

**YOGA THROUGH A SYSTEMIC LENS: THE IMPACT OF YOGA  
PRACTICE ON SELF-COMPASSION, COUPLE SATISFACTION, AND  
FAMILY FUNCTIONING**

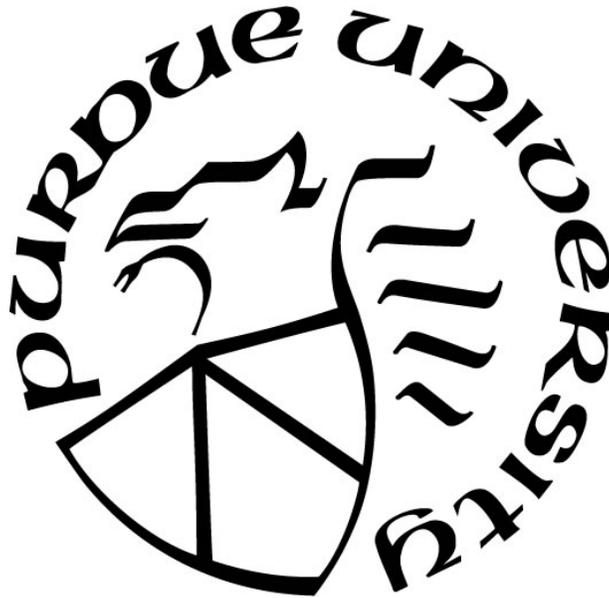
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**Gabriella Boeger**

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**THE PURDUE UNIVERSITY GRADUATE SCHOOL**  
**STATEMENT OF COMMITTEE APPROVAL**

**Dr. David P. Nalbone, Chair**

Department of Behavioral Sciences

**Dr. Megan Murphy**

Department of Behavioral Sciences

**Dr. Zubeyde Seda Gulvas**

Department of Behavioral Sciences

**Approved by:**

Dr. Megan Murphy

*This is dedicated to all of the students and faculty members in the Marriage & Family Therapy Program at Purdue Northwest. I feel honored to have been a part of such an inspiring, passionate, inclusive group of individuals. Three years of being surrounded by such empowering people has made me a better version of myself and I am forever grateful. I also dedicate this thesis to the practice of yoga. May this be an expression of gratitude to the practice that saved my life by teaching me how to love myself. Namaste.*

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# TABLE OF CONTENTS

LIST OF TABLES .....	7
ABSTRACT.....	8
CHAPTER 1: INTRODUCTION .....	9
Statement of the Problem.....	9
CHAPTER 2: REVIEW OF THE LITERATURE .....	11
Significance of the Problem.....	11
Yoga Background .....	11
Eastern and Western Yoga.....	11
Yoga is Universal .....	12
Hatha Yoga .....	13
Yoga as a Bio-Psycho-Social Intervention .....	13
Yoga as a Biological Intervention .....	14
Yoga as a Psychological Intervention.....	14
Yoga as a Social Intervention .....	16
Mindfulness.....	17
Systemic Variables Measured in Present Study.....	18
Self-Compassion.....	18
Couple Satisfaction.....	19
Family Functioning.....	21
Other Factors of One’s Yoga Practice .....	22
Reasons for Practicing Yoga .....	22
Yoga Experience and Training .....	24
Theoretical Lens.....	24
Bio-Psycho-Social Model.....	24
Bio-Psycho-Social-Spiritual Model.....	26
Family Systems Theory .....	27
The Present Study .....	27
Hypotheses.....	29
CHAPTER 3: METHODOLOGY .....	31

Participants and Procedure.....	31
Materials .....	31
Self-Compassion.....	32
Relationship Satisfaction .....	32
Family Functioning.....	33
Reason for Practicing Yoga Questionnaire.....	34
Demographics .....	34
CHAPTER 4: RESULTS.....	36
Data Screening.....	36
Test of Hypotheses .....	40
<i>Self-Compassion, Hypotheses 1 and 6</i> .....	40
<i>Relationship Satisfaction, Hypotheses 2 and 4</i> .....	40
<i>General Family Functioning, Hypotheses 3 and 5</i> .....	41
CHAPTER 5: DISCUSSION.....	42
Self-Compassion.....	43
Relationship Satisfaction .....	43
Family Functioning.....	45
Clinical Implications.....	46
Limitations and Future Directions .....	47
Conclusion .....	49
REFERENCES .....	51
APPENDIX.....	58

## LIST OF TABLES

Table 1. Pearson Correlation Among Variables .....	37
Table 2. Frequency Report for Level of Yoga Training .....	37
Table 3. Descriptive Statistics of Variables .....	38
Table 4. Descriptives of Frequency of Yoga Practice .....	38
Table 5. Outcomes of Reason for Practicing Yoga.....	39

## ABSTRACT

The current study examines the relationships between frequency of yoga practice and outcomes of self-compassion, couple satisfaction, and family functioning. Yoga and other forms of Eastern medicine have become increasingly popular in Western culture. Not only has yoga become more appealing to the general population, it has also become more widely accepted and has been more frequently integrated into various mental health treatments. Using a cross-sectional design, this study analyzed data from an online questionnaire regarding systemic outcomes of yoga participants ( $N = 115$ ). A three-step hierarchical regression analysis was completed to test significance between predictor and outcome variables. The results showed a significant relationship between social reason for practicing yoga and family functioning. This study indicates that families who practice yoga together may have healthier family functioning. The results highlight the potential of yoga as a therapeutic intervention for clinicians working with families.

Keywords: yoga, family systems theory, biopsychosocial-spiritual, self-compassion, couple satisfaction, family functioning

# CHAPTER 1: INTRODUCTION

## Statement of the Problem

The field of mental health is always progressing. As culture shifts over time, so does the focus and conversation around mental health. For example, the marriage and family therapy field developed as professionals recognized the limitations of focusing on individuals and not including the systems of which they are a part. Mental health treatment today is likely to involve a combination of psychotherapy and pharmaceutical medication (de Manincor et al., 2016). However, United States citizens are losing faith in these treatments as more and more systemic oppression is uncovered within the medical field. Questions have been raised about the ethics of pharmaceutical companies, side-effects to medication, over-prescribing, medication efficacy versus placebo effects, and unequal access to services (de Manincor et al., 2016). Racial discrimination within the US health care system has also been studied. Research suggests Americans of color are likely to receive poorer quality of health care than White Americans (Feagin & Bennefield, 2014). Clients and patients often feel powerless in today's health care system and may start to find these approaches unappealing. The loss of faith in mainstream medical practices has led to a higher demand for alternative approaches. In the United States, there has been an increase in interest in Eastern philosophy (Neff, 2003). Specifically, in regard to wellness and health, Buddhist psychology has become a more prominent topic.

In 2011, the Dalai Lama encouraged Western research to begin including more Eastern approaches (The Office of His Holiness the Dalai Lama, 2011). The Dalai Lama discussed potential benefits of combining Western and Eastern medicine, as each have different strengths and limitations. In the general population, there is evidence of this interest as Eastern practices such as yoga and meditation have gained popularity since the early 2000s. The yoga industry was described as “booming” after a 2016 study found that 34 percent of Americans said they were somewhat or very likely to practice yoga in the next 12 months (Yoga Alliance, 2019).

Yoga has great potential as a therapeutic intervention. In contrast with many of the existing treatments that leave little room for individual choice, yoga is a mind-body treatment over which the client has total control. Individuals can decide what their yoga practice will look like and what it will mean to them. This will most likely be dependent on what their goals are

and what benefits they would like to get out of practicing. Yoga is a practice that can be learned by anyone no matter their shape, size, or physical abilities. As yoga continues gaining popularity, it is important that MFT professionals are aware of how yoga can impact individuals, couples, and families. Understanding yoga and its systemic impact can be helpful to therapists in deciding when it would be appropriate to suggest it for an individual, couple, or family.

Several studies emphasize limitations in existing literature on yoga interventions (Elwy et al., 2014; Field, 2016). Researchers have struggled to study yoga because of the many different styles or levels of practice. Concern with heterogeneity and lack of consistency among research examining yoga is common. Another limitation is that existing studies of yoga have relatively small, non-diverse samples. Yoga research has focused primarily on individuals and has not explored outcomes of practicing yoga with family members or partners. With inconsistent findings, it has been difficult for research to make progress. Due to the fact that literature on yoga within couples and families has been virtually nonexistent until recently, this study is exploratory in nature and aims to gather a broad collection of information on various aspects of participants' yoga experience.

This project examined how yoga impacts an individual throughout layers of systems. Specifically, frequency of yoga practice was used as a predictor of self-compassion, relationship satisfaction, and family functioning. Frequency of yoga practice is an indicator of the level of investment to the practice and may impact outcomes. Outcomes of yoga were compared among groups not only by frequency of yoga, but also by reason for practicing and level of experience or additional yoga training. By examining the reason for practicing yoga, this study provided an inside look at how family relationships may be strengthened by yoga. Outcomes of this study contribute to the marriage and family therapy field's understanding of how yoga could impact families and relationships. This is important because if results show that couples and families who practice yoga together have greater relationship satisfaction and functioning, professionals can share this information with clients. Additional information such as location of yoga practice were gathered and analyzed that may be helpful to increasing the field's understanding of yoga's wide range of benefits.

## **CHAPTER 2: REVIEW OF THE LITERATURE**

### **Significance of the Problem**

Yoga is a holistic system for improving body, mind, and spirit (Khalsa, Greiner-Ferris, Hofmann, & Khalsa, 2014). The Yoga Alliance association has reported an increase in popularity of yoga in the US, with the number of practitioners increasing from 20.4 million in 2012 to 36 million in 2016 (Yoga Alliance, 2019). Results from the 2012 National Health Interview show that about 31 million US adults have ever practiced yoga and about 21 million have practiced yoga in the last 12 months (Cramer et al., 2016). Cramer et al. (2016) estimated that 13.2% of US adults have ever practiced yoga, which is a drastic increase from findings in 1998 that reported only 7.5% of U.S. adults having ever practiced yoga. In addition, in recent years, there has been an increased interest in mind-body connections and how yoga can be used therapeutically (Cramer et al., 2016).

Although yoga has become an increasingly utilized practice in the medical field, there have been no studies using a lens such as family systems theory to analyze how yoga could impact relationships among partners and family members. Specifically, within the field of marriage and family therapy, there is a dearth of research on how yoga influences systemic factors in relationships. Existing studies suggest the need for expanded studies on how yoga can impact public health (Cramer et al., 2016).

### **Yoga Background**

#### **Eastern and Western Yoga**

Yoga is an ancient practice that originated in India. Its foundations as a practice are philosophical and spiritual. The word “yoga” can be translated to “yoke,” which refers to the way in which individuals unite their mind, body, and spirit, to the larger universe. In Eastern culture, it is common for people to turn to physical movement for spiritual healing. In this context, spiritual transcendence is a primary goal of yoga, whereas mental and physical benefits may occur as a side effect. Yoga originated as a way of life and was intended to help people achieve greater enlightenment. In Eastern tradition, yoga is known as a system in which

imbalances are eliminated from the mind, body, and spirit (Tolbanos Roche, Miro Barrachina, Fernandez, & Betancort, 2017).

In Western culture, yoga has similar goals, but has evolved in many ways. Mainly, the primary focus shifted from spiritual to physical. Rather than practicing yoga as a way of life, yoga is more often utilized as a 75-minute workout and nothing more. Priorities of yoga practitioners in the West are more likely to be weight loss or toning than spiritual enlightenment (Yoga Alliance, 2019). A recent study found the top five reasons for starting yoga to be flexibility, stress relief, general fitness, to improve overall health, and physical fitness (Yoga Alliance, 2019).

Gender equality is less established in Eastern cultures, as evident in how yoga originated as an exclusively all-male practice (Stone, 2008). In the West, the yoga world has been dominated by females. Results of one study found women to represent 72 percent of practitioners, whereas Eastern yogis were most commonly male (Yoga Alliance, 2019). Research suggests yoga in the U.S. is most common among non-Hispanic White females (Cramer et al., 2016), and that yoga has been associated with higher education and higher income (Park, Braun, & Siegal, 2015). Yoga has also become more commercialized in the United States. Survey data found practitioner spending on items such as classes, gear, and equipment to increase to \$16 billion in 2016 (Yoga Alliance, 2019). These are examples of how cultural values are clearly reflected in the way yoga is practiced.

## **Yoga is Universal**

Some of the literature points to systemic factors that impact a person's likelihood to explore a yoga practice (Patel, Akkihebbalu, Espinoza, & Chiodo, 2011). Cultural messages can influence whether or not people believe yoga would be effective for them. For example, the older adult population might easily internalize messages from culture that their bodies are not capable of physical exercise (Patel et al., 2011). However, yoga is a process that can benefit any individual. Yoga was found to be a more feasible form of exercise for elderly individuals and individuals with physical disabilities (Macy, Jones, Graham, & Roach, 2015). Stone (2008) writes about the purpose of yoga, stating that it is an investigation of the self. For this reason, there is no right or wrong way to practice. Practicing yoga means practicing unconditional self-acceptance. All that is required to practice yoga is the ability to focus on the breath.

Accessibility of yoga should be considered. Although yoga has been found as a cost-effective treatment, many communities lack access to a location or materials for practice (Macy et al., 2015). In areas with higher socioeconomic status, people are more likely able to afford gym clothes, to have access to a fitness center or yoga studio, and to have free time for leisure activities. Research suggests that members of lower SES communities are less likely to practice yoga (Cramer et al., 2016); this could be because they are less likely to find a yoga studio in a lower income area. Research also highlights how individuals are unable to practice yoga because of limitations of transportation or cost (Patel et al., 2011). However, yoga is inclusive because it does not require fancy gym clothes or memberships. It is adaptable to any person. It is important for therapists to understand the inclusive nature of yoga amidst perceived social stigmas or barriers.

## **Hatha Yoga**

As there are several different styles of yoga, it was helpful to define yoga as it was used in this study. For the purpose of this study, the style of yoga practice referred to was Hatha Yoga, which is specifically known for how it can be individualized to any body type (Patel et al., 2011). Hatha yoga is a style of yoga that is commonly cited in literature (Elwy et al., 2014). Hatha yoga combines postures, breath control, and meditation (Kiecolt-Glaser et al., 2010). The primary goals of Hatha yoga are to enhance strength, flexibility, endurance, and balance (Patel et al., 2011). It can be modified to several levels and is inclusive of all individuals. Hatha yoga involves the combination of controlled breathing with physical movement (Jarry, Chang, & La Civita, 2017). Sometimes there is an added meditative component to the physical practice that involves deep breathing or meditation. For these reasons, Hatha yoga is integrative of body, mind, and spirit.

## **Yoga as a Bio-Psycho-Social Intervention**

The benefits of yoga have been found to include various dimensions of life including physical, spiritual, and mental aspects (Elwy et al., 2014). This result explains why yoga is such an attractive tool for mental health professionals to implement in treatment. An instrument was recently developed and validated to assess outcomes and expectations for yoga practice. The

Outcome Expectations of Yoga (OEY) scale is 20 items and includes outcomes that are physical, psychological, spiritual, and mental (Thind et al., 2017). Physical factors may be heart rate, blood pressure, flexibility, or range of motion. Psychological outcomes include decreasing depressive or anxious symptoms. Yoga can also be a social experience, in which relationships with other students or teachers can be built. Framed as a holistic health intervention, yoga can cultivate both psychological and physical flexibility (Gerber, Kilmer, & Callahan, 2018). The following section of this paper summarizes the findings in literature for how yoga impacts various dimensions of life.

### **Yoga as a Biological Intervention**

Evidence of the physical health benefits of yoga is extensive (Field, 2016). This is not surprising, as the diet and wellness culture prosper in the United States. With body image being a major issue for many individuals, people are easily intrigued by yoga as a mode of weight loss. Research suggests that physical health benefits are the most common reason why individuals in the U.S. begin a yoga practice (Park, Riley, Bedesin, & Stewart, 2014). Studies have shown that yoga can assist with weight control, pain relief, and flexibility, as well as serve as an effective treatment for arthritis (Park et al., 2014). Disease prevention and improved energy and immune function are other examples of physical benefits of yoga practice (Cramer et al., 2016).

### **Yoga as a Psychological Intervention**

Even in ancient times, yoga was used as a tool to heal the mind. Stone (2008) states that, “Yoga practice is about breaking free of the cyclic force of habitual activity and distorted mental and emotional forces that drive us to act in ways that maintain suffering” (p. 21). Yoga can offer significant improvements in depression and anxiety symptoms, mood/affect, stress reduction, self-esteem, and interpersonal functioning (Park et al., 2014). In addition, yoga has been found to decrease eating disorder symptoms (Neumark-Sztainer, MacLehose, Watts, Pacanowski, & Eisenberg, 2018), perhaps because of the way it helps individuals to regain a relationship with their body. The practice is also linked to greater body satisfaction, lower self-objectification, and more positive body image (Mahlo & Tiggemann, 2016; Park et al., 2015). Yoga has been found to be effective in reducing distress in samples with various types of trauma history (Van Der

Kolk, 2015). Trauma often causes individuals to develop patterns of numbing or disconnecting from their body as a form of self-protection. Van Der Kolk describes how yoga can relieve trauma by connecting the emotional and nervous system. Yoga and mindfulness are tools to train the limbic system to adjust the way it reacts to potential trauma triggers (Van Der Kolk, 2015).

The most well supported benefits found in the literature are improvement in symptoms of depression and anxiety (Varambally & Gangadhar, 2016). Prevalence rates of depression and anxiety are high all over the world, which rightfully makes yoga appealing to the mental health field. A recent study of 101 participants with depressive and anxiety symptoms found significant differences between yoga and control groups in terms of depressive symptoms (de Manincor et al., 2016). The yoga treatment lasted six weeks. However, decreases in symptoms of anxiety were not found to be statistically significant. Another study found that participants in an eight-week Hatha yoga intervention had significantly greater decline in depressive symptoms than the group that did not practice yoga (Prathikanti et al., 2017).

Yoga-based practices (YBPs) have been integrated into Western models of mental health treatment, which is not surprising as the benefits of yoga have become more well-known as mental health is becoming more of a focus in U.S. culture. A YBP is any type of psychotherapy that also includes an element of yoga, which could be physical movements or breathwork/meditative practices. Research shows variable evidence of the effectiveness of YBPs in mental health treatment (Hendriks, Jong, & Cramer, 2017). In a recent study, the health outcomes of mindful yoga were compared with sitting meditation and body scans. Results indicated that mindful yoga was associated with the greatest increase in psychological well-being (Sauer-Zavala, Walsh, Eisenlohr-Moul, & Lykins, 2013). Across all styles of yoga, the practice begins with acknowledging the present moment (Stone, 2008). During this exercise in mindfulness, yoga students learn skills of awareness and regulation of emotions as they are experienced. Tolbanos et al. (2017) describes the purpose of yoga as a “system to facilitate the recovery of the psychophysiological balance, by eliminating the cause of the imbalance, origin of disease and suffering” (p. 154). This balance is important for individuals to achieve a positive and calm mental state.

## **Yoga as a Social Intervention**

Although the social and relational aspects of yoga have often been left out of research, they are equally as important to consider as the biological and psychological aspects. Social health is vitally important to one's overall health, thus we should examine how yoga impacts interpersonal relationships. Yoga can take place in a variety of locations or settings. Yoga could be practiced at home, in a studio, outdoors, at a gym, in school, or in therapy. For this reason, there are many social opportunities when someone engages in yoga practice. Relationships are often built among yoga students and teachers. Students who attend classes regularly may develop relationships with their peers. Research shows social outcomes as a common reason why individuals practice yoga (Park et al., 2015). People practice yoga with family members, partners, coworkers, siblings, friends, and neighbors. Although research shows how yoga can be a social activity, there have been few studies to examine how yoga impacts family or couple relationships. The relational impacts of yoga are a major missing piece in the literature. Using a lens of family systems theory, there must be benefits to practicing yoga with family members, significant other(s), or friends. In 2012, a cross-sectional study was conducted including 1,045 participants, all of whom practiced yoga at least weekly for a minimum of two months within the past six months. The study found that 67% of participants agreed that yoga improved social relationships (Ross, Friedmann, Bevens, & Thomas, 2012). A qualitative analysis was designed as a follow-up to explore how yoga affects relationships; it found that yoga increases social interactions and provides coping mechanisms to weather relationship difficulties or losses (Ross, Bevens, Friedmann, Williams, & Thomas, 2013). Yoga was described by participants as a way to meet people and develop a sense of belonging within their community. Participants reported attending classes with friends, partners, and other family members (Ross et al., 2013). These findings support the biopsychosocial-spiritual model as well as the assumptions of family systems theory.

One of the most well-studied social setting in which yoga takes place is schools. Schools in the U.S. have recently begun incorporating yoga and mindfulness programs (Frank, Kohler, Peal, & Bose, 2017). Goals of these programs include improving students' impulse control, concentration, and social skills. Mindfulness programs that have had success in elementary schools keep activities fun and short, such as a one to five minute sitting meditation with children that involves stuffed animals (Gehart, 2017). Santangelo-White (2012) found self-

esteem and self-regulation to increase in school-aged girls after participating in an eight-week yoga intervention. Students who participated in the yoga intervention were more likely to report greater appraisal of stress and greater frequency of coping (Santangelo-White, 2012).

### **Mindfulness**

One of the most relevant mental health concepts related to yoga is mindfulness. According to the American Mindfulness Research Association (2019), mindfulness journal publications by year increased from 46 to 842 between the years of 2005-2018. Mindfulness, most basically defined, is when the mind focuses on the present moment. There are similarities and differences between yoga and mindfulness. Mindfulness, like yoga, is grounded in Eastern traditions (AAMFT, 2018). Most forms of yoga require a focus on the present moment and can thus be defined as a form of mindfulness. A major difference between yoga and mindfulness is the inclusion some amount of physical movement. Yoga, as defined in the present study, involves physical movement. Mindfulness differs as it can take place in a sedentary manner, such as during a seated meditation or breathing exercise.

Therapy interventions across various mental health fields have begun widely accepting and incorporating mindfulness. Some examples of the ways that therapists are using mindfulness include deep breathing, body scans, visualization, and descriptions (AAMFT, 2018). Mindfulness is also commonly studied as an outcome for yoga. Today, individuals living in Western cultures often develop a mindset of instant gratification. Constant connection through use of technology creates expectations that individuals should always be available for communication, work, social events, and so on. It is easy to jump from one device to the next or one task to the next. With little awareness of how the mind processes, people focus little on the present moment. On the contrary, Eastern culture is known for how it encourages mindfulness and acceptance of the present moment. Eastern culture teaches to create more space between thoughts, and to notice what happens during physiological stillness (Stone, 2008).

Yoga is a form of mindfulness practice because it aims to increase awareness of the self. Most if not all forms of yoga integrate a mindfulness element to the practice, such as mindful breathing or meditation (Van Der Kolk, 2015). Mindfulness is an important part of yoga practices because it connects the physical and mental dimensions of a person. Mindfulness in a yoga class might be seen in focusing on the breath and observing what is happening in the body

throughout the class. This process can make yoga more therapeutic in nature because it encourages yoga practitioners to actively work to shift out of negative mental health patterns and to establish healthy self-talk. It is also an important part of how yoga can be a healing practice for families or individuals who experienced trauma (Van Der Kolk, 2015). Yoga as a treatment for trauma is discussed in greater detail in following sections.

Mindfulness often takes place in the form of meditation. Meditation is the practice of focusing the mind on a particular object such as the breath, body parts, thoughts, or feelings (Birdee, Sohl, & Wallston, 2016). Like any other skill, mindfulness develops over time and requires practice. Research suggests that meditation can improve the brain's ability to self-regulate and to focus on the present moment (Van Der Kolk, 2015). Meditation has become a widely accepted tool for therapists working with clients to decrease stress or symptoms of depression (Simpkins & Simpkins, 2009). Individuals who practice meditation may experience calming or relaxing effects. Evidence shows other benefits of meditation including improved memory, reduction of violence, and increased mental acuity (Simpkins & Simpkins, 2009). Neuroscience research supports these benefits with evidence of how cognitive patterns can be altered by use of meditation (Cahn & Polich, 2006). Studies have shown improvements in cognition following meditation trainings that were both brief and long-term (Creswell, Pacilio, Lindsay, & Brown, 2014; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). Although mindfulness was not directly measured in the present study, it is closely connected to existing literature and clinical practices of the variables measured in this study.

### **Systemic Variables Measured in Present Study**

#### **Self-Compassion**

To provide a systemic analysis of yoga outcomes, this study measures multiple outcome variables impacted by an individual's yoga practice. Beginning with the individual level, self-compassion is examined as an outcome of practicing yoga. This variable was selected to replicate previous research which suggests a connection between self-compassion and yoga practices (Cox, Ullrich-French, Tylka, & McMahon, 2019). Yoga is a context in which self-compassion is able to grow, and self-compassion is often a part of one's yoga experience (Cook-

Cottone & Douglass, 2017). During a traditional yoga class, students are encouraged to focus on their breath and to notice how they might be able to tolerate both physical and mental discomfort. Self-compassion can be a healthy tool for managing the discomfort. Students and instructors learn to be kind to themselves amidst challenges.

The concept of self-compassion comes from Buddhist philosophy. Self-compassion can be defined as kindness and openness towards oneself (Neff, 2003). Having compassion for oneself requires patience, acceptance, and understanding. As a process, self-compassion can be used as a skill for coping with pain or struggles. It is also a way to regulate emotions. In development of a scale to measure self-compassion, Neff (2003) described how self-compassion and mindfulness go hand in hand. A perspective of self-compassion requires mindfulness as people acknowledge their feelings and choose a compassionate response. This can be a transformative experience. Neff (2003) identified three basic components of self-compassion: extending kindness and understanding to oneself, seeing one's experiences as part of the larger human experience rather than as separating and isolating, and holding one's painful thoughts in balanced awareness rather than over-identifying with them. Self-compassion has been found to be connected to psychological functioning. Greater self-compassion is linked to less anxiety and depression (Neff, 2003). A meta-analysis of compassion and mental health found that greater compassion was associated with fewer mental health symptoms (MacBeth & Gumley, 2012). Evidence also suggested self-compassion is important for reducing depression and anxiety and managing stress in a resilient way (MacBeth & Gumley, 2012).

Yoga practices are associated with greater mind-body connection (Mahlo & Tiggemann, 2016). This connection enhances an individuals' ability to listen to and to care for their bodies. As people become more connected to their body and mind, they naturally want to care more for themselves (Van Der Kolk, 2015). Awareness of self becomes more acute as yoga practice develops, making it easier for people to notice fluctuations in their energy, both physically and emotionally. Self-compassion is also part of the philosophical foundation of yoga. Yoga is founded on principles of non-harm and nonviolence, similar to the attributes of self-compassion.

## **Couple Satisfaction**

Extending beyond the individual level, couple satisfaction is the next variable measured. This variable was chosen to gain insight on how yoga may impact romantic relationships. While

couple satisfaction is a well-studied concept in the field of marriage and family therapy, the literature on yoga as it relates to couple satisfaction is sparse. Couple satisfaction is associated with degree of happiness in the relationship, conflict management, communication, sex, and decision making (Du Bois et al., 2016). One can hypothesize that, similar to how physical exercise has been found to increase marital quality, yoga as a form of exercise would have similar positive effects (Yorgason, Johnson, Hill, & Selland, 2018). Research suggests that the individual benefits of exercise, such as improved mental health, impact marital relationships by increasing positive emotions and reducing anxiety between partners (Yorgason et al., 2018). With the numerous health benefits of practicing yoga as an individual, systems theory suggests those benefits will impact other relationships and systems of which the individual is a part. Examining this concept through the lens of the biopsychosocial-spiritual model, enhanced relationship satisfaction would fit in the category of a social outcome.

There are a variety of levels of yoga classes that people can take. Although advanced yoga classes will involve a more intense physical workout, there are beginner level classes that are intended to be a more leisurely or playful experience. Thus, yoga with one's partner can be considered shared leisure time, which has been associated with higher relationship quality (Zuo, 1992). Quality time is not easy to find today as it is more common to spend time on phones, iPads, or watching TV. Yoga could be suggested to couples as a way to share an hour of mindfulness and to focus on being in the present moment with each other. Practicing yoga together with a partner could lead to more opportunities for the couple to discuss their individual health as well as their relational health.

Amy Swart (2011) is a family therapist and certified yoga instructor. After years of practicing yoga with couples in therapy, she found that yoga can be a tool for partners to develop healthy boundaries and connect on a spiritual level (Swart, 2011). Her work involved teaching clients to discover a balance between tuning inward for self-reflection and tuning outward to connect with their partner. Yoga poses such as back to back breathing were utilized to help partners become highly attuned to each other, to the point of unified consciousness (Swart, 2011).

While there are no existing studies that examine how yoga impacts relationship satisfaction, there is literature to suggest positive outcomes of using mindfulness with couples. Research indicates mindfulness may be a key predictor in relationship health (Barnes, Brown,

Krusemark, Campbell, & Rogge, 2007). It is no surprise then that marriage and family therapists have shown increased interest in incorporating mindfulness into their work (AAMFT, 2018). Siegal (2014) wrote about the neurobiology of dyadic reactivity, and highlights ways that mindfulness interventions can be used to help couples to improve their ability to manage emotions and to understand one another. During times of distress or dysregulation, couples can use mindfulness tools such as deep breathing or body-scans to reach a calmer state, in which greater resolutions can be made.

Just as mindfulness can foster self-awareness and self-compassion, Siegal (2014) describes how mindfulness can increase awareness of others. Other benefits that have been found to using mindfulness in a couple relationship are to enhance emotional connections, to increase empathy and compassion, and to improve communication (Lord, 2017). Empathy and compassion can make relationships more meaningful (Simpkins & Simpkins, 2009). Mindful guidelines—such as to focus on the breath and body sensations, to listen deeply, to experience the space, and to notice reactions—could be helpful for couples in therapy (Lord, 2017).

## **Family Functioning**

Family functioning is a concept referring to how members of a family system interact with each other. This could include communication, emotional processes, coping skills, conflict management, and relationship quality. Families constantly change the way they function and manage conflict or transitions. Research indicates that individual health contributes to overall healthy family functioning and that families that are physically active are likely to experience healthier family functioning (Williamson, Charchuk, Kushner, Skrypnek, & Pitre, 2018). Outside factors such as socioeconomic status and cultural background may impact family functioning.

During yoga practice, students are encouraged to extend compassion to other people in their lives. Individuals who practice yoga are likely to have increased self-awareness and self-compassion (Tolbanos Roche et al., 2017). These qualities may impact their relationship to their family members. Parents who practice yoga may find it easier to find compassion and patience for their children because they take a mindful perspective. Some families may enjoy the act of meditating together (Simpkins & Simpkins, 2009). One study examined effects of a six-week yoga meditation program among families with children with attention deficit-hyperactivity disorder (Harrison, Manocha, & Rubia, 2004). Parents in the study reported lower stress and

increased patience in managing their child's behavior. Many parents also reported positive changes in their relationship with their child after yoga practice (Harrison et al., 2004).

Considering yoga as a spiritual activity, there can be a stronger rationale using it with families. Research on spirituality in families has slowly increased and couple and family therapists are being more encouraged to integrate spirituality into clinical practice (Carlson, McGeorge, & Anderson, 2011). Given how cost-effective and adaptable yoga practice is to various groups, therapists may find yoga to be a tool for bringing elements of spirituality to family therapy. Parents may enjoy using yoga as a way to model healthy coping to their children.

However, there is little research on the way yoga impacts family relationships. Frequency of yoga has not yet been examined as a predictor of family functioning. There have also been no studies that were able to compare family functioning of those who practice alone versus those who practice with partners or other family members. This study begins to explore questions of how yoga practice might impact family systems.

## **Other Factors of One's Yoga Practice**

### **Reasons for Practicing Yoga**

Sustaining a yoga practice can be an investment on many levels. Regular yoga practitioners invest a great amount of their time to be spent in classes, money spent on supplies, and physical and mental energy to get themselves onto their mat. Motivations for yoga practice are likely to change from person to person, based on what kind of results they are looking for. Penman, Cohen, Stevens, and Jackson (2012) conducted a survey in Australia ( $n = 2567$ ) that showed that most participants began practicing yoga for physical outcomes such as an increase in flexibility, or mental outcomes, such as stress reduction. Results indicated that participants were more likely to develop a spiritual connection to their practice and to have this become a motivator for continuing practice over time (Penman et al., 2012). The study by Penman et al. (2012) included a questionnaire in which respondents were able to make multiple selections for motivations for beginning and continuing a yoga practice. Motivations listed were holistic in how the items considered physical, mental, emotional, and spiritual dimensions of the participants. Examples of the motivations Penman et al. (2012) used were to reduce stress or

anxiety, to follow a spiritual path, to increase flexibility or muscle tone, and to increase health and fitness.

A recent study examined the motivations for adopting and maintaining a yoga practice (Park et al., 2014). The study included 360 yoga students and 156 yoga teachers in the U.S. Findings suggested that yoga practice is initially motivated by exercise and stress relief (Park et al., 2014). The study also measured which motivating factors became more important to practitioners over time as they maintained their yoga practice. Spirituality was found to be the primary factor that became more important over time for maintaining yoga practice. Perhaps this is because spirituality is less advertised in the West as an outcome of yoga practice. Thus, it could be more of an unintentional result.

Patel et al. (2011) found reasons older adults chose to participate in a 12-week yoga class could be categorized into physical, mental, and social dimensions. In this study, spiritual and psychosocial health themes were added on after participants practiced for a year. This result again highlights the way that yoga practice can transform into a more meaningful experience over time. Participants in this study reported closer bonds to their classmates and other residents not in their yoga class (Patel et al., 2011). A US and Australia study found that the most common motivators for yoga practice were physical fitness, disease management, and hobby (Telles, Sharma, Singh, & Balkrishna, 2017). Barriers to yoga practice may include cost, time, lack of information, or other stereotypes and stigmas about it (Brems et al., 2015).

The current study compared outcomes of groups of participants based on their reason for practicing yoga. In accordance to the biopsychosocial-spiritual framework used for this study, the reasons participants could have selected were separated into biological, psychological, social, and spiritual dimensions. Including reasons from each of those dimensions was important because it allowed exploration of systemic and relational processes that occur during or after a person's participation in yoga. It was assumed that people who practice yoga for social reasons such as to spend "Time with my family" or "Time with my partner(s)," would have had higher scores on the scales that were reflective of their relationships (i.e., relationship satisfaction and family functioning).

## **Yoga Experience and Training**

Along with frequency of yoga practice, level of experience may be a mediating variable in the outcome of yoga interventions (Elwy et al., 2014). For the purpose of this study, level of experience is defined in terms of how many yoga classes a person has taken. Information was gathered about participants' location of yoga practice (i.e. at home, at a studio, outdoors). Experience level also includes additional training such as becoming certified to teach yoga. While benefits of yoga have been found to be immediate, it can be assumed that as yoga practice continues over time, outcomes could change. An example of immediate yoga benefits includes a study of 45 yoga participants in which anxiety decreased during class (Gerber et al., 2018). It is evident that an ongoing practice is not necessarily required for someone to experience benefits of yoga. However, research also indicates that practicing yoga for longer periods of time is associated with greater results (Mocanu, Mohr, Pouyan, Thuillard, & Dan-Glauser, 2018). A recent study tested how emotional reactivity differs among 36 yoga practitioners with varying levels of experience (Mocanu et al., 2018). Emotional reactivity refers to the way people experience emotional reactions such as their expression or physiological arousal (Mocanu et al., 2018). The study included 11 males and 25 females between the ages 21-56. Results indicated that overall number of years of yoga practice positively impacted measures of emotional reactivity. This suggests positive outcomes of yoga may be related to the way participants learn over time to regulate their emotions through yoga and mindfulness. However, there have not been any studies to this date that examine how level of yoga experience may impact outcomes of self-compassion, couple satisfaction, or family functioning. This study examined how participant's level of yoga experience could impact these outcomes.

## **Theoretical Lens**

### **Bio-Psycho-Social Model**

The theoretical framework for this project is based on work by George Engel (1977), who was the first to suggest a biopsychosocial model. Engel developed the biopsychosocial model with a systemic mindset. It was important to Engel that body and mind be considered together. Biological factors may include genetics, illnesses, medication, exercise, and diet. Psychological factors may include trauma, self-esteem, coping skills, and other mental or emotional symptoms.

Social factors may include the client's relationships, support network, social identities and cultural factors, finances, and other interpersonal influences. His writing described the way that an individual is a part of interconnected systems. This model has encouraged psychiatrists to comprehensively attend to the culture and context of clients (Smith & Strain, 2002).

Engel's work evolved from a medical background, as he was a physician. He believed it was insufficient as a medical doctor to consider only physical or somatic symptoms and urged physicians to consider the psychological and social factors of patients. Engel argued that without understanding each dimension of the patient, there is a risk for inadequate diagnosis or treatment (Engel, 1977). While there are notable differences between medical care and mental health care, psychiatrists can use the biopsychosocial framework in assessment and treatment planning. Engel's model can and should be adapted to the marriage and family therapy field.

It is important for therapists to understand each dimension of their clients' lives to provide care that is genuinely holistic. Holistic medicine comes from the idea that treatment should consider the whole individual (Gordon, 1990). Holistic approaches to treatment are likely to incorporate healing practices from Eastern cultures such as yoga because they are focused on mind, body, and spirit. Gordon (1990) described how mental health professionals can improve their work by incorporating various elements of holistic medicine. One example of this is balancing the relationship between the client and the health care professional. A holistic approach allows the client to take on more of an active role in their healing. Clients are seen as an essential contributor to their health (Saad, Medeiros, & Mosini, 2017). Western culture's current push for more holistic healthcare shows that Engel was prescient in warning modern healthcare professionals not to become too mechanical in their approach (Engel, 1977).

Sulmasy (2002) points out how the medical field focuses primarily on physical symptoms, whereas the mental health field focuses primarily on psychological symptoms. Although both fields have found success in these approaches and have made many advancements, the separation of mental and physical healthcare has contributed to the growth of a culture in which clients are objects to be fixed, rather than experts on their own lives. The marriage and family therapy field has helped to make connections of systemic factors and relationships that could impact the client.

## **Bio-Psycho-Social-Spiritual Model**

Since its development in the 1970s, Engel's (1977) model has been critiqued for leaving out the spiritual dimension in the biopsychosocial framework. Critics believe that to genuinely attune to the whole client, spirituality must be included (Katerndahl, 2008). A movement has called for a biopsychosocial-spiritual model (Sulmasy, 2002). The term "spiritual" can be defined in many ways. For some, spirituality may include a religious affiliation. For others, spirituality may be connected to their sense of hope or purpose in life. Therapists can inquire about their client's belief system to understand and guide the treatment planning process.

Healthcare professionals of various backgrounds have emphasized the importance of systemic, holistic care. Bassman (1997) encouraged medical professionals to utilize a holistic approach to treatment, and discussed ways that healing can take place when mind, body, and spirit are all recognized as influencing each another. Several benefits of a holistic approach were outlined; these include time-effectiveness, cultural inclusiveness, and fewer potential side effects (Bassman, 1997). Bassman was correct in her prediction that more connections will be discovered between mental health and both physical health and spiritual health.

Literature suggests that many clients would like healthcare professionals to include spirituality in their treatment (Sulmasy, 2002). Researcher and physician David Katerndahl began researching spirituality in the context of healthcare in the early 2000s. Katerndahl describes how spiritual health impacts mental and physical health. One of his studies used the Biopsychosocial-Spiritual Inventory to examine spiritual symptoms in 353 patients. The results show the relevance of spirituality in health outcomes (Katerndahl, 2008), meaning there is some interaction between spirituality and overall well-being. This study suggests that therapists can better understand their clients when they inquire about spiritual issues as well as biological, psychological, and social issues. The present study utilizes a biopsychosocial spiritual framework to emphasize the many ways that yoga can impact one's life. Yoga is an inclusive and comprehensive intervention that can integrate all of these aspects of life. It is no surprise that many clinicians are starting to embrace yoga as a complement to therapy (AAMFT, 2018).

## **Family Systems Theory**

Bowen's family systems theory describes how members of a family are impacted and influenced by one another (Kerr & Bowen, 1988). The theory explains how individuals' actions or words can create shifts throughout the entire family or relationship simply because of the system they create. Interactions between individuals within a family create constant change for the system. Therapists work with clients to identify patterns and cycles within family systems. Family systems theory provides a framework for understanding the way that individuals impact their family system. It can be assumed through the lens of family systems theory that if individuals have taken part in the practice of yoga, there will be an impact of this practice on their interpersonal relationships. Transformations that take place on a personal level would then have ripple effects on that person's intimate relationships.

## **The Present Study**

Although yoga is an ancient practice, its journey of being integrated into the West is just beginning. Yoga as a trend in the United States has grown in recent years and is likely to continue to expand. Research shows benefits for people who practice yoga that are physical, mental, and spiritual in nature. One of the gaps in literature on yoga practice is its impact on relationships. Family systems theory suggests there are likely to be ripple effects of one's yoga practice on their relationships. A biopsychosocial-spiritual framework also highlights the systemic nature of yoga as a practice that impacts every dimension of an individual. This study primarily examines social outcomes, as the goal is to highlight relationship functioning within couples and families. As yoga practice is likely to continue increasing both in the mental health field and in the general public, it would be beneficial for clinicians to understand potential relational impacts of yoga.

The present study selected outcome variables to measure multiple levels of systems including individual (self-compassion), couple (relationship satisfaction), and family (family functioning). Groups were compared based on factors including frequency of yoga practice, reason for practicing yoga, and level of experience. Frequency of yoga practice is the first stage of the hierarchical regression, as it is hypothesized that frequency of yoga practice impacts the outcomes. Reason for practicing yoga is examined in the second stage of the regression to

determine if scores of relationship satisfaction and family functioning are greater among individuals who chose to practice yoga for social reasons (e.g., practicing with partner or family member). It is hypothesized that yoga enhances relationships when partners or family members practice together. The third stage of the regression compares groups by level of yoga experience. As literature on yoga beyond the individual is limited, the hypotheses in this study are exploratory.

## **Hypotheses**

Based upon the literature reviewed above, I tested six hypotheses, as seen in Figure 1.

### **Effects of Frequency of Practicing Yoga on Outcomes**

Research Question 1: Is there an association between frequency of yoga practice and individual and relational variables?

*Hypothesis 1:* Frequency of yoga practice will predict self-compassion.

*Hypothesis 2:* Frequency of yoga practice will predict relationship satisfaction.

*Hypothesis 3:* Frequency of yoga practice will predict family functioning.

### **Effects of Reason for Practicing Yoga on Outcomes**

Research Question 2: Is there an association between reason for practicing yoga and relational variables?

*Hypothesis 4:* Participants who practice yoga with their partner(s) will score higher in relationship satisfaction.

*Hypothesis 5:* Participants who practice yoga with their family member(s) will score higher in family functioning.

### **Effect of Level of Training on Yoga Outcomes**

Research Question 3: Is there an association between level of training and individual variables?

*Hypothesis 6:* Level of training will predict self-compassion.

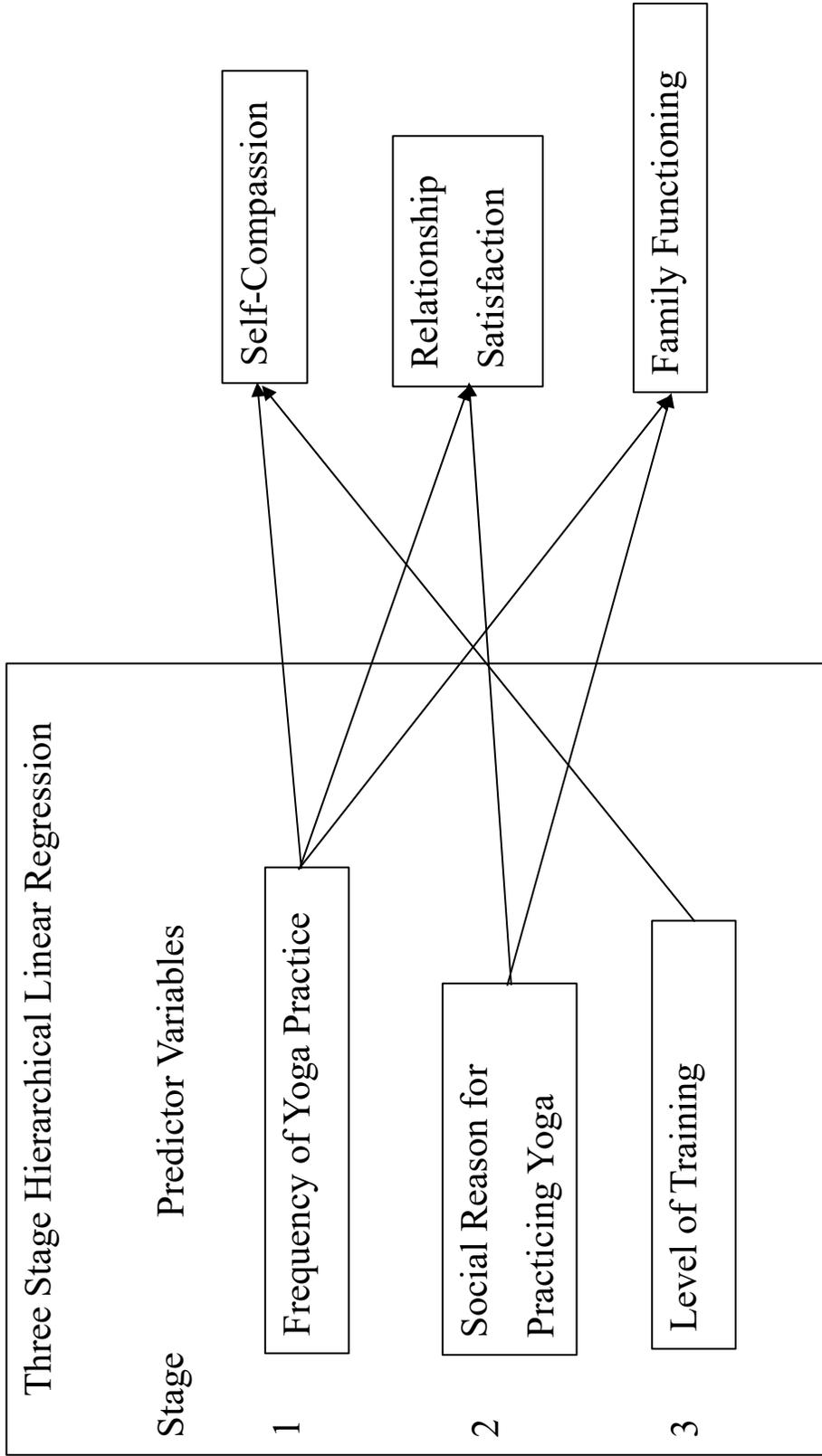


Figure 1. Model of Relationships Among Variables

## **CHAPTER 3: METHODOLOGY**

### **Participants and Procedure**

Based upon a power analysis, I planned to recruit 110 participants (Cohen, 1992). Prior to the recruitment of participants, the Purdue University Institutional Review Board (IRB) approved the study and the measures required to complete it. Participants were recruited from the online crowdsourcing website Amazon Mechanical Turk (MTurk.com). MTurk is a community workplace in which employers are compensated for various online tasks including taking surveys. The study data were collected through a survey constructed on Qualtrics. The purpose of the study as well as the researcher's information was provided to the participants, followed by an informed consent for them to accept. Participant confidentiality was ensured, as personally identifying information such as name and address were not collected, as none of the questions asked uniquely identifying information. Additionally, anonymity was built into the Qualtrics survey, so that a participant's IP (internet protocol / location identifier) was not collected, nor linked with any data provided. Inclusion criteria were that the participant must be between 18 and 64 years old and be a US citizen. Participants must also be currently involved in a romantic relationship that has lasted for at least six months. Additionally, the participant must acknowledge that they either currently, or in the past, have practiced yoga. Consent must have been given before participants could continue the survey. An incentive of \$0.50 was offered to complete the online questionnaire, and was distributed directly by MTurk.

### **Materials**

The questionnaire (see Appendix) consisted of inclusion criteria questions, questions related to the scales used in the study, and demographic questions about participants. Demographic information gathered included race, ethnicity, gender, sex, annual household income, and highest level of education. Participants were made aware that for the purpose of this study, "yoga" must involve both physical postures and a meditative component.

## **Self-Compassion**

The Self-Compassion Scale (CSC), created by Neff (2003) is a self-report scale that includes 26 items. Subscales include self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identified. Self-kindness refers to how loving and caring people are towards themselves. An example of a self-kindness item is “I try to be loving towards myself when I’m feeling emotional pain.” Self-judgment refers to how people may disapprove or judge themselves for their flaws. An example of a self-judgment item is “I’m disapproving and judgmental about my own flaws and inadequacies.” Common humanity items refer to whether or not people view their problems as unique or shared with other people. An example of a common humanity item is “I try to see my failings as part of the human condition.” Isolation is measured by how a person feels in relation to other people. An example of an isolation item is “When I fail at something that’s important to me, I tend to feel alone in my failure.” Mindfulness is measured by keeping a balanced view and maintaining perspective. An example of a mindfulness item is “When something upsets me, I try to keep my emotions in balance.” Over-identified items discuss how a person fixates on a particular failure or inadequacy. An example of an over-identified item is “When I’m feeling down, I tend to obsess and fixate on everything that’s wrong.”

Possible responses were given on a five-point scale ranging from 1 (*almost never*) to 5 (*almost always*). I conducted a reliability analysis on the scale (Cronbach’s alpha = .754). In order to compute subscale scores, I calculated the mean of subscale item responses. I reverse scored the negative subscale items (i.e., by recoding 1 = 5, 2 = 4, 3 = 3, 4 = 2, and 5 = 1) before calculating subscale means for self-judgment, isolation, and over-identification. The total overall score for self-compassion was computed for analyses. To compute the total score, item responses for each subscale were summed and the mean was calculated.

## **Relationship Satisfaction**

Relationship satisfaction was measured with the Couple Satisfaction Index created by Funk and Rogge (2007). It is a 32-, 16-, or 4-item scale used to measure relationship satisfaction among partners. The 16-item scale met the needs of this study to measure relationship quality. The first item, “Please indicate the degree of happiness, all things considered, of your

relationship” uses a 7-point Likert scale, ranging from 0 (*extremely unhappy*) to 6 (*perfect*). The remaining 15 items are on a 6-point Likert scale, with varying response scales. An example of a 6-point scale item is, ranging from 5 (*all the time*) to 0 (*never*), “How often do you think that things between you and your partner are going well?” I conducted a reliability analysis on the 16-item scale (Cronbach’s alpha = .669). To score this assessment, item responses were summed. Scores can range from 0-81, with higher scores indicating higher relationship satisfaction (Funk & Rogge, 2007).

### **Family Functioning**

For questions regarding family functioning, participants were prompted to think of their immediate family members. This could be their family of origin (the family they grew up in), or their family of procreation (if they have launched and started their own family). The Family Assessment Device (FAD) is a 53-item instrument used to assess family functioning (Miller, Epstein, Bishop, & Keitner, 1985). This self-report measure was based on the McMaster Model of Family Functioning. The measure includes 6 subscales assessing dimensions of the family. Subscales include problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functioning. This scale has high levels of consistency and acceptable levels of test-retest reliability (Miller et al., 1985). In addition to the above 6 subscales, a 12-item subscale of the FAD was validated to assess general functioning in families. This subscale, which was used in the present study, became known as the General Functioning Subscale (GF12). Scoring for the GF12 is on a 4-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Six of the 12 items on the scale reflect unhealthy family functioning and were reverse coded; the other six items reflect healthy family functioning. An example of an unhealthy family functioning item is, “We cannot talk to each other about the sadness we feel.” An example of a healthy family functioning item is, “Individuals are accepted for what they are.” To compute final family functioning score, the total score was divided by the number of items on the subscale. Best functioning families scored 1.0 and worse functioning families scored a 4.0. The GF12 was found to have internal consistency (Cronbach’s alpha = .755).

## **Reason for Practicing Yoga Questionnaire**

Items from each of the survey used by Patel et al. (2011) were considered in the development of the reason for practicing yoga questionnaire used for this project. In accordance with its theoretical framework, items from this scale were coded to fit into dimensions of biological, psychological, social, and spiritual. There were four items for each dimension. The question was asked, “In your opinion, how important or unimportant are each of the following reasons for practicing yoga?” Scoring was on a 5-point Likert scale ranging from 1 (*not at all important*) to 5 (*extremely important*). Higher scores indicated higher interest in yoga for each particular item. Biological items included pain relief, flexibility, weight management, and muscle strengthening. Psychological items included reduce stress, calm anxiety, improved mood, and to practice mindfulness. Social items included time with partner, time with family or friends, professional networking, and community involvement. Spiritual items included spiritual/religious practice, sense of peace, connection to God/Gods/Higher powers, and to unite mind, body, and spirit. I conducted a reliability analysis on the four items in each of the groups (Cronbach’s alpha = .882) and computed the average of each set of 4 items to represent the four different reasons for practicing yoga.

## **Demographics**

A brief section within the questionnaire focused on general demographic information about the participant. The questionnaire included questions regarding the participant’s gender, sex, racial or ethnic group, age, income, and education level. Participants’ ages ranged from 21 years to 58 years, with a mean age of participants of 31.85 and a standard deviation of 6.91. In terms of gender, 37.3% of participants reported being women, 61.8% of participants reported being men, 0.9% of participants preferred not to answer. In terms of sex, 36.4% reported being female, 62.7% reported being male, and 0.9% participants preferred not to answer. In terms of race, the majority of participants (73.6%) reported as Caucasian, with 14.5% as Black or African American, 5.5% as Multiracial, 3.6% as Asian, 1.8% as other, and 0.9 as Native Hawaiian and Other Pacific Islander. In terms of ethnicity, 28.4% reported being Hispanic and 71.6% reported being not Hispanic or Latino. Participants’ annual income had a median of \$50,000-59,999. In

terms of education, the majority of participants (55.5%) reported having a bachelor's degree, with 17.3% having some college, and 17.3% having a master's degree.

## CHAPTER 4: RESULTS

### Data Screening

Initial data collection included a total of 146 participants. Analysis for randomness of missing data was conducted and found data were apparently missing at random. Respondents who did not complete at least 95% of the items on each scale were excluded, listwise. After excluding 30 incomplete entries, a total of 116 participants were included in further analyses. Prior to running any analyses to test hypotheses the variables were cleaned – relabeled and/or computed to create appropriate types of variables for analysis (e.g., multiple option racial identity was collapsed into one categorical variable).

In order to check for a normal distribution, the key variables (frequency of yoga practice, social reason for practicing yoga, level of training, self-compassion, couple satisfaction, and family functioning) were tested for abnormal skewness and kurtosis. A skewness diagnostic that can be used to indicate suitability of the data was calculated by dividing the skew statistic by the skew standard deviation; if this was  $\geq \pm 3$ , a significant skewness existed, indicating that the data would translate inappropriately through analysis and influence the outcome. Depending on the fit of the data, variables were transformed with a square root or natural log (Tabachnick & Fidell, 2019). The level of training variable was found to be skewed (initial value = 8.959) and therefore was transformed using the natural log of its square root (diagnostic value = 2.43). This transformation fixed any issues of skewness and kurtosis for key variables in the model, as when completing the same statistic for kurtosis, no variables were shown to be significantly skewed beyond normality.

A visual representation of linearity and homoscedasticity was examined through a scatterplot. Scatterplots indicated that all pairs of variables were linear and that the homoscedasticity assumption was met. I checked for multivariate normality using Mahalanobis distance and detected one multivariate outlier ( $p > .001$ ) with a value greater than the critical value (20.52). This participant above the critical value was excluded from further analysis, resulting in a final analysis sample of  $N = 115$  participants. Finally, I tested for the absence of multicollinearity by running correlations among all variables. Screening found no multicollinearity within the data (see Table 1).

Table 1. Pearson Correlation Among Variables

	1	2	3	4	5	6
1. Social Reason for Practicing1						
2. Frequency of Yoga Practice	.289**	1				
3. Level of Training	.083	-.081	1			
4. Self-Compassion	-.012	-.141	.023	1		
5. General Family Functioning	-.270**	-.230*	.014	.315**	1	
6. Relationship Satisfaction	.227*	.042	-.010	.094	-.065	1

*Note* \* Correlation is significant at the 0.05 level (2-tailed). \*\* Correlation is significant at the .01 level (2-tailed). Analysis is based on the transformed variables.

Table 2. Frequency Report for Level of Yoga Training

Amount of Training	<i>n</i>	%	Cum. %
200 Hours	47	21.1%	21.1%
500 Hours	21	22.8%	43.9%
Over 500 Hours	5	17.5%	61.4%

*Note:* Only 73 participants responded to this question, *n* = 41 missing.

Table 3. Descriptive Statistics of Variables

	Actual Range	Theoretical Range	<i>M</i>	<i>SD</i>	$\alpha$
Relationship Satisfaction	34-60	0-81	49.59	5.24	.669
Family Functioning	17-45	12-56	33.62	6.13	.755
Self- Kindness Subscale	7-25	1-25	15.45	3.60	.88
Self-Judgment Subscale	7-22	1-25	15.92	3.29	.88
Common Humanity Subscale	6-20	1-20	13.75	3.41	.80
Isolation Subscale	7-18	1-20	12.76	2.46	.85
Mindfulness Subscale	4-20	1-20	10.74	3.82	.85
Over-Identification Subscale	4-19	1-20	11.14	3.18	.88

Table 4. Descriptives of Frequency of Yoga Practice

Option	<i>n</i>	%	Cum. %
0 days / week	3	2.6%	2.6%
1 day / week	14	12.3%	14.9%
2 days / week	24	21.1%	36%
3 days / week	26	22.8%	58.8%
4 days / week	20	17.5%	76.3%
5 days / week	12	10.5%	86.8%
6 days / week	3	2.6%	89.4%
7 days / week	12	10.4%	100%

Table 5. Outcomes of Reason for Practicing Yoga

Reason	Rating of Importance				
	Not at all	Slightly	Moderately	Very	Extremely
Flexibility	5 4.4%	13 11.4%	20 17.5%	<b>53</b> <b>46.5%</b>	23 20.2%
Weight Management	12 10.5%	15 13.2%	33 28.9%	<b>34</b> <b>29.8%</b>	20 17.5%
Pain Relief	10 8.8%	18 15.8%	24 21.1%	<b>35</b> <b>30.7%</b>	27 23.7%
Muscle Strengthening	6 5.3%	16 14.0%	24 21.1%	<b>46</b> <b>40.4%</b>	22 19.3%
Reduce Stress	5 4.4%	7 6.1%	24 21.1%	38 33.3%	<b>40</b> <b>35.1%</b>
Calm Anxiety	5 4.4%	10 8.8%	20 17.5%	<b>42</b> <b>36.8%</b>	37 32.5%
Improve Mood	3 2.7%	12 10.6%	22 19.5%	30 26.5%	<b>46</b> <b>40.7%</b>
Practice Mindfulness	3 2.7%	13 11.5%	20 17.7%	<b>50</b> <b>44.2%</b>	27 23.9%
Time with Partner	25 21.9%	18 15.8%	<b>35</b> <b>30.7%</b>	20 17.5%	16 14.0%
Time with Family Member	28 24.8%	13 11.5%	24 21.2%	<b>39</b> <b>34.5%</b>	9 8.0%
Professional Networking	37 32.7%	17 15.0%	<b>24</b> <b>21.2%</b>	<b>24</b> <b>21.2%</b>	11 9.7%
Community/Social Interactions	<b>28</b> <b>24.6%</b>	16 14.0%	26 22.8%	<b>28</b> <b>24.6%</b>	16 14.0%
Spiritual/Religious Practice	<b>32</b> <b>28.1%</b>	11 9.6%	26 22.8%	28 24.6%	17 14.9%
Sense of Peace	7 6.2%	10 8.8%	26 23.0%	<b>40</b> <b>35.4%</b>	30 26.5%
Connection to God/Gods/Higher Powers	<b>29</b> <b>25.4%</b>	13 11.4%	26 22.8%	26 22.8%	20 17.5%
Unite Mind, Body, and Spirit	13 11.5%	8 7.1%	24 21.2%	<b>44</b> <b>38.9%</b>	24 21.2%

*Note:* Highest percentage/endorsement bolded for reference.

## **Test of Hypotheses**

A three-step hierarchical regression analysis was conducted to test the six hypotheses for this research, with three regressions conducted, one for each outcome variable. Outcome variables included self-compassion, couple satisfaction, and family functioning. The first stage included frequency of yoga practice as the predictor variable. At the second stage, social reason for practicing was added as a predictor variable. The third stage added level of training as a predictor variable. The regression was found to be significant for one of the three outcome variables.

### ***Self-Compassion, Hypotheses 1 and 6***

The first regression included self-compassion as the outcome variable. All three models in this regression were found to be nonsignificant, model 1:  $F(1,115) = .358, p > .05, R^2 = .006$ , adjusted  $R^2 = -.010$ ; model 2:  $F(1,115) = 1.277, p > .05, R^2 = .027$ , adjusted  $R^2 = -.006$ ; and model 3:  $F(1,115) = .056, p > .05, R^2 = .027$ , adjusted  $R^2 = -.022$ . In this model, frequency of yoga practice, level of training, and reason for practicing (social) had no predictive relationship with self-compassion. The hypothesis of frequency of yoga practice predicting self-compassion was not supported. The hypothesis of level of training predicting self-compassion was also not supported.

### ***Relationship Satisfaction, Hypotheses 2 and 4***

The second regression included relationship satisfaction as the outcome variable. All three models in this regression were found to be nonsignificant, model 1:  $F(1,115) = .021, p > .05, R^2 = .000$ , adjusted  $R^2 = -.016$ ; Model 2:  $F(1,115) = 3.105, p > .05, R^2 = .050$ , adjusted  $R^2 = .018$ ; Model 3:  $F(1,115) = .053, p > .05, R^2 = .050$ , adjusted  $R^2 = .002$ . In this model, frequency of yoga practice, level of training, and reason for practicing (social) have no predictive relationship with relationship satisfaction. The hypothesis of frequency of yoga practice predicting relationship satisfaction was not supported. The hypothesis of participants who practice yoga with their partner(s) will score higher in relationship satisfaction was also not supported.

### ***General Family Functioning, Hypotheses 3 and 5***

The third regression included general family functioning subscale as the outcome variable. The first model in this regression was found to be insignificant,  $F(1, 115) = 1.664$ ,  $p > .05$ ,  $R^2 = .027$ , adjusted  $R^2 = .011$ . The second and third model in this regression were found to be significant, model 2:  $F(1, 115) = 6.860$ ,  $p > .05$ ,  $R^2 = .126$ , adjusted  $R^2 = .097$ ; model 3:  $F(1, 115) = .062$ ,  $p > .05$ ,  $R^2 = .127$ , adjusted  $R^2 = .083$ . In this model, frequency of yoga practice had no predictive relationship with family functioning. Level of training and reason for practicing (social) had predictive relationships with family functioning. The hypothesis of frequency of yoga practice predicting family functioning was not supported. The hypothesis of participants who practice yoga with their family member(s) will score higher in family functioning was supported.

## CHAPTER 5: DISCUSSION

As yoga continues to permeate Western culture, the mental health field is embracing the use of yoga both clinically and in research. The purpose of this paper was to use the lens of family systems theory to explore ways that yoga could impact relationships. Existing literature on yoga practices has primarily focused on individual outcomes. Research indicates yoga's benefits can affect more systemic layers of one's life including physical health, psychological health, social health, and spiritual health. As a body-mind intervention, yoga is considered to be a holistic treatment. Holistic treatments to health care have been in greater demand in the U.S. as of recent years (Neff, 2003). Individuals view holistic treatments as a more empowering alternative to mainstream medicine.

Marriage and family therapy is a specific branch of the mental health field that has incorporated yoga into its wide range of theories and interventions. This integration is evident in growing research on using yoga and mindfulness as interventions to heal from trauma, eating disorders, anxiety, depression, and other psychological issues (Neumark-Sztainer et al., 2018; Van Der Kolk, 2015). While there is evident interest in using yoga clinically, there are major gaps in literature examining yoga in the context of marriage and family therapy. Lack of credible information leaves marriage and family therapist uncertain of how to best utilize yoga in therapy, which will ultimately discourage them from incorporating it into their practice. Literature on this topic should be expanded, especially from a lens of those working with couples and families. This study contributed to filling that gap and exploring potential systemic outcomes of practicing yoga.

Based on existing literature, hypotheses were made that there would be a relationship between frequency of yoga practice, reason for practicing yoga, and level of training with the outcome variables of self-compassion, relationship satisfaction, and family functioning. It was predicted that frequency of yoga practice and level of additional training may impact the outcomes experienced.

## **Self-Compassion**

Self-compassion was selected as an individual outcome variable, in contrast to the other two outcome variables which were relational. Examining self-compassion as an outcome of yoga was intended to replicate existing research that connects yoga and self-compassion (Cooke-Cottone & Douglass, 2017; Cox et al., 2019). In the treatment of eating disorders and body image issues, yoga has been utilized to help individuals appreciate and accept their bodies, which are elements related to self-compassion (Neumark-Sztainer et al., 2018). Van Der Kolk (2015) also describes yoga as an effective treatment for survivors of trauma. Yoga can teach survivors ways to reconnect to their mind and body. This process can strengthen one's tools of self-compassion and self-regulation (Van Der Kolk, 2015). In the present study, results did not find a significant relationship between self-compassion and frequency of yoga practice, reason for practicing yoga, or level of training. Thus, the present results contradicted existing literature that labeled yoga as a context for supporting self-compassion (Cooke-Cottone & Douglass, 2017). It can be interpreted that there are additional factors not examined in the present study that contribute to the development of one's self-compassion. Previous literature suggested yoga may increase self-compassion as a byproduct of enhancing ones' body-mind connection. Cooke-Cottone & Douglass (2017) explored yoga as a treatment for eating disorders and found yoga to be a self-care tool that helped those with eating disorders learn how to respond to themselves in a more compassionate way. The present study did not measure body-mind connection of the participants, but this variable should be explored in the future. The philosophy of the yoga teacher may also impact whether or not a yoga student experiences growth in self-compassion. Some teachers may emphasize self-compassion more than others. Cox et al. (2019) noted that greater self-compassion may be a direct result of instructions provided by yoga teachers. Factors like this could contribute to the differing results of the present study, as it did not gather information about the background of the yoga teachers they practice with. Future studies should continue exploring self-compassion in the context of yoga.

## **Relationship Satisfaction**

The results of this study did not show significant relationships between yoga practice and relationship satisfaction. This means participants' yoga frequency, reason for practicing yoga,

and level of yoga training did not have a significant impact on their relationship satisfaction. There is no existing literature on these variables to which to compare these results to. The study predicted that a significant relationship would exist between relationship satisfaction and frequency of practicing yoga. Another prediction was a significant relationship between relationship satisfaction and social reasons for practicing yoga. However, neither prediction was supported in the present study. These two hypotheses were based in literature connecting mindfulness with enhancing relationship satisfaction (Barnes et al., 2007; Lord, 2017; Siegal, 2014). However, the methodology and variables used in previous studies varied greatly from those of the present study. These key differences could have intervened with the results and are highlighted in the following section.

Barnes et al. (2017) focused solely on mindfulness and did not address yoga or any physical exercise component. Although yoga is a form of mindfulness, mindfulness (without a physical movement element) is not a form of yoga, as defined in the present study. Barnes et al. (2017) found mindfulness to be associated with several positive relationship qualities such as improved relationship happiness, more effective coping skills, and enhanced ability to handle stressful events. In this study, 60 heterosexual couples were measured their mood before and after discussing a topic that would typically create conflict or problems in their relationship. In the middle of the conflict discussion, the couples were instructed to practice a mindfulness exercise. The results found mindfulness to be positively correlated with romantic relationship satisfaction. Lord (2017) explored spirituality and mindfulness within the context of couples' therapy. The study illustrated how creating a sacred space for couples to communicate in a mindful way is an effective approach to treatment. Lord (2017) displays how she uses mindfulness meditations with clients to help partners connect in empathetic and compassionate ways. This study did not examine yoga as a form of mindfulness or meditation. Siegel (2014) has also contributed greatly to literature on mindfulness and couples. His work does not address yoga as a specific form of mindfulness.

Swart (2011) described the process of partner yoga in the context of therapy. Her writing emphasized a potential for therapists with yoga backgrounds to utilize yoga as a tool for couples to improve their boundary setting and emotional connection (Swart, 2011). The present study did not take place in a therapeutic setting, which may have contributed to not finding a relationship between yoga practice and couple satisfaction. The present study was exploratory in its attempt

to connect yoga and relationship satisfaction. The results highlight a need for more in-depth research comparing yoga and mindfulness to examine which types of practices are most effective for enhancing romantic relationships. It also points to a need to more purposefully integrate yoga with couples' therapy, as perhaps the therapeutic element is a requirement for relationship enhancement.

### **Family Functioning**

There was a significant relationship between social reason for practicing yoga and family functioning. Participants who selected social reasons for practicing yoga also scored higher on family functioning. This is consistent with existing literature describing ways in which families can benefit from practicing mindfulness and physical exercise together (Harrison et al., 2004; Williamson et al., 2018). However, no previous studies specifically examined yoga in the context of families. Existing literature linking mindfulness and physical activity with healthy family functioning led to the hypothesis that families who practice yoga together would achieve positive health outcomes. The present study confirmed that practicing yoga with family members was associated with healthier family relationships. As an exploratory study, there remain several unknowns about the dynamics of the participants' family relationships and how they experienced change related to yoga practices. This study did not gather information about how the participants' families were impacted by yoga over time. Nonetheless, the present study offers insight and considerations for mental health professionals that work with individuals, couples, and families.

By focusing on systemic factors, this study expanded on existing literature. Participants in this study had the option to select their reason for practicing yoga. Existing research has found that physical fitness is the main reason why people in the U.S. chose to engage in a yoga practice (Yoga Alliance, 2019). It could be less well known to the general public that yoga can impact mental health as well as physical. As yoga benefits have been found to impact so many aspects of one's health, it is useful for studies to gather information about what practitioners hope to achieve from their practice. The present study hypothesized that when participants chose to attend yoga for social reasons (i.e. practicing with romantic partner or other family members), they will have healthier relationships (romantic or familial relationships). Data supported the hypothesis that those who practice yoga with family members would score higher in family

functioning. This is a valuable contribution to the marriage and family therapy field as it highlights the systemic nature of yoga as an intervention for enhancing relationships. This is useful for marriage and family therapists as strengthening family relationships is often their main goal. Therapists can use yoga in session or recommend yoga outside of therapy as homework for couples or families.

### **Clinical Implications**

The results of the present study suggest that yoga, when practiced with family members, is associated with healthier family relationships. This is a valuable contribution to literature, especially for the marriage and family therapy field. Understanding the way families can benefit from yoga will allow the field to begin integrating yoga as an evidence-based intervention. The family functioning scale used in this study described areas of functioning as communication, emotional expression, acceptance, decision making, and coping with stress (Miller, Epstein, Bishop, & Keitner, 1985). The present study linked yoga practices with positive outcomes in those areas. As one of the first research studies to connect yoga with family functioning, literature can build off of the results of this study to continue investigating the relationship between yoga and family functioning.

Frequency of yoga practice was not found to have clinical implications on self-compassion, relationship satisfaction, or family functioning. Thus, there is a need for caution when discussing or suggesting yoga as a therapeutic treatment. Individual benefits of improved self-compassion were not found to be associated with yoga practices. This should be taken as a signal to the mental health field that there may be other contextual factors that play a role in why or how someone experiences positive outcomes from a yoga practice. Positive outcomes of yoga may not be directly related to the practice of yoga itself. For example, perhaps the reason for one's yoga practice has more of an impact on outcomes than the frequency of one's yoga practice. Additionally, outcomes of yoga may depend more on the goals of those participating than the frequency of their practice. Results of this study suggest that yoga on its own may not be enough for one to experience positive mental health outcomes. Therapy (individual, couple, or family modalities) may be a context in which yoga can be supplemented to generate more systemic outcomes.

As interest in holistic therapy practices grows in the US, family therapists may find yoga to be a helpful tool for meeting those demands. There are several common misconceptions, reflected in literature and clinical practices, regarding yoga's target population. Society has created an image of a yoga practitioner as a young, thin, flexible, Caucasian, upper class female. However, that image is changing as yoga is increasing in popularity in more diverse settings such as schools, the workplace, and community centers. For example, the number of men practicing yoga in the U.S. has increased by 150% between 2012 and 2016 (Yoga Alliance, 2019). Ultimately, it is up to clinicians to deconstruct these narratives and encourage clients of all ages, races, religions, genders, physical health/abilities, and socioeconomic statuses to participate. Therapists are responsible for providing care that is culturally sensitive and are expected to provide equal care to all clients. This includes not limiting clients from access to information about yoga and sharing information about how it can supplement one's mental health treatment.

### **Limitations and Future Directions**

There were several limitations to this study. First of all, this was a cross-sectional study. Although the outcomes of a yoga practice are likely to change over time, the results of this study are limited to one point in time. The quantitative methods of this study were also a limitation. Results could have been enhanced by including additional methods of qualitative questions or interviews. As highlighted throughout this paper, yoga can be a spiritual experience as well as a context for emotional and mental healing. These emotional and spiritual processes are deeply intimate and difficult to measure in a cross-sectional, quantitative survey. Quantifying the impacts of a yoga practice is complex for several reasons. Yoga practices vary widely in their terminology and language, making it difficult to operationally define variables. Another challenge is the complexity of yoga given its vast array of styles, backgrounds, and intentions. Qualitative interviews with yoga practitioners may offer more perspective based on verbal descriptions of their stories and experiences. In addition to incorporating qualitative measures, the results of this study indicate a need for more quantitative research studies to be performed on yoga practices. There may be a benefit to exploring the causation of yoga outcomes in an experimental study. Designing a longitudinal study would also provide greater insight to the process of how yoga impacts one's life over time.

Limitations related to the demographics of the participants in this study should be noted. 62.7% of the participants in this study reported being male and 36.4% reported being female. It is important to acknowledge and recognize that more men responded to this study than women. It is unclear why the present study recruited such high levels of male participants compared to what is generally reported for MTurk workers. Previous studies on the characteristics of MTurk participants reveal higher levels of female participants than male participants (Burnham, Le, & Piedmont, 2018; Ross et al., 2010). A survey of 573 MTurk workers found 55% of respondents to be female and 45% to be male (Ross et al., 2010). Another study including 1707 participants found that 54.7% of MTurk participants were female and 45.3% were male (Burnham et al., 2018). Unequal proportions of males versus females may be a limitation to the validity and generalizability of the results. Given that in the US, females are more likely to participate in yoga than males, it would have been expected that this study would have recruited higher levels of female participants (Park, Braun, & Siegal, 2015). Convenience samples of yoga practitioners in the US generally reflect the ratio of more females than males. Thus, the gender demographics of the present study offer a unique insight to how men experience yoga. This is an important contribution to literature, as there is a tendency to conduct studies on female yoga practitioners (Park, Braun, & Siegal, 2015). It would be useful for the field to understand how gender impacts one's experience of yoga.

After completing the study, it was clear additional information could have been gathered to add to the significance of the results of this study. One limitation was the specific question used to gather information about participants' level of yoga training. Level of training was the added predictor variable in the third level of the regression as well as the sixth hypothesis. The phrasing of the question was poor and did not get at what was intended, which influenced results and analysis. The possible answers for that question did not include an option for participants to select "No Additional Training." Not having that option might have influenced participants to select a level of additional training when they had not completed additional training. Lack of clarity to the survey participants could have contributed to errors in measurement. Specifically, results of this question may lack validity as the question did not measure what it was intended to measure. Additionally, there was a correlation found between two of the predictor variables in this study (social reason for practicing yoga and frequency of practicing yoga). This correlation violates one of the assumptions of regression analyses and should be noted as a limitation.

Researchers can use this exploratory study as guidance for continuing to broaden the study of yoga and mental health. Future studies should expand on variables impacting yoga practice outcomes by including yoga versus non-yoga participant groups. This study included yoga practice as a requirement for participation, excluding people who did not have a yoga practice. Comparing yoga practitioners and non-yoga practitioners could provide a different insight into how yoga impacts individuals, couples, and families. It would be interesting to examine the frequency of yoga practice as a predictor of overall quality of life. Many of the individual benefits experienced by yoga have the potential to extend to other systems of which the practitioner is a part.

In order to be integrated effectively into the marriage and family therapy field, research on yoga must be performed through a systemic lens. Entire studies could be done separately for each of the variables used in this study to take a more in-depth look. A hypothesis supported by the data in this study found that participants who practice yoga for social reasons scored higher on the family functioning scale. This indicates a connection between yoga practices and family functioning that could be explored more in the future. Future studies should also specifically explore the integration of yoga with therapy. As the present study indicates, yoga on its own may not be enough to reach beyond physical benefits and motivators. The integration of yoga and therapy could be key to experiencing change on a mental or emotional level. Yoga and therapy should be studied together to see how they can lead to improved health and wellbeing.

### **Conclusion**

About 36 million Americans practice yoga (Yoga Alliance, 2019). There is no doubt that yoga trends will continue to increase in the United States and all over the world over in the years to come. According to an annual survey by the American College of Sports Medicine, yoga was among the top 10 fitness trends worldwide emerging in 2018 (Thompson, 2017). Several clinical populations have been identified as likely to benefit from the use of yoga in combination with therapy, primarily involving working with individuals. Studies of yoga within the context of couples and families is an emerging topic in the field and there is a great amount more to discover, beyond the main finding of this study that yoga practice for social reasons increased family functioning. Future research on this topic may benefit from including mixed qualitative and quantitative methods. Along with greater demand for yoga in the general public, yoga will

continue to be integrated more significantly into the mental health field. More and more Western medicine is realizing it is all connected – the bio, psycho, social, and spiritual. Mental and physical health cannot be seen separately. Providing quality care requires mental health professionals to attend to every aspect of clients' lives.

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# APPENDIX

## Questionnaire

[PAGE 1]

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### RESEARCH PARTICIPANT CONSENT FORM

*Systemic Impacts of Yoga*

David P. Nalbone, PhD

Gabriella H. Boeger, B.S.

Department of Behavioral Sciences, Purdue University Northwest

Please take the time to review this information carefully. This is a research study. Your participation in this study is voluntary which means that you may choose not to participate at any time without penalty or loss of benefits to which you are otherwise entitled. You may ask questions of the researchers about the study whenever you would like. If you decide to take part in the study, you will be asked to sign this form, so be sure to understand what you will do and any possible risks or benefits

#### **What is the purpose of this study?**

You are being asked to participate in a study designed by Gabriella Boeger of Purdue University Northwest. We want to understand how practicing yoga may impact you on an individual level as well as impact on your romantic and family relationships

#### **What will I do if I choose to be in this study?**

If you choose to participate, you acknowledge that you are between 18 and 64 years old, live in the US, and are a US citizen. You acknowledge that you are currently involved in a romantic relationship that has lasted at least six months. Additionally, you acknowledge that you either currently, or in the past, have practiced yoga. For the purpose of this study, yoga practice must involve physical postures and a meditative component. You will be asked to complete a questionnaire asking about your experience practicing yoga, self-compassion, relationship

satisfaction, and family relationships. You are free not to answer any particular questions if they make you feel uncomfortable, or to withdraw your participation at any time without penalty

**How long will I be in the study?**

It should take approximately 20 minutes for you to complete the entire study.

**What are the possible risks or discomforts?**

Breach of confidentiality is a risk. To minimize this risk, only the researchers will access the data from this study, and no personally identifying information will be collected during the study. The questions involve no greater risk than that found in everyday life

**Are there any potential benefits?**

You will not directly benefit from this study. You will have a chance to take part in research, and your participation thus may contribute to the scientific understanding of how yoga can be integrated into mental health treatment.

**Will I receive payment or other incentive?**

You will receive compensation of less than \$1 for participating in this research project, so long as you meet the study inclusion criteria and you complete the appropriate verification question to ensure your active participation.

**Will information about me and my participation be kept confidential?**

There is no personally identifying information on this questionnaire; all responses will remain anonymous, and will be used only in combination with the responses of other participants in this and related studies. In addition, you may choose not to answer particular questions, or to withdraw your participation at any time, without penalty. All data gathered in this study will be stored separately from the consent form and will be accessed only by the researchers. The data file will be used for preparation of research reports related to this study and kept for a period of three years after publication of any articles related to this study. The project's research records may be reviewed by departments at Purdue University responsible for regulatory and research oversight.

**What are my rights if I take part in this study?**

You do not have to participate in this research project. If you agree to participate, you can withdraw your participation at any time without penalty.

**Who can I contact if I have questions about the study?**

If you have any questions about this research project, you can contact Gabriella Boeger at 219-989-2027. If you have concerns about the treatment of research participants, you can contact the Committee on the Use of Human Research Subjects at Purdue University, Ernest C. Young Hall, Room 1032, 155 S. Grant St., West Lafayette, IN, 47907-2114. The phone number for the Committee's secretary is (765) 494-5942. The email address is irb@purdue.edu

**Documentation of Informed Consent**

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research project and my questions have been answered. I am prepared to participate in the research project described above.

I certify that I am between 18 and 64 years old, and a U.S. citizen living in the U.S., and agree to participate in this study. I certify that I am currently involved in a romantic relationship that has lasted at least six months. I also certify that I have practiced yoga (involving physical postures and a meditative component) either currently or in the past.

- Yes, I agree.
- No, I do not agree.

*Skip To: End of Survey if = No, I do not agree.*

[PAGE 2]

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Do you currently practice, or have you ever practiced yoga?

- Yes
- No

*Skip To: End of Survey if = No*

[PAGE 3]

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Are you currently involved in a romantic relationship that has lasted at least six months?

- Yes
- No

*Skip To: End of Survey if = No*

[PAGE 4]

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Are you a US citizen?

- Yes
- No

*Skip To: End of Survey if = No*

[PAGE 5]

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What is your age (in years)? \_\_\_\_\_

*Skip To: End of Survey if = < 18 or > 64*

[PAGE 6]

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Please select the type(s) of yoga you practice(d).

- Hatha Yoga - combination of physical postures, awareness of breath, and meditation
- Meditation or Breathing Exercises
- Restorative Yoga
- Other

In which of the following locations have you practiced yoga? Select all that apply.

- Yoga studio
- Gym or wellness center
- At home
- At school
- At work
- Outdoors
- In a therapy or counseling setting

On average, how often do you practice yoga? For this question, yoga must include a combination of physical postures, awareness of breath, and a meditative component.

- 0 days / week
- 1 day / week
- 2 days / week
- 3 days / week
- 4 days / week
- 5 days / week
- 6 days / week
- 7 days / week

Approximately what is the total number of yoga classes you have taken? \_\_\_\_\_

Please select any additional teacher training(s) you have completed

- Teacher trained (200 hours)
- Teacher trained (500 hours)
- Teacher trained (over 500 hours)

In your opinion, how important or unimportant are each of the following reasons for practicing yoga?

	<i>Not at all important</i>	<i>Slightly important</i>	<i>Moderately important</i>	<i>Very important</i>	<i>Extremely important</i>
Flexibility					
Weight management					
Pain relief					
Muscle strengthening					
Reduce stress					
Calm anxiety					
Improve mood					
Practice mindfulness					
Time with partner					
Time with family or friends					
Professional networking					
Community/social interactions					
Spiritual/religious practice					
Sense of peace					
Connection to God/Gods/Higher powers					
Unite mind, body, and spirit					

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost Never Almost Always  
1..... 2..... 3..... 4..... 5

1. I'm disapproving and judgmental about my own flaws and inadequacies.
2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
5. I try to be loving towards myself when I'm feeling emotional pain.
6. When I fail at something important to me I become consumed by feelings of inadequacy.
7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
8. When times are really difficult, I tend to be tough on myself.
9. When something upsets me I try to keep my emotions in balance.
10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
11. I'm intolerant and impatient towards those aspects of my personality I don't like.
12. When I'm going through a very hard time, I give myself the caring and tenderness I need.
13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
14. When something painful happens I try to take a balanced view of the situation.
15. I try to see my failings as part of the human condition.
16. When I see aspects of myself that I don't like, I get down on myself.
17. When I fail at something important to me I try to keep things in perspective.
18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

19. I'm kind to myself when I'm experiencing suffering.
20. When something upsets me I get carried away with my feelings.
21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
22. When I'm feeling down I try to approach my feelings with curiosity and openness.
23. I'm tolerant of my own flaws and inadequacies.
24. When something painful happens I tend to blow the incident out of proportion.
25. When I fail at something that's important to me, I tend to feel alone in my failure.
26. I try to be understanding and patient towards those aspects of my personality I don't like.

[PAGE 9]

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Please use the scale to the right of each item to mark your agreement.

1. Please indicate the degree of happiness, all things considered, of your relationship.

<i>Extremely Unhappy</i>	<i>Fairly Unhappy</i>	<i>A Little Unhappy</i>	<i>Happy</i>	<i>Very Happy</i>	<i>Extremely Happy</i>	<i>Perfect</i>
0	1	2	3	4	5	6

2. In general, how often do you think that things between you and your partner are going well?

<i>All the time</i>	<i>Most of the time</i>	<i>More often than not</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
5	4	3	2	1	0

3. Our relationship is strong.

<i>Not at all true</i>	<i>A little true</i>	<i>Somewhat true</i>	<i>Mostly true</i>	<i>Almost Completely True</i>	<i>Completely True</i>
0	1	2	3	4	5

4. My relationship with my partner makes me happy

<i>Not at all true</i>	<i>A little true</i>	<i>Somewhat true</i>	<i>Mostly true</i>	<i>Almost Completely True</i>	<i>Completely True</i>
0	1	2	3	4	5

5. I have a warm and comfortable relationship with my partner

<i>Not at all true</i>	<i>A little true</i>	<i>Somewhat true</i>	<i>Mostly true</i>	<i>Almost Completely True</i>	<i>Completely True</i>
0	1	2	3	4	5

6. I really feel like part of a team with my partner

<i>Not at all true</i>	<i>A little true</i>	<i>Somewhat true</i>	<i>Mostly true</i>	<i>Almost Completely True</i>	<i>Completely True</i>
0	1	2	3	4	5

7. How rewarding is your relationship with your partner?

<i>Not at all</i>	<i>A little</i>	<i>Some-what</i>	<i>Mostly</i>	<i>Almost Completely</i>	<i>Completely</i>
0	1	2	3	4	5

8. How well does your partner meet your needs?

<i>Not at all</i>	<i>A little</i>	<i>Some-what</i>	<i>Mostly</i>	<i>Almost Completely</i>	<i>Completely</i>
0	1	2	3	4	5

9. To what extent has your relationship met your original expectations?

<i>Not at all</i>	<i>A little</i>	<i>Some-what</i>	<i>Mostly</i>	<i>Almost Completely</i>	<i>Completely</i>
0	1	2	3	4	5

10. In general, how satisfied are you with your relationship?

<i>Not at all</i>	<i>A little</i>	<i>Some-what</i>	<i>Mostly</i>	<i>Almost Completely</i>	<i>Completely</i>
0	1	2	3	4	5

For each of the following items, select the answer that best describes how you feel about your relationship. Base your responses on your first impressions and immediate feelings about the item.

- |     |              |   |   |   |   |   |   |           |
|-----|--------------|---|---|---|---|---|---|-----------|
| 11. | INTERESTING  | 5 | 4 | 3 | 2 | 1 | 0 | BORING    |
| 12. | BAD          | 0 | 1 | 2 | 3 | 4 | 5 | GOOD      |
| 13. | FULL         | 5 | 4 | 3 | 2 | 1 | 0 | EMPTY     |
| 14. | STURDY       | 5 | 4 | 3 | 2 | 1 | 0 | FRAGILE   |
| 15. | DISCOURAGING | 0 | 1 | 2 | 3 | 4 | 5 | HOPEFUL   |
| 16. | ENJOYABLE    | 5 | 4 | 3 | 2 | 1 | 0 | MISERABLE |

Please select how much you agree or disagree with the following statements about your family:

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
1. Planning family activities is difficult because we misunderstand each other.				
2. In times of crisis we can turn to each other for support.				
3. We cannot talk to each other about the sadness we feel.				
4. Individuals are accepted for what they are.				
5. We avoid discussing our fears and concerns.				
6. We can express feelings to each other.				
7. There are lots of bad feelings in the family.				
8. We feel accepted for what we are.				
9. Making decisions is a problem for our family.				
10. We are able to make decisions about how to solve problems.				

11. We don't get along well together.				
12. We confide in each other.				

[PAGE 11]

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Finally, we have some questions about your background.

What is your race?

- Asian
- Black or African American
- White
- American Indian or Alaska Native
- Native Hawaiian and Other Pacific Islander
- Multiracial
- Other (please specify) \_\_\_\_\_

What is your ethnicity?

- Hispanic
- Latino/a/x
- Not Hispanic or Latino

In terms of your gender, please indicate which describes you best:

- Woman
- Man
- Non-Binary or Third Gender
- Transgender
- Prefer to self-describe \_\_\_\_\_

- Prefer not to answer

What is your sex?

- Male
- Female
- Intersex
- Prefer not to answer

What is your annual household income level?

- \$0-9,999
- \$10,000-19,999
- \$20,000-29,999
- \$30,000-39,999
- \$40,000-49,999
- \$50,000-59,999
- \$60,000-69,999
- \$70,000-79,999
- \$80,000-89,999
- \$90,000-99,999
- \$100,000 or above
- Prefer not to answer

What is your highest level of education?

- Less than high school diploma or GED
- High School
- Some college
- Bachelor's degree
- Master's degree
- Doctorate or Professional degree