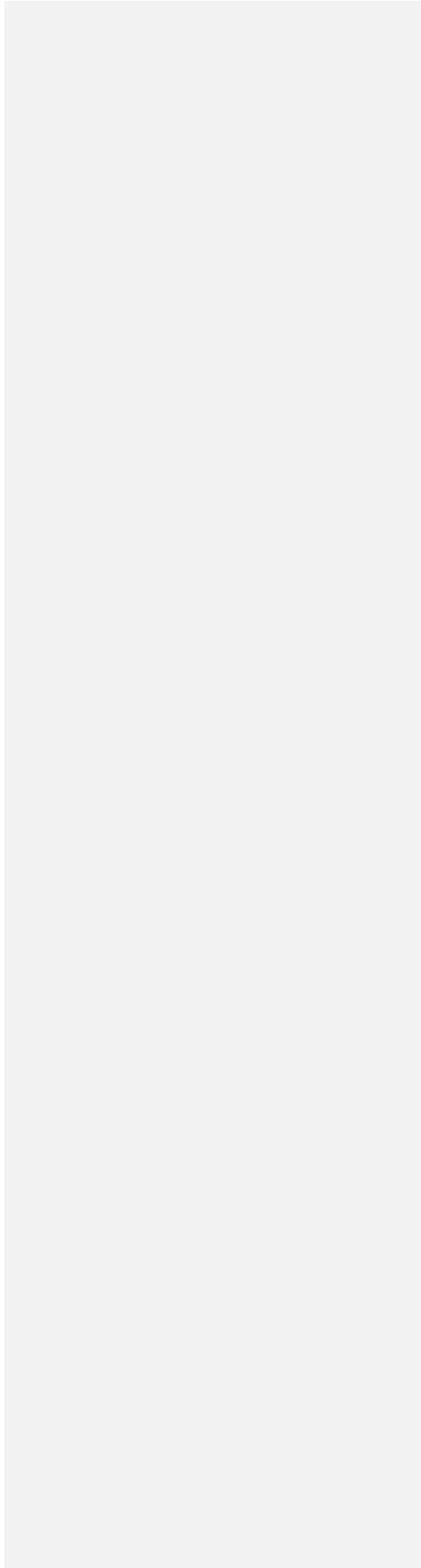
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ABSTRACT

Regular participation in an exercise regimen is an effective intervention to combat a number of functional declines associated with aging (e.g., impaired balance and mobility, reduced muscular strength, joint deterioration). Current guidelines recommend older adults engage in 30 minutes of low to moderate intense physical activity at least five days a week, however, less than one-third of the population follows this recommendation (Keadle et al., 2016). As the number of older adults grows exponentially, new and varied physical activities that encompass both aerobic activity and muscle-strengthening are necessary to support better patient care outcomes. Yoga is one such activity that has been shown to improve musculoskeletal strength, flexibility, endurance, balance, and quality of life (Patel et al., 2011). The purpose of this DNP project is to explore interest in a yoga program aimed at improving balance at a senior living facility. This project utilized a descriptive design to assess 12 senior living residents' knowledge, perceptions, and attitudes about yoga as a form of physical exercise. The results from this needs assessment indicate that the majority of older adults surveyed (67%) do not participate in the weekly recommendations for physical activity. This is consistent with the literature that states only one-third to half of older adults meet the physical activity guidelines. Furthermore, the data revealed that most residents (75%) would be interested in learning more about yoga as a new exercise modality to incorporate into their wellness plan. Barriers to trying yoga were among three themes identified (branding, accessibility, knowledge), while questions aimed to explore personal perceptions regarding yoga were categorized as physical, mental, or spiritual attributes. Understanding a population's attitudes and perceptions about yoga will inform both the promotion and implementation of yoga programs. This data served as a pilot

study to inform future research projects of the desire and need to implement new modalities such as yoga within senior living facilities with the common goal of minimizing functional decline as it relates to balance and the fear of falling. Future studies should aim to investigate the optimal type and length of a yoga program best suited for the elderly.

INTRODUCTION

Regular participation in an exercise regimen is an effective intervention to combat a number of functional declines associated with aging (e.g., impaired balance and mobility, reduced muscular strength, and joint deterioration). Current guidelines recommend older adults engage in 30 minutes of low to moderate intense physical activity at least five days a week, however, according to a literature search, less than one-third of the population follows this recommendation (Keadle, McKinnon, Graubard, & Troiano, 2016). As the number of older adults grows, new and varied physical activities that encompass both aerobic activity and muscle-strengthening are necessary to support better patient care outcomes. Yoga is one such activity that has been shown to improve musculoskeletal strength, flexibility, endurance, balance, and quality of life (Ebnezar & D'Ortho, 2011; Quilty, Saper, Goldstein, & Khalsa, 2013). This mind-body exercise incorporates physical postures and breathing techniques and has been used as a therapeutic intervention for health maintenance for thousands of years (Quilty et al., 2013). Implementation of yoga programs continues to increase and may have promising benefits to improve clinical outcomes, have a positive effect on economic factors, and improve the quality of life for the elderly.

Background

Current trends in both the number and proportion of older adults are unprecedented in the history of the United States (Centers for Disease Control and Prevention [CDC], 2013). Adults aged 65 years and older represent the fastest growing sector of health care seeking individuals in the nation (Torpey, 2014). By the year 2050, this group is expected to more than double to over 89 million people, with approximately one-quarter being over the age of 85 (CDC, 2013).

Epidemiologic studies indicate that the average older adult 65 years and older has at least one chronic health condition, with two out of every three older Americans having multiple chronic conditions (CDC, 2013). These individuals often suffer from a broad range of health problems including heart disease, diabetes, obesity, cancer, arthritis, and chronic pain. Furthermore, more than a third of this population has a disability (CDC, 2013). The complex nature of caring for individuals of this population equates to more than 66% of the nation's health care budget (CDC, 2013).

Aging is related to a number of profound changes in physiological processes, thereby affecting physical functioning. This often encompasses physical changes such as diminished balance and mobility, decreased muscle strength of the limbs, and reduced stamina. Physical limitations may affect an older adult's ability to function and live independently. Limitations in physical function have been linked to playing a part in decreased quality of life (Bankar, Chaudhari, & Chaudhari, 2013). This may subject the individual to an increase in health problems, suicidal ideations, and depression (Lee & Hung, 2011). One major concern with community-dwelling adults aged 65 and over is accidental falls, which can often result in serious injury, reduced quality of life, and lifelong disability (Youkhana, Dean, Wolff, Sherrington & Tiedemann, 2015).

Regular physical activity is considered one of the most important components for improving health. Exercise has been shown to be an effective way to reduce and prevent functional declines associated with aging (CDC, 2013). To maintain and improve balance, older adults are encouraged to participate in a regular aerobic exercise that includes muscle strengthening (CDC, 2013). However, less than 20% of this population regularly participates in

physical activities (CDC, 2013). This deficit in physical activity leads to joint deterioration, muscular shortening, and weakening, which subsequently result in a lack of balance (Youkhana et al., 2015).

The decline in activity among older adults presents a large burden to the healthcare system. According to Geda et al., (2012), in a five-year study of Medicare costs, adults 65 years of age and older who were sedentary had annual Medicare costs \$6,789 more compared to those individuals who maintained regular low-intensity exercise. There were also higher levels of resilience, fewer co-morbidities, and stronger positive outcome expectations among the active older adults (Geda et al., 2012). Co-morbidities present the largest expenditure of health care costs for older Americans (CDC, 2013). Medicare spending amounted to \$555 billion in 2011 with projected estimates equating to \$903 billion in 2020 (CDC, 2013).

Studies have shown in order to increase the likelihood of engaging in regular exercise, it is important to make exercise opportunities easily accessible (Geda et al., 2012). One such physical activity that has been shown to improve balance, muscular strength and flexibility, endurance, and quality of life is yoga (Ebnezar & D'Ortho, 2011; Quilty, Saper, Goldstein, & Khalsa, 2013). Originating in India, this mind-body exercise has been in use for thousands of years (Quilty et al., 2013). Recent literature supports yoga as a therapeutic intervention for health maintenance (Quilty et al., 2013). Yoga focuses on physical postures (asanas) combined with breathing exercises (pranayama) aimed at improving musculoskeletal health and flexibility along with psychological health.

Having its origins in ancient Indian philosophy beginning in the twentieth century, the application of yoga as a therapeutic intervention uses physical exercises to improve strength,

flexibility, and coordination, while breathing exercises are used to calm and focus the mind (Bussing, Michalsen, Khalsa, Telles, & Sherman, 2012). Documented benefits include a higher quality of life, reduction in stress, improvements in blood pressure, mood, resilience, and metabolic regulation (Bussing et al., 2012). Yoga teachers working with older adults should bear in mind the principles of practice adapted from the training manual entitled *Therapeutic Yoga for Seniors, Teacher Training Manual* (2008). These include (1) first, do no harm, (2) create a safe environment, (3) encourage yogic balance, (4) meet people where they are, (5) emphasize feeling over form, (6) honor the inner teacher, (7) encourage gratitude and joy, (8) emphasize fluidity, (9) use skillful language, (10) respect our scope of practice, (11) be a guardian of safety, and (12) teach people, not poses or conditions (Krucoff et al., 2010). Following these principles, yoga can safely be taught to older adults with modifications to accommodate all skill levels.

Problem Statement

There is a missed opportunity in senior living facilities to screen for balance and provide resources for improving balance. Many senior living facilities do not perform a balance assessment on incoming residents. This poses a significant risk for fall with an injury that often necessitates the need to transfer to a hospital, thereby incurring costs to the patient and healthcare system. Falls may also result in subsequent complications and poor patient care outcomes. Moderate to severe injuries commonly seen include head trauma, hip fractures, and increase the risk for early death. Even if not injured, many older adults who fall develop a fear of falling, which can lead to limiting their activities (CDC, 2013). This results in reduced mobility and loss of physical fitness, which subsequently increases the actual risk of falling creating a vicious cycle (CDC, 2013; Nick, Petramfar, Ghodsbini, Keshavarzi, & Jahanbin, 2016). Lack of

resources in place for improving balance leaves older adults at increased risk for health complications. Yoga is one such intervention that can address this problem.

Purpose of Evidence-Based Practice Project

The purpose of this DNP project is to perform a needs assessment of a local senior living center and determine the residents' interest in implementing a weekly yoga program to improve balance. By examining the current literature on the effects of yoga on balance in older adults, the author will be prepared to present to local medical directors the benefits of instituting a yoga program at their facility to benefit residents. This project will assess the current knowledge base of residents at a local senior living community in Utah regarding their understanding of the effects of yoga on balance and their interest in participating in a yoga program. The key to improving health and quality of life for this population will require collaboration between multiple and diverse groups on the state and local levels (CDC, 2013). Key stakeholders will include the medical and nursing director for the facility, other health care professionals, the public, and community organizations. Findings may indicate the need to provide resources or conduct a pilot study for residents interested in beginning yoga as part of a personal wellness plan.

Significance of Evidence-Based Practice Project

Evidence supports the notion that consistent yoga practice positively affects balance, strength, flexibility, and coordination (Galantino et al., 2012; Kloubec et al., 2012; Tatum & Bradley, 2011; Tiedemann, O'Rourke, & Sherrington, 2013; Zettergren, Lubeski, & Viverito, 2011). These attributes help maintain physical functioning, which includes reducing the risk of falls and positively impacting activities of daily living. Interventions and therapies designed to

reduce a decline in functional capacity promote a higher quality of life by encouraging independence and sustaining dignity. Additionally, because falls are associated with high cost of care, interventions designed to prevent falls pose a cost saving to the patient and healthcare system. Knowledge of this allows the advanced practice nurse to think holistically about the care of older adults and implement effective strategies for incorporation of physical activity within the wellness plan. This project can serve as a foundation for implementing a yoga program within senior living centers with the goal of improving health outcomes in this population.

FRAMEWORK AND SYNTHESIS OF EVIDENCE

A needs assessment serves to identify problems within an organization or system in order to address gaps between the current conditions and desired outcomes. A needs assessment serves as the first step before implementation of a solution can take place. The Iowa Model of Evidence-based Practice to Promote Quality Care can be used to guide the development of this EBP project. Initially developed and implemented in 1994 at the University of Iowa Hospitals and Clinics (UIHC) to promote the translation of research to practice, this framework is often useful in improving health care outcomes for patients (Doody & Doody, 2011). The framework served as a guide to lead the synthesis and application of research findings into practice, however, in 2001, the model was revised to reflect changes based on feedback from users (Titler et al., 2001). These changes involved incorporating new terminology and feedback loops, being cognizant and addressing changes in the health care market, and integrating other types of evidence when research findings are insufficient to guide practice (Titler et al., 2001).

Theoretical Framework

The Iowa Model is appropriate as a framework for this EBP project as it involves the implementation of practice change by maximizing the use of time and resources when a clinical problem is identified. The first step in the model begins with identifying the problem (Titler et al., 2001). The identified trigger in this EBP project is the increasing aging community and the need to incorporate new strategies to improve health care outcomes. National guidelines were reviewed and it was determined that the majority of older adults do not follow current recommendations for physical activity. Once the problem is identified and its priority determined, the second step is to review and critique relevant literature (Titler et al., 2001). If there is sufficient evidence to make a change in practice, the third step is to identify research evidence that supports the change in clinical practice. This was accomplished by performing a literature review and synthesis of current data involving yoga and its effect on balance. The final steps are to implement a change in practice and monitor the outcomes (Titler et al., 2001); This will first be done by performing a needs assessment of the community and determining if there is interest in taking a yoga class. If interest and need are identified, future studies can implement a yoga program within the community and monitor the outcomes.

Synthesis of Evidence

The purpose of this project is to perform a needs assessment of a local senior living center and assess the residents' attitudes, knowledge, and perceptions of yoga and evaluate their interest in implementing a weekly yoga program to improve balance. A search for relevant literature pertaining to exercise yoga and its effects on balance in older adults was conducted. Database sources examined included PubMed, CINAHL, Cochrane Library, and MEDLINE. The

medical subject heading (MeSH) terms were used to evaluate keywords to relevance and applicability to this topic. Keywords used include "older adults," "elderly," "yoga," and "balance," to search the databases for literature published in English within the last five years. Results included systematic reviews, meta-analyses, peer-reviewed articles including randomized controlled trials (RCTs), quantitative, qualitative, and descriptive studies. Articles were screened for topic relevance and inclusion criteria consisted of (a) articles written in English, (b) published within the last five years from the years 2011-2017, and (c) human subjects consisting of adults age 60 years and older. Exclusion criteria consisted of articles that (a) only focused on general exercise and not specifically yoga, and (b) focused on cognitively impaired or severely disabled older adults. Ten articles met the inclusion criteria and supported the physical benefits of yoga which included five RCTs (Cheung et al., 2014; Colgrove et al., 2012; Saravanakumar et al., 2014; Schmid et al, 2012; Tiedemann et al., 2013), two quasi-experimental studies (Goncalves, Vale, Barata, Varejao, & Dantas, 2011; Zettergren et al., 2011); and four descriptive reviews (Galantino et al., 2012; Roland, Jakobi, & Jones, 2011; Tatum & Bradley, 2011; Vogler, O'Hara, Gregg, & Burnell, 2011). Results will be discussed in further detail within the synthesis of evidence table.

Strengths of these Studies

Half of the studies assessed consisted of RCTs, which is considered the gold standard among research studies. Additionally, another strength of this synthesis is that participants included within the trials possessed a broad range of health conditions and physical abilities including Parkinson's disease, post-stroke, arthritis, senior living center residents, and otherwise healthy community-dwelling residents. This supports yoga for improving balance and mobility in

a variety of settings and preexisting health conditions, which is often the case in large senior living facilities.

Limitations of these Studies

Different types of yoga were used across studies including different program lengths and frequency of practice. Future studies should aim to investigate the optimal type and length of a yoga program best suited for the elderly. Additionally, some trials used props (i.e., blocks or chairs) while other studies did not. Investigation of the incorporation of supportive props such as chairs or blocks is warranted. Additionally, many studies were underpowered or consisted of small sample sizes posing a potential for type I error. A source of bias determined in this review was a lack of blinding of patients and therapists. A larger number of well-designed RCTs investigating the effects of yoga on physical functioning are warranted to contribute to the body of evidence supporting this intervention as a therapy for improving balance and physical mobility.

Conclusion of Appraised Literature

Overall, studies included in the synthesis of literature provided good quality evidence to support the use of yoga as an exercise program for older adults for the purpose of improving balance. The systematic reviews, RCTs, and descriptive studies contained no major conflict or methodological concerns. The results of the evidence conclude that yoga can lead to improvements in muscular strength, flexibility, and overall mobility. In the article by Patel et al. (2011), it was determined that yoga is as good as and potentially superior to other physical activity therapies among the elderly.

METHODOLOGY

Research Design

The purpose of this DNP project is to explore interest in a yoga program aimed at improving balance at a senior living facility. This project utilized a descriptive design to assess senior living residents' knowledge, perceptions, and attitudes about yoga as a form of physical exercise, specifically in relation to its benefits of improving balance and reducing falls. Descriptive design methods allow researchers to collect information without manipulating the environment (Polit & Beck, 2012).

Ethical Considerations

When interacting with human subjects, it is vital to protect their rights and follow protocols set forth by the governing agencies. The doctoral student completed training through the National Institutes of Health covering material relevant to protecting human subjects. The student was in agreement with ethical principles set forth by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The project proposal was submitted and approved by the University of Arizona Institutional Review Board (IRB). The project did not require oversight by the University of Arizona, as the project did not meet the definition of 'research' and/or 'human subject' (Appendix B).

The risks and benefits of participation were reviewed prior to obtaining informed consent from all participants. All participants were cognitively and legally able to provide informed consent. The anonymity of the survey and responses was assured and data was kept confidential by remaining in a locked drawer in the student's home when not in use. Participants were informed that refusal to participate or withdrawal from the project would cause no penalty.

Sample and Setting

The participants of this study consisted of a convenience sample of residents at Brookdale Senior Living in Salt Lake City, Utah. Residents of this continuing care retirement community (CCRC) range from assisted living, Alzheimer's and dementia care, to rehabilitation and skilled nursing care. Fitness and wellness programs are offered throughout the week and are included for all residents. These activities change depending on resources, but currently the facility offers a gymnasium equipped with free weight, bicycling, rowing, and elliptical machines. Weekly activities such as volleyball and a group fitness class are offered. This establishment does not currently offer yoga.

Data Collection and Analysis

Prior to data collection, the student was in email communication with the activities' coordinator regarding optimal dates and times for distributing and collecting surveys. It was determined that prior to an existing community activity (i.e. BINGO or movie event), residents would be gathered in the common area and this would serve as an ideal time to collect surveys. A paper-based survey (Appendix A) was developed and printed by the student. The senior living facility provided pencils. The student arrived 15 minutes prior to a community event and after being introduced by the activities' coordinator, read aloud the informed consent and then proceeded to distribute the paper-based surveys and pencils to each willing resident. The entire survey took under 10 minutes to complete and consisted of 15 closed ended questions. Only cognitively abled residents participated, which was determined by the activities' coordinator, who was familiar with each resident's mental status. Upon completion of this needs assessment,

a needs analysis was performed using descriptive statistics. Descriptive statistics allow for researchers to summarize and describe data (Polit & Beck, 2012).

RESULTS

The purpose of this project was to perform a needs assessment of a local senior living center to evaluate the residents' attitudes, perceptions, and knowledge about yoga and determine interest in implementing a weekly yoga program to improve balance. As shown in Figure 1, this convenience sample consisted of 12 respondents of which nine were female and three were male. The average age of respondents was 87.2 years of age, with ages ranging from 80 to 100 years of age (Figure 2). Participants were then asked to rate their overall health. Two selected 'excellent,' seven selected 'good,' two selected 'fair,' and one person selected 'bad.' No participants selected 'poor' (Figure 3).

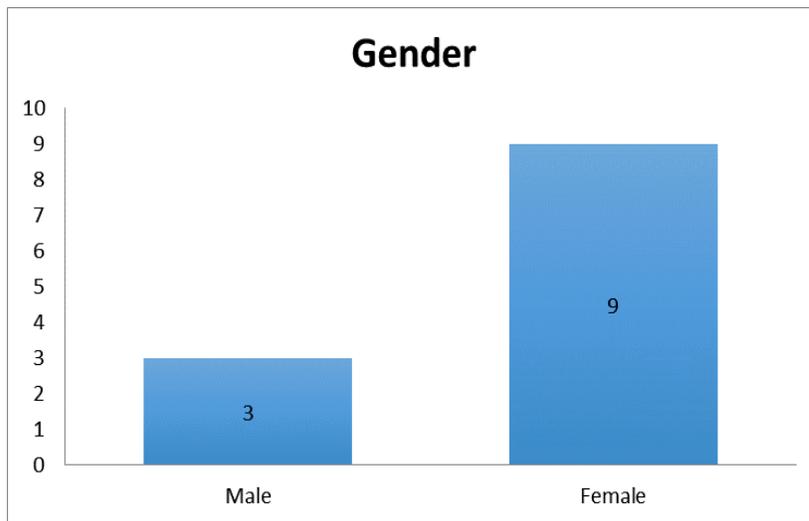


FIGURE 1. Gender of Participants

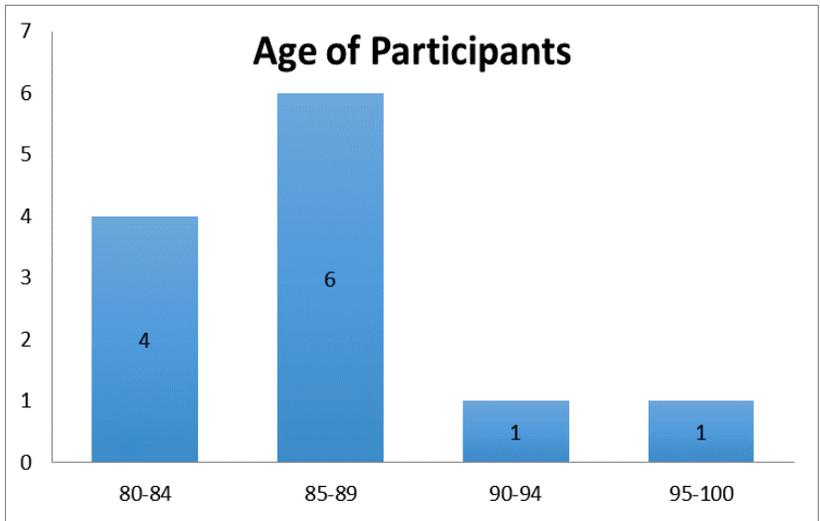


FIGURE 2. Age of Participants by Group

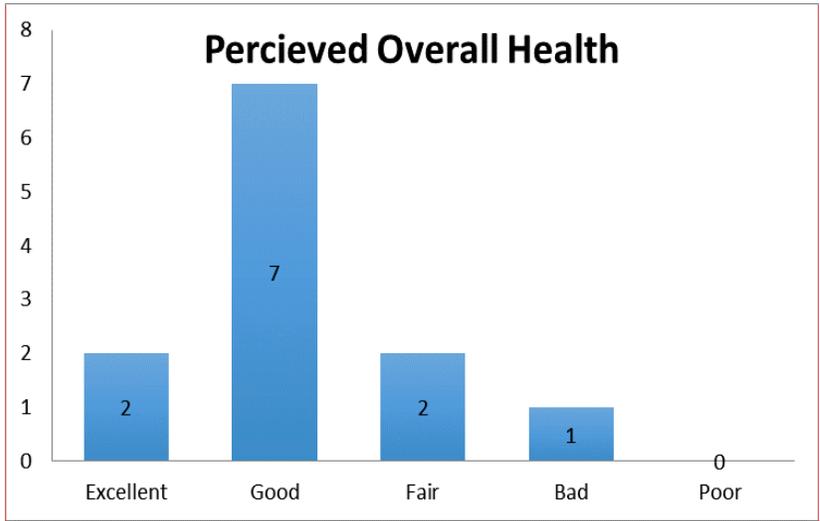


FIGURE 3. Perceived Overall Health of Participants

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Prior to project implementation, balance scores were not obtained on residents to identify residents at risk for falls. Instead, residents were asked to self-report if they ever lose balance and if so, how often. Of the 12 total respondents, eight reported losing balancing. Clarification on frequency revealed that three individuals stating losing balance once per week, two people reported once a month, a three people reported losing balance once per year. Respondents were then asked to report if they have experienced a fall in the last three months and if so, how many times have they fallen. Four participants reported experiencing a fall within the last three months. Two respondents selected between 1-3 falls and two individuals selected between 4-6 falls.

The next section of the survey aimed to assess current physical activity. Participants were asked to select from a range of choices how often they exercise per week and what activities they engage in for exercise. Two participants selected none, five individuals selected 1-2 days per week, one person selected 3-4 days per week, and four people selected 5-6 days per week. A range of answers were selected for types of exercise which included walking/jogging, bicycling, rowing machine, elliptical machine, free weights, sports (i.e. volleyball), and other (housework).

The last portion of the survey aimed to assess knowledge, attitudes, and perceptions regarding yoga. Only three individuals marked having heard about the various types of yoga. One person selected hearing about restorative yoga, one person selected hearing about anusara, ashtanga, and hatha, and another person selected anusara, hatha, jivamukti, kripalu, kundalini, restorative, viniyoga, vinyasa/power, and yin. When asked if the participant has ever taken a yoga class, nine responded 'no,' and three responded 'yes.' Of the three people who responded to previously taking a yoga class, two people disclosed that it was more than 30 years ago, and one person stated it was 50 years ago. Next, participants were asked if they would be interested in

learning about an eight-week yoga program consisting of 60-minute weekly sessions. The total length of the program and time allotted for weekly sessions was selected based on what seemed feasible to the doctoral student based on prior conversations with the activities coordinator of the facility regarding what could reasonably be implemented within the organization's wellness activities. Eight people responded 'yes' to being interested in learning about such a program, while three people responded 'no,' and one person free texted the word 'maybe.'

A list of barriers was then offered to assess what would stop participants from trying yoga and they were encouraged to select all choices that apply. Four people selected that health issues made them think they could not do yoga, two participants selected that they were too old to do yoga, three people selected classes cost too much, two people selected not being able to get to a location that has yoga classes, four people selected needing more information, and two people selected being unsure about trying something new. No participant selected the option of not having the time.

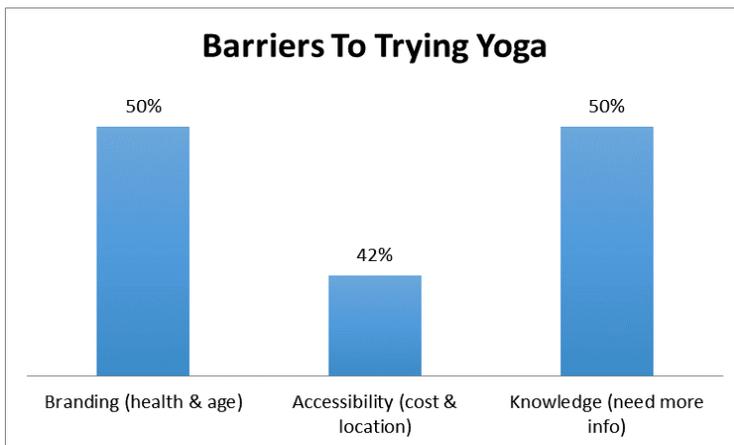


FIGURE 4. Barriers to Trying Yoga

The last set of questions aimed to explore personal perceptions regarding yoga. Participants were asked to rank answer choices on a 1 to 5 scale. Responses were then grouped as either agreement or disagreement with the statement. Answer choices were categorized as either a physical, mental, or spiritual attribute. The physical attributes (Figure 5) ranked as follows: 83% of participants indicated that yoga meant stretching, 58% found yoga to be primarily a physical workout, while only 42% indicated that yoga can help improve balance. Mental attributes (Figure 6) equated to a 58% finding yoga to be an effective way to de-stress, 25% found yoga to be a way to get out of their head, and 75% found yoga to be a great way to relax. Lastly, spiritual attributes (Figure 7) were assessed with only 8% of participants agreeing that yoga is a spiritual practice, 8% indicated yoga to be a religion, and 42% identified with yoga as a way of life.

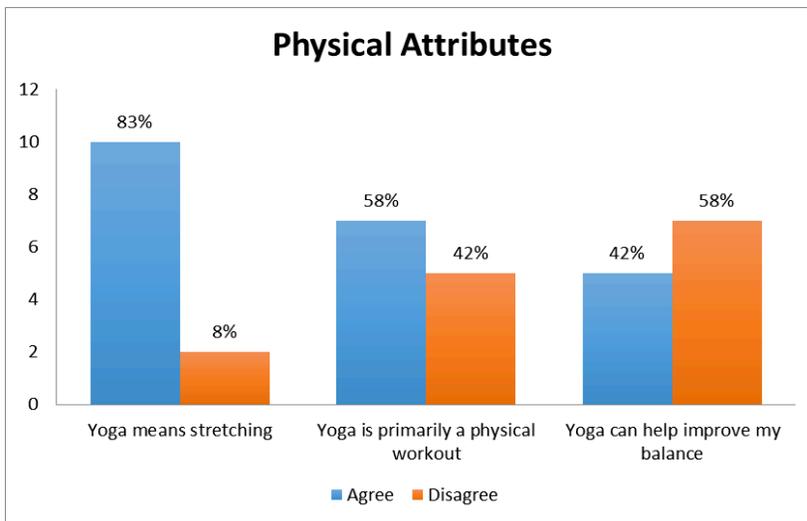


FIGURE 5. Physical Attributes Associated with Yoga

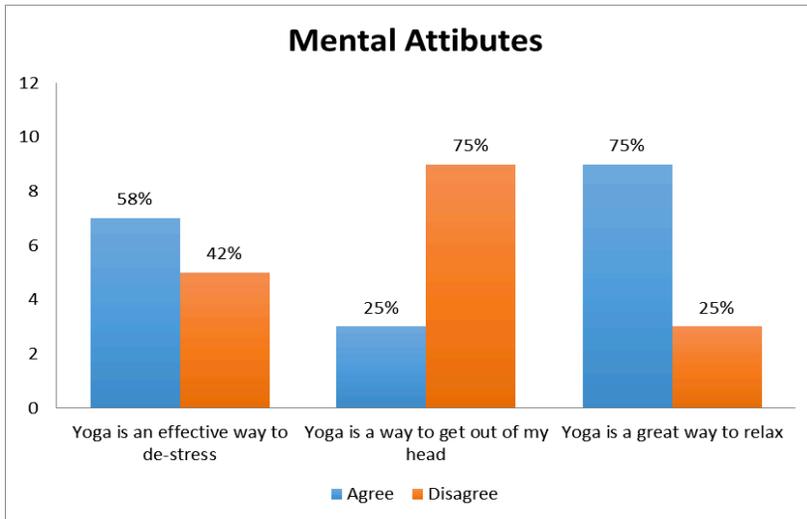


FIGURE 6. Mental Attributes Associated with Yoga

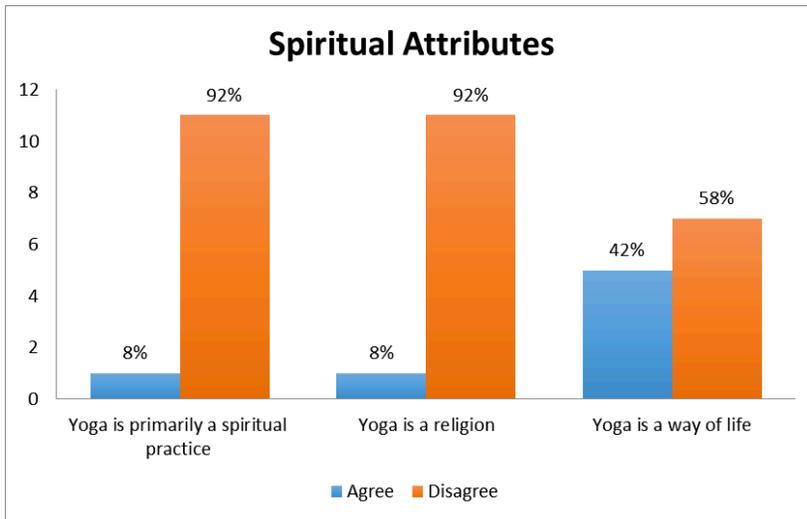


FIGURE 7. Spiritual Attributes Associated with Yoga

DISCUSSION

This project aimed to explore the attitudes, perceptions, and knowledge of older adults regarding the practice of yoga. This chapter provides an explanation of the project findings, discusses strengths and weakness of the project, evaluates the current literature, and offers implications for future research and practice change.

Explanation of Findings

The results from this needs assessment indicate that the majority of older adults surveyed (67%) do not participate in the weekly recommendations for physical activity. This is consistent with the literature that states only one-third to half of older adults meet the physical activity guidelines (Keadle et al., 2016). Given this lack of meeting weekly physical activity recommendations, new and varied forms of exercise are necessary. Yoga is one modality of physical activity that can be used to meet the weekly activity recommendations as it incorporates both aerobic and muscle strengthening exercises. When surveyed, all participants had either never tried yoga or had taken a class a minimum of more than 30 years ago. Through asking participants about barriers to trying yoga, three themes were identified: branding, accessibility, and lack of knowledge. Some (50%) of the participants had a branding issue with trying yoga. This referred to either their health status or current age posing as a perceived barrier to trying yoga. Less than half (42%) of respondents found accessibility to be a reason for not trying yoga either due to the cost or lack of access to a location that offers yoga. Another portion of respondents (50%) identified with a lack of knowledge being a barrier to trying yoga as they felt they needed more information.

Despite the barriers identified with trying yoga, this sample of participants had generally positive beliefs about practicing yoga. The majority of the group (75%) was interested in learning more about implementing an eight-week program consisting of 60-minute weekly sessions. This duration and frequency of yoga classes is consistent with previously published literature, however, according to Zettergren et al., (2011), there is no clear evidence for determining duration, frequency, and type of yoga for the most effective yoga program.

Strengths of the DNP Project

This DNP project served to increase awareness of the importance of implementing new strategies to maintain or improve the balance of older adults. Results from this project informed the medical director of the facility that the majority of residents were not meeting the weekly recommendations for physical activity. Furthermore, the data revealed that most residents (75%) would be interested in learning more about yoga as a new exercise modality to incorporate into their wellness plan. Another strength of this project was the ease of completing the survey. All respondents were able to complete the survey questions in its entirety in fewer than 10 minutes. This increased the response rate with only one participant within the convenience sample refusing to take the survey. As a result of this data, Brookdale is currently exploring options to implement a yoga program as part of their activities offered throughout the week.

Limitations of the DNP Project

A weakness of this DNP project relates to the small sample size, which limits data analyses and may not be representative of the population of this facility. The small number of residents (n=12) included within this project may pose limitations to its applicability to organizational change within this facility or others. However, the small number of participants is

consistent with three of the previously published studies included within the review of literature for supportive evidence (Galantino et al., 2012; Schmid et al., 2010; Zettergren et al., 2011). Another weakness of this project was the homogeneity of the sample. The participants were predominately female (75%) and consisted of individuals mostly in their ninth decade of life. This limits generalizability of the attitudes and perceptions of older adult males and individuals in their younger years (i.e., 60's & 70's). Lastly, this survey did not assess why residents were not meeting weekly recommendations for exercise. Future studies should explore barriers to the lack of achieving weekly recommendations for physical activity.

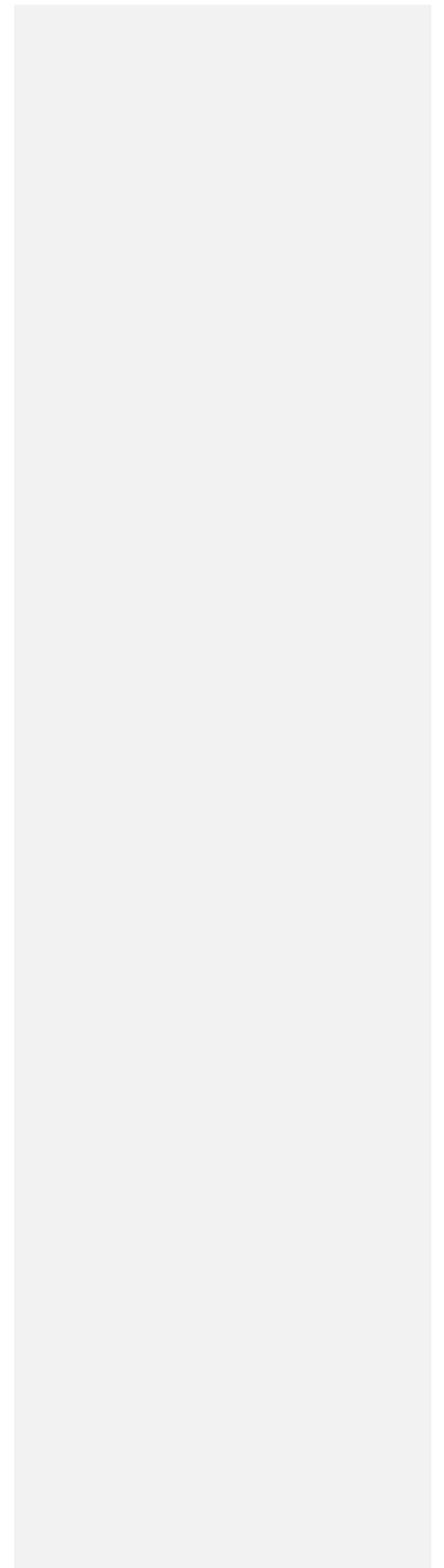
Future Studies

A number of studies have shown that including specific asana in an overall yoga program for older adults has the potential to improve balance and reduce the rate of falls in this patient population (Galantino et al., 2012; Goncalves et al., 2011; Patel et al., 2011; Schmid et al., 2010). Yoga programs designed specifically for the elderly would benefit from using a combination of sitting and standing postures and offering modifications. This may include the use of a chair to reduce the fear of falling during practice and an adequate warm up and cool down period. Yoga programs designed to specifically combat the impairments that contribute to the risk of falling and subsequent falls can serve as a practical alternative to traditional exercise programs (Patel et al., 2011). This does not account for the qualitative improvements individuals may experience after yoga such as a greater sense of wellbeing or tranquility (Chen et al., 2009; Vogler et al., 2011). Well-designed randomized controlled trials investigating the effects of yoga on balance and fall rates are warranted. Future research is needed to determine the type and length of yoga programs needed to aid in the prevention of falling in older adults.

Conclusion

The primary aim of this DNP project was to determine if yoga would be of interest to older adults residing in a senior living facility as part of their wellness plan. The doctoral student's desire to implement a yoga program within a retirement community was supported by the literature that demonstrates yoga as a safe and effective modality for improving balance among older adults and subsequently reducing the overall fall rate within this population. This project has the potential to serve as pilot data to inform future research projects of the desire and need to implement new modalities such as yoga within senior living facilities with the common goal of minimizing functional decline as it relates to balance and the fear of falling.

APPENDIX A:
NEEDS ASSESSMENT TOOL





Yoga Questionnaire

1. What is your gender?
 Female Male
2. What is your age?
a. Age in years is _____
3. Rate your overall health:
 Excellent Good Fair Bad Poor
4. Do you ever lose your balance?
 Yes No
5. If yes to #4, on average how often do you lose your balance?
 Daily Once week Once a month Once a year
6. In the last 3 months, have you had a fall?
 Yes No
7. If yes to #6, how many times have you fallen in the last 3 months?
 1-3 4-6 7-9
8. How often do you exercise a week?
 None 1-2 days 3-4 days 5-6 days 7 days
9. What kind of exercise do you do?
 Walking/Jogging
 Bicycling
 Rowing Machine
 Elliptical Machine
 Free weights/circuit weights
 Sport(s) i.e. volleyball, basketball
 Other _____
10. Please mark if you have heard about any of the below types of yoga:

Yoga Type	YES	NO
Anusara		
Ashtanga		
Bikram		
Hatha		
Iyengar		
Jivamukti		
Kripalu		
Kundalini		
Prenatal		

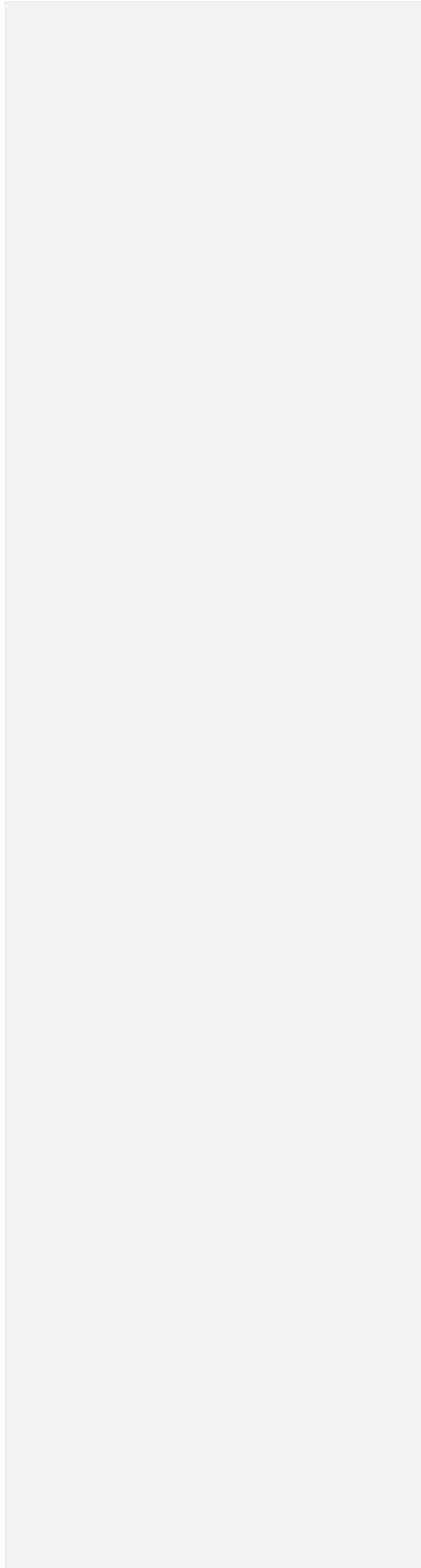
Restorative		
Sivananda		
Viniyoga		
Vinyasa / Power		
Yin		

11. Have you ever taken a yoga class?
 Yes No
12. If you have taken a yoga class when was your last yoga class?
Year of my last yoga class was: _____
13. Would you be interested in learning about an 8-week yoga program consisting of 60-minute weekly sessions?
 Yes No
14. What would stop you from trying yoga? Select all that apply.
 Classes cost too much
 I don't have the time
 I need more information about it
 I can't get to a location that has yoga classes
 Health issues make me think I cannot do yoga
 I'm too old to do yoga
 I'm unsure about trying something new
15. Using the 1-5 scale below rate each of the statements.

1=Strongly-Agree 2=Agree 3=Undecided 4=Disagree 5=Strongly-Disagree

Statements:	1	2	3	4	5
To me, yoga means stretching					
Yoga is primarily a physical workout					
Yoga is an effective way to de-stress					
For me, yoga is a way to get out of my head					
Yoga is a great way to relax					
Yoga can help improve my balance					
Yoga is primarily a spiritual practice					
Yoga is a religion					
Yoga is a way of life					
I think of yoga as 'me time'					

APPENDIX B:
THE UNIVERSITY OF ARIZONA INSTITUTIONAL REVIEW BOARD APPROVAL





Research
Office for Research & Discovery

Human Subjects
Protection Program

1618 E. Helen St.
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Date: August 25, 2017
Principal Investigator: Sara Ameli

Protocol Number: 1708752000
Protocol Title: A Needs Assessment for the Implementation of a Yoga Program Within a Senior Living Facility

Determination: Human Subjects Review not Required

The project listed above does not require oversight by the University of Arizona because the project does not meet the definition of 'research' and/or 'human subject'.

- **Not Research as defined by 45 CFR 46.102(d):** As presented, the activities described above do not meet the definition of research as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "research means a systematic investigation, including research development, testing and evaluation, designed to contribute to generalizable knowledge".
- **Not Human Subjects Research as defined by 45 CFR 46.102(f):** As presented, the activities described above do not meet the definition of research involving human subjects as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains data through intervention *or* interaction with the individual, or identifiable private information".

Note: Modifications to projects not requiring human subjects review that change the nature of the project should be submitted to the Human Subjects Protection Program (HSPP) for a new determination (e.g. addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the research question). Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).

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