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The Lived Experience of Adults Using a Meditation App:

A Phenomenological Study

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May 17, 2017

THE LIVED EXPERIENCE OF USING A MEDITATION APP

Abstract

Stress is increasingly prevalent in Western culture, and researchers associate it with physical and psychological health issues. Previous research indicates meditation, specifically through meditation apps on smartphones, is beneficial for reducing stress. However, limited research addresses qualitative data regarding meditation apps; therefore, this study describes the lived experience of adults using a meditation app called Headspace. We used phenomenology as a method to describe the essence of participant lived experiences. We collected qualitative data by having twelve adults journal about their experiences after completing a series of ten meditation app sessions. We completed a thematic analysis with the journal entries, which resulted in six emerging themes: relaxation, thoughts, emotions, senses, breathing, and reduced stress. Results suggest that meditation using Headspace is beneficial for relaxation and reducing stress in adults in Western culture. Implications for holistic health include that practitioners have a new method of promoting relaxation and stress reduction to their clients. Further research could be conducted to measure quantitative relaxation and stress reduction in adults experiencing stress in Western culture using the Headspace app.

Keywords: meditation, headspace, meditation apps, mobile health, stress reduction

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Table of Contents

Introduction.....	2
Literature Review	5
Stress	5
Meditation	8
Technology.....	10
Summary	12
Lenses	14
Relevant Terms	14
Research Paradigm and Culture of Inquiry	15
Psychoneuroimmunology Theory	16
Personal and Professional Lenses	17
Method	24
Rationale for a Constructivist Paradigm	24
Phenomenology as a Culture of Inquiry.....	25
Phenomenology as Method.....	26
Sampling.....	27
Instrumentation.....	29
Data Collection.....	30
Data Analysis	30
Ethical Considerations.....	33
Design Rigor	34
Design Specific Strengths and Limitations	35
Results.....	37
Description of Participants	37
Observational Data.....	37
Themes	38
Discussion.....	43
Findings Supported by the Literature.....	43

Unexpected Findings.....	44
Implications.....	45
Conclusion.....	46
References.....	48
Appendix A.....	55
Appendix B.....	56
Appendix C.....	57
Appendix D.....	61
Appendix E.....	62
Appendix F.....	65
Appendix G.....	67
Appendix H.....	68

Introduction

Stress is a major health problem around the globe (Dillon, Kelly, Robertson, & Robertson, 2016). In fact, stress is one of the leading causes of premature mortality and disease around the world (Dillon et al., 2016). In 2014, 75% of adults in the United States perceived themselves as highly stressed, 29% reported their stress had increased over the past year, while 18% reported stress had decreased and 42% felt they should be able to manage stress better (Coulon, Monroe, & West, 2016). In the United States, over 120,000 people die each year from stress (Dillon et al., 2016). Causes of stress include work demands, relationships, increased pace of life, eating habits, sedentary lifestyle, finances, environmental pollution, and psychosocial disturbances (Zope & Zope, 2013). Without significant life stressors, the human body is in a state of homeostatic balance; a state where multiple bodily systems (i. e., oxygen levels, photosynthesis, and body temperature) function together in harmony (Sapolsky, 1994). However, a homeostatic imbalance occurs if the mind is cognitively and emotionally dealing with life stressors, thus affecting physical health (Ballegaard et al., 2014; Sapolsky, 1994). Stress can cause multiple physical health issues (e.g. heart disease, cancer, strokes, weakness, fatigue, leaky gut, candida) as well psychological issues including depression, anxiety, and post-traumatic stress disorder (Rouchotas, 2014; Dillon et al., 2016). Therefore, stress can cause both physical and psychological reactions

because stress is a mind-body interaction (Stein, 2001).

Humans can manage stress, restore balance, and improve overall health and well-being (Dunbar-Lane, 2014). However, with increasing amounts of long-term stress in daily life, it is important to be aware of the mind-body connection and possible ways to reduce stress (Gartland, O'Connor, Lawton, & Ferguson, 2014). Meditation is one stress management practice that involves training the mind to intentionally produce a calm body (Oberg, 2009; Stein, 2001). Anyone can practice meditation because it can be self-directed, easily performed, and used at home (Stein, 2001). Through advancements in technology, meditation is readily available through smartphones (Laurie & Blandford, 2016). Technology significantly advances consumer health options, allowing for the use of mobile health, or “mHealth” apps instead of more traditional meditation methods (Newman, Szkodny, Llera, & Przeworski, 2011). One such mHealth app for meditation is called *Headspace*.

Headspace is an mHealth app for Mindfulness training and stress reduction (Headspace, 2016). When compared to other similar commercial apps, Headspace is a favorable choice and is one of the highest-scoring mindfulness apps on the Mobile Application Rating Scale (MARS) (Mani, Kavanagh, Hides, and Stoyanov, 2015; Rosen, 2016; Howells, Ivtzan, & Eiroa-Orosa, 2016). Headspace uses both audio and animated videos to guide participants in their meditations (Laurie & Blandford, 2016). Although Headspace is a favorable, top rated meditation app, there is a small amount of research related to the experience of individuals using the app (Laurie & Blandford, 2016). People in Western society are using meditation apps instead of traditional meditation methods, so knowing more about user experience is important (Newman et al., 2011). Therefore, the purpose of this research is to describe the lived experience of adults using a meditation app.

Following this introduction, we include a review of the literature on stress, meditation, and the Headspace app. Then, we describe our research lenses including relevant terms, research paradigm, culture of inquiry, and theoretical, personal and professional lenses. Next, we discuss the method used for our project. Lastly, we provide the results and a discussion of the results.

Literature Review

The purpose of this chapter is to review the literature about stress, meditation, and the use of mobile meditation apps. First, we explain the increasing prevalence of stress, provide information about the physical and psychological effects of stress, and demonstrate how stress is a mind-body interaction. Second, we explain meditation and its history, benefits, and efficacy in relation to stress reduction. Third, we address the use of Headspace as a mobile meditation app. Lastly, this chapter concludes with our research question.

Stress

The term stress has a long history. In the Middle Ages, people defined stress as a hardship or adversity (Daruna, 2004). Later in 1915, Cannon (1939) addressed psychological stress and coined the term “fight or flight response.” During the fight or flight response, the body’s response to a stressor creates a sudden burst of energy, and in return, the body prepares to either fight or flee (Sapolsky, 1994). In 1936, the definition of stress broadened to incorporate “physical trauma (e.g., surgery, burns), chemical exposure (e.g., drugs), radiation, infections, and other challenging (e.g., intense exercise) or life-endangering (e.g., anoxia, low temperature) conditions” (Selye, 1936, p. 32). Within this definition, stress is a nonspecific response of the body to any demand made on it (Selye, 1936). Daruna (2012) asserts that both Cannon and Selye made significant contributions to the scientific community by demonstrating different aspects of physiological reactions to stress on the body.

Stress has become increasingly prevalent in society (Dunbar-Lane, 2014). Common causes of stress include jobs, finances, relationships, and increased pace of life (Zope & Zope, 2013). Although humans exhibited some stress during pre-modern lifestyles, the stress was short and sharp compared to the underlying and chronic stress people experience today (Dunbar-Lane,

2014). Humans are not designed to handle chronic stress; however, in modern life, many people experience low-grade recurrent stress, which can take a severe toll on health and well-being (Dunbar-Lane, 2014). During low-grade chronic stress, the stress response in the body continues to work without stopping; whereas, with acute stress, the response lasts a short amount of time (Rouchotas, 2014). Low-grade chronic stress can cause both physical and psychological effects in the body (Dunbar-Lane, 2014; Gartland et al., 2014).

Physical reactions. When stress occurs, several physical reactions can happen in the body (Gartland et al., 2014). Once the body receives the fight or flight response, the brain sends an emergency message to the nervous system, which then passes the message on to the adrenal glands (Dunbar-Lane, 2014). The adrenal glands then secrete two hormones, adrenaline and cortisol, into the bloodstream. When adrenaline reaches the brain, the brain continues to send the emergency message to the nervous system and again to the adrenal glands, creating a loop (Dunbar-Lane, 2014). This loop repeats itself until the stress-inducing event is over and the adrenal glands stop secreting hormones (Dunbar-Lane, 2014). Although this system can be life-saving, individuals who become easily stressed should use sparingly (Rouchotas, 2014). Long-term, underlying stress causes the adrenal glands to become fatigued, which in turn causes the adrenal glands to burn out until they are no longer able to produce adrenaline or cortisol (Rouchotas, 2014). Therefore, chronic stress can lead to harmful physical reactions, such as heart disease, cancer, and stroke, and can also result in psychological reactions (Rouchotas, 2014; Dillon, Kelly, Robertson, & Robertson, 2016). In recent decades, the idea of psychological reactions from stress affecting many different aspects of the physical immune system has become more accepted by Western medicine practitioners (Graham, Christian, & Kiecolt-Glaser, 2006).

Psychological reactions. Stress levels range from mild, moderate, or severe (Stein, 2001).

Therefore, tolerating stress is an individual process resulting in individual psychological reactions (Stein, 2001). An individual able to cope well with psychological stress has psychological hardiness, which keeps the immune system strong (Stein, 2001; Sandvik et al., 2013). There are three characteristics to psychological hardiness: commitment, control and challenge (Sandvik et al., 2013). Psychological hardiness is different for everyone because the ability to tolerate stress is unique to each person (Stein, 2001). In some cases, mild stress, also known as eustress, is positive and motivates the individual (Stein, 2001). However, chronic stress combined with low psychological hardiness over extended periods of time can put an individual at risk for psychological stress symptoms including depression, anxiety, low self-esteem, mood disorders, and Post Traumatic Stress Disorder (Sandvik et al., 2013; Dillon et al., 2016). Individuals with unbalanced psychological hardiness personality characteristics are more sensitive to stress and prone to psychological stress related symptoms (Sandvik et al., 2013).

Sandvik et al. (2013) investigated the association between physiological hardiness personality characteristics and immune response onset by stress. Participants included cadets from the Royal Norwegian Naval Academy, all pre-selected to handle stressful situations (Sandvik et al., 2013). Researchers measured psychological hardiness characteristics based on the Dispositional Resilience Scale (Sandvik et al., 2013). Researchers drew blood from each participant to measure immune and neuroendocrine responses to stress, both midway through the experiment and at the end (Sandvik et al., 2013). Participants with unbalanced psychological hardiness characteristics had a higher reaction to stress compared to participants with balanced psychological hardiness characteristics; therefore, linking psychological hardiness with the stress response in the immune system (Sandvik et al., 2013).

Since stress is a prevalent problem both physically and psychologically and significantly

decreases the quality of life, people are beginning to look for self-directed, mind-body stress management practices to reduce stress symptoms (Dunbar-Lane, 2014; Gartland et al., 2014; Carissoli, Villani, & Riva, 2015). One type of self-directed stress management practice is meditation. Current research indicates regular meditation practice can counteract stress in some individuals (Sedlmeier et al., 2012).

Meditation

The word meditate comes from the Latin word “*meditari*,” which means “to think or reflect upon” (Bonadonna, 2003, p. 310). People commonly use meditation to overcome psychological and emotional issues or to better understand life, heighten consciousness, and gain wisdom (Sedlmeier et al., 2012). The practice of meditation involves training the mind to bring attention back to the body and breath (Oberg, 2009). Bringing attention to the breath and training the mind to relax results in physical and mental relaxation, focus, and concentration (Stein, 2001), thus affecting one’s ability to manage life stressors. Throughout history, there have been many different types of meditative practices (Bonadonna, 2003).

History of meditation. Derived from Eastern and Western theories, meditation is an ancient practice (Bonadonna, 2003) that has been around for more than 5,000 years (Opsina et al., 2008). Meditation forms are used by many traditions and religions to work towards enlightenment, gain a higher sense of consciousness, and to become one with the universe (Arias, Steinberg, Banga, & Trestman, 2006). Some of the more popular techniques for meditation have roots in Buddhism, Hinduism, and Indian yoga; however, many other religions also used meditation practices including early Christian sects, Islam, and Judaism (Arias et al., 2006). During the past 40 years, the Western integrative medicine movement helped meditation techniques expand and gain acceptance in Western culture (Opsina et al., 2008). The most

common forms of meditation today include mindfulness, vipassana, transcendental meditation, yoga, relaxation response, and meditative prayer (Arias et al., 2006). An estimated 10 million meditation practitioners in the United States, along with millions across the globe, advocate meditation as a mind-body therapy to maintain overall wellness and reduce health-related problems (Opsina et al., 2008). Currently, Western psychology uses meditation techniques as therapy to treat patients suffering from stress, eating disorders, and depressive thoughts (Sedlmeier et al., 2012). Meditation intentionally produces a calm mind and body (Stein, 2001). As a mind-body therapy, it helps reduce health problems and maintain general wellness (Carissoli et al., 2015). Along with the therapeutic use of meditation techniques used by psychologists, meditation has many other benefits.

Benefits of meditation. The use of meditation is prevalent in Western medicine. Horowitz (2010) demonstrates the usage and effectiveness of meditation practices among people with physical and psychological symptoms. Horowitz (2010) conducted research on the use of meditation in clinical trials and found transcendental meditation physically reduced blood pressure, hypertension, and menopausal symptoms. Researchers also found that meditation can reduce psychological stress, anxiety, and anger in patients who have cancer, chronic pain disorders, HIV/AIDS, substance abuse, memory loss, and trauma (Horowitz, 2010). Overall, subjects who participated in a mindfulness-based stress reduction program from the University of Massachusetts, one of the leading research institutions for meditation, obtained lower scores of depression, anxiety, anger, and confusion in addition to fewer symptoms of stress, cardiopulmonary, and gastrointestinal symptoms (Bonadonna, 2003). Although meditation is prevalent in Western medicine, the practice of meditation can be self-directed and easily performed; therefore, it is a simple, practical technique people can use at home (Stein, 2001).

Consumer health options are advancing through technology, allowing for meditation apps to replace traditional meditation methods (Newman, Szkodny, Llera, & Przeworski, 2011). Through advancements in smartphones, incorporating meditation into daily life is easier (Laurie & Blandford, 2016). Since many forms of meditation are effective when self-directed, using a mobile meditation app could be useful to administer meditation practices (Stein, 2001; Horowitz, 2010).

Technology

During the twenty-first century, technological revolutions began to affect all aspects of life including communication, thoughts, behavior, social interactions, and even health (Howells et al., 2016). Specifically, the use of smartphones during the technological revolution grew rapidly (Howells et al., 2016). An estimated 1.82 billion active smartphones were in use globally by the end of 2013 (Howells et al., 2016), and in 2014, 64% of adults in the United States owned a smartphone (Coulon et al., 2016). On average, users check personal devices 150 times per day, or every 6.5 minutes, with the largest amount of time spent engaging with applications (Khalaf, 2013). Smartphone devices provide more than just communication; their functionality leaves little that a smartphone cannot do (Howells et al., 2016). In 2013, 1,520,000 developed apps were available to download and of these 13,600 were health-related apps (Donker et al., 2013).

Health-related app usage is increasing throughout the public as well as within clinical treatment (Laurie & Blandford, 2016). Mobile health, or “mHealth,” app usage increased the most in stress reduction and relaxation apps because conventional stress treatment methods tend to be both expensive and time-consuming (Newman et al., 2011). However, disadvantages of mHealth apps include technical problems, data security, and patient privacy (Donker et al., 2013). To address these disadvantages, Coulon et al. (2016) conducted a systematic review of mobile

smartphone app usage for stress management. Researchers downloaded and evaluated a total of 60 evidence-based stress management apps from the iOS App Store for transparency, functionality, and usability (Coulon et al., 2016). Next, patients tested the stress management apps; 95% of patients who used the mobile apps demonstrated effectiveness in evidence-based stress management strategies including diaphragmatic breathing, meditation, mindfulness, progressive muscle relaxation, visualization, and the use of imagery (Coulon et al., 2016). In addition to patients using the mobile apps, 76% of surveyed physicians felt that stress management could be delivered effectively via apps, and 90% felt that stress management could improve outcomes for patients (Coulon et al., 2016). Therefore, all 60 apps have the potential to effectively supplement conventional medical treatment of stress management (Coulon et al., 2016). Stress reduction and meditation programs delivered through mobile devices are gaining popularity because of high accessibility, versatility, and cost-effectiveness (Laurie & Blandford, 2016). According to research, Headspace is one of the most highly used mindfulness-based meditation apps on the market today (Laurie & Blandford, 2016).

Headspace. In 2014, 1.3 million people worldwide used the mindfulness-based meditation app called Headspace (Laurie & Blandford, 2016). Headspace uses both audio and video files to deliver guided meditation sessions (Laurie & Blandford, 2016; Howells et al., 2016). Puddicombe, the founder of Headspace, is a former Buddhist monk who leads each meditation session (Laurie & Blandford, 2016; Howells et al., 2016). We chose Headspace for the current study because it is among the most downloaded mindfulness-based meditation apps available for iOS and Android users (Laurie & Blandford, 2016). We also chose Headspace because it teaches beginners the basic concepts of mindfulness through simple guided meditation sessions (Laurie & Blandford, 2016).

Research confirms that Headspace is one of the highest-scoring mindfulness apps on the Mobile Application Rating Scale (MARS) and is shown to be beneficial in controlled trials (Howells et al., 2016). Howells et al. (2016) conducted a randomized controlled trial with 121 happiness seekers, 57 who used Headspace over a period of ten days. Howells et al. (2016) found statistically significant changes in positive effects and reduced depressive symptoms. Bostock and Steptoe (2013) also conducted a controlled trial of the Headspace app with 238 workers from two large UK companies. The intervention demonstrated increased well-being scores and reductions in job strain in comparison with a wait-list control group (Bostock & Steptoe, 2013). Although both studies conducted by Bostock and Steptoe (2013) and Howells et al. (2016) conveyed stress reduction and increased in happiness, neither of these studies investigated user behavior or the user experience of the application (Laurie & Blandford, 2016).

Summary

Stress is increasingly more prevalent in the everyday life of adults in the United States (Katzman et al., 2012). Stress can lead to a wide array of illnesses, and prolonged experiences of stress have been shown to significantly affect physical and psychological well-being (Sapolsky, 1994; Daruna, 2012). Since stress is a prevalent problem both physically and psychologically and significantly decreases the quality of life, people are beginning to look for self-directed, mind-body stress management practices to reduce stress symptoms (Dunbar-Lane, 2014; Gartland et al., 2014; Carissoli et al., 2015). One type of self-directed stress management practice is meditation. Current research indicates regular meditation practice can counteract stress in some individuals (Sedlmeier et al., 2012). Consumer health options are advancing through technology, allowing for people to practice meditation with apps instead of more traditional meditation methods (Newman, Szkodny, Llera, & Przeworski, 2011). Meditation apps can be useful in the reduction of stress

(Coulon et al., 2016). One of the highest rated meditation apps on the market is Headspace (Laurie & Blandford, 2016). There is a small amount of previous research related to the experience of individuals using the app (Laurie & Blandford, 2016). To address this gap, our research question asks, “What is the lived experience of adults using a meditation app?”

Lenses

The purpose of this chapter is to portray the relevant research lenses that have influenced the development and implementation of this study. Given the complexity of research involving varying cultures of inquiry, multiple methods of data collection and analysis, and different epistemologies and axiologies, we believe that it is vital to make our lenses and our assumptions transparent to our readers. By doing this, our readers can reflect more critically on our assumptions, biases, and reasons for conducting this research study. It is our belief that the findings of this study are more reliable and valid because of this full disclosure.

To better frame this research project, we first define relevant terms. Next, we expound upon our research paradigm and culture of inquiry. After this, we describe the theoretical lenses that have guided our study, as well as how these lenses have affected the development of this project. Finally, we present our personal and professional lenses and how these have influenced our research.

Relevant Terms

There are several key terms related to our paradigm (constructivism) and our culture of inquiry (phenomenology). These are as follows:

Paradigm. A paradigm is a set of beliefs (Guba and Lincoln, 1994), as well as a theoretical framework referring to the nature of reality and the world (Mackenzie & Knipe, 2006).

Ontology. Ontology represents fundamental assumptions by individuals about reality (Bentz & Shipiro, 1998).

Epistemology. Epistemology examines what knowledge is and what is truly knowable (Graham & Geisler, 2012) and valid (Bentz & Shipiro, 1998).

Methodology. Researchers use methodology in a variety of ways to gain knowledge.

(Bentz & Shipiro, 1998).

Constructivism. This is an ontological assumption that there is no absolute truth or reality, but many interpretations of what is real based on individual life experiences and social locations (Graham & Geisler, 2012).

Culture of Inquiry. The culture of inquiry are assumptions related to a way of understanding and knowing how to carry out research (Bentz & Shipiro, 1998).

Phenomenology. A method researchers use to gain information about how people think, as well as how they feel, by focusing on subjective lived experiences (Bentz & Shipiro, 1998).

Research Paradigm and Culture of Inquiry

Our constructivist paradigm, with its relativist ontology and subjective epistemology, supports our conclusion that phenomenology is the best culture of inquiry for this research project. A phenomenological approach allowed us to draw upon multiple perceptions and realities through an open, empathetic, and emergent process; subsequently helping us to shine light on underlying meanings of the rich qualitative data we collected.

In a similar manner, phenomenology as our culture of inquiry presumes that research participants and ourselves become co-creators within a “meaning-giving method of inquiry” (van Manen, 2014, p. 28) and in the generation of new knowledge. These principles of co-creating and meaning-giving also align with our constructivist paradigm, influencing the design of this project. We designed this project in a reflexive manner, where participants reflected on their lived experience of a given phenomenon by maintaining a journal. We, as researchers, continued that process by reviewing their journals, reflecting upon and interpreting their journal entries, and finally, through the development of primarily lived experience themes, described participant lived experiences to co-create meaning and new knowledge.

Psychoneuroimmunology Theory

We primarily draw upon one theoretical framework, psychoneuroimmunology, to establish our conceptual grounding for this project. Psychoneuroimmunology helps us to understand that there are significant and bi-directional connections between neurochemistry, thought, emotion, stress, and the immune system (Groer & McEwen, 2012). According to Daruna (2012), psychoneuroimmunology (PNI) demonstrates how “mental events and processes modulate the function of the immune system and how immunological activity is capable of altering the function in the mind” (p. 10). This concept is important to our research project because bidirectional mind-body connections often result in fight or flight responses to real or perceived stress, affecting physical and psychological health over extended periods of time. Sapolsky (1994) asserts that when the body is dealing with chronic stress, it uses up needed energy for other important daily activities.

The theoretical framework of PNI influenced the development, implementation, and interpretation of this project. First, in developing this project, we took consideration that individual participant lived experiences would vary due to differences in their overall psychological (emotional and cognitive) and related physical states; thus, resulting in data that would be highly subjective. To account for a diversity of lived experiences reflecting varying states of health, including stress levels, we implemented a system for data collection of lived experiences. We collected this information in a safe, confidential, and easy way through email and phone contact. Participants were provided journaling prompt questions to elicit information related to emotional, cognitive, spiritual, and physical experiences in using the Headspace meditation app.

Personal and Professional Lenses

In this section we explain our personal and professional lenses.

Cally R. Strobel. When I was young, I never thought of myself as someone who had a large amount of stress. I grew up with parents and family members who are loving and supportive. I did well in school and was a competitive athlete in track and field. As I grew older and attended college, my stress levels became higher because I was a student athlete with a full-time course load, but I never got to a level I couldn't manage. After I graduated with a Psychology degree at South Dakota State University, I decided to move home. I was planning on applying to other schools to further my education, but didn't know where or what program would accept me. My stress became higher than ever when I couldn't find a job. My good friends all lived in a different state, so my support system was lacking. I also wasn't used to living with my parents again after living out of the house for four years, which seemed to cause more stress. Worrying about my future, having difficulty getting a job, missing the support system of my friends, and living in a different environment all became contributors to my high stress levels. Since I had just graduated with a Psychology degree, I was aware of the physical and mental effects of stress. I also knew that everyone has a limit as to how much stress they can handle, and I knew I was approaching my limit. I decided I needed to do something different to practice self-care and reduce my stress, so I started practicing yoga on a regular basis. What I really loved about yoga was the meditation sessions the studio offered before and after class. I never had any formal training on meditation and didn't exactly know how to do it. However, I found meditation helped to calm my mind and body, reduce my stress levels, and bring more attention to my breathing. It even helped me keep better focus and balance during my yoga practice. I came out of my yoga classes feeling refreshed physically and mentally. My instructor encouraged me to take a

yoga certification course to become a teacher at her studio. After completing my yoga teaching certification, I was grateful for the opportunity to not only have a job but also master a technique to manage my own stress.

After getting my yoga teaching certification, I was accepted into the Holistic Health Studies master's program at St. Catherine University. I started taking full-time classes, and I discovered health and wellness coaching through other classmates. Health and wellness coaching in conjunction with my Psychology degree make a great pair because they both help motivate people to make behavioral changes. I decided to look further into health and wellness coaching and found a certification program through the Mayo Clinic. The course included training on stress reduction techniques, and meditation happened to be one of them. From a holistic perspective, I see meditation is becoming more mainstream throughout Western medicine.

Although I knew a small amount about meditation from teaching yoga and from the health and wellness coaching course, I started to understand meditation after traveling to India with a study abroad course at St. Catherine University. I stayed at a yoga ashram for five days while on the trip and participated in long meditation sessions each morning and night. After practicing consecutively and learning more about how to control my mind, body, and breath, I felt stronger in my meditation practice compared to when I had first started practicing at the yoga studio.

I believe my strong background in psychology, holistic health, and yoga led me to research the topic of stress reduction for this project and affected the implementation, design, and interpretation of this project. I had previously reached my stress threshold and found meditation as a successful way to manage my own stress. Now as I pursue a career in health and wellness coaching, I want to provide knowledge about meditation for my clients. I think it can be intimidating for those who have never tried it, but in my opinion, using the Headspace app helps

new users get acquainted with meditation and fully experience its benefits. I realize that because of my prior experiences, I have biases about meditation. Since I study in a holistic health master's program, I naturally believe alternative and complementary practices, such as meditation, are beneficial. I also believe that since I have studied, learned, and practiced meditation in India, the origin of meditation; I have a deeper understanding of how it reduces stress both physically and psychologically. While I am aware of my biases, I value the creativity and uniqueness they have brought to our project. I believe diverse viewpoints strengthen research and provide fresh perspectives.

Zashata L. Burton. I grew up believing that whatever I achieved in life had something to do with my attitude, beliefs, and my personal effort. Early childhood experiences shaped my ability to be creative and adaptable as life unexpectedly unfolded before me. I view both creativity and adaptability as important life skills. I believe I developed these skills as a child because of my relationship with my higher power, experienced in the Northern woods of Michigan. I was at peace in the woods, and felt nurtured by a sense of connection to something bigger than myself; a presence real and felt. It was only as I grew into adulthood that I understood this early life experience as being a daily practice of mindfulness meditation.

I understand what stress can do to one's emotional, physical, and spiritual health. I know from experience how meditation can help to reduce stress. My experience with meditation has shown me that meditation does not have to be a costly and complex process, involving an extensive time commitment. Thus, it was important to me that the implementation of this study used a meditation method that would potentially increase participant's ability to relax, reduce stress levels, be easy to use for a short period of time (10-15 minutes a day). Also, involve a reflexive process, and have an educational component related to the benefits of meditation. Using

the Headspace meditation app, we could incorporate all the above-mentioned parameters in our research design.

I graduated with a Master's of Science degree in Criminal Justice. The focus of this degree was in counseling and working with criminal offenders. In addition to this, I have worked in the counseling field as a Licensed Alcohol and Drug Counselor and a Therapeutic Coach®. My educational and work experiences bring knowledge to this project that includes an understanding of how complex human behavior is unpredictable. From previous educational research experience, I have learned that mysterious twists and turns are part of the research process. With my understanding of human behavior, I brought forth the value of a research study that would allow for the human complexity of our research participants to voice their experiences in rich and meaningful ways. Phenomenology as culture of inquiry and method allowed for both the voices of participants and researchers to unfold without the predictability required of quantitative research, and best matched my appreciation for process, reflexivity, mystery, and resulting transformation of experience and knowledge. Consequently, we designed this project in a reflexive manner, allowing for an emergent process of meaning and new knowledge to unfold.

My professional work and experience have provided the opportunity for me to consistently observe improved emotional, physical, and spiritual health in clients because of learning about and implementing meditation practices into their daily life. These changes did not take place in only one or two days. Instead, these positive changes required education to increase awareness of their ability to participate in self-healing, and daily practice to sustain this awareness. This understanding influenced our decision to provide research participants with a similar type of opportunity to implement a simple daily meditation practice. This project reflected my personal and professional interest in helping others understand the potential health benefits of

implementing a daily meditation practice. Therefore, while interpreting the final results of this project, it was important for me to continue in a reflexive and emergent process as we repeatedly explored the lived experiences (reflected in six themes) of our research participants.

It is my intention as a Holistic Addictions Counselor, a Transformational Coach, a Therapeutic Coach®, and a holistic health educator to introduce new and innovative meditation techniques, such as the Headspace app, to future students and clients.

Angela J. Katzmarek. As a child, my family was very health conscious; this created an interest for me in a more holistic approach to health early on. When I was in my teenage years, a variety of holistic approaches to health including meditation cured a family member from a life-threatening disease. Seeing this as a child profoundly affected my view of stress and the diseases it can cause. This affected this research project because I have a strong belief that people with stress must manage it properly; this helped lead the group to the decision to study stress. This also affected the implementation of the project because it led me to want to look at the true lived experience of these healing modalities, such as meditation, rather than implementing a quantitative study. Lastly, this affected the interpretation of results because I have a bias towards holistic health modalities positively affecting people's lives. I needed to suspend this bias when analyzing results.

After high school, I went on to obtain my Bachelors of Science in Information Systems. I've always been interested in technology and apps and ways that technology can affect people's lives. The effect that technology has on health can be a controversial topic, for this reason, I was interested in studying such effects in this project. Also, as someone who works with numbers as data in my professional life, I wanted this project to be different. I didn't want to analyze statistics regarding stress, but rather form a research study that created rich, detailed information; hence,

the phenomenological study. While I have a bias towards holistic modalities affecting people's lives positively, I was unsure of the effect of combining holistic health modalities with technology. This helped me to have an open mind while interpreting results.

My personal background of witnessing people with diseases being healed with holistic modalities, as well as my professional career, helped lead the group to the research question, "What is the lived experience of adults using a meditation app?"

Gina M. Gafford. During my four years as an undergraduate student, I was also a wife and a mother of a young child. Because of the accumulative stress of school and home life, I developed severe panic attacks, which negatively affected my emotional and physical health. In response to seeing a yoga flyer at school, I enrolled in yoga classes at the University of Minnesota. After taking several yoga classes, my stress level decreased. Through a daily practice of yoga and meditation, I could reduce my panic attacks and now I rarely experience them. As a result, I know that yoga and meditation contribute to reducing stress through relaxing the mind and body. This knowledge contributed to the selection of psychoneuroimmunology as the theoretical framework for developing this project.

Through my experience with meditation, I furthered my education in health. Over the years, I became a yoga teacher, Pilates instructor, Reiki master, and a massage therapist. In January 2015, I traveled to India with St. Catherine University. There I studied Ayurveda, Tibetan medicine, yoga, and meditation. This experience provided me with a well-rounded perspective of yoga and meditation, which helped create a research project with global knowledge.

I graduated from the University of Minnesota, earning a Bachelor's degree in Speech-Language-Hearing Sciences. During my senior year, my research project was on Psychogenic Voice Disorders. I researched the effects of emotional contribution to voice disorders. My interest

in effects of stress and holistic health were evident in my paper. For example, one major topic was on alternative approaches to voice therapy. The alternative methods I discussed in my paper include relaxation, deep diaphragmatic breathing, rhythmic movements with phonation, visualization, mental rehearsal, massage, and meditation with a mantra. My education and experience with yoga, meditation, and the health field contributed to this research project because I understood that there are many causes of stress and alternative ways to manage them. My senior research project set the stage for academic work on a graduate level and contributed to our meditation app study by helping me understand experiences of meditation and that meditation effects vary among individuals. It is this awareness that contributed to the selection of constructivism as our project paradigm and phenomenology as our culture of inquiry. This understanding allowed us to implement a research study that gave credibility to the many different lived experiences of our participants and interpret their voices free of personal or professional bias.

I currently work as a hospice massage therapist. I also work as a massage therapist at a wellness center. Massage therapy promotes relaxation and pain relief to patients as they are dying. This work is a dedication of mine as I understand how compassionate touch can help someone with their fears and stress. As technology usage grows, I hope that meditation apps will be beneficial to patients, hospital staff, and patient families.

Method

The purpose of this chapter is to describe how we used phenomenology as our culture of inquiry and method to answer our research question, “What is the lived experience of adults using a meditation app?” First, we discuss the constructivist paradigm as the most appropriate paradigm for guiding this project. Next, we discuss why phenomenology is the best choice for our culture of inquiry by contrasting and comparing it with ethnography and hermeneutics. Following this, we provide a description of phenomenology with our rationale for why it is the best method for this project. Next, we provide our sampling procedures. We then give an in-depth discussion of instrumentation and data collection. Finally, we end this chapter with a discussion of data analysis, ethical considerations and protection of human subjects, and methodological design strengths and limitations.

Rational for a Constructivist Paradigm

The constructivist paradigm asserts that there is no one established authority or truth; thus, leaving open possibilities for multiple interpretations and meaning (Graham & Geisler, 2012). It is best suited for this project because we view the nature of truth, reality, and knowledge as not being set in stone, but as existing in the minds of people, including ourselves and our research participants, whose different experiences and social constructs influence their lives (Graham & Geisler, 2012). Our intention is to understand the human and lived experience of our participants (Mackenzie & Knipe, 2006; van Manen, 2014). We relied on the self-perceptions of their experiences, which resulted in highly subjective data, as well as many different interpretations and meaning (Graham & Geisler, 2012; van Manen, 2014). Although we have determined that this paradigm most appropriately fits this project, it is also important to note that it also carries with it both strengths and limitations.

A constructivist paradigm allowed us to develop rich descriptions of lived experiences (data) throughout the research process (Khan, 2014). By situating our culture of inquiry and method within a constructivist paradigm, the various perceptions and realities gave our research participants a voice (Graham & Geisler, 2012). The depth of information we received helped us to understand better the deeper meanings that represented the totality, and pure essence of participant lived experiences (van Manen, 2014).

A constructivist paradigm is purely subjective. This constructivist model presented a limitation for our study because the resulting data could not be reproduced (Creswell, 2014). In addition to this, we understood that we could not entirely disassociate ourselves from prior ideas and everyday life experience (Bentz & Shipiro, 1998; van Manen, 2014) and that our personal and professional understandings could potentially bias our interpretations and final research results. To mitigate this limitation, we engaged in a reflective process (reduction) throughout the project that made our personal beliefs and understandings transparent to our readers.

Phenomenology as a Culture of Inquiry

Approaches to an inquiry within a constructivist paradigm are varied (Mackenzie & Knipe, 2006). For example, ethnography explores the essence of meaning associated with specific social groups or cultures. Whereas, our phenomenological project concentrated on human experiences related to individuals not necessarily from the same social or cultural backgrounds (Osborne, 1994). Even though we acknowledge that individual life experiences exist within a social, cultural, and even historical context, the purpose of our project was to explore the lived experiences of participants engaged with a specific time-limited phenomenon.

Phenomenology is a philosophical approach to inquiry and a practical research method (Strandmark, 2015) that derives experiential meaning from human and lived experiences

(Dahlberg, 2006; Finlay, 2009; van Manen, 2014). As a culture of inquiry, phenomenology best fit this project because it allowed us to describe and capture the essential and pure essence of our participants lived experiences (Dahlberg, 2006) in using a meditation app. Phenomenology is also a “meaning-giving method of inquiry” (van Manen, 2014, p. 28) that created an opportunity for both our participants and ourselves to become co-creators in the generation of new knowledge; thereby, adding to the current literature on stress reduction and meditation. However, this culture of inquiry presented both strengths and limitations for our project.

Phenomenology, as our culture of inquiry, helped us to establish a holistic picture (Creswell, 2014) that incorporated all the lived experiences of our participants into essential meanings (Dahlberg, 2006; van Manen, 2014). These meanings then emerged into themes that represented the pure essence of the totality of all participant experiences (van Manen, 2014). Phenomenology also allowed us to integrate our personal experiences and understandings (Bentz & Shipiro, 1998) of meditation, stress reduction, and app use; therefore, providing a greater depth of information and knowledge in describing very rich and complex lived experiences as they were concretely lived (Finlay, 2009) by our participants.

Human experience and qualitative data were two limitations in using phenomenological inquiry. First, human experience, such as in reporting lived experiences, was difficult to capture in words. Second, our qualitative data was highly subjective, requiring data analysis that was time-consuming and included extensive detail (Bentz & Shipiro, 1998). We determined that these limitations could potentially affect the validity and final results of our study (Osborne, 1994) if participant journal entries were misinterpreted by us during the analysis.

Phenomenology as a Method

Phenomenology is also a practical research method (Stranmark, 2015). As a method, it involves both a process of interpretation and description of a phenomenon (Benz & Shipiro, 1998; Finlay, 2009; van Manen, 2014). Our rationale for choosing phenomenology is that it used reduction (Strandmark, 2015) as a method and process to set aside any preconceived ideas or assumptions we may have had about the phenomenon (meditation, stress reduction, and app usage) that we researched (Creswell, 2014; van Manen, 2014).

Phenomenology as a method was advantageous to our project because the method of reduction allowed us to see and interpret the lived experiences of our participants more clearly (Strandmark, 2015) rather than seeing and interpreting from our preconceived ideas or assumptions. By remaining open and responsive to these richly lived experiences, as well as their underlying experiential meanings (Finlay, 2009), we could interpret and describe them more succinctly (Khan, 2014; van Manen, 2014).

One disadvantage to using phenomenology as a method is that resulting data is highly subjective; requiring a great amount of detail in our data analysis process (Bentz & Shipiro, 1998). We were also aware that empirical scientists typically would not accept results derived from this study as being scientific, quantifiable, and therefore useful (Bentz & Shipiro, 1998).

Sampling

We used a convenience sample to explore the lived experiences of a group of adults (n=12) using the English language meditation app Headspace. Participants were required by us to speak and write English, be between the ages of 18 to 80, have an Apple iOS or Android smartphone or tablet, and have internet access to download the Headspace app.

Convenience sampling is a nonprobability and nonrandom sampling strategy (Etikan,

Musa, Alkassim, 2016). We selected individuals for our study based on their availability (Creswell, 2014) to participate, and communication between researchers and participants is easy and convenient (Etikan et al., 2016). Convenience sampling was the best sampling procedure for our project because our research purpose was not to generalize from a smaller population to a larger representative population (Creswell, 2014; van Manen, 2014) or to establish patterns that are replicable (van Manen, 2014), but to describe lived experiences.

Due to the time-limited nature of this study, conducting a convenience sample allowed us to obtain participants quickly (Marshall, 1996). The primary benefits of using a convenience sample for this study were that it did not require randomized sampling procedures needed to generalize final results to another population (Creswell, 2014). Also, it was cost effective both in terms of researchers' time commitment and the amount of money required to conduct our research project (Marshall, 1996). While we acknowledged that convenience sampling could lead to biased results and not allow us to generalize our findings (Etikan et al., 2016), we believe that our reflexive research process and nonrandomized procedures outweighed these potential limitations.

We invited participants to our study by posting a flyer (Appendix A) on Facebook, and one person shared the flyer with others, even though we did not ask him or her to do so. Additionally, we recruited participants by sending an email to our family, friends, and colleagues (Appendix B with the same flyer posted to Facebook attached). The flyer we provided included contact information for us via a private, secure Gmail account we created for the study. Once we received an inquiry regarding participation in this study, we emailed the potential participant a consent form (Appendix C) within 72 hours. As part of this email, we asked the participant to email us their telephone number and the best time for us to call them (Appendix D) to discuss their role as a participant and answer any questions before he or she signed and dated the consent

form.

Instrumentation

This project used a researcher-developed journal that participants filled out each time they listened to the Headspace App. Journaling keeps a record of experiences, ideas, or reflections (Creswell, 2014) and can be used by us as a research instrument to elicit the lived experiences of a given phenomenon. We developed journal prompts for participants (Appendix F) to help them best respond to our research question. The journal prompts were open-ended questions eliciting information related to mental, physical, emotional, and spiritual states, as well as personal experiences related to stress or well-being. One benefit of journaling was that it provided rich and in-depth data (Creswell, 2014; van Manen, 2014). Journaling also allowed us to gain a deeper understanding of how our participants experienced the phenomenon; thus, helping us to derive meaning from that phenomenon (Marshall & Rossman, 2011). However, there were some disadvantages of journaling.

We identified the following limitations to using journaling as our instrument: First, because information received from participants was indirect (Creswell, 2014), we could not ask clarifying follow-up questions if the journal entries were unclear. Therefore, we had to interpret the meaning of participant lived experiences, which posed a risk of our own personal biases impacting the study (van Manen, 2014). Second, due to the subjective nature of our data, each of us read participant journal entries multiple times (Creswell, 2014; van Manen, 2014) to identify relevant codes and common themes. Reading journal entries several times resulted in a very time-consuming process. Finally, there was the possibility that some participants would have difficulty remembering their app meditation experience (Marshall & Rossman, 2011).

Data Collection

Our data collection process began with us posting an invitation to participate on Facebook and via email to family, friends, and colleagues. Once we received an inquiry to join our study we emailed all interested people a consent form to review and informed them that we would be calling them to answer any questions they may have before signing and dating the consent form. After receiving their signed and dated consent forms, we emailed each participant directions on how to download Headspace (Appendix E), as well as directions for journaling (Appendix F). Participants had fourteen days to complete a sequence of ten meditation sessions with corresponding journaling entries. All journal entries included the corresponding date of each meditation session. Participants submitted journal entries (data) via our research email address at hhsmeditationresearchstudy@gmail.com.

Participants indicated on their consent forms if they were interested in being entered to win one of two prepaid Visa gift cards as a thank you for participating in our study. Those who noted an interest also included their mailing address. We used a random number generator to determine the final winners. After we had received all journal entry submissions, we mailed out two gift cards.

Data Analysis

Unlike grounded theory, which attempts to codify themes and develop a theory (van Manen, 2014), thematic analysis is a process of identifying core underlying “structures of meaning” (van Manen, 2014, p. 319) that exist within a text. These meanings represented the human and lived experience (van Manen, 2014) of our participants as they engaged with the Headspace meditation app. It is from these meanings that central themes emerged. These themes embodied the pure essence of all participants’ combined meditation app experiences (Hycner,

1985; van Manen, 2014).

Thematic analysis is best suited for this research project because it aligns with the project's culture of inquiry: phenomenology. Phenomenology involved us in a continual process of reduction (setting aside personal beliefs and assumptions) as we analyzed, interpreted, and described the highly subjective lived experiences (data) of our participants. We bracketed our personal beliefs and assumptions by reading through the journals multiple times before analyzing them. Additionally, each of us analyzed the data separately and in our own way.

It is important to note that there are disadvantages to this type of analysis (Bowen, 2009). These include biased selectivity and data that yields insufficient detail. Hycner (1985) insinuates that there is another disadvantage: "no method can be arbitrarily imposed on a phenomenon" (p. 280). To capture the human and lived experience of our participants, be true to the phenomenological data, and due to our lack of experience as phenomenological researchers we used Hycner's (1985) suggestions (enumerated below) for thematic analysis:

1. As we reviewed participant journal entries, we used phenomenological reduction to set aside any prior ideas or assumptions each of us may have had about the phenomenon we are studying;
2. Our initial reading of journal entries identified statements that appeared to provide meaning to the phenomenon we were studying. Next, we identified general meanings from the data. To ascertain general meanings, we reviewed journal entries multiple times. As part of this process, we looked for significant words or phrases representing the essential meaning of participants experiences;
3. Next, we examined the general meanings to determine if they

added further insight into our research question. If they did, they became the emerging themes in our research study. Hycner (1985) asserted that the number of times a meaning is listed by research participants reflects the importance that meaning has for them;

4. Theme formulation started by bringing together the various groupings of related meanings to establish central themes representing the essence of all participant lived experiences. Theme formulation required us to re-read journal entries multiple times;

5. Finally, we wrote a composite summary, drawing from all participant journals to glean “the essence of the phenomenon” (Hycner, 1985, p. 294) we studied.

To assure reliability and validity we compiled all journal entries into a single electronic document sorted by participant. Each of us had a copy of this document to read through multiple times, identifying general meanings (what we referred to as codes) from participant journals, and then made notes in our own unique way as listed below.

Strobel: I read through each journal entry first to gain context and reduce bias. Next, I read them again and made notes on each journal. Following this, I read the journals a third time and made a mind map for each participant’s ten sessions. Creating the mind maps helped me pull codes. I was then able to compare mind maps from each participant to see the emerging themes.

Burton: I first read through all journal entries to ascertain general meanings and context. Following this, I re-read all journal entries and wrote down what I perceived as relevant codes related to our research question. I then wrote similar codes on corresponding color-coded sticky notes. Next, I gathered all sticky notes of the same color, grouped them together, and tallied corresponding sticky notes. Finally, I used tallied numbers to identify emerging themes representing participant lived experiences.

Katzmarek: I read through each journal entry, by participant, and made notes (with a highlighter) of meanings (codes) that were relative to lived-experience of participants. For the first two participants, I put these codes on sticky notes on the side of the printed document. By the third participant, I started an excel worksheet that organized the participants in columns and the sessions in rows. I went through each participant pulling out codes and entering these into the spreadsheet.

Gafford: I read through each journal twice. Next, I highlighted the code words. After I had highlighted the codes, I went back and tallied all the repeated codes.

Once every researcher pulled out specific meanings, we came together and went through all the codes. We examined these codes to see if they provided insight into the research question. If they did provide insight, we wrote them on a separate piece of paper. Once we discussed and noted all the codes on another piece of paper, we went through the codes and identified common themes. We identified themes by how prevalent they were in each journal entry. The results chapter explains these themes in detail.

Ethical Considerations

Ethical considerations are measures taken by us to protect participants, develop trust with them, and prevent misconduct (Creswell, 2014). We based our rationale for being mindful of ethical considerations for this study on the primacy of avoiding any harm to our participants. There were potential risks to participants in our study (i. e., confidentiality and privacy). There was a risk to subject's confidentiality. Identification of participants was possible through their email address, consent forms, phone numbers, and potentially by identifying information in their journals. Also, we required participants to provide a mailing address on their consent form if they were interested in having their name entered to receive one of two pre-paid Visa gift cards. We mitigated this risk by keeping the participant's information on a password protected computer. This study also probed for private, personal, or sensitive information in surveys. Due to the

holistic nature of our research purpose and question, journal entries may contain private, personal, or sensitive information. All confidential and private emails (including attachments) were emailed by our participants, as well as ourselves via a private secure email server and retrieved on our password protected computers. Only ourselves and our research advisor had access to the private and secure email password. We then deleted all identifying data, records, and participant journal entries after completion of the study on May 17, 2017.

Since we used a convenience sample and began by asking people we knew to participate in the study, coercion was a possible risk. There was no direct contact with potential participants until we had received their email inquiry about our research study. To mitigate the risk of coercion, we did not reach out to anyone who did not respond to the initial flyer. Once a participant indicated interest in the study by emailing us, we responded to that email by sending the consent form and asking for their phone number. If they did not send back the consent form, we followed up with one email and then had no further contact.

Design Rigor

Rigor is the trustworthiness of a research study design (Simon, 2011). To increase reliability and validity within this qualitative research project, we addressed both instrumental and process levels of rigor, including reflexivity of researchers.

Drawing from van Manen (2014), we viewed ourselves as instruments that influenced our research design, including the formulation of our research question, data collection, and data analysis. Consequently, we acknowledged our personal, professional, and theoretical biases or assumptions in the lenses chapter of this thesis. We demonstrated rigor by using a process referred to as reduction. By using this phenomenological method, we suspended all prior assumptions as we reflected on the lived experiences of our participants (van Manen, 2014). We

suspended these assumptions by reading through all journal entries before analyzing them. Additionally, we discussed as a group our biases after individual coding. The phenomenological method also allowed us to suspend any judgments we may have had about developing themes until the completion of our thematic analysis. We viewed the use of reduction as a strength of our study because it helped each of us to maintain an open mind as we reflected on our research process (Finaly, 2009; van Manen, 2014).

Reflexivity is the continuous process of self-reflection by researchers (Darawsheh, 2014). We used reflexivity as a tool and guide to promote rigor in our study. We actively engaged in multiple readings of participant journal entries. This process was done both individually and collaboratively to strengthen reflexivity, and to broaden our understanding of the data we had collected. As we read and re-read the journal entries, we engaged in the process of self-reflection during data collection, data analysis, and in interpreting our data. During data collection and analysis, it was important for us to let the data speak for itself, and in this process themes organically evolved. Before we analyzed the data, we placed our personal biases in clear view by discussing our biases with each other, which allowed for transparency as we entered the process of interpretation.

Design Specific Strengths and Limitations

Limitations of our research design included the following: The subjectivity of our data resulted in us having to make personal interpretations regarding the meaning of our data. This process of interpretation made it difficult for us to detect and fully prevent our own personal biases from impacting our study results. Next, even though we could identify common themes among final journal entries, we recognize that these themes are difficult to replicate because they represent participant experiences, existing in real world conditions that varied among our

participants. Finally, the knowledge we gained from this study was influenced by our varying levels of ability as researchers to succinctly identify codes and themes based on their importance to participants. Our personal and professional lenses impacted this identification process, as well as our study results and conclusions.

Results

The purpose of this chapter is to describe in detail the results of our phenomenological research study, which asks the question “What is the lived experience of adults using a meditation app?” First, we provide a description of the participants. Second, we present observational data. Third, we present six themes—relaxation, thoughts, emotions, senses, breathing and reduced stress—related to the participants lived experiences of Headspace.

Description of Participants

Twelve participants completed the study, consisting of three men and nine women. All participants met the age requirement of the study, which was eighteen years of age or older. One participant stated they were new to meditation; however, none of the other participants commented on their level of meditation experience.

Observational Data

The length and completion of journal entries varied among participants. One participant reported falling asleep during all ten sessions, resulting in one-sentence responses. Another participant reported all their experiences on a single journal page, with all ten sessions comprised of two to three sentence entries. Three participants wrote journal entries that provided increasing detail, four to six sentences. The remaining seven participants provided rich and detailed information, seven or more sentences, regarding their meditation experiences.

Another noticeable difference included what participants chose to convey in their journals. Some participants wrote about their direct experience during the meditation session, while others included comments related to life experiences, current events, and how they felt before and after the mediation.

Themes

Throughout data analysis, the repetitive word use from participant journal entries emerged into common themes. These themes are relaxation, thoughts, emotions, senses, breathing, and reduced stress. Themes are below in descending order based on several responses by participants.

Relaxation. The first theme is relaxation. All twelve participants wrote about relaxation in their journal entries. They noted feeling relaxed during and after their app meditation experiences. Some participants focused on physical relaxation, while others mentioned relaxation of the mind. Participants reported the following experiences of relaxation when using Headspace: *Was able to follow the prompts today and am feeling physically relaxed.* Another participant discussed relaxation becoming more automatic: *As sessions progress, I feel more automatic, immediate and mind relaxation.* A third participant commented on relaxing and allowing things to be as they should: *It feels good in my soul to relax the caring about how things “should” be and allowing things to be as they are.* A fourth participant noted being able to relax easily: *I was able to relax and settle in easily.* All twelve participants experienced relaxation as part of their meditation. They also noticed how their thoughts affected their meditation experience.

Thoughts. The second theme represents thoughts. All twelve participants wrote about noticing whether their thoughts were focused or wandered off. Many of them noticed how their state of mind affected their meditation experience:

The simplification of the highway metaphor really helps eliminate that feeling of needing to clear your mind completely. I love that he focuses on the fact that you are retraining your brain so that you can let thoughts pass by and only pay attention or give full focus to actual thoughts that you want to have, not negative comments, etc.

A second participant wrote about their thoughts about the meditation session:

Bringing attention to my body helped me to realize the speed my mind had been going beforehand. I was surprised by the absence of business in my mind. I was annoyed when I had to focus on counting my breath because I felt the relief of getting back into my body, and didn't want to reactivate my mind already. I'm inspired to continue to be mindful of my mind and hope to continue carrying these skills into my daily life.

A third participant wrote about moving away from the thinking mind: *Was harder to move away from the "thinking" mind today.... Becoming more and more used to the routine and easier today not to be distracted.* Another participant journaled about random thoughts entering and leaving the mind: *Today I had many more random thoughts enter my mind. I was able to let them go in a relatively short time.* In addition to all twelve participants journaling about thoughts, they also expressed a variety of emotions.

Emotions. All twelve participants referenced positive or negative emotions during their meditation experience. We provide examples of both: *I feel content and at ease even though there is an "underlying" feeling of discontent in my house.* The following participant commented on positive emotions: *I feel much calmer..., less angry..., glad to meditate, and feel good.* Another participant commented on experiencing negative emotions: *Sad that I have a history of falling asleep during meditation and feel worried that I did not do the meditation right. Want to feel more accepting of what just happened.* One participant felt annoyed and frustrated: *I was annoyed when I had to focus on my breath. I didn't want to reactivate my mind. I am still a bit frustrated...* Participants expressed a range of emotions during their meditation. Similarly, participants also commented on heightened senses.

Senses. All twelve participants reported sensate experiences, ranging from body sensations, to sounds, smells, and a sense of being with the universe. We note these experiences

below.

As I scanned my body for tension, starting at the top of my head, when my thoughts were about my shoulders, I felt them drop about two inches. Later, as I reached my hands, I realized they were tingling and my feet were warmer than when I started meditating.

The following participant commented on auditory and olfactory sensations:

One thing I noticed that was not mentioned is the smell. I was cooking something in the oven and could smell it, in addition to sounds.... It is interesting to note all the sounds: the refrigerator, the washing machine, the heater fan, people upstairs walking around. I just listened and wondered what true silence would be like.

Another participant noted the restriction of clothing, as well as numerous auditory sensations and different body sensations:

I tried this meditation without the restriction of clothing on. I sat comfortably in our living room taking some breaths. When I closed my eyes, and noticed how the mind wanders differently than when your eyes are open. The sounds around me again were the sounds of the furnace coming on, and I became aware of my own heartbeat..., but it was comforting to hear the steady beat of my heart.

One participant noted the sense of being in the cosmos: *Today I had a sense of being in the cosmos, sensing the stars and space around us.* Participants commented on a connection between senses and breath. Breathing sometimes acted as a catalyst, increasing participants' mind-body awareness.

Breathing. Ten out of twelve participants commented about their breathing. Some related their ability to relax to their breathing. Others noted the effect that counting their breaths had on their meditation experience.

In order to relax, I returned to listening to my breathing for a longer period of time, which definitely helped me focus in to just sit and be. In breathing, I felt myself finally re-creating myself and didn't hear any outside sounds.

A second participant noted that their breathing affected their lived experience:

Again I was able to quickly relax and stay with the breath. My mind would wander a bit..., but could quickly bring it back to the breath. The counting of breaths is interesting as it lightens the thought process, but also changes it slightly.

A third participant commented that focusing on their breath was the most beneficial part of the meditation session:

As I started my meditation today I was feeling annoyed and agitated. Strangely, counting my breaths was part of the meditation that worked best for me today. This time the breaths had a lot of energy and counting them gave my mind something to focus on and somewhere to put the agitation I was feeling in my mind.

Sometimes participants were aware of their breathing in relation to reduced stress.

Reduced Stress. Six participants referred to a reduction in stress during and after their meditation. Participants who reported a reduction in stress stated: *Moderately stressed before the session. After the session, I am noticeably less stressed. The session reset my breathing and am feeling less stressed.* Another participant noted that even though it was a stressful day, the meditation session helped him/her to feel better: *Today was more stressful so was harder to get started. After the session felt a little better but still have to deal with the stress.*

One participant journaled about a reduction in stress due to the specific session: *After the session feeling happy and calm, stress level lower than prior to the session. It feels like the sessions are improving my mental state over time.* Another participant commented that the meditation lowered

their stress: *I have considered myself to be stressed for a very long time. This full exercise was very calming and certainly lowered my stress.*

Overall, participants reported positive experiences using Headspace. Participants specifically talked about relaxation, thoughts, emotions, senses, breathing and reduced stress.

Discussion

The purpose of this chapter is to interpret our research findings of the lived experience of adults using a meditation app. We first discuss findings supported by the literature. Next, we discuss unexpected findings. Finally, we discuss implications of this project, including implications for holistic health, the community (adults in Western society), and future research. This chapter ends with our conclusion.

Findings Supported by the Literature

The consistency between previous research and our findings indicates meditation sessions delivered through the Headspace app help people experience relaxation and reduced stress (Bostock & Steptoe, 2013; Howells et al.). Our findings suggest that relaxation achieved through meditation sessions in the Headspace app helped reduce stress. All twelve participants expressed relaxation and six participants expressed reduced stress. Our data is consistent with the literature showing that meditation trains the mind to relax, focus, and concentrate; thus, affecting the ability to manage life stressors (Stein, 2001). Our research provides significant contribution and supports previous research about meditation and stress reduction, to users of the Headspace app, and to people seeking stress reduction using mobile apps.

Also consistent with literature from Oberg (2009) is our finding that participants experienced their attention coming back to the body and breath. Ten out of twelve participants in our study that meditated for ten minutes felt higher levels of attention or awareness of the body and breathing. Oberg (2009) found regular meditation beneficial for bringing awareness to body and breath. Our findings report a user's experiencing this very thing. Thus, our findings contribute to previous research on the benefits of meditation.

Unexpected Findings

Our study also had several unexpected findings that do not directly answer our research question and are not supported by previous research. We found unexpected findings in both the data collection process, as well as the results of this project. First, we found some participants did not follow the directions to journal for ten minutes after the meditation session ended. Some journal entries contained only a few sentences which could be easily written in under ten minutes, while others wrote up to six pages of content. We believe possible explanations for this could include: the directions we emailed to the participants were not clear, the participant did not read or understand the journaling directions, the participant did not have enough time to journal for ten minutes after the session, or the participant was feeling sleepy or tired after the meditation session.

Another unexpected finding was that some participants had difficulty staying awake during the meditation session. Six participants noted either falling asleep or feeling sleepy. Sleepiness was an unexpected finding because the Headspace app is a guided meditation app, and required more attention than a meditation app with soft music and little guidance. Therefore, we didn't expect sleeping to be a part of the lived experience of the meditation app, and this affected our study.

The third unexpected finding was that the content conveyed in journal entries varied. Some participants discussed personal events in their life, while others wrote about their lived experience of the meditation session. Our expectation was that participants would follow journal prompt questions related to the lived experience of the meditation session rather than report personal life experiences. When participants did not follow our journal prompt questions, it affected our data analysis because it was difficult to pull out only the lived experiences necessary

to answer our research question.

Implications

Given the increased amounts of long-term stress in daily life (Garland et al., 2014), many people are searching for effective and self-directed ways, such as meditation apps, to reduce stress (Carissoli et al., 2015; Dunbar-Lane, 2014; Gartland et al., 2014). By researching the lived experience of adults using the Headspace meditation app, our project supports mind-body healing benefits for the field of holistic health, communities, and continued research. In this section, we will discuss the implications of this research for holistic health, the community (adults experiencing stress in Western culture), and future research.

Holistic health. Within the holistic health field, this research presents a significant opportunity for holistic health practitioners help their clients learn or continue their meditation practice in an easy and accessible manner through using meditation apps. With increased opportunities to engage in a daily meditation practice using smartphones, clients will be able to reduce their stress level; thus, improving overall mind-body health and well-being (emotional, physical, cognitive, and spiritual). We believe mind-body health is an important aspect of holistic health.

Community (adults experiencing stress in Western culture). Although this research focused on individual experiences using Headspace, it could benefit communities, specifically adults experiencing stress in Western culture. Community benefits include increased relaxation and reduction of stress (Howells, 2016; Bostock & Steptoe, 2013), improved ability to manage stress (Stein, 2001), gaining a higher sense of consciousness (Arias et al., 2006), and bringing the attention of the mind back to the body and breathing (Oberg, 2009). We believe that Headspace is a quick, easy, and cost-effective way for the community to experience meditation and some of its

health benefits.

Future research. Based on our unexpected findings that some participants did not follow journal directions, some fell asleep, and journal entry content varied, we suggest the following changes for future research. First, for future researchers, it would be helpful to have more contact with participants to assure journal directions were understood. Therefore, it would be useful for researchers to check in with participants over multiple times throughout the study. Checking in with participants would help the participants report their lived experiences more accurately. Second, since some participants fell asleep, future studies could limit participants to only experienced meditators as we believe that inexperienced meditators are more likely to fall asleep. Third, since the content of journal entries varied, future research could benefit from being more specific in journaling and meditation directions and prompts. For example, “Please only journal about your lived experience of the ten-minute meditation sessions.” We believe this could decrease the level of participant confusion regarding the journal prompts and help the journal entries be more consistent with data analysis.

And lastly, future research could be conducted in a similar study, but to measure quantitative relaxation and stress reduction in adults experiencing stress in Western culture using the Headspace app. Also, studying participants for a longer time period may yield different results.

Conclusion

Stress is increasingly prevalent in society compared to previous years (Coulon et al., 2016; Dunbar-Lane, 2014). People use meditation as a type of stress management to intentionally produce a calm body and mind, thus reducing stress (Stein, 2001). Since many forms of meditation are self-directed, mobile meditation apps could be useful to administer meditation

practices (Horowitz, 2010; Stein 2001). Stress reduction and meditation programs delivered through smartphones are gaining popularity because of high accessibility, versatility, and cost-effectiveness (Laurie & Blandford, 2016). People can use the Headspace app for meditation and stress reduction (Headspace, 2016). It is easy to use and is rated one of the highest-scoring mindfulness meditation apps on the market. There are limited qualitative studies published regarding this phenomenon; therefore, this phenomenological study described the lived experience of adults using a meditation app called Headspace.

From this study, the following themes emerged: relaxation, thoughts, feelings, senses, breathing, and stress reduction. This study found that meditation through Headspace was helpful in promoting relaxation and reducing stress in the mind and body. This research demonstrates how the use of a meditation app can contribute to relaxation and that it is a quick, easy, and practical way to meditate. This research is important because people are using meditation apps instead of traditional meditation methods and knowing the user experience is important (Newman, Szkodny, Llera, & Przeworski, 2011).

References

- Arias, A., Steinberg, K., Banga, A., & Trestman, R. (2006). Systematic review of the efficacy of meditation techniques as treatments for medical illness. *Journal of Alternative & Complementary Medicine, 12*(8), 817-832. Retrieved from <http://dx.doi:10.1089/acm.2006.12.81>
- Ballegaard, S., Petersen, P. B., Harboe, G. S., Karpatschhof, B., Gyntelberg, F., & Faber, J. (2014). The association between changes in pressure pain sensitivity and changes in cardiovascular physiological factors associated with persistent stress. *Scandinavian Journal of Clinical and Laboratory Investigation, 74*(2), 116-125. Retrieved from <http://dx.doi:10.3109/00365513.2013.862847>
- Bentz, V. M., & Shapiro, J. J. (1998). *Mindful inquiry in social research*. Thousand Oaks, CA: Sage Publications
- Bonadonna, R. (2003). Meditation's impact on chronic illness. *Holistic Nursing Practice, 17*(6), 309-319. Retrieved from <http://pearl.stkate.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=106691601&site=ehost-live>
- Bostock, S. K. & Steptoe, A. (2013). Can finding headspace reduce work stress? Randomized controlled workplace trial of mindfulness app. *Psychosomatic Medicine, 75*(3), 20136–A37. Retrieved from <http://discovery.ucl.ac.uk/1421314/>.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27-40. Retrieved from <http://dx.doi:10.3316/QRJ0902027>
- Cannon, W. B. (1939). *The wisdom of the body*. New York, NY: W.W. Norton & Company, Inc.

- Carissoli, C., Villani, D., & Riva, G. (2015). Does a meditation protocol supported by a mobile application help people reduce stress? Suggestions from a controlled pragmatic trial. *Cyberpsychology, Behavior & Social Networking*, 18(1), 46-53. Retrieved from <http://dx.doi.org/10.1089/cyber.2014.0062>
- Coulon, S. M., Monroe, C. M., & West, D. S. (2016). A systematic, multi-domain review of mobile smartphone apps for evidence-based stress management. *American Journal of Preventive Medicine*, 1, 95-105. Retrieved from <http://dx.doi.org/10.1016/j.amepre.2016.01.026>.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications
- Dahlberg, K. (2006). The essence of essences: The search for meaning structures in phenomenological analysis of lifeworld phenomena. *International Journal of Qualitative Studies on Health and Well-being*, 1, 11-19. Retrieved from www.ijqhw.net/index.php/qhw/article/view/4904
- Darawsheh, W. (2014). Reflexivity in research: Promoting rigor, reliability and validity in qualitative research. *International Journal of Therapy & Rehabilitation*, 21(12), 560-568. Retrieved from <http://dx.doi.org/10.12968/ijtr.2014.21.12.560>
- Daruna, J. H. (2004). *Introduction to psychoneuroimmunology*. Waltham, MA: Elsevier Inc.
- Daruna, J. H. (2012). *Introduction to psychoneuroimmunology* (2nd Ed.). Oxford, UK: Academic Press.
- Dillon, A., Kelly, M., Robertson, I. H., & Robertson, D. A. (2016). Smartphone applications utilizing biofeedback can aid stress reduction. *Frontiers in Psychology*, 7, 1-7. Retrieved from <http://www.frontiersin.org>

- Donker, T., Petrie, K., Proudfoot, J., Clarke, J., Birch, M., & Christensen, H. (2013). Smartphone for smarter delivery of mental health programs: A systematic review. *Journal of Medical Internet Research*, *15*(11), e247-e247. Retrieved from <http://dx.doi.org/10.2196/jmir.2791>
- Dunbar-Lane, J. (2014). The devastating effects of stress on our health. *Positive Health*, *217*, 1-1. Retrieved from <http://www.positivehealth.com/article/colon/the-devastating-effects-of-stress-on-our-health>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1-4. Retrieved from <http://dx.doi.org/10.11648/j.ajtas.20160501.11>
- Finlay, L. (2009). Debating phenomenological research methods. *Phenomenology and Practice*, *3*(1), 6-25. Retrieved from <https://ejournals.library.ualberta.ca/index.php/pandpr/article/view/19818>
- Gartland, N., O'Connor, D. B., Lawton, R., & Ferguson, E. (2014). Investigating the effects of conscientiousness on daily stress, affect and physical symptom processes: A daily diary study. *British Journal of Health Psychology*, *19*(2), 311-328. Retrieved from <http://dx.doi.org/10.1111/bjhp.12077>
- Graham, J. E., Christian, L. M., & Kiecolt-Glaser, J. K. (2006). Stress, age, and immune function: Toward a lifespan approach. *Journal of Behavioral Medicine*, *29*(4), 389-400. doi:10.1007/s10865-006-9057-4
- Graham, M. A., & Geisler, C. (2012). *Beyond quantitative, qualitative, and mixed methods: An integrative model for teaching research*. Unpublished manuscript, School of Health, St. Catherine University.

- Groer, M. W., & McEwen, B. S. (2012). Nursing research in stress, psychoneuroimmunology, and allostasis. *Biological Research for Nursing, 14*(4), 309-310. Retrieved from <http://dx.doi.org/10.1177/1099804124561>
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp.105-117). Thousand Oaks, CA: Sage Publications.
- Headspace. (2016). Headspace Inc. Retrieved from <https://www.headspace.com/>
- Horowitz, S. (2010). Health benefits of meditation: What the newest research shows. *Alternative & Complementary Therapies, 16*(4), 223-228. Retrieved from <http://dx.doi.org/10.1089/act.2010.16402>
- Howells, A., Ivtzan, I., & Eiroa-Orosa, F. (2016). Putting the 'app' in happiness: A randomised controlled trial of a smartphone-based mindfulness intervention to enhance wellbeing. *Journal of Happiness Studies, 17*(1), 163-185. <http://dx.doi.org/10.1007/s10902-014-9589-1>
- Hycner, R. H. (1985). Some guidelines for the phenomenological analysis of interview data. *Human Studies, 8*(3), 279-303. Retrieved from <http://www.jstor.org/stable/20008948>
- Katzman, M. K., Verman, M., Gerbarq, P. L., Brown, R. P., Loroio, C., & Davis, M. (2012). A multicomponent yoga-based, breath intervention program as an adjunctive treatment in patients suffering from generalized anxiety disorder with or without comorbidities. *International Journal of Yoga, 5*(1), 57-64. Retrieved from <http://dx.doi.org/10.4103/3-6131,91716>
- Khalaf, A. (2013). Flurry five-year report: It's an app world. The Web Just Lives in It. Retrieved from <http://blog.flurry.com/bid/95723/Flurry-Five-Year-Report-It-s-an-App-World-The-Web-Just-Lives-in-It>

- Khan, S. N. (2014). Qualitative research method: Phenomenology. *Asian Social Science*, 10(21), 298-310. Retrieved from <http://www.serialssolutions.com>
- Laurie, J. & Blandford, A. (2016). Making time for mindfulness. *International Journal of Medical Informatics*, 96, 28-50. Retrieved from <http://dx.doi:10.1016/j.ijmedinf.2016.02.010>
- Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods, and methodology. *Issues in Education Research*, 16, 1-10. Retrieved from www.iier.org.au/iier16/mackenzie.html
- Mani, M., Kavanagh, D. J., Hides, L., & Stoyanov, S. R. (2015). Review and evaluation of mindfulness-based iPhone apps. *JMIR mHealth and uHealth*, 3(3), e82. Retrieved from <http://doi.org/10.2196/mhealth.4328>
- Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice*, 13(6), 522-525. Retrieved from www.fampra.oxfordjournals.org/contnet/13/6.toc
- Marshall, C., & Rossman, G. B. (2011). *Designing qualitative research* (5th Ed.). Thousand Oaks, CA: Sage Publication.
- Newman, M. G., Szkodny, L. E., Llera, S. J., & Przeworski, A. (2011). A review of technology-assisted self-help and minimal contact therapies for anxiety and depression: Is human contact necessary for therapeutic efficacy? *Clinical Psychology Review*, 31(1), 89-103. Retrieved from <http://dx.doi:10.1016/j.cpr.2010.09.008>
- Oberg, E. (2009). Mind-body techniques to reduce hypertension's chronic effects. *Integrative Medicine*, 8(5), 52-55. Retrieved from <http://dx.doi:10.1016/j.im.2009.09.008>
- Ospina, M. B., Bond, K., Karkhaneh, M., Buscemi, N., Dryden, D. M., Barnes, V., & ... Shannahoff-Khalsa, D. (2008). Clinical trials of meditation practices in health care: Characteristics and quality. *Journal of Alternative & Complementary Medicine*, 14(10),

1199-1213. doi:10.1089/acm.2008.0307

Osborne, J. W. (1994). Some similarities and differences among phenomenological and other methods of psychological qualitative research. *Canadian Psychology*, 35(2), 167-189.

Retrieved from <http://www.search.proquest.com.pearl.stkate.edu/docview/61433>

4684/fulltextPDF/7C2D7E108F7442EOPQ/3?accountid=26879

Rosen, K. D. (2016). Is there an app for that? An exploratory randomized controlled trial of app-based mindfulness training for women with breast cancer (Doctoral dissertation).

Available from ProQuest Dissertations and Theses database. (UMI no. 10108445)

Rouchotas, P. (2014). Health: Adrenal fatigue. *Alive: Canada's Natural Health & Wellness*

Magazine, 380, 40. Retrieved from

<http://pearl.stkate.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c>

9h&AN=101372587&site=ehost-live

Sandvik, A. M., Bartone, P. T., Hystad, S. W., Phillips, T. M., Thayer, J. F., & Johnsen, B. H.

(2013). Psychological hardiness predicts neuroimmunological responses to stress.

Psychology, Health & Medicine, 18(6), 705-713.

<http://dx.doi:10.1080/13548506.2013.772304>

Sapolsky, R. M. (1994). *Why zebras don't get ulcers: The acclaimed guide to stress, stress-*

related diseases, and coping. New York City, NY: St. Martin's Press.

Sedlmeier, P., Eberth, J., Schwarz, M., Zimmermann, D., Haarig, F., Jaeger, S., & Kunze, S.

(2012). The psychological effects of meditation: A meta-analysis. *Psychological Bulletin*,

138(6), 1139-1171. Retrieved from <http://dx.doi:http://dx.doi.org/10.1037/a0028168>

Selye, H. (1936). A syndrome produced by diverse nocuous agents. *Nature*, 138, 32-32. Retrieved

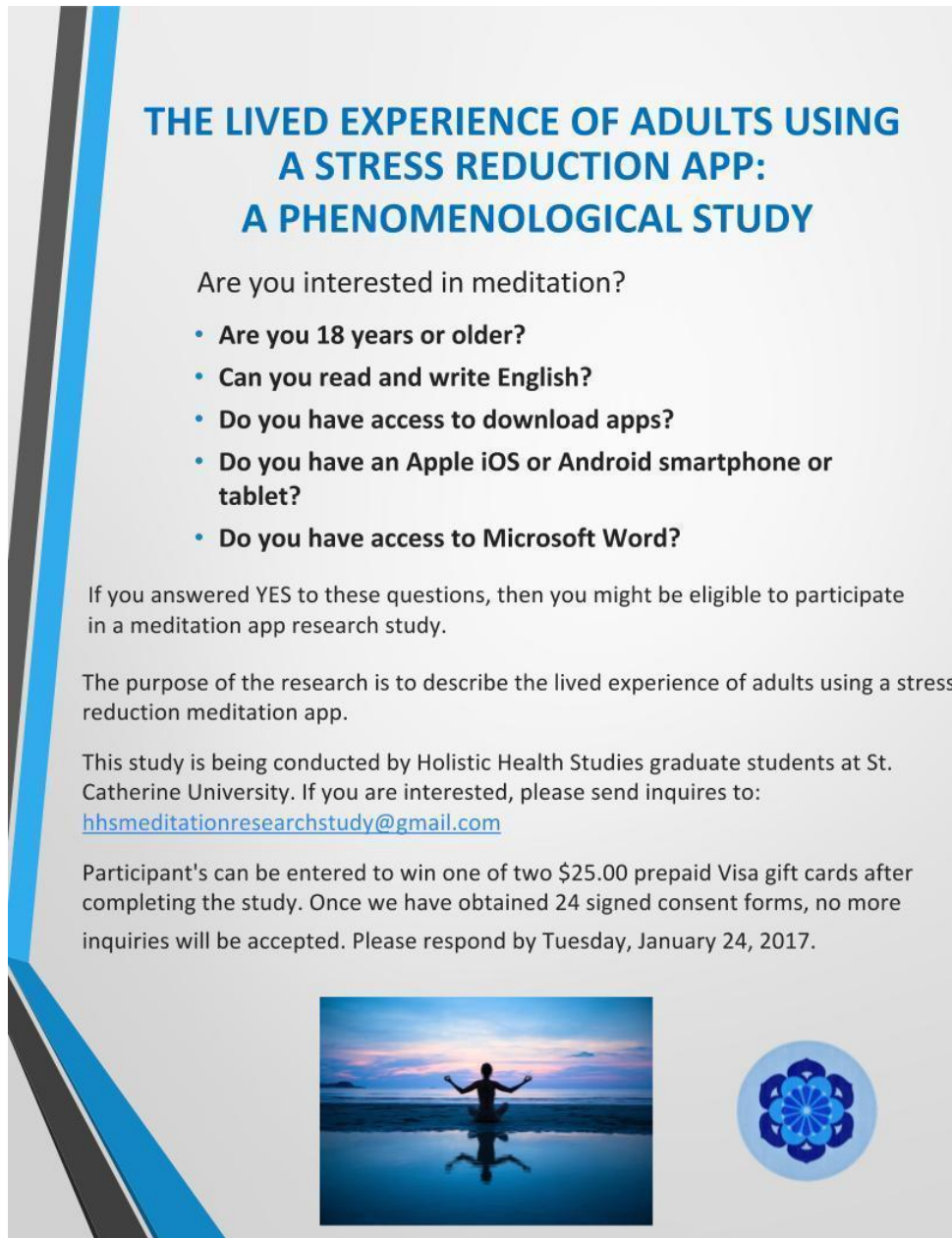
from

- <http://pearl.stkate.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=9722327&site=ehost-live>
- Simon, M. K. (2011). *Dissertation and scholarly research: Recipes for success* (2011 Ed.). Seattle, WA: Dissertation Success, LLC.
- Stein, F. (2001). Occupational stress, relaxation therapies, exercise and biofeedback. *Work*, 17(3), 235-245. Retrieved from <http://pearl.stkate.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=5528334&site=ehost-live>
- Strandmark, M. (2015). Method development at Nordic School of Public Health NHV: Phenomenology and grounded theory. *Scandinavian Journal of Public Health*, 43(16), 61-65. <http://dx.doi:10.1177/1403494814568598>
- van Manen, M. (2014). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. New York City, NY: Routledge.
- Zope, S. A., & Zope, R. A. (2013). Sudarshan Kriya yoga: Breathing for health. *International Journal of Yoga*, 6(1), 4-10. <http://dx.doi:10.4103/0973-6131.105935>

Appendix A

Facebook Flyer and Email Invitation Attachment

Typed in the Facebook status box: Hello, you are invited to participate in a Meditation App research study. Please see the attached flyer.



**THE LIVED EXPERIENCE OF ADULTS USING
A STRESS REDUCTION APP:
A PHENOMENOLOGICAL STUDY**

Are you interested in meditation?



- Are you 18 years or older?
- Can you read and write English?
- Do you have access to download apps?
- Do you have an Apple iOS or Android smartphone or tablet?
- Do you have access to Microsoft Word?

If you answered YES to these questions, then you might be eligible to participate in a meditation app research study.

The purpose of the research is to describe the lived experience of adults using a stress reduction meditation app.

This study is being conducted by Holistic Health Studies graduate students at St. Catherine University. If you are interested, please send inquiries to: hhsmeditationresearchstudy@gmail.com

Participant's can be entered to win one of two \$25.00 prepaid Visa gift cards after completing the study. Once we have obtained 24 signed consent forms, no more inquiries will be accepted. Please respond by Tuesday, January 24, 2017.



Appendix B

Email Invitation



HHS Meditation Research Study

Hello,

You are invited to participate in a Meditation App research study. Please see the attachment.

Sincerely,

Meditation Research Team

St. Catherine University

Holistic Health Studies

hhsmeditationresearchstudy@gmail.com

Appendix C

ST CATHERINE UNIVERSITY Informed Consent for a Research Study

Study Title: The Lived Experience of Adults Using a Meditation App: A Phenomenological Study

Researcher(s):

Cally Strobel, BS, Certified Yoga Instructor

Angela Katzmarek, BS

Gina Gafford, BA, CMT (Certified Massage Therapist), RYT (Registered Yoga Teacher)

Zashata Burton, MS, BES, Therapeutic Coach ®, LADC--Licensed Alcohol and Drug Counselor

The purpose of this study is to describe the lived experience of adults using a meditation app. This study is important because it is contributing to the current literature on meditation and stress reduction. Approximately 24 people are expected to participate in this research. Below, you will find answers to the most commonly asked questions about participating in a research study.

Please read this entire document and ask questions you have before you agree to be in the study. Please note that only the first 24 participants will be accepted. The researchers will count a potential participant as accepted once they have signed and returned the consent form.

Why have I been asked to be in this study?

You are being asked to participate in this study because you meet the following study criteria:

1. You are between the ages of 18 to 80
2. You have an Apple iOS or Android smartphone or tablet
3. You have internet access to download the meditation app
4. You have access to Microsoft Word
5. You can speak and write in English

If I decide to participate, what will I be asked to do?

If you meet the criteria and agree to be in this study, you will be asked to do these things:

- 1) Carefully read the consent form, sign and date it, then email the form to us at the following email address: hhsmeditationresearchstudy@gmail.com.
- 2) Download the Headspace meditation app. We provide specific directions on how to do this before the start of your first meditation session.
- 3) Use the Headspace meditation app for a total of ten sessions over a two week (14-day) time period during the month of January 2017.

- 4) Start the first 10 -minute meditation session and complete all sessions by January 31, 2017.
- 5) After each meditation, write a journal entry about your meditation experience (10-20 minutes per meditation session). Before the start of your first Headspace meditation you will be given journaling directions to assist you in your journaling reflection process.
- 6) After 10 sessions of meditation and journaling, submit your typed journal entries in a word document to our secure and confidential email account:
hhsmeditationresearchstudy@gmail.com

In total, this study will take up to 300 minutes to complete.

What if I decide I don't want to be in this study?

Participation in this study is completely voluntary. If you decide you do not want to participate in this study, please feel free to say so, and do not sign this form. If you decide to participate in this study, but later change your mind and want to withdraw, simply notify us via email and you will be removed immediately. Once you have submitted your journal entries, you will have 48 hours to withdraw them. After that, due to the time needed for the researchers to analyze the data, the journal entries will no longer be able to be withdrawn. Your decision of whether to participate will have no negative or positive impact on your relationship with St. Catherine University, nor with any of the students or faculty involved in the research.

What are the risks (dangers or harms) to me if I am in this study?

Participation in this study involves the possibility of three risks. These include invasion of privacy, probing for personal information, and the risk of coercion. The following actions have been taken to reduce these risks:

1. Invasion of privacy. You have the option of providing a mailing address if you are interested in being entered into the drawing to win one of two \$25.00 prepaid Visa gift cards. The mailing address you provide will be stored on a password-protected computer and permanently deleted after the study is complete on May 17, 2017. In addition, you have the option of providing your phone number in case of any questions. The phone number provided will be stored on a password-protected computer and permanently deleted after the study is complete on May 17, 2017.
2. Probing for personal information. In this study, you will be asked to journal about personal experiences. All information you provide goes to a secure and confidential email account. This information will then be stored on a password-protected computer and permanently deleted after the study is complete on May 17, 2017.

3. Coercion. To reduce the risk of coercion in the participant recruiting process of this study, researchers will not have any direct contact with potential participants, unless there are questions that need to be answered via the phone. Instead, we will post a flyer on Facebook and email the flyer so that potential participants will be able to choose to participate.

What are the benefits (good things) that may happen if I am in this study?

There are no direct benefits to participating in this study; however, indirect benefits may include the potential to reduce personal stress through meditation, as well as the potential to contribute to the literature on meditation and use of mobile apps to reduce stress.

Will I receive any compensation for participating in this study?

Once we receive each participants journal entries, all participants will be emailed a thank you letter. Participants who indicated an interest in the drawing and completed all 10 journal entries will be randomly chosen to win one of two \$25.00 prepaid Visa gift cards (Appendix H). We will then use a random number generator to decide which participants wins the two gift cards. We will inform winners via email that they have won and that they will receive a gift card in the mail via the address they provided on their consent form.

What will you do with the information you get from me and how will you protect my privacy?

The information that you provide in this study via email is secure. We only use an email server with a password-protected email account. Only the researchers and their advisor will have access to this email account. Any information received will only be available to the research advisors and us while we work on this project. While we will use direct quotes from your journals in the final report, we will take care to not provide any identifying information, so that the quotes cannot be linked back to you. We will finish analyzing the data by May 17th, 2017, at which point we will destroy all original data.

All information that you provide is kept confidential, which means that you are not identifiable in any written reports or publications. If it becomes useful to disclose any of your information, we will seek your permission and tell you the persons or agencies to whom the information will be furnished. You will have the right to grant or deny permission for this to happen. If you do not grant permission, the information will remain confidential and will not be released.

Are there possible changes to the study once it gets started?

We may learn about new findings that might influence your willingness to continue participating in this study. If we have changes in the study, we will inform you of these changes.

How can I get more information?

If you have any questions, feel free to contact the researchers by emailing us at hhsmeditationresearchstudy@gmail.com. If you have any additional questions and would like to talk with the faculty advisor, please contact Dr. Carol Geisler at ccgeisler@stkate.edu. If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact Dr. John Schmitt, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739 or jsschmitt@stkate.edu.

You may keep a copy of this form for your records.

Statement of Consent:

I consent to participate in the study.

My signature indicates that I have read this information and I understand the research study. I also know that even after signing this form, I may withdraw from the study by informing the researcher(s).

If you would like to be entered in a drawing to win one of two \$25.00 prepaid Visa gift cards, please provide your address below. Please note that all 10 journal entries must be submitted to be eligible for the drawing of the gift cards.

Address:

Signature of Participant

Date

Signature of Parent, Legal Guardian, or Witness
(if applicable, otherwise delete this line)

Date

Signature of Researcher

Date

Appendix D

Requesting Participant's Phone Number



HHS Meditation Research Study

Hello,

Thank you for your interest in our research study. We have attached a consent form for you to review. Please email your telephone number and the best time for us to call you. We would like to discuss your role as a participant and answer any questions that you may have before signing and dating the consent form. After our phone call, please fill out the consent form (see attachment) and email it back to us.

Thank you,
Meditation Research Team
St. Catherine University
Holistic Health Studies
hhsmeditationresearchstudy@gmail.com

Appendix E

Participant Directions on how to Download the Headspace App



HHS Meditation Research Study

Directions on how to download the Headspace App

For this research study, you will need to have an Apple iOS or Android platform phone or tablet (the app is currently only available on these two platforms). In addition, you will need to be able and willing to journal about your experience using the app, as well as update a time log with starting and ending times for using the app and journaling. The first step is to download the app if you are a new user, if you are a returning user you will already have the app on your phone/tablet. For new users, please start the instruction at 'For New Users', for returning users, please start at 'Returning Users'. If you are tech savvy and have the app set up and ready to use, please go to 'Starting the Meditation' when it is convenient for you to start.

For New Users:

To start, you will need to download the app. First, you will need to decipher if you have an Apple iOS or Android platform, then continue to the appropriate directions below.

For an Apple iPhone or iPad: To download the 'Headspace: Guided Meditation and Mindfulness' app onto your Apple iPhone or iPad, please visit the App Store on your device and search for 'Headspace' in the search bar. To download the app, first click on the white and blue button labeled "GET". Next, the button will turn green and be labeled as "INSTALL". Click on the green button to start downloading. A timer will start to show the progress of the app installation. When the timer is completed, go to your home page and look for the Headspace icon, which is a white square with an orange dot in the

middle. Click on the icon to open and begin the app.

For an Android Phone or Tablet: To download it to your Android phone or tablet, please visit the Google Play store on your device and search for 'Headspace' in the search bar. The icon will be white square with an orange circle in it, once you have found this, click on it. From this screen, there will be an 'Install' option, click on that button, click 'Accept' then continue to the directions below.

The app may take up to a few minutes to download and install. Once downloaded and installed, please go to your 'Apps' menu, locate the Headspace app and open it by clicking on it. Click on the 'Create an Account' button at the bottom of the screen. There are options to either 'Continue with Facebook', 'Continue with Spotify' and 'Or sign up with email'. For this study, please use the sign-up with email option. You will need to put your first and last name, as well as email address and password, then click 'Get Started'. Follow the prompts to get to the home screen, you may take the 'tour' if you wish but it's not needed. Once you have the app set up and logged in you are ready to start the meditation sessions. You may want to start the first session right away, if so please follow the directions under 'Starting the Meditation', otherwise you may start there when convenient for you.

Returning Users:

Go to the Apps menu and locate Headspace, open the app by clicking on it. If you are logged out, put in your username and password and click 'Log In'. Follow the prompts to get to the home screen, you may take the 'tour' if you wish but it's not needed. Once you have the app set up and logged in you are ready to start the meditation sessions. You may want to start the first session right away, if so please follow the directions under 'Starting the Meditation', otherwise you may start there when convenient for you.

Starting the Meditation

Please allow a time slot of at least 20 minutes when completing a meditation and journaling session. We ask that you complete the meditation session and then complete the journaling immediately after. We also ask that during the meditation session you are in a quiet area, or have headphones in so that you are not distracted. Please have a

notebook or computer ready to write down the starting and ending times of the session and journaling. Before beginning the first meditation if you have not used the app, you will need to click on the 'Take 10' button at the bottom of the screen on the app for a short video. This is a onetime video. After this video has been watched you will be able to begin the meditation sessions. Please complete all 10 meditation sessions within a 14-day span.

Once you are in an area that is not distracting, open the app, please note what time you are starting at, then click on the '01' button. Sit comfortable and listen to the meditation, when this is done please write down what time the meditation ended. Following this, please get out the journal prompt (if they are not already out) and reflect on the question. Again, please write down the time when you have completed the prompts.

The meditations go in order of 1-10. Each day you will complete one meditation and the journal prompt, as well as fill in the participant log with the times that you start and end the meditation and journaling.

Once you have completed the 10 meditation sessions and journal prompt, please email them as well as the participant log to hhsmeditationresearchstudy@gmail.com.

Appendix F

Participant Directions for Journaling



HHS Meditation Research Study

DIRECTIONS FOR JOURNALING

We ask that you complete all 10 meditation sessions within a 14-day span and that you begin your first meditation session no later than January 22, 2017. The meditation sessions go in order of 1-10. For each session, you will complete one meditation session and then journal to reflect upon your meditation experiences. You may initially write your reflection comments in any format you want to; however, we ask that after completing all 10 sessions, please submit your reflections in a typed Microsoft Word document. When completed, please email all 10 journal entries to hhsmeditationresearchstudy@gmail.com. To begin, start in an area that is not distracting, open the app, and begin your meditation.

After having used your meditation app, please take 10 minutes to reflect on your experience. Complete your journal entries on either paper or Microsoft Word. However, we ask that you put all journal entries in a word document and email them to the secure email address (see email address above).

Please refer to the following journal prompts to assist you in reflecting upon and writing your journal responses:

- Tell about anything that comes to mind about your experience of stress:
- Only after having replied to the above prompt, tell about anything more you might want to add relative to your experience of:
 - Mental state, stress, or well-being:
 - Physical state, stress, or well-being:
 - Emotional state, stress, or well-being:
 - Spiritual state, stress, or well-being:

- Tell about any experiences not mentioned above:
 - Your experience of your state, stress or well-being:
 - Your experience of using your meditation app today:

Appendix G

Participant Thank You Email



HHS Meditation Research Study

Dear Meditation App Participant,

Thank you for participating in our research study. Your participation will contribute to the literature on meditation and use of mobile apps to reduce stress. We hope that you enjoyed participating, and you gained new information about meditation.

Sincerely,

Meditation Research Team

St. Catherine University

Holistic Health Studies

hsmeditationresearchstudy@gmail.com

Appendix H

Participant Drawing Winner Letter



HHS Meditation Research Study

Dear Meditation App Participant,

We are excited to inform you that you won one of the \$25.00 prepaid Visa gift cards. Congratulations!

Thank you, again, for participating in our research study.

Sincerely,
Meditation Research Team
St. Catherine University
Holistic Health Studies
hhsmeditationresearchstudy@gmail.com