

THESIS

DEVELOPMENT OF OCCUPATION
FROM THE THERAPEUTIC ACTIVITY OF YOGA

Submitted by

Kristin M. Turner

Department of Occupational Therapy

In partial fulfillment of the requirements

For the Degree of Master of Science

Colorado State University

Fort Collins, Colorado

Spring 2018

Master's Committee:

Advisor: Arlene A. Schmid

Barbara Hooper
Jennifer Dickman Portz

Copyright by Kristin M. Turner 2018

All Rights Reserved

ABSTRACT

DEVELOPMENT OF OCCUPATION FROM THE THERAPEUTIC ACTIVITY OF YOGA

Participation in occupation is essential for human health and well-being. While therapeutic activities and techniques can be useful, they do not contribute to survival, health, or well-being in the powerful way that occupation does; therefore, it is important to understand how occupation develops. While there has been some research on how children develop occupations, little research has been conducted to understand the ways in which adults develop new occupations or the ways in which activities transform into occupations.

This qualitative case study explored the development of one potential occupation, yoga, among a group of eight people participating in a study of yoga for chronic pain. Interviews and a focus group were used to explore the process, supports, and barriers of yoga developing as an occupation. Several results were most significant. First, the process of yoga developing as an occupation varied among participants and progressed non-sequentially. The process included the elements of initial reluctance, consistency, meaning increase, transfer, and identity. Second, there were several factors that supported yoga becoming an occupation: the yoga classes being adapted and accessible to participant abilities; the class transforming into a socially meaningful group experience; and yoga becoming more meaningful as participants recognized their personal benefits.

ACKNOWLEDGEMENTS

This research would not have been possible without a supportive team. Special thanks goes to Dr. Arlene Schmid, my thesis advisor, who helped make this seemingly enormous project feel manageable and even fun. I would like to thank Barb Hooper for helping me navigate the occupational science aspect of this topic by putting me in touch with some of the key scholars on the topic. Thank you to Jennifer Dickman Portz who mentored me in data analysis and generously helped me code and decipher the data. Likewise, this project would not have been possible without the help from my classmate Alexa Provancha; although busy with graduate school and her own thesis, she volunteered to help with the tedious tasks of transcription and data analysis. Thanks also to my encouraging classmates Megan Roney who helped me create my interview questions and Katie Hinsey who helped me navigate the process of data analysis. Thanks to my family, friends, and classmates who supported me through the stressful as well as celebratory times throughout the course of the creation of this thesis. Finally, thank you to the Colorado State University (CSU) Prevention Research Center for providing the funding necessary to generate evidence-based research on how yoga can change lives.

TABLE OF CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iii
CHAPTER 1: INTRODUCTION.....	1
1.1 Purpose.....	1
1.2 Background and Statement of Problem.....	1
1.3 Research Objectives.....	2
CHAPTER 2: REVIEW OF THE LITERATURE.....	3
2.1 Introduction.....	3
2.2 Importance of Occupation.....	3
2.3 Definitions of Occupation and Activity.....	4
2.4 Conceptual Framework: Humphry’s Model of Processes Transforming Occupations.....	6
2.5 Development of Occupation.....	7
2.6 Context: Yoga and Chronic Pain.....	10
Chronic Pain: Definition, Prevalence, and Incidence.....	10
Chronic Pain and Occupation.....	12
Yoga.....	13
Yoga and Chronic Pain.....	14
Yoga and Occupation.....	14
2.7 Summary.....	15
CHAPTER 3: METHODS.....	17
3.1 Research Design.....	17
3.2 Recruitment and Participants.....	17
Parent Study Participants.....	17
Sub-Study Participants.....	18
3.3 Yoga Intervention.....	20
Yoga Class Protocol.....	21
3.4 Data Collection.....	22
Parent Study Data Collection.....	22
Sub-Study Data Collection.....	22
3.5 Data Analysis.....	24
CHAPTER 4: MANUSCRIPT.....	25
4.1 Introduction.....	25
Development of Occupation.....	25
Distinguishing Between Therapeutic Activity and Occupation.....	27
Yoga.....	28
Chronic Pain.....	29
Aims.....	29
4.2 Methods.....	30
Study Design and Participants.....	30
Intervention.....	31
Data Collection.....	32
Data Analysis.....	32

4.3 Results	35
Process	36
Barriers.....	38
Supports	40
4.4 Discussion	45
Limitations	48
4.5 Conclusion.....	49
REFERENCES	51
APPENDIX A: INTERVIEW AND FOCUS GROUP QUESTIONS	59
Semi-structured Interview Guide.....	59
Focus Group Questions.....	62

CHAPTER 1: INTRODUCTION

1.1 Purpose

The purpose of this study was to explore how yoga developed into an occupation for some adults in a community-based, therapeutic yoga class. The process, supports, and barriers to yoga becoming an occupation were explored. The yoga class was delivered through a parent study, Yo-Pain: a group yoga intervention for people with chronic pain designed by occupational therapists. This study aims to answer how yoga developed as an occupation based on the experiences of eight participants from the larger study.

1.2 Background and Statement of Problem

Participation in occupation is essential for human health and well-being (Hooper & Wood, 2014). While therapeutic activities and techniques can be useful, they do not contribute to survival, health, or well-being in the powerful way that occupation does (Wilcock, 1999). Therefore, it is important to understand how occupation develops. While there has been some research on how children develop occupations (Case-Smith, 2000; Humphry, 2002; Wiseman, Davis, & Polatajko, 2005), little research has been conducted to understand the ways in which adults develop new occupations or the ways in which activities transform into occupations.

This study explored the development of one potential occupation, yoga, among a group of people participating in a study of yoga for chronic pain. All participants in the study identified as having chronic pain and were receiving services from a community pain-clinic where the yoga classes were held. Chronic pain is defined as any pain that persists for at least half the days for six months or more (Interagency Pain Research Coordinating Committee, 2015). Approximately 100 million adults in the US live with chronic pain, costing the US \$560 to \$635 billion annually

(Gaskin & Richard, 2012). Medical interventions for chronic pain include pharmaceuticals, operations, physical modalities, regional anesthesia, and complementary and integrative health (CIH) (Turk & Swanson, 2007). Chronic pain often interferes with people's activities of daily living (ADL) such as sleep, exercise, housework, maintaining relationships, working outside the home, and driving (Breivik, Collett, Ventafridda, Cohen, & Gallacher, 2006). Furthermore, people who have chronic pain report increased incidences of depression, anxiety, and negative self-health perceptions (Gureje, Von Korff, Simon, & Gater, 1998). Yoga had been used as an effective intervention to decrease chronic pain (Garfinkel, Schumacher, Husain, Levy, & Reshetar, 1994; John, Sharma, Sharma, & Kankane, 2007; Posadzki, Ernst, Terry, & Lee, 2011; Williams et al., 2009) and decrease disability (Chang, Holt, Sklar, & Groessl, 2016).

1.3 Research Objectives

1. Explore the processes of yoga developing into an occupation.
2. Examine the supports and barriers to yoga becoming an occupation.

CHAPTER 2: REVIEW OF THE LITERATURE

2.1 Introduction

Because the purpose of this study is to explore how occupation develops, one of the first tasks is defining the term *occupation*. A thorough definition and scope of the term is offered within the literature review. Additionally, since this research explores the transformation of a therapeutic activity into an occupation, the terms *activity* and *occupation* will be distinguished. Another focus of the literature review is discussing the conceptual framework that was chosen to describe development of occupation. Additionally, other literature relating to the development of occupations will be presented. This study involved the intervention of yoga for people living with chronic pain. A discussion of yoga and chronic pain will give context to the participant's statements about how yoga may have become an occupation.

2.2 Importance of Occupation

Occupations are the meaningful, purposeful, and useful activities in which people engage (AOTA, 2014). They are required for a person to thrive; according to Hooper and Wood (2014), they are a necessity for not only well-being, but also survival. Likewise, Wilcock states that people have an occupational nature and that "occupation is the natural biological mechanism for health" (1999, p. 2). Wilcock (1998) posits that occupational imbalance, deprivation, and alienation results in significant individual health ailments and public health problems. A core value of the occupational therapy profession expressed by the OTPF is the "positive relationship between occupation and health" (AOTA, 2014, p. s3).

It can therefore be inferred that research illustrating occupational development and evolution will be valuable to the fields of occupational therapy, occupational science, and many

other health related fields. Additionally, compared to activities and therapeutic activities, occupations contribute more to survival, health, or well-being (Wilcock, 1999). When applied, an improved understanding of occupational development may be used to increase a person's occupational participation and thus, their ability to live a healthier life.

2.3 Definitions of Occupation and Activity

Because the present study explores whether an *activity* developed into an *occupation*, it is important to distinguish the differences between the two terms. Not only is this an important point to clarify for this study, but it has been a historical source of confusion in the field of occupational therapy (Polatajko et al., 2004). According to Pierce, distinction between the two terms will “enhance disciplinary discourse and research as well as enhance the intervention efficacy, moral surety, and political strength of the profession” (2001, p. 138).

The Occupational Therapy Practice Framework: Domain and Process, 3rd edition (OTPF) is considered the “singular representation of the occupational therapy practice” (Gutman, Mortera, Hinojosa, & Kramer, 2007). It offers a definition of occupation:

The daily life activities in which people engage... Occupations occur over time; have purpose, meaning, and perceived utility to the client; and can be observed by others (e.g., preparing a meal) or be known only to the person involved (e.g., learning through reading a textbook) (American Occupational Therapy Association [AOTA], 2014, p. S6).

An occupation is most meaningful to the person doing it if it is perceived to be the “just-right challenge” (Law, 2002). This balance between level of challenge and the level of the individual's skill is termed “flow” and results in the individual's complete absorption in the task (Nakamura & Csikszentmihalyi, 2002). Flow is often a characteristic of a person's most meaningful

occupations. The OTPF also states that occupations are central to each person's identity and sense of competence.

The OTPF categorizes eight types of occupations: activities of daily living (such as bathing, dressing, and toileting), instrumental activities of daily living (such as shopping, child rearing, religious and spiritual activities, and health management and maintenance), rest and sleep, education, work, play, leisure, and social participation (with one's community, family, peers/friends). The categories of people's occupations are fluid and subjective; determined by their interests, needs, and the context in which the occupation takes place. The OTPF elaborates on the term occupation by stating that occupations can be undertaken alone or with others. Additionally, the prioritization and engagement of a person's occupations will fluctuate depending on the temporal, personal, and environmental context.

Although the term activity has historically been used synonymously with the term occupation, Christiansen and Townsend state that they are not equal because activity does not have the "sense of purpose, meaning, vocation, cultural significance, and political power" that is inherent to occupations (2010, p. 2). Polatajko et al. (2004) proposed a taxonomic code arranged from complex to simple "units of performance." They distinguish between occupation (considered more complex), activity (more simple), and even simpler units, such as *task* or *action*. Activity is defined "as any set of tasks," whereas the term occupation is defined as "a set of meaningful activities, performed with some consistency or regularity, typically named for the predominant or primary activity" (p. 263). Unlike occupations, activities are not specific to humans (e.g., volcanic activity) and may not be meaningful or purposeful to the individual. Hinojosa and Kramer (1997) note that activities are the building-blocks that comprise occupations. More specifically, *therapeutic activities* that are often prescribed during

occupational therapy sessions are often designed to support the development of the specific performance skills and patterns (AOTA, 2014). While therapeutic activities may lead to improved occupational performance, they are not usually considered occupations due to their focus on isolated performance skills and lack of meaning and contextual significance to the therapy recipient. In summary, the literature reviewed suggests that if a person indicates that their unit of performance has meaning, purpose, value, consistency, regularity, and contributes to their identity, it is an occupation.

2.4 Conceptual Framework: Humphry's Model of Processes Transforming Occupations

This research was guided by the processes transforming occupations (PTO) model (Humphry, 2005). The PTO model served as a conceptual framework that influenced the development of this study's research questions, interview questions, and data analysis. The PTO model suggests the processes that influence occupation emergence and transformation. While it was written with a primary focus on the development of occupation during childhood, Humphry strived to make it applicable to adults as well. The PTO was inspired greatly by Humphry's study of lifespan models of human development. Lifespan models focus more on the impacts of life situations than the influences of the person's age or physical and mental capabilities. Several of these models are described in the "Development of Occupation" section below.

Humphry states that there are three "clusters of synergistic forces" that affect occupational emergence and transformation. First, *construction of occupational opportunities* refers to communities creating niches for occupational participation. These niches are adapted by community agents, individuals in various roles who make the opportunity available to others. Humphry offers the example of a community financially investing in a child-care center as a

niche for children to develop play occupations. A teacher may act as the community agent who helps the child learn to use a toy.

The *social transactions in developing occupation* cluster refers to one person sharing in occupational engagement with another. It involves peripheral participation (observation and sharing) (Lave & Wenger, 2002); co-construction of meaning that can result in new performance patterns (doing the occupation together changes how it is done and its meaning); and scaffolding (a more experienced person supports a the less experience person) (Wood, Bruner, & Ross, 1976).

The third cluster of synergistic forces that contributes to the development of occupation is *self-organization processes that underlie transformation of occupation*. This refers to the person's "intrinsic capacities" (skills and abilities) being reorganized in order to adapt to new contexts (Humphry, 2005, p. 41). People may develop new performance patterns in effort to sustain engagement as conditions change and as the activity's meaning and purpose changes for them over time. Additionally, repeated engagement in occupation results in enhanced intrinsic capacities and performance. The three clusters that comprise the PTO model were used to guide the present study's exploration of the development and transformation of yoga as an occupation for adults.

2.5 Development of Occupation

There is little existing literature regarding the development of occupation, and what is available often focuses on children rather than adults (Case-Smith, 2015; Humphry, 2002, 2005; Humphry & Wakeford, 2008; Wiseman et al., 2005). There are also many studies regarding human development of motor, cognitive, and social skills, and while essential for this topic, these are only incomplete components of occupational development (Wiseman et al., 2005).

A person's occupations are shaped across the entire lifespan by their abilities, surroundings, social context, culture, and values (Davis & Polatajko, 2010). The term *development* is distinct from *change* since development indicates a new occurrence, is usually a process that occurs over time, and often influenced by the person's growth process. Conversely, change can occur repeatedly, happen quickly, and is independent of the person's maturation process.

One model of occupational development that may apply to adults is the interactional model of occupational development (IMOD) (Davis & Polatajko, 2006). It describes the interaction between continuity, multiple determinicity, and multiple patternicity. Continuity refers to occupational development taking place throughout the lifespan and as resulting from continuous personal changes in areas such as physical condition, cognition, and psychosocial state. Multiple determinicity refers to the occupational development being shaped by both the individual's genetics and their environment. Multiple patternicity refers to occupational development occurring at varying rates and in various directions (periods of developing new occupations and periods of low development or even subtraction of a person's occupational array). Patterns may vary depending on life stage: children's occupational development is often dependent on their age, physical, and cognitive developmental levels; with age, social and cultural contextual factors more significantly impact occupational development (Davis & Polatajko, 2010).

Description of some components of adult occupational development can be gleaned from existing literature. An article about the development of the *meaning* of occupations used tea-making and drinking to illustrate this phenomena (Hannam, 1997). The study showed that tea-routines may have developed or transformed due to changes in lifestyle. For example, one

participant stated that her tea-routine developed its current meaning as a replacement for smoking. Other participants discuss that tea-routines have developed into a way to connect with memories of past experiences or feelings. A different article discussed the development and transformation of *routines* that are involved in the occupation of diabetes self-management (Fritz, 2014). The process of routine adjustment involved becoming aware of the need to change and later, developing the skills and abilities necessary to engage in the new routines. The process was influenced by the temporal and social context.

Existing occupational development research often draws from the field of developmental psychology, which explores the changes in roles, tasks, and behaviors over time (Edwards & Christiansen, 2005). Developmental theory is often based on the interactionist concept: that a person's development is regulated by genes but greatly influenced by the surrounding environment (Davis & Polatajko, 2010). Piaget's (1972) theory of cognitive development describes stages of intellectual development from infancy through adulthood. It suggests that the cognitive processes of young children are more sensory-based, those of elementary age children are more logical, and those of adolescents and adults are more abstract (Flavell, 1996). Also, it emphasizes that individuals actively construct their cognition through interactions with their environment. Another developmental theory likely influences occupational development is Bandura's (1977) social learning theory, which describes how people actively and intentionally learn from either direct experience, observation, or imitating (modeling from) other's behavior. Baltes (1987) wrote on lifespan developmental theory, stating that development is a life-long process that is greatly influenced by sociocultural factors; development is continuously fluctuating with various behaviors increasing and decreasing and periods of developmental

growth and decline. While these theories all describe the development of the individual, they do not focus on occupation.

This connection between developmental theories and occupation has been drawn in existing literature. Law et al. (1997) suggest that the developmental level of the individual determines the capacity and motivation to participate in various occupations. Case-Smith discusses that children's development of occupations relies on the successful integration of many developing skills such as motor, praxis, cognitive, sensory-perceptual, and social (2015). However, in addition to these skills, occupational development is greatly influenced by social and cultural practices, whether through the family environment or the broader community. These contexts change as the child matures and either support the development of existing occupations or requires the child to adapt the occupation to meet environmental demands. While the existing research on childhood development of occupation is not always directly applicable to adults, some aspects (such as the importance of contextual influences or the abstract cognitive processes of adults) may provide insight into adult development of occupation.

2.6 Context: Yoga and Chronic Pain

While the present study focuses on occupational development, the topic is explored via a group of people with chronic pain participating in group yoga classes. To give context to the study, the following section provides background information on chronic pain and yoga.

Chronic Pain: Definition, Prevalence, and Incidence

Chronic pain has a wide variety of causes including injuries, disease processes, or medical procedures that have the side effect of persistent pain (Interagency Pain Research Coordinating Committee, 2015). Chronic pain is difficult to define and analyze because there is no international standard definition for the term *chronic* (Harstall & Ospina, 2003). The

International Association for the Study of Pain provides one definition: “pain without apparent biological value that has persisted beyond the normal tissue healing time (usually taken to be three months)” (p. 1). Other literature states that pain is not only a physical experience, but also affects a person’s emotional, psychological, and social life (McCaffrey, Frock, & Garguilo, 2003) . According to a 2008 estimate by the Medical Expenditure Panel Survey (MEPS), approximately 100 million adults living in the United States are affected by chronic pain (Gaskin & Richard, 2012). In other words, prevalence in the US ranges from 14.6 to 64% with wide variation due to the definition of chronic pain, the population studied, and the survey methodology (Harstall & Ospina, 2003). Treatment for chronic pain often includes pharmaceuticals, operations, physical modalities, regional anesthesia, and CIH (Turk & Swanson, 2007).

Costs incurred to the nation include medical treatment for chronic pain, treatment for the conditions that are complicated by chronic pain, and decreased worker productivity (Gaskin & Richard, 2012). MEPS estimates that in 2010, the total cost of chronic pain ranged from \$560 to \$635 billion; approximately double to triple the cost of heart disease (\$309 billion), cancer (\$243 billion), or diabetes (\$188 billion). Additionally, these estimates do not account for the emotional, psychological, and quality of life costs to individuals and their families.

In 2011, the U.S. Institute of Medicine (IOM) determined that a “cultural transformation” was required to improve pain prevention, education, medical care, and research (Interagency Pain Research Coordinating Committee, 2015). The National Pain Strategy (NPS) was created as a “comprehensive population health-level strategy for pain” (p. 1). The NPS summary calls for recognition of the biopsychosocial nature of pain and the need for interdisciplinary, multimodal, and integrated treatments. It also highlights that self-management is a key aspect of pain

management and that people with pain are often stigmatized in both the healthcare system and in the community at large.

Medical treatment for chronic pain often involves multiple disciplines. Teams may be composed of occupational therapists, physical therapists, pain psychologists, social workers, therapeutic recreational therapists, nurses, and physicians (Stanos & Houle, 2006). Common interdisciplinary goals include decreasing the intensity of pain, increasing physical activity, return to work or other desired activities, decreased dependence on pain medication, and improved psychosocial function. Treatment delivery techniques are also similar among disciplines including helping patients reconceptualize their pain, encouraging feelings of self-efficacy, and training in specific skills.

Chronic Pain and Occupation

Chronic pain interferes with many occupations such as sleeping, exercising, performing household chores, attending social activities, driving, maintaining family relationships, having sexual relationships, and working outside the home (Breivik et al., 2006). One survey reported that 19% of respondents had lost their job and 29% had changed jobs or job duties due to chronic pain. These occupational restrictions often result in people feeling socially isolated and depressed (Rudy, Kerns, & Turk, 1988). This phenomena is cyclical, because depression, anxiety, and other psychological problems limit people's participation in occupation (Fisher et al., 2007).

Chronic pain is often treated by an interdisciplinary effort, with occupational therapists focusing on enabling existing and new meaningful occupations. This is done through improvement of general function (such as ADL participation, mobility, social activities, recreational activities, domestic activities), increasing self-management of chronic pain,

improvement of vocationally “disabled” status, reduction of medication dependence, reduction of health care use, and reduction of pain level (Sanders, Harden, & Vicente, 2005). Occupational therapy interventions may include body-mechanics education to prevent pain from worsening, encouragement to gradually participate in active occupations rather than bed-rest (Maher, 2014), modification of tasks and timing, and teaching diversion techniques to cope with chronic pain (Atkins, 2014). Some occupational therapists use CIH methods that have shown effectiveness for pain symptoms such as yoga, mindfulness meditation, and Tai Chi.

Two small qualitative studies discuss how a person’s participation in occupation reduces the pain experience, with meaningful occupations serving as a diversion to pain (Fisher et al., 2007; Neville-Jan, 2003). One participant in the study by Fisher et al. stated that his pain was eliminated when he was focused on an activity such as work, school, or playing in his band. Other participants emphasized the value of doing an activity “that they truly enjoy that they can become immersed in...” (p. 297). Neville-Jan reveals in her autoethnography that her intense focus on her work was an effective diversion from her pain. However, she is concerned that there is little research that distinguishes between diversions that are nonmeaningful (word associations, games) versus meaningful (individualized). She hypothesizes that future studies that account for this distinction would show meaningful activities and occupations to be more effective for diverting attention from pain and perhaps, increasing functioning and well-being.

Yoga

The word yoga is Sankrit for ‘yoke’ or ‘union’ in reference to uniting the body, mind, and spirit (Field, 2011; Salmon, Lush, Jablonski, & Sephton, 2009). It developed in India in approximately 3000 BC as a physical and spiritual practice, but is increasingly being used for health and wellness in the Western hemisphere. It is commonly recognized in the West that yoga

is composed of three parts: low intensity physical exercises (asana), breathing practices (pranayama), and meditation (dhyana) (Mailoo, 2005). The low intensity exercises, also known as postures, have been shown to improve musculoskeletal flexibility, coordination, and strength (Raub as cited by Büssing, Ostermann, Lüdtke, & Michalsen, 2012). The breathing practices and meditation are shown to promote relaxation and decrease anxiety (Kirkwood, Rampes, Tuffrey, Richardson & Pilkington as cited in Büssing et al., 2012). Evidence demonstrates that, for adults, yoga can generally improve health-related quality of life, depression, walking, muscle strength, sleep, self-perception of physical and mental health, cardiovascular functioning, balance, and pain (Patel, Newstead, & Ferrer, 2012).

Yoga and Chronic Pain

Yoga has been shown to decrease chronic pain for participants across multiple studies (Garfinkel et al., 1994; John et al., 2007; Posadzki et al., 2011; Williams et al., 2009). A more recent systematic review on yoga for chronic low back pain found that yoga appears to reduce pain and disability, may reduce psychological comorbidities (although this evidence is less established), and appears to be a safe and effective treatment (Chang et al., 2016).

Yoga and Occupation

Occupational therapy literature suggests that yoga can be used as a therapeutic modality because its benefits may enable people with disabilities to participate in their desired occupations. For example, participants in a study for yoga for people with traumatic brain injuries reported improved range of motion, strength, walking, and ability to participate in valued occupations such as playing piano and golf (Schmid, Miller, Van Puymbroeck, & Schalk, 2016). Additionally, yoga was correlated with improved: balance for people who experienced strokes (Schmid et al., 2012); reduced combat stress symptoms among military personnel (Stoller,

Greuel, Cimini, Fowler, & Koomar, 2012); improved emotional regulation and quality of life for people with traumatic brain injury (Montgomery et al., 2015); and socialization when delivered as a group (versus individual) intervention (Roland, 2014). These studies show that yoga can improve social, physical, and mental outcomes that may support occupational participation.

While yoga's many benefits may enable other occupations, the present study focuses on how yoga becomes an occupation. This topic was not discussed in existing literature other than one case study. In it, Humphry and Womack (2014) describe factors that affected how yoga developed as an occupation for a grandmother, adult daughter, and child granddaughter. The adult daughter was introduced to yoga by her college boyfriend, the granddaughter began to do it as she mimicked her mother's actions, and the grandmother tried it after she saw her daughter and granddaughter doing it together. These were the personal introductions to yoga, but societal and cultural influences also played a role. Contemporary American culture recognizes yoga as a common health practice, supporting these women's development of the occupation.

Additionally, the grandmother's peers often expected a person of her age and ability to stay active, supporting her development of yoga as an occupation. The case study shows that there is a wide variety of reasons why people adopt occupations. The granddaughter did it simply to participate in an occupation with her mother, while the daughter did it to relax and bond with her daughter.

2.7 Summary

Compared to activities, occupations typically contribute more to health and well-being (Wilcock, 1999). Understanding how occupation develops may improve people's occupational participation and thus, their ability to live a healthier life. While existing literature frequently notes the importance of occupation to human health and well-being, there is a lack of literature

on the development of occupation, especially for adults. Humphry (2005) called for further research into the development of occupation across the lifespan. At the time of writing this study more than 12 years later, there is still an absence of research discussing how adults develop new occupations. In order to address this gap, the present study has built upon the existing research on childhood occupational development.

This study explores how yoga transformed from a therapeutic activity to an occupation for people with chronic pain. Therefore, the contextual factors of yoga and chronic pain are described. Current evidence shows that there is a large number of people across the world who suffer from chronic pain and face resulting significant physical, emotional, and social deficits. In the US, consequences include costly medical treatments and unemployment. While there are many medical treatments for chronic pain, the most promising are those which are interdisciplinary and address the complex biopsychosocial nature of pain. One such treatment for chronic pain that is increasingly offered by occupational therapists and other members of medical teams is yoga.

Yoga has been shown in many studies to alleviate pain and enable occupational participation. Yoga commonly uses a protocol of postures, breathing, and meditation to promote balance in the body, mind, and spirit. There is little research on how yoga may become an occupation, and thus provide the health promoting factors that are inherent in meaningful occupations.

CHAPTER 3: METHODS

3.1 Research Design

The PTO model served as a conceptual framework that influenced the development of this study's research questions, interview questions, and data analysis (Humphry, 2005). This sub-study was a qualitative case study based on interviews and a focus group to explore the perspectives of eight out of the 84 people who participated in a randomized control trial (RCT). The parent RCT (Yo-Pain) (Schmid, Portz, Van Puymbroeck, Fruhauf, & Bair, In review) included randomization of participants with chronic pain to either yoga plus self-management or usual care (self-management). Participants in both groups received monthly self-management classes. Those randomized to the yoga group also received yoga twice a week for a minimum of eight weeks and a maximum of 24 weeks, depending on when she or he began the study and whether the participant chose to continue yoga. The yoga was standardized and progressively increased in difficulty over the 24 weeks. The intervention took place at an outpatient pain-clinic that is part of a larger university hospital. Qualitative data for this sub-study were collected following the completion of all Yo-Pain yoga classes.

3.2 Recruitment and Participants

Parent Study Participants

Eighty-four individuals were recruited for the parent Yo-Pain study from an outpatient pain-clinic through International Review Board (IRB) approved fliers and phone calls from the nurse who runs the pain-clinic. Inclusion criteria for Yo-Pain included: attending the outpatient pain-clinic; self-report of chronic pain for at least six months; over 18 years of age; ability to attend yoga classes and assessments; and ability to provide informed consent. Exclusion criteria

for Yo-Pain included: consistent yoga practice over the past year; self-reported exercise restrictions; serious and recent medical procedures or conditions without doctor's note; and high risk pregnancy. All human participant recruitment and research procedures were approved by the IRB and participants gave written consent before study participation.

Sub-Study Participants

The eight participants in this sub-study study were purposefully selected from the 84 Yo-Pain participants. The authors included approximately 10% of the Yo-Pain study sample based on a pragmatic timeline and resources of the funded study. Research assistants, the first author, the pain-clinic nurse, and yoga teachers recommended 25 Yo-Pain participants to serve as positive case samples. These individuals showed signs or made comments during classes or assessments indicating that yoga had transformed from a therapeutic activity to an occupation. Two negative case samples were also recommended; individuals who despite attending many yoga classes, indicated that yoga had not developed into an occupation. These negative case samples were chosen to give contrasting insight to the research question, possibly indicating barriers to occupational development. The sub-study's eight participants were then selected by the first author based on the richness and descriptiveness of their comments during Yo-Pain parent-study interviews, resulting in six positive case samples and two negative case samples. Pseudonyms are used to protect participant anonymity (see Table 3.1).

Table 3.1: Participants

Pseudonym	Age	Gender	Race	Marital status	Education level	Weeks of yoga participation	# classes attended/offered =Percent attended	Highest level of yoga achieved [^]
Anna*	68	Female	Hispanic/Latino	Married	High school graduate	24	38/47=81%	3
Brandy	45	Female	Hispanic/Latino	Divorced	Less than high school	24	34/46=74%	2
Carlos	53	Male	White	Divorced	Some college	16	17/30=57%	1
Donna	45	Female	White	Single never married	Some college	24	33/47=70%	3
Eddie	53	Male	White	Single never married	Some college	16	27/30=90%	2
Frank*	64	Male	White	Married	Some college	8	10/14=71%	1
Gabriela	55	Female	White	Divorced	Some college	16	27/30=90%	2
Heather	51	Female	White	Divorced	Some college	16	15/30=50%	2

* Did not indicate yoga became an occupation; chosen to serve as negative case sample.

[^]1=beginner, 2=moderate, 3=advanced

3.3 Yoga Intervention

All yoga participants completed at least an eight-week series of yoga classes (physical postures, breathing, and meditation) with the opportunity to complete additional eight-week series, until the scheduled termination of the yoga intervention. Each eight-week series was comprised of 16, one-hour classes held twice per week. A maximum of 24 weeks of yoga (48 sessions) were offered at three levels: Level 1=beginner yoga, 2=moderate, 3=advanced. After each eight-week series, participants had the option of progressing to a more advanced level, remaining at their current level, dropping to a less advanced level, or quitting the intervention study. Out of the eight participants in this study, one person completed 8 weeks of yoga, three people completed 16 weeks, and four people completed 24 weeks. Yoga classes were led by a registered yoga teacher (RYT) who also was a licensed and registered occupational therapist (OTR/L) or physical therapy assistant (PTA).

The eight-week class series was standardized and progressively challenging and included: breathing techniques, meditation, affirmations, postures, seated postures, standing postures, floor postures, and guided relaxation. Postures began in seated position, but over time progressed to include standing and floor postures. Refer to Table 3.2 for the yoga class protocol detailed by week number. Participants were also given handouts to facilitate their optional home practice; home use was not tracked.

The yoga classes were designed specifically for people with chronic pain. All classes included modified postures so that people with chronic pain could successfully complete the intervention. Modifications included: using chairs or wheelchairs for seated postures; offering pose modifications such as remaining seated as needed; offering physical props to facilitate movement into a yoga posture (blocks, bolsters, straps, and blankets); the yoga teacher giving

verbal cues for participants' safety and comfort; and having at least two research assistants available to help participants modify and complete physical postures under the supervision of the yoga teacher. Participants were consistently reminded to listen to their own body and progress as they determined safe and appropriate.

Yoga Class Protocol

Table 3.2: Yoga Class Protocol

(All classes include breathing, meditation, affirmations, and relaxation)

<u>Week Numbers</u>	<u>Posture</u>	<u>Level</u>
1-24 (seated)	Spinal movements (twist, flexion) Cat/cow (rounding spine forward and backward) Shoulder and arm movements Finger touches Head and neck movements Eye movements and focus points	Beginner (8 weeks, 16 classes)
2-24 (add standing poses with back of chair used for balance)	Standing shoulder and arm movements Standing lateral flexion Standing leg extension Standing chest opener Alternate nostril breathing	
3-24	Standing supported lunges	
4-24 (add supine poses on floor)	Relaxation and eye movements in supine	
5-24	Supported warrior 1 and 2 (lunge, twist at spine, reach arms) Figure four (supine, legs in air, ankle of bent knee on opposite thigh of bent knee) Pelvic rolls (supine, flex and extend lumbar spine) Shoulder strengtheners (supine, press shoulders into floor)	
6-24	Back bends (bridge in supine) Tree pose Head turns in supine	
9-24	Standing mountain pose (standing straight with arms raised) Standing forward fold Partial chair pose (narrow stance squat, arms extended forward) Cactus flow (chest opener, thoracic spine extension) Staff pose (seated with legs extended, spine straight) Hug knees to chest	Moderate (week 9-16)

10-24	Lion's breath (forceful breathing) in kneeling Cat/ cow in table (on hands and knees) Child's pose (knees on mat, forward fold with head toward ground) Butterfly (seated, soles together, forward fold)	
12-24	Supported triangle (wide stance, one hand toward floor, one hand extended toward ceiling)	
17-24	Easy pose (sitting cross legged on floor) Half dog (flex at hips, hand on back of chair) Baby locust (prone, lift chest and feet) Chair pose (narrow stance squat, arms extended toward ceiling) Supine, leg extended using strap Modified plank (on hands and knees, no hip flexion) Introduction of various gross movement flows (pairing an inhale/exhale with each large movement)	Moderate II (week 17-24)

3.4 Data Collection

Parent Study Data Collection

Data for Yo-Pain were collected by several trained researchers. Research participants returned questionnaires and completed one-on-one interviews during scheduled assessments: before the yoga intervention, after 8, 16, and 24 weeks of yoga, or as long as individuals participated in the yoga intervention. Qualitative data were collected from all study participants, and were used by the sub-study for the participant selection process. The sub-study also used demographic data such as age, gender, race, marital status, educational level, weeks of participation in the yoga intervention, attendance and highest level of yoga completed.

Sub-Study Data Collection

The first author (KMT) collected all data related to the sub-study. Qualitative data included one-on-one, semi-structured interviews lasting approximately one hour with each of the eight participants. These were conducted after the Yo-Pain yoga intervention (after the 24-weeks). Additionally, four months after the 24-week mark, all eight individuals were invited to a focus group lasting approximately one hour; five of the eight individuals attended.

This sub-study's interview and focus group questions were created with input from authors (KMT, AAS, and BRH) and the interview was piloted with an occupational therapy graduate student research assistant for clarity, flow, and thoroughness before it was administered to study participants. See appendix A for interview and focus group questions. All interviews and the focus group were in semi-structured format; the interviewer (the first author) used a list of questions as a framework, but omitted or added questions as she deemed appropriate as the questioning progressed. Questions were designed to gather descriptions of how the therapeutic activity of yoga did or didn't become an occupation for the participants. Interview questions were inspired by the conceptual framework that guides this research and the definition and definition of occupation. Examples of interview questions include:

1. Was there a moment when you realized yoga was something beyond these classes?
2. What features about the class made it motivating to come back every week?
3. Tell me about how your confidence level changed over the course of these classes?
4. What does your social circle think of yoga?
5. Were there times that you wanted to give up/ felt overwhelmed/ discouraged in class, or not come to class at all. What makes you persist?

Focus group questions were intended to elaborate on the interview questions and gauge how the passing of four months may have affected the research question. Example questions include:

1. Do you still do yoga? How does it fit into your routine?
2. Are there any differences in how you do yoga since the study ended in May?
3. How have your feelings about yoga changed over the past four months (since the end of the study)?
4. What purpose/use does yoga serve in your life?

3.5 Data Analysis

Qualitative data were audio recorded, transcribed verbatim by authors (KMT and AFP), and then analyzed and coded by at least two authors (KMT, AFP, or JDP). A deductive analysis was initially used to generate codes based on the PTO conceptual model (Humphry, 2005). As data analysis progressed and new codes began to emerge, inductive methods were used to add codes. See Appendix B for the final code book. Each segment of data that was deemed relevant to the study objectives was assigned a code. Researchers continued to meet throughout the coding process to collaboratively expand or condense the code book, address discrepancies, and reassign codes within the transcripts as needed.

Rigor was enhanced by using peer review, investigator triangulation by comparing two researchers' codes of the same transcript, reflexivity through a journal, and member-checking. The first author implemented member-checking by telephoning each of the eight study participants to verify proposed themes and findings. All intervention, data collection, and data analysis processes were recorded by researchers to provide an audit trail.

Direct quotations from participants were used to illustrate common themes. Emphasis was placed on quotations that most closely answered the research objectives or presented new questions for future research relating to this topic.

CHAPTER 4: MANUSCRIPT

4.1 Introduction

Occupations are the meaningful, purposeful, and useful activities in which people engage (American Occupational Therapy Association [AOTA], 2014). Occupations are required for a person to thrive; according to Hooper and Wood (2014), they are a necessity for not only well-being, but also survival. A core value of occupational therapy is the “positive relationship between occupation and health” (2014, p. s3). Occupational imbalance or deprivation results in individual health ailments and public health problems (Wilcock, 1998).

Occupations are shaped throughout the lifespan by one’s abilities, values, surroundings, social context, and culture (Davis & Polatajko, 2010). There has been some research on how children develop occupations (Case-Smith, 2000; Humphry, 2002; Wiseman et al., 2005) and how children develop motor, cognitive, and social skills that are components of occupations (Wiseman et al., 2005). However, little research has been conducted to understand how adults develop new occupations. An improved understanding of occupational development in adults may be useful in promoting occupational participation and thus, the ability to live a healthier life.

Development of Occupation

In this study, we explored adults’ development of the new occupation of yoga. The participants in the study had chronic pain (often severe with multiple comorbidities) and yoga was a therapeutic activity that may have transformed into an occupation. Chronic pain and yoga are not the focus of this study, but are the diagnostic population and the intervention we focused on to study the development of a new occupation.

In the processes transforming occupations (PTO) model, Humphry (2005) suggests the processes that influence occupational emergence and transformation. While the PTO was written with a primary focus on the development of occupation during childhood, Humphry strived to make it applicable to adults as well. The PTO was inspired greatly by lifespan models of developmental psychology. Lifespan models of human development focus more on the impact of life situations than the influences of the person's age or physical and mental capabilities. Humphry proposes three "clusters of synergistic forces" that affect occupational emergence and transformation: construction of occupational opportunities; social transactions in developing occupation; and self-organization processes that underlie transformation of occupation.

First, the *construction of occupational opportunities* refers to communities creating niches for occupational participation. These niches are adapted by community agents, individuals in various roles who make the opportunity available to others.

The *social transactions in developing occupation* refers to one person sharing in occupational engagement with another. It involves peripheral participation (observation and sharing) (Lave & Wenger, 2002), co-creation of meaning that can result in new performance patterns; and scaffolding (a more experienced person supports one with less experienced) (Wood et al., 1976).

The third cluster of synergistic forces that contributes to the development of occupation is *self-organization processes that underlie transformation of occupation*. This refers to the person's "intrinsic capacities" (skills and abilities) being reorganized in order to adapt to new contexts (Humphry, 2005, p. 41). People may develop new performance patterns in effort to sustain engagement as conditions change and as the activity's meaning and purpose changes for

them over time. Additionally, these intrinsic capacities may evolve with repeated engagement in occupation resulting in enhanced performance.

In addition to Humphry, other authors discuss human development and inform this discussion of occupational development. Piaget's theory of cognitive development (1972), Bandura's social learning theory (1977), and Erikson's psychosocial theory (1959) all described the development of the individual, but without a focus on occupation.

The connection between human developmental and occupation has, however, been discussed. Case-Smith (2015) explains that children's development of occupations relies on the successful integration of many developing skills such as motor, cognitive, and social. However, Case-Smith proposes that children's occupations are best learned through social and cultural practices, whether through the family environment or the broader community. These contexts change as the child matures and either support the development of existing occupations or requires the child to adapt the occupation to meet environmental demands. While the existing research on childhood development of occupation is not always directly applicable to adults, some aspects may provide insight into adult development of occupation.

Distinguishing Between Therapeutic Activity and Occupation

In order to discuss whether therapeutic activities such as yoga transform into occupations, it is necessary to distinguish between the terms *activity* and *occupation*. Although the term activity has been used synonymously with the term occupation, Christiansen and Townsend state that they are not equal because activity does not have the "sense of purpose, meaning, vocation, cultural significance, and political power" that is inherent to occupations (2010, p. 2). More specifically, the *therapeutic activities* that are often prescribed during occupational therapy sessions are often designed to support the development of the specific performance skills and

patterns (AOTA, 2014). While therapeutic activities may lead to improved occupational performance, they are not usually considered occupations due to their focus on an isolated performance skill and thus, lack of meaning and cultural significance to the therapy recipient.

From the literature reviewed, it is evident that the distinction between activity and occupation is not objective, measurable, or dichotomous; a pursuit such as yoga likely falls on a spectrum between the two terms and contains elements of each. For this study, we will assume that if a person indicates that a pursuit has a high level of meaning, purpose, value, consistency, regularity, and contribution to his or her identity, it will fall toward the “occupation” end of the spectrum.

Yoga

The word yoga is Sankrit for ‘yoke’ or ‘union’ in reference to uniting the body, mind, and spirit (Field, 2011; Salmon et al., 2009). Yoga developed in India in approximately 3000 BC as a physical and spiritual practice. Three of the eight limbs of yoga are increasingly being used for health and wellness in the Western hemisphere: low intensity physical exercises (asana), breathing practices (pranayama), and meditation (dhyana) (Mailoo, 2005). Evidence demonstrates that, for adults, yoga can generally improve health-related quality of life, depression, walking, muscle strength, sleep, self-perception of physical and mental health, cardiovascular functioning, balance, and pain (Patel et al., 2012).

Yoga has been used as a therapeutic activity to address various disability impairments (Garrett, Immink, & Hillier, 2011; Schmid, Van Puymbroeck, & Kocejka, 2010), but yoga has also been described as an occupation (Humphry & Womack, 2014; Upadhyaya, 2006). No studies were found describing the transformation of yoga from a therapeutic activity to an occupation or the development of the occupation of yoga for adults.

Chronic Pain

Chronic pain has a wide variety of causes including injuries, disease processes, or medical procedures that have the side effect of persistent pain (Interagency Pain Research Coordinating Committee, 2015). While there is no standard definition for chronic pain, it is often defined as pain that has persisted over three months (Harstall & Ospina, 2003). Other authors add that pain is not only a physical experience, but also affects a person's emotional, psychological, and social life (McCaffrey et al., 2003; Robinson, Kennedy, & Harmon, 2011). It affects approximately 100 million adults in the United States (Gaskin & Richard, 2012). Treatment for chronic pain often includes pharmaceuticals, operations, physical modalities, regional anesthesia, and complementary and integrative health (CIH) (Turk & Swanson, 2007). Yoga, meditation, and Tai Chi are several CIH methods shown to reduce pain symptoms (Atkins, 2014).

Chronic pain interferes with many occupations such as sleeping, performing household chores, attending social activities, working, driving, and maintaining relationships (Breivik et al., 2006). Additionally, some studies have suggested that participation in occupations of any type reduces the pain experience, with meaningful occupations serving as a diversion to pain (Fisher et al., 2007; Neville-Jan, 2003). The development of a new occupation, such as yoga, might therefore be beneficial to the management of chronic pain.

Aims

Humphry called for further research into the development of occupation across the lifespan (2005). Therefore, the purpose of this study was to explore how yoga may have developed into an occupation for adults with chronic pain during a community-based, therapeutic yoga class. The process, supports, and barriers to yoga becoming an occupation were explored.

This study addressed the literature gaps regarding adults' occupational development and transformations.

4.2 Methods

Study Design and Participants

This qualitative case study explored the perspectives of adults who participated in a parent randomized control trial (RCT). The RCT (Yo-Pain) (Schmid et al., In review) randomized participants with chronic pain to either a yoga plus self-management intervention or usual care (self-management only). The yoga intervention took place at an outpatient pain-clinic and qualitative data for this sub-study were collected following the completion of all yoga classes. The PTO model served as a conceptual framework that influenced the development of this study's research questions, interview questions, and data analysis (Humphry, 2005).

Eighty-four individuals were recruited for the parent Yo-Pain study from an outpatient pain-clinic via approved fliers and pain-clinic nurse phone calls. Inclusion criteria for Yo-Pain included: attending the outpatient pain-clinic; self-report of chronic pain for at least six months; over 18 years old; ability to attend yoga classes and assessments; and ability to consent. Exclusion criteria for Yo-Pain included: consistent yoga practice over the past year; self-reported exercise restrictions; and serious or recent medical procedures or conditions without a doctor's note.

Eight participants in this sub-study were purposefully selected from the Yo-Pain participants (approximately 10%). See Table 4.1 for demographic information. Six samples included individuals who showed signs or made comments during classes or assessments indicating that yoga had transformed from a therapeutic activity to an occupation. Two deviant samples were also included; individuals who despite attending many yoga classes, indicated

yoga had not developed into an occupation. These deviant samples were chosen to give contrasting insight to the research questions, possibly indicating barriers to occupational development. The eight participants were selected by the first author based on the richness and descriptiveness of their other Yo-Pain interview comments.

Intervention

All yoga participants completed at least an eight-week series of yoga classes (physical postures, breathing, and meditation) with the opportunity to complete additional eight-week series, until the scheduled conclusion of the yoga intervention. Each eight-week series was comprised of 16, one-hour classes held twice per week. A maximum of 24 weeks of yoga (48 sessions) were offered at three levels: Level 1=beginner yoga, 2=moderate, 3=advanced. After each eight-week series, participants had the option to progress to a more advanced level, remain at their current level, drop to a less advanced level, or quit the study. Yoga classes were led by a registered yoga teacher (RYT) who also was either a licensed and registered occupational therapist (OTR/L) or physical therapy assistant (PTA).

The eight-week series was standardized and progressively challenging. It included: breathing techniques; meditation; affirmations; postures; seated postures; standing postures; floor postures; and guided relaxation. Postures began in seated position, but over time progressed to include standing and floor postures (Schmid et al., In review). Participants were given handouts to facilitate their optional home practice; however, home use was not tracked.

Yoga classes were modified for people with chronic pain. Modifications included using chairs or wheelchairs for seated postures; offering pose modifications such as remaining seated as needed; offering physical props to facilitate movement into a yoga posture (blocks, bolsters, straps, and blankets); the yoga teacher giving verbal cues for participants' safety; and having at

least two research assistants available to help the yoga teacher. Participants were consistently reminded to listen to their own body and progress as they determined safe and appropriate.

Data Collection

Data for the Yo-Pain parent study were collected by trained research assistants. After the intervention, the sub-study collected qualitative data via one-hour, semi-structured, one-on-one interviews with each of the eight selected participants. Additionally, four-months after the intervention, all eight individuals were invited to a focus group lasting approximately one-hour; five attended. Questions were designed to gather descriptions of how the therapeutic activity of yoga did or didn't become an occupation for participants. Interview questions were inspired by the conceptual framework that guided this research and the definition of occupation, for example:

1. What features about the class made it motivating to return each week?
2. What does your social circle think of yoga?
3. Were there times that you felt discouraged? What made you persist?

Focus group questions elaborated on interview questions and gauged how the passing of four months affected responses to research questions, for example:

1. Do you still do yoga? How does yoga fit into your routine?
2. Are there differences in how you do yoga since the study ended?
3. What purpose does yoga serve in your life?

Data Analysis

Qualitative data were audio recorded and transcribed verbatim. The interviews and focus group were each analyzed and coded by at least two authors. A deductive analysis was initially used to generate codes based on the PTO conceptual model (Humphry, 2005). As data analysis

progressed and new codes began to emerge, inductive methods were used to add codes. See Appendix B for the final code book. Each data segment deemed relevant to the study objectives was assigned a code. Researchers continued to meet throughout the coding process to address discrepancies and collaboratively expand or condense codes. Rigor was enhanced by using peer review, reflexivity, member-checking, and an audit trail.

Table 4.1: Participants

Pseudonym	Age	Gender	Race	Marital status	Education level	Weeks of yoga participation	# classes attended/offered =Percent attended	Highest level of yoga achieved [^]
Anna*	68	Female	Hispanic/Latino	Married	High school graduate	24	38/47=81%	3
Brandy	45	Female	Hispanic/Latino	Divorced	Less than high school	24	34/46=74%	2
Carlos	53	Male	White	Divorced	Some college	16	17/30=57%	1
Donna	45	Female	White	Single never married	Some college	24	33/47=70%	3
Eddie	53	Male	White	Single never married	Some college	16	27/30=90%	2
Frank*	64	Male	White	Married	Some college	8	10/14=71%	1
Gabriela	55	Female	White	Divorced	Some college	16	27/30=90%	2
Heather	51	Female	White	Divorced	Some college	16	15/30=50%	2

* Did not indicate yoga became an occupation; chosen to serve as negative case sample.

[^]1=beginner, 2=moderate, 3=advanced

4.3 Results

After analyzing the data, three major themes emerged. First, a process of developing the occupation of yoga was discussed. Second, there were several common barriers to the process. Third, there were several major supports to the process. See Table 4.2 for themes, categories, and subcategories.

Table 4.2: Themes, Categories, and Subcategories of Yoga Developing as an Occupation

Theme 1: There was a process that varied among participants.

- Initial reluctance
- Consistency
- Meaning increase
- Transfer
- Identity

Theme 2: Barriers to the process existed.

- Initial reluctance
- Environment/objects
- Not recognizing personal benefits
- Changes in health conditions

Theme 3: Supports to the process existed.

- Recognizing personal benefits
 - Decreased pain
 - Newfound ability to participate other activities
 - Socializing and avoiding tendency to isolate oneself
 - Calmness and managing daily stressors
 - Competence with yoga
 - Physical benefits (exercise, balance, flexibility, etc.)
 - Environment/objects
 - Social
 - Construction of occupational opportunities
 - Co-construction of occupation
 - Scaffolding
 - Peripheral participation
 - Commitment
 - External support
-

Process

Each participant described elements of their process of yoga becoming an occupation (or not). The process was not always linear; elements were sometimes missing from participants' descriptions, mentioned in differing sequences, or repeated at different times throughout their process. Despite this variance, we propose a general, five-element process.

Initial reluctance to try yoga was the first element in the process. Reluctance was due to preconceived expectations, often regarding the types of people (age, race, size) who do yoga, typical clothing worn, physical abilities required, and others' attitudes toward people with disabilities. When Eddie was asked what he thought about yoga when he first heard of it, he responded, "*some more new age crap [laughs] ... I just didn't think any of that stuff did anything.*" Brandy's first thought when she was invited to participate in the yoga class was, "*I can't do yoga! Look at me. I'm not a skinny little white lady trying to do yoga ... you know like you see on TV ... the lady standing on her head and then she put her knees on her elbows and she's like upside...*" She described the woman on television, with whom she did not identify, performing advanced postures that she believed were beyond her capabilities. However, Brandy also described overcoming her initial reluctance: "*I mean, it all worked out and I, it was totally different than what I thought.*"

The next element of the process was *consistency*, which included yoga becoming a routine or habit. Eddie described this process by saying, "*I know this stuff all takes time, so that's why I kept coming back. The first couple of weeks, I was like nah, this stuff is not doing anything. But if I stick with it, it might.*" Even during the first weeks of yoga, he believed that establishing it as a routine would help him reach his goals. Anna stated that yoga "*is like getting up and*

getting dressed in the morning. You know, ok, I go to yoga Wednesdays and Fridays at 11:00 so this is my schedule,” implying that it became routinized for her.

Next in the process was the category *meaning increase*, referring to yoga becoming more valuable, purposeful, or preferable to other activities. Participants described yoga being meaningful for their spiritual, social, emotional, and physical lives. Eddie explained that yoga felt like a part of his spiritual life: *“Just being able to calm my spirit and calm me down. A healing force, you know, that’s somewhere out there. Positive energy of all of the people in the room, the instructor.”* When discussing the meaning of yoga in her life, Heather explained: *“What I see yoga doing for me is walking right alongside of me; being the support that I need to do whatever it is that I’m going to do on this side... It’s like the backbone of my strength.”*

Brandy detailed how yoga was meaningful to her relationship with her grandson:

Because before, it was like, I was in pain, ‘I don’t want to look at you. Leave me alone. Go away.’ And now, I mean, I go get my grandson out of my daughter’s bedroom at 7:30 as soon as he wakes up. I mean, I carry him from his room to my room and we do yoga together. And you know it is kind of funny... because when he was born, he didn’t like me. He used to cry every time I got near him. But now, we try to go for walks, you know not very far, we go out to walk around outside of the house and I have to turn back around. But he goes with me. You know we come back, I don’t know, it seems like yoga brought us closer together.

The next element in the process was *transfer*. This involved participants doing yoga in a location other than the class or incorporating yoga into other areas of their life, intentionally or unintentionally. When asked whether she does yoga outside of class time, Brandy discussed using the breathing at home to manage her anger:

I went and sat in my room and just started breathing. I was like, 'Oh my god! Like, this stuff really works! Like, it's not just in class that we learned how to do this, but it works here at home.

Heather described using some of the physical movements at work:

I used it even just in my day-to-day work, whether I'm being a hostess at the restaurant standing in one place. You know, I catch myself stretching and, and moving, whereas before I would have never done that. You know, I might have done just a quick little lean to the side or something, whereas now I really concentrate on a move.

The final element of the process was *identity*. This referred to yoga being an important part of who they feel they are or how they present themselves to others. For example, Eddie said, “*I tell everybody, 'I'm doing yoga now!'*” Carlos stated:

I do bring it up. I do. I'm proud I do it. You know, you always hear people saying, 'I'm going to the club. We're going to the club and workout.' And you talk to people, 'Yeah, I go to [gym name]' or, you hear it all the time. Well, I guess my thing is going to yoga.”

Gabriela, when asked if yoga was part of her identity, stated that people who do yoga are “*just an elite group. Enlightened people do the whole yoga thing and I am proud to be part of that.*”

Barriers

There were several barriers to yoga transforming from an activity to an occupation. The first barrier, *initial reluctance*, was also mentioned as a part of the process. As discussed above, participants had concerns about yoga being too challenging or not welcoming toward people with disabilities.

The second barrier to yoga being adopted as an occupation was *environment*. While no participants mentioned the class environment being a barrier, several mentioned space and

physical objects as a barrier to transferring yoga to the home or other environments. Eddie, thinking of yoga classes in the community, stated, *“It costs money. [Laughs] That’s what keeps a lot of people away from it, just, just the monetary part of it.”* Donna said, *“I haven’t done any, anything at home... My issue is I’m just not comfortable anywhere in my house.... My daughter has 3 Chihuahuas. So, yeah... it’s just negative. I don’t have any energy when I’m there.”* This comment showed that the space was not comfortable or relaxing for her, so she was not able to transfer the activity of yoga to her home. When discussing barriers to doing yoga at a fitness club regarding clothing and attitudes, Carlos explained: *“It’s very intimidating when you go in there and everybody’s in their fancy little getups and it’s like a show, and, and for us, people with disabilities, it’s intimidating.”*

The third barrier to yoga developing as an occupation was *not recognizing personal benefits*. This was repeatedly illustrated by our negative case sample, Frank. He described the pain getting worse rather than better: *“So I knew I was going to be in some sort of pain the first two weeks, but that never got better. It just slowly got worse.”* He didn’t see the reasoning for many yoga activities, such as a posture called “Lions Breath”:

... Or sticking your tongue out and acting like a lion... I mean, I, that doesn’t do, that doesn’t bring anything to me without... I needed to know more about why...I wasn’t explained to. And I am one of those nuts and bolts kind of guys ...

He also mentioned not working enough on his prioritized goals and too much on other skills: *“I needed more balance stuff. I didn’t need to worry about the breathing... We did some standing stuff. That started to get me a little better.... That kind of stuff I thought I needed more of.”*

While others discussed the benefits of socializing and avoiding isolation, Frank described how these were not things he was concerned about: *“To me, [yoga] was one of the biggest wastes of*

times I ever did. But I also stay so busy doing other stuff that, that, there's, probably boils over into that anyway." He discussed how his work

Another barrier was *changes in health conditions*. Illness, pain flare-up, surgery, and extreme lack of energy were discussed as barriers to participation in yoga. These health conditions often required study participants to miss classes or take long breaks from yoga. Eddie said, *"I missed more than a couple of times because I was in so much pain at home. I had migraines or mostly pain."* Brandy spoke of taking a several-week break from yoga after a fall on a postoperative knee: *"I mean, after the group was over I was still trying to do some stuff at home. And then I got real sick. And then, I mean, it was just one thing after another piling on and piling on."*

Supports

There were several major supports to yoga transforming from an activity to an occupation. These supporting factors did not all have to be present for occupation to develop, but they were commonly mentioned as facilitators in the process.

The first support category was *recognizing personal benefits*. The benefits of yoga included: decreased pain; the newfound ability to participate in other activities (secondary to decreased pain or increased confidence); socializing and avoiding the tendency to isolate oneself; emotionally feeling calmer and managing daily stressors; feeling more competent with yoga; and getting physical benefits such as exercise, balance, and flexibility. Carlos shared:

I can tell you that the pain doesn't go away by any means, but it helps me to think of breathing and not concentrating on that pain. More concentrating on breathing in and breathing out. I say that to myself all the time. To get myself breathing. So, it's cool for me. It's something interesting and it's, um, it's getting easier and easier.

When asked by what motivated her to come back every week, Brandy said, “ ‘Cause I have been getting better. This is going to keep helping me get better; why would I not come back?” Donna explained one of the benefits of yoga by saying, “Yoga has lowered my blood pressure. So I feel like I'm a lot calmer. A lot more, um, peaceful.” Gabriela discussed social benefits:

As time went on, I did look forward to getting together with the people that were in my class. So, it wasn't in the beginning at all, but towards the end, it was like I was kinda excited to see them when I got here, cause we all knew each other and got close. We got close.

Carlos also explained the social benefits of “getting out of the house and getting some exercise. Or just getting out of the house and being around other people. You can't just isolate.” Some participants discussed the benefit of other important life activities now being possible because of yoga, likely due to decreased pain or increased confidence. Brandy explained how she was surprised by her gains and that new activities were possible due to her improved confidence:

I can go down the stairs by myself. I think has just helped me heal my body, like in some ways, 'cause I am not scared. I don't know, it sounds weird, but I am not scared to try something new.

Physical environment was the second support category referring to the presence of helpful objects, sufficient space, and a non-distracting environment. Carlos described some of the objects which he felt supported his participation in yoga, such as yoga straps used to facilitate stretch and reach, chairs used to facilitate balance, and his preferred clothing:

We can come in our jeans and do it if we want to. And we do have, um, straps ... And the [yoga] students feel safe when ... there's chairs [to use for balance] and there's stuff to help you.

Eddie also talked about the quiet environment being a support: *“When I’m in class I can just clear my mind. It’s just the breathing and the quiet and just nothing, you know? No screens, or phone calls, or any of that.”*

The third support category was *social*. Other people often supported the development of the participants’ yoga occupation. There were six subcategories of social support. The first social-subcategory was *construction of occupational opportunities*, wherein the sociocultural community (individuals or organizations) created a niche for the occupation to develop (Humphry, 2005). Many participants talked about the helpfulness of the pain-clinic nurse or the researchers who could be considered community agents helping to create the opportunity for yoga. Eddie, when asked what was supportive to him, responded, *“Well, that it’s free [of charge],”* an aspect of the class that allowed him the opportunity to participate. Sometimes the community agent encouraged a reluctant participant to construct the opportunity. Anna explained, *“I wasn’t even interested in yoga at all until [pain-clinic nurse] said, ‘Okay, maybe you should try it. You might like it. Just try it.’ So, okay, I tried it. So, you see, I’ve still been coming.”* Additionally, the yoga intervention was specifically adapted by the yoga teachers and researchers to open it as an opportunity for people with chronic pain and other concurrent disabilities. Brandy described one modification: *“You guys gave us options. If we can’t get on the floor, then you can do it in your chair. You know stuff like that.”* Heather described adaptability as a core-concept of yoga:

It teaches you to respect your body. Um, I guess in comparison, when you do exercise and you exert yourself, there is always, um, a push-through-it attitude. And with yoga, it’s... respect your body. Listen to your body, and if it hurts, that means today’s not the day to do it.

The second social-subcategory was *co-construction of occupation*, wherein the act of doing the activity together led to new experiences or meaning perspectives that wouldn't have emerged if the activity was done alone (Humphry, 2005; Wood et al., 1976). Participants described the class evolving to become a social outlet or a non-judgmental place for people with disabling chronic pain who might be ostracized from other community yoga classes. Anna described it as a social outlet: *“But it’s nice to talk to somebody else, hear somebody else’s problems. They listen to mine, I listen to theirs, and stuff.”* Brandy described how the yoga class was co-constructed to become comfortable, non-judgmental zone for individuals with chronic pain:

You know, like, nobody’s going to judge you. We’re all in this together, this same thing. Everybody understands it. And I understand where they’re coming from. And this is why we come together, to see if we can make our lives just a little bit better. You know, take that pain away for an hour just by coming and doing yoga. I mean, you got nothing to lose and you got a lot to gain from it.

Brandy and her classmates inadvertently co-constructed the yoga class to be a positive, supportive experience.

The third social-support subcategory was *scaffolding*, where a more experienced person teaches or supports a less experienced person (Wood et al., 1976). Donna mentioned, *“I let the instructors pretty much have control. Um, but they went at a nice speed to where it wasn’t too fast, wasn’t too slow.”* When asked what was most helpful to her, Anna replied:

[The instructor], she’d come and move our arms and stand us into position, in the right position... so we wouldn’t get hurt. Cause I know that if you stand and stretch the wrong way you can pull a muscle.

The fourth social-support subcategory was *peripheral participation*: observing another person doing the activity (Lave & Wenger, 2002) shapes the occupation's development. Gabriela described the benefits of coming to a class as opposed to doing yoga alone: "*Because you do compare yourself to other people and you see other people and how their flexibility level, and then you think, 'Okay, I can do that.'*" Eddie mentioned how he was motivated by seeing others do yoga even though they were also in pain: "*Well, that's part of the reason I kept coming. Is because I saw other people that were pushing themselves and other people that were not doing great and they were still coming back a lot so, go team [laughs].*"

The fifth social-support subcategory was *commitment*. This encompassed participants' commitment to themselves or others; sometimes explained as obligation. Heather felt obligated to herself, stating:

It's like, I made the decision to go to yoga class. I made the commitment to it, it's about me ... I don't answer to anybody else. I don't have to be accountable to anybody else but me and feeling guilty 'cause of not being in some of the classes.

Gabriela said, "*This class kept me accountable. ... And the fact that we were part of something. I was committed to [the research] project.*"

The sixth social-support subcategory was *external support* meaning the participant was supported by family, friends, or others not involved in the yoga classes. Carlos stated how his participation in yoga was supported by his family:

My son thinks it's cool. You know, he asks, 'Going to yoga today, dad?' ... I think he likes, I think him as being my son and my parents seeing me as their son, they don't want to see me fade away. And they don't want to see me sit on the couch every day. They want to see me feel good. And they want to see me get some exercise.

Eddie described how others supported his yoga because of its benefits: “*Everybody knows I have been going through a lot and I am trying to do whatever I can do, so yeah, they’re supporting. A couple of people roll their eyes, but they haven’t done it.*”

4.4 Discussion

Our review of existing literature indicated that occupations are distinguished from activities by having meaning, purpose, value, consistency, regularity, and contribution to identity. Since the concept of *meaning* encompasses purpose, value, routine, and identity (Eakman, 2015), increased meaning was a key indicator of occupation developing from activity.

Even with this focus on meaning, it was still challenging to distinguishing between activity and occupation since activities are the building blocks of occupations (Hinojosa & Kramer, 1997). Even a mundane activity may contribute to a meaningful occupation and therefore, carry some meaning. For the present study, we consider activity and occupation to be two ends of a spectrum and if a person indicates that a task has a high level of meaning (purpose, value, etc.), it falls toward the occupation end of the spectrum.

Most literature discussing occupational development focuses on children (Case-Smith, 2015; Humphry, 2005). Children express increased meaning through actions by showing preference, interest, and persistence (Humphry, 2005). In contrast, the adults in the present study expressed increased meaning verbally, describing their perspectives regarding yoga developing as a meaningful occupation. While adults and children signify occupational development differently, the present study, Case-Smith (2015), and Humphry (2005) all indicate that development of meaning and occupation is greatly supported by social factors (such as co-construction of occupation) and cultural factors (such as community constructed opportunities).

In addition to these social and cultural contextual supports, the present study found that *recognizing personal benefits* was a key support interwoven throughout the process of yoga developing as a new occupation. Personal benefits were physical (decreased pain, exercise, yoga competence, ability to do other activities), social (socializing and avoiding isolation), and emotional (calmness and managing stress). Many of these benefits could be encompassed in the PTO model element “self-organization processes underlying transformations in occupation” (Humphry, 2005). Both the PTO model and the present study highlight the importance of competence and new meaning perspectives in the process of developing occupation.

Frank, one of the negative case participants in our study, did not recognize any personal benefits and thus, did not indicate that yoga became a meaningful occupation. Foremost, he did not feel yoga reduced his pain. Nor did he gain any of the other benefits that other participants discussed. For example, he did not benefit from socializing with the group, stating that he typically stayed busy and social in his life. Perhaps this was due to the fact that out of the eight participants, he was the only one who was currently married and employed full time. Also, he did not feel that he gained competence; he felt that the teacher did not focus enough on his prioritized goals (such as balance), so he often felt the class was too easy. He also felt that he did not gain competence in understanding many aspects of yoga; he wasn't offered the rationale behind some of the yoga actions, leading him to believe they were not purposeful. From his expressed lack of personal benefits, it is understandable why yoga did not transform into a meaningful occupation for him.

The process of yoga becoming an occupation varied among participants and was non-sequential. *Initial reluctance* often was present before the participant tried yoga and was considered both part of the process and a barrier. Initial reluctance was often due to preconceived

expectations that were established by past experiences or observations, frequently via the media. While initial reluctance might have slowed the process of yoga becoming an occupation, it was often overcome due to the adaptive nature of the class. Adaptations and grading of the activity were done via equipment (e.g., using chairs for balance) and movements (e.g., doing many postures seated), allowing participants to feel safer and more confident. Additionally, consistency of attending class and the resulting increased competency in yoga skills helped participants feel that yoga was a familiar, comfortable part of their routine.

Consistency was also supported by the fact that the class was constructed to be free of charge and was an encouraging, positive environment. Consistency was, however, often hindered by participant health complications, requiring them to take long breaks or lose competency as skills waned.

Meaning increase, another element of the process, was largely due to participants recognizing personal benefits. As participants recognized benefits such as decreased pain, socializing, calmness, and exercise, yoga became more valuable, purposeful, and preferable to other activities. Additionally, Humphry (2005) described how the meaning of an occupation may be co-created by participants. Our study provides a powerful example: participants originally expected yoga to be an activity leading to physical benefits, but in the process of co-creating this yoga class for chronic pain, the meaning of the class transformed to become a support-group type occupation with unexpected social, emotional, physical, and spiritual benefits. Increased meaning was also a result of participants feeling more competent in yoga, largely due to the adaptive nature of the class. The class was constructed to provide a “just-right challenge,” a characteristic that often leads to increased meaning (Law, 2002).

Transfer, the next element in the process, was often supported by access to an environment that was adequately private and spacious. Additionally, external social supports, such as family members, often encouraged participants to transfer yoga to settings outside the class. Transfer was hindered for participants who did not have access to a suitable environment or adapted yoga classes. Reluctance often reemerged for participants when talking about transferring their yoga practice to a gym. Participants anticipated not fitting in at a gym due to not wearing typical gym clothing styles or others' stigmatizing attitudes toward people with disabilities.

Identity was often a result of increased meaning. While some participants identified as "a person who does yoga," others seemed to identify more as "a group-member of the yoga for chronic pain class." They indicated pride and a sense of belonging in the class, indicating that their co-construction of the class and socialization held great meaning for them.

Limitations

One limitation of this study is the subjective nature of defining occupation and activity. While we thoroughly synthesized existing literature, there is no consensus or single best source on these terms. It was necessary, however, to assert definitions to identify the subtleties of occupational development. Similarly, the choice of themes and categories involved author subjectivity. It is likely that another person reviewing the same data would name the themes and categories differently, although through member-checking and peer-review processes, we are confident that our results accurately portray the data. Our analysis is only one perspective of the topic of occupational development. Four authors are occupational therapists or occupational therapy students and one is a social worker, so this also contributed to our perspective.

A methodological limitation is, due to the small size of the study and main diagnosis of chronic pain, generalizability to other populations is limited. Also worth considering is whether 8 to 24-weeks is long enough to build identity or develop new occupations. It is possible that a longer study would yield different results to answer how yoga, or other activities, became occupation. Another limitation is that all participants started beginner yoga classes and some claimed that these classes were too easy. If we had initially placed participants in a class of the just-right challenge, this may have supported yoga becoming an occupation.

There are some limitations related to our participants. First, because they volunteered to participate in the yoga study, there was some initial dedication and optimism that may not be as prevalent among the general public. Participant bias might also have occurred because the first author who conducted the interviews and focus group was also a research assistant attending yoga classes and administering assessments. Therefore, participant responses might have been more favorable due to familiarity with the author or in order to protect the feelings of the author. Also, not all participants attended the focus group despite multiple invitations, limiting this follow-up data and perhaps biasing this data toward people with more positive feedback who were more likely to attend the focus group.

4.5 Conclusion

This study explored eight adults' process of yoga transforming from a therapeutic activity to an occupation, identifying supports and barriers to the process. We found the process to vary among participants and progress non-sequentially. Additionally, we aimed to answer a call from Humphry (2005) to build upon the PTO model and to apply it to adults. While each of the PTO's *three clusters of forces contributing to development of occupation* was illustrated in the present study, several key supports to the process of yoga developing as an occupation emerged.

First, the *construction of occupational opportunities* was represented by yoga being adapted and accessible to participants. Second, while many social transactions were important, *co-construction of occupation* emerged as a factor that transformed the yoga class into a supportive, meaningful group experience. Finally, *self-organization processes* were represented when participants recognized their personal benefits and therefore yoga became more meaningful. This increase in meaning was a key factor in distinguishing occupation from activity.

Future researchers should consider exploring the development of each building block of occupations such as meaning, identity, or routine. Additionally, they could explore the question of why some individuals do not recognize personal benefits of occupation even though it is likely that some exist. As suggested above, a longer study of development of occupation may offer different results than this study due to the gradual development of some occupations.

Occupations have more meaning, purpose, value, consistency, regularity, and contribution to identity than activities. If a therapeutic activity transforms into an occupation, it will contribute more to a person's health and well-being than if it were to remain an activity. By contributing to the knowledge-base about the process of occupational development and its supports and barriers, we hope to facilitate opportunities to develop and participate in meaningful occupations, thereby promoting health and well-being across the lifespan.

REFERENCES

- American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process (3rd edition). *American Journal of Occupational Therapy*, 68(Suppl. 1), S1-S48. doi:10.5014/ajot.2014.682006
- Atkins, M. (2014). Spinal cord injury. In M. V. Radomski & C. A. Trombly Latham (Eds.), *Occupational therapy for physical dysfunction* (7th ed., pp. 1168-1214). Philadelphia: Lippincott Williams & Wilkins.
- Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23(5), 611.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Breivik, H., Collett, B., Ventafridda, V., Cohen, R., & Gallacher, D. (2006). Survey of chronic pain in Europe: Prevalence, impact on daily life, and treatment. *European Journal of Pain*, 10(4), 287-287.
- Büssing, A., Ostermann, T., Lüdtkke, R., & Michalsen, A. (2012). Effects of yoga interventions on pain and pain-associated disability: A meta-analysis. *The Journal of Pain*, 13(1), 1-9.
- Case-Smith, J. (2000). Development of childhood occupations. In J. Case-Smith (Ed.), *Occupational therapy for children* (4th ed., pp. 71-94). St. Louis, MO: Mosby.
- Case-Smith, J. (2015). Development of childhood occupations. In J. Case-Smith & J. C. O'Brien (Eds.), *Occupational therapy for children and adolescents* (Vol. 7th, pp. 65-101). St. Louis, MO: Elsevier.

- Chang, D. G., Holt, J. A., Sklar, M., & Groessl, E. J. (2016). Yoga as a treatment for chronic low back pain: A systematic review of the literature. *Journal of Orthopedics & Rheumatology*, 3(1), 1-8.
- Christiansen, C. H., & Townsend, E. A. (2010). *Introduction to occupation: The art and science of living* (2nd ed.). Cranbury, NJ: Pearson Education.
- Davis, J., & Polatajko, H. (2006). The occupational development of children. In S. Rodger & J. Ziviani (Eds.), *Occupational therapy with children: Understanding children's occupations and enabling participation* (pp. 136-157). Oxford, UK: Blackwell Science Publishers.
- Davis, J., & Polatajko, H. (2010). Occupational development. In C. H. Christiansen & E. A. Townsend (Eds.), *Introduction to occupation: The art and science of living* (2nd ed.). Cranbury, NJ: Pearson Education.
- Eakman, A. M. (2015). Person factors: Meaning, sensemaking, and spirituality. In C. H. Christiansen, C. M. Baum, & J. D. Bass (Eds.), *Occupational therapy: Performance, participation, and wellbeing* (4th ed., pp. 313-331). Thorofare, NJ: Slack.
- Edwards, D., & Christiansen, C. H. (2005). Occupational development. In C. H. Christiansen, C. M. Baum, & J. Bass-Haugen (Eds.), *Occupational therapy: Performance, participation and well-being* (pp. 43-69). Thorofare, NJ: SLACK Incorporated.
- Erikson, E. H. (1959). Identity and the life cycle: Selected papers. *Psychological Issues*, 1(1), 1-171.
- Field, T. (2011). Yoga clinical research review. *Complementary Therapies in Clinical Practice*, 17(1), 1-8.

- Fisher, G. S., Emerson, L., Firpo, C., Ptak, J., Wonn, J., & Bartolacci, G. (2007). Chronic pain and occupation: An exploration of the lived experience. *American Journal of Occupational Therapy, 61*(3), 290-302.
- Flavell, J. H. (1996). Piaget's legacy. *Psychological Science, 7*(4), 200-203.
- Fritz, H. (2014). The influence of daily routines on engaging in diabetes self-management. *Scandinavian Journal of Occupational Therapy, 21*(3), 232-240.
- Garfinkel, M. S., Schumacher, H. R., Husain, A., Levy, M., & Reshetar, R. A. (1994). Evaluation of a yoga based regimen for treatment of osteoarthritis of the hands. *The Journal of Rheumatology, 21*(12), 2341-2343.
- Garrett, R., Immink, M. A., & Hillier, S. (2011). Becoming connected: The lived experience of yoga participation after stroke. *Disability and Rehabilitation, 33*(25-26), 2404-2415.
doi:10.3109/09638288.2011.573058
- Gaskin, D. J., & Richard, P. (2012). The economic costs of pain in the United States. *The Journal of Pain, 13*(8), 715-724. doi:10.1016/j.jpain.2012.03.009
- Gureje, O., Von Korff, M., Simon, G. E., & Gater, R. (1998). Persistent pain and well-being: a World Health Organization study in primary care. *JAMA, 280*(2), 147-151.
- Gutman, S. A., Mortera, M. H., Hinojosa, J., & Kramer, P. (2007). Revision of the occupational therapy practice framework. *The American Journal of Occupational Therapy, 61*(1), 119.
- Hannam, D. (1997). More than a cup of tea: Meaning construction in an everyday occupation. *Journal of Occupational Science: Australia, 4*(2), 69-74.
- Harstall, C., & Ospina, M. (2003). How prevalent is chronic pain? Pain: Clinical updates. *International Association for the Study of Pain, 11*(2), 1-4.

- Hinojosa, J., & Kramer, P. (1997). Statement - Fundamental concepts of occupational therapy: Occupation, purposeful activity, and function. *American Journal of Occupational Therapy, 51*(10), 864-866. doi:10.5014/ajot.51.10.864
- Hooper, B., & Wood, W. (2014). The philosophy of occupational therapy: A framework for practice. In B. A. B. Schell, G. Gillen, & M. E. Scaffa (Eds.), *Willard and Spackman's occupational therapy* (12th ed., pp. 35-46). Philadelphia: Lippincott Williams & Wilkins.
- Humphry, R. (2002). Young children's occupations: Explicating the dynamics of developmental processes. *American Journal of Occupational Therapy, 56*(2), 171-179.
- Humphry, R. (2005). Model of processes transforming occupations: Exploring societal and social influences. *Journal of Occupational Science, 12*(1), 36-44.
doi:10.1080/14427591.2005.9686546
- Humphry, R., & Wakeford, L. (2008). Development of everyday activities: A model for occupation-centered therapy. *Infants & Young Children, 21*(3), 230-240.
- Humphry, R., & Womack, J. (2014). Transformations of occupations: A life course perspective. In B. A. B. Schell, G. Gillen, & M. E. Scaffa (Eds.), *Willard and Spackman's occupational therapy* (12th ed., pp. 60-71). Philadelphia: Lippincott Williams & Wilkins.
- Interagency Pain Research Coordinating Committee. (2015). National Pain Strategy: a comprehensive population health-level strategy for pain. *Washington, DC: Department of Health and Human Services.*
- John, P., Sharma, N., Sharma, C. M., & Kankane, A. (2007). Effectiveness of yoga therapy in the treatment of migraine without aura: A randomized controlled trial. *Headache: The Journal of Head and Face Pain, 47*(5), 654-661.

- Lave, J., & Wenger, E. (2002). Legitimate peripheral participation in communities of practice. In R. Harrison, F. Reeve, A. Hanson, & J. Clarke (Eds.), *Supporting lifelong learning: Perspectives on learning* (Vol. 1, pp. 111-126). London: The Open University.
- Law, M. (2002). Participation in the occupations of everyday life. *American Journal of Occupational Therapy, 56*(6), 640-649.
- Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1997). Theoretical contexts for the practice of occupational therapy. In C. Christiansen & C. M. Baum (Eds.), *Occupational therapy: Enabling function and well-being* (2nd ed., pp. 73-102). Thorofare, NJ: SLACK Incorporated.
- Maher, C. (2014). Orthopaedic conditions. In M. V. Radomski & C. A. Trombly Latham (Eds.), *Occupational therapy for physical dysfunction* (7th ed., pp. 1103-1128). Philadelphia: Lippincott Williams & Wilkins.
- Mailoo. (2005). Yoga: An ancient occupational therapy? *British Journal of Occupational Therapy, 68*(12), 575-577.
- McCaffrey, R., Frock, T. L., & Garguilo, H. (2003). Understanding chronic pain and the mind-body connection. *Holistic Nursing Practice, 17*(6), 281-289.
- Montgomery, L., Schmid, A. A., Davis, T. L., Mitchell, J. E., Short, E. R., & Miller, K. K. (2015). Changes in emotional regulation and quality of life after therapeutic yoga for individuals with traumatic brain injury. *American Journal of Occupational Therapy, 69*(Supplement_1).
- Nakamura, J., & Csikszentmihalyi, M. (2002). The concept of flow. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology*. New York, NY: Oxford University Press.

- Neville-Jan, A. (2003). Encounters in a world of pain: An autoethnography. *American Journal of Occupational Therapy, 57*(1), 88-98.
- Patel, N. K., Newstead, A. H., & Ferrer, R. L. (2012). The effects of yoga on physical functioning and health related quality of life in older adults: A systematic review and meta-analysis. *The Journal of Alternative and Complementary Medicine, 18*(10), 902-917.
- Piaget, J. (1972). Intellectual evolution from adolescence to adulthood. *Human Development, 15*(1), 1-12.
- Pierce, D. (2001). Untangling occupation and activity. *American Journal of Occupational Therapy, 55*(2), 138-146.
- Polatajko, H. J., Davis, J. A., Hobson, S. J. G., Landry, J. E., Mandich, A., Street, S. L., . . . Yee, S. (2004). Meeting the responsibility that comes with the privilege: Introducing a taxonomic code for understanding occupation. *Canadian Journal of Occupational Therapy, 71*(5), 261-264. doi:10.1177/000841740407100503
- Posadzki, P., Ernst, E., Terry, R., & Lee, M. S. (2011). Is yoga effective for pain? A systematic review of randomized clinical trials. *Complementary Therapies in Medicine, 19*(5), 281-287.
- Robinson, K., Kennedy, N., & Harmon, D. (2011). Is occupational therapy adequately meeting the needs of people with chronic pain? *American Journal of Occupational Therapy, 65*, 106-113.
- Roland, K. P. (2014). Applications of yoga in Parkinson's disease: A systematic literature review. *Parkinsonism and Restless Legs Syndrome, 4*, 1-8.

- Rudy, T. E., Kerns, R. D., & Turk, D. C. (1988). Chronic pain and depression: Toward a cognitive-behavioral mediation model. *Pain, 35*(2), 129-140.
- Salmon, P., Lush, E., Jablonski, M., & Sephton, S. E. (2009). Yoga and mindfulness: Clinical aspects of an ancient mind/body practice. *Cognitive and Behavioral Practice, 16*(1), 59-72.
- Sanders, S. H., Harden, R. N., & Vicente, P. J. (2005). Evidence-based clinical practice guidelines for interdisciplinary rehabilitation of chronic nonmalignant pain syndrome patients. *Pain Practice, 5*(4), 303-315.
- Schmid, A. A., Miller, K. K., Van Puymbroeck, M., & Schalk, N. (2016). Feasibility and results of a case study of yoga to improve physical functioning in people with chronic traumatic brain injury. *Disability and Rehabilitation, 38*(9), 914-920.
doi:10.3109/09638288.2015.1062927
- Schmid, A. A., Portz, J. D., Van Puymbroeck, M., Fruhauf, C., & Bair, M. J. (In review). Yoga improves pain and pain related outcomes. *Pain*.
- Schmid, A. A., Van Puymbroeck, M., Altenburger, P. A., Schalk, N. L., Dierks, T. A., Miller, K. K., . . . Williams, L. S. (2012). Poststroke balance improves with yoga: A pilot study. *Stroke, 43*(9), 2402-2407.
- Schmid, A. A., Van Puymbroeck, M., & Koceja, D. M. (2010). Effect of a 12-week yoga intervention on fear of falling and balance in older adults: A pilot study. *Archives of Physical Medicine and Rehabilitation, 91*(4), 576-583.
- Stanos, S., & Houle, T. T. (2006). Multidisciplinary and interdisciplinary management of chronic pain. *Physical Medicine and Rehabilitation Clinics of North America, 17*(2), 435-450.

- Stoller, C. C., Greuel, J. H., Cimini, L. S., Fowler, M. S., & Koomar, J. A. (2012). Effects of sensory-enhanced yoga on symptoms of combat stress in deployed military personnel. *American Journal of Occupational Therapy, 66*(1), 59-68.
- Turk, D. C., & Swanson, K. (2007). Efficacy and cost-effectiveness treatment for chronic pain: An analysis and evidence-based synthesis. In M. E. Schatman & A. Campbell (Eds.), *Chronic pain management: Guidelines for multidisciplinary program development* (pp. 15-38). New York: Informa Healthcare.
- Upadhyaya, D. (2006). *Yoga as an occupation to promote quality of life for individuals with fibromyalgia*. Dominican University of California.
- Wilcock, A. A. (1998). *An occupational perspective of health*. Thorofare, NJ: Slack Incorporated.
- Wilcock, A. A. (1999). Reflections on doing, being and becoming. *Australian Occupational Therapy Journal, 46*(1), 1-11.
- Williams, K., Abildso, C., Steinberg, L., Doyle, E., Epstein, B., Smith, D., . . . Cooper, L. (2009). Evaluation of the effectiveness and efficacy of Iyengar yoga therapy on chronic low back pain. *Spine, 34*(19), 2066-2076.
- Wiseman, J. O., Davis, J. A., & Polatajko, H. J. (2005). Occupational development: Towards an understanding of children's doing. *Journal of Occupational Science, 12*(1), 26-35.
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry, 17*(2), 89-100.

APPENDIX A: INTERVIEW AND FOCUS GROUP QUESTIONS

Semi-structured Interview Guide

1. Do you think yoga is an important part of your life? Why or why not?
 - a. In what ways did you feel these yoga classes were important, helpful, or productive?
 - b. How has this changed over the course of the study?
2. (*Context*) Tell me about your past experiences with yoga or similar activities.
 - a. Tell me about the first time you heard about yoga; (it may have been years ago).
 - i. Or similar activity (Eastern modality, exercise class, etc.).
 - b. What was your impression? Did it make doing yoga easier?
 - c. Did you want to yoga?
 - d. Did you know anybody who did it? What did you think of that?
 - e. Did you have an interest in it?
3. Tell me about one of the first times you used yoga outside of the class? For example, if you used the breathing when you were upset.
 - a. Any other times when you realized it had more of a place in your life than just the class?
 - b. Were there any additional, unexpected benefits for you?
4. (*Environmental affordances, context*) What features about the class made it motivating to come back every week, practice at home, or think about it throughout the day?
 - a. What were the supports and challenges?
 - b. Physical: location, objects?

- i. What supports would have helped you engage in it more?
 - c. Social: friends, family, others in the class, belonging, or connections?
 - d. Time of class?
 - e. Situation: pain?
 - f. Control: Did it depend on the teacher or do you preferred to control it? How did this affect when or how often how you did it?
5. (*Competence, confidence, satisfaction, and self-efficacy*) Tell me about how your confidence grew over the course of these classes?
- a. What helped you become more confident in your ability to do yoga early on? Later?
 - b. If there were times that you wanted to give up, felt overwhelmed, discouraged in class, or not come to class at all, what made you persist?
 - c. How did you feel when you missed classes?
 - d. What parts of the class made you feel most confident? Why?
 - e. Where there any times when you felt like you couldn't do something, but then you could? How did this influence the role of yoga in your life?
 - f. Tell me about any times when you did something in yoga class and realized that it could really help you in other areas of your life.
6. (*Routine or habit*) How often do you do yoga now, in this class or outside of class?
- a. Do you do the movements, the meditation, the breathing, or all three?
 - b. How has yoga become a routine within your life, something that you do regularly? Why or why not? How could it become more of a routine?

- c. Are there any aspects of it that have become habits, you do them automatically without having to think about it?
 - d. How often would you like to do it in the future? Daily? Weekly? Monthly? Not at all?
 - i. How often do you think you will actually do it?
7. Does yoga incorporate any existing interests? Which ones and how has this impacted your experience with yoga?
8. (*Flow*) In what ways was yoga too easy or difficult for your skill level?
 - a. Was it interesting (you become fully engaged) or boring (your attention wandered)?
9. (*Social press*) What does your social circle think of yoga (friends, family, or coworkers)?
 - a. What did you tell people about your experience with yoga before, during and after?
 - b. What do they say to you about it?
 - c. What do they say to others?
10. (*Identity*) If someone were to ask you about your interests or how you spend your time, would mention yoga? Why or why not?

Focus Group Questions

1. Do you still do yoga?
 - a. Where?
 - i. How does this location help or hinder you?
 - b. When?
 - i. Tell me about how it fits into the routine of your life.
 - ii. What keeps it from being a part of your routine?
 - c. With whom?
 - i. How do these yoga partners help or hinder?
 - ii. Tell me about how the social aspect of yoga has changed over the summer.
2. Are there any differences in how you do it since the study ended in May?
 - a. Any differences in the poses, breathing, meditation, relaxation, or doing it seated versus standing?
3. How have your feelings about yoga changed over the past 4 months?
 - a. If you think back to the day it ended, how has your attitude toward yoga changed since then?
 - i. For example, did it become more enjoyable, easier, more focused or deeper? Or did it become more boring, or did the novelty wear off?
 - b. So, you just told me how it has changed over the summer. Now, think back to the very beginning of this study: how has your attitude toward yoga changed from then until now?
4. What do you find meaningful about yoga?
 - a. Tell me more about the process of when the meaningful feelings began to form.

- b. If no: why isn't it meaningful or more meaningful? Does it cause any problems for you?
- 5. If someone were to ask you about your interests or how you spend your time, would you mention yoga? Why or why not?
- 6. Imagine you were no longer able to do yoga. What would you lose?