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Health Educator Experience: Recommendations for Physical Activity for Mental Health in Women

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Walden University
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Abstract

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by

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MPH, Southern Connecticut State University, 2010

MS, Southern Connecticut State University, 2002

BS, Marist College, 1995

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Education and Promotion

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Abstract

Mental health issues, specifically anxiety and depression, continue to be a public health crisis in the United States. Despite the established therapies of pharmacology and cognitive behavioral therapy, not all patients seek or find relief using these methods. Therefore, other treatment strategies need to be studied. The purpose of this basic qualitative study was to understand the experiences of health educators who use physical activity as a strategy for anxiety and depression management among middle-aged women as well as their own attitudes, norms, and perceived behavioral controls. The theory of planned behavior (TPB) was leveraged as the theoretical foundation for the study as it provided the framework to understand a person's behavioral intentions. Purposeful sampling was the approach for recruitment of participants who met the inclusion criteria. Semistructured, virtual, face-to-face interviews were conducted, recorded, and transcribed to identify categories and themes; data collection was completed when saturation was achieved. A total of 10, virtual or telephonic, interviews were conducted with health educators who recommended physical activity as a strategy for anxiety and depression management to middle-aged women. Data were analyzed leveraging Quirkos to identify eight emergent themes. Participants expressed their professional knowledge, subsequent confidence, and personal significance with physical activity and how that guided their recommendations to align with mental health professionals. Outcomes of this study could influence positive social change by identifying an additional strategy, physical activity, as a successful alternative, alone or in combination, with traditional therapies. Improving mental health is positive social change in action.

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Dedication

This dissertation is dedicated to anyone that has suffered from anxiety and depression and has sought alternative strategies to manage symptoms. As well as the tireless health professionals, family, and friends that worked, and continue to work, in any way to improve mental health.

Without exception, I would like to dedicate this manuscript to my family. My mother who always believed I could learn and achieve success in spite of the naysayers. My father, Richard L. Schneider, PhD, for modeling the importance of higher education and for supporting my dreams of becoming the second PhD in the family. My sister, for forever being my biggest supporter, rock, sounding board, and allowing me to shine. And my auntie Margaret for being the best auntie a girl could ask for.

Also, to my lifelong educators, Elizabeth Roy and Sina Macak, who believed in me and took those extra steps to ensure I was not left behind. They say, “a good educator can change anyone. A good teacher can change anything”. These two exceptional educators earned this degree along with me.

To all my friends, the kiddos, the Hliva’s, and Ingram’s, thank you for never making me feel guilty when saying, “I’m sorry, I can’t, I have to do schoolwork”. To my amazing four-legged girls, your cuteness kept me calm during those freak-out moments. And last but not least, Scotty, my love, thank you for your never-ending support and encouragement to achieve a lifelong goal.

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Lastly, I would like to thank all the volunteers who participated in this study and were willing to share their experiences as health educators. Our profession is critical to population health, our knowledge unmatched, and passion unparalleled.

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Chapter 1: Introduction to the Study

Introduction

Living with mental illness is a stark reality for 792 million people worldwide and it is believed that this number is widely underreported (Ritchie & Roser, 2018). Likewise, there is a universal challenge for adequate treatment options, accessibility, and policy compounded by the negative connotations and associated stigma (Whiteford et al., 2016). Specifically, 20.6%, or 9 million, U.S. adults report they unsuccessfully attempted to gain treatment in 2020 (Mental Health America, 2021). Other cost effective, and readily available treatment options have been identified, such as physical activity, but the conduit for dissemination continues to remain in question. Healthcare providers, such as doctors and nurses, continue to report barriers in providing adequate physical activity counseling (Albert et al., 2020; Ryan et al., 2017; Wattanapisit et al., 2019). Leveraging physical activity continues to be an accepted strategy to manage mental illness, specifically anxiety and depression, yet patients remain less physically active when compared by gender, age, race, ethnicity, and sexual orientation (Stubbs et al., 2017a). Despite research consistently supporting the use of physical activity in the treatment of anxiety and depression, the most impactful intermediary has yet to be identified. In the United States, with a plethora of medical advancements and treatment resources, this may seem difficult to comprehend. The use of multidisciplinary teams, consisting of allied health professionals such as health promotors and educators, may emerge as a best practice with increased research and focused studies such as this. Instances such as the development and implementation of programs and interventions could provide additional tools for

practical application in the field. Successful management of anxiety and depression not only improves the quality of life of the patient's but also enriches relationships with family, friends, employers, and society at large.

This chapter introduces the problem and gap in effective treatment strategies for patients with anxiety and depression. The background and research questions provides support for this study and betterment toward positive social change. The theoretical underpinning of the theory of planned behavior (TPB) provided the foundation for understanding a person's intention to engage in a particular behavior. And to ensure a shared meaning, I established the scope of the study, definitions, assumptions, and limitations toward insight into the significance of the possible findings.

Background

The mental health crisis facing the United States is not a novelty, it has existed for centuries, yet has been thrust into the mainstream media and consciousness largely due to the COVID-19 global pandemic; the catalyst is irrelevant but the response profound (The Lancet Public Health, 2020). Mental illness is perhaps among some of the most pervasive and devastating diseases, with global reach, and yet adequate treatments continue to be lacking. Medicine continues to leverage physicians and nurses as the primary point of consultation in the healthcare system, but both professions continue to report inadequacies. Consistent barriers such as inadequate knowledge, time, and confidence as well as ambiguous responsibility and feasibility remain among the most frequently cited (Albert et al., 2020; Freene et al., 2019; Walsh et al., 2020). Likewise, traditional treatments, such as medications and behavioral health counseling, may not provide the

desired relief or may be inaccessible (Stubbs et al., 2017a). Researchers continue to support the use of alternative treatment strategies, such as physical activity, as advantageous, accessible, and cost-effective (Stubbs et al., 2017a, 2017b). The gap in the literature emerges when integrating allied health professionals, such as health educators, as part of the holistic team; Tulloch et al., (2006) supported this insight in their meta-analysis. As a result of this study, I gained an understanding of health educators experiences in using physical activity as a strategy for anxiety and depression management among middle-aged women. Through purposefully designed questions, I elicited health educators' attitudes, subjective norms, and perceived behavioral controls. My greatest desire is to inform practitioners, with tangible evidence, to improve the lives of their patients.

Problem Statement

According to the Anxiety and Depression Association of America (ADAA), women are twice as likely to be diagnosed with an anxiety disorder when compared to men (ADAA, 2018). Likewise, depression is more prevalent in women when compared to men, approximately twofold, 10.4% to 5.5% respectively (Centers for Disease Control and Prevention [CDC], 2018; Soares, 2020). The worldwide economic burden for anxiety and depression is staggering and on the rise. Chisholm et al. (2016) stated that an investment of $147 billion would be necessary from 2016-2030 to effectively treat anxiety and depression. Physical activity has proven to be substantively beneficial for both physical and mental health. There is consensus in the literature, that physical activity is an impactful strategy to manage anxiety and depression however; people diagnosed are

less physically active than the general population (Schuch et al., 2017). Women are less active when compared with men, approximately four percent, that is, they do not accumulate purposeful physical activity beyond activities of daily living (CDC, 2016).

There has been a growing focus on implementing physical activity programming into treatment plans within healthcare systems, community health settings, health departments, worksites, and schools (American Public Health Association, 2015; Rosenbaum et al., 2018). Research has provided consistent insight into the rationale and barriers for physicians, registered nurses, public health nurses, and nurse health educators when recommending physical activity as a strategy to manage anxiety and depression. While these health professionals believe in the physical and psychological benefits of physical activity, they acknowledge misalignment in who should be making recommendations, time constraints, and lack of knowledge for physical activity promotion (Dacey et al., 2014; Keogh et al., 2017). Health educators and/or health promoters are becoming important members of the multidisciplinary team treating patients with a variety of illness and disease. To-date, limited, to no, insight has been studied specific to health educators and/or health promoters professional experiences in making physical activity recommendations (American Public Health Association, 2015; Schuch et al., 2017). Even with decades of credible data on the benefits of physical activity, both mentally and physically, a large majority of the population remains inactive and sedentary (CDC, 2019). Inactivity and sedentary lifestyles have become a globally recognized public health problem leading to preventable morbidity and mortality (World Health Organization [WHO], 2020). Subsequently, health education is a growing field

and now recognized as an essential component in the healthcare system. As health educators become more of an integral part of treatment plans, working directly with patients, in various settings, understanding their experiences surrounding the use of physical activity, as a management technique, for anxiety and depression, has a practical application in the field of health education.

Purpose of the Study

The purpose of this basic qualitative study was to explore the experiences of health educators who use physical activity as a strategy for anxiety and depression management among middle-aged women. Despite consensus in the literature that physical activity is beneficial both physically and psychologically, middle-aged women continue to be less active than men (CDC, 2016). To create effective symptom management techniques and increase physical activity in middle-aged women, understanding health educators' experiences is an important first step.

The burden of mental health is profound on the individual, community, and society at large (Teychenne et al., 2020). It is a growing public health crisis that is in the forefront of many minds. A thorough assessment could provide insight into enhancing symptom management, improving overall health, decreasing the financial and economic burden, and upgrading overall quality of life. The intent of this study was to identify practical experiences of health educators who recommend physical activity to manage anxiety and depression by identifying their unique perspectives. Improving the human and social condition, by transforming the lives of people with anxiety and depression, is positive social change in action.

Research Questions

The following questions were intended to guide this research study:

RQ1: What are the experiences of health educators who use physical activity as an impactful health outcome for anxiety and depression management among middle-aged women?

RQ2: How do health educators describe their facilitators and barriers to making recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

RQ3: How do attitudes, norms, and perceived behavioral controls influence health educators' recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

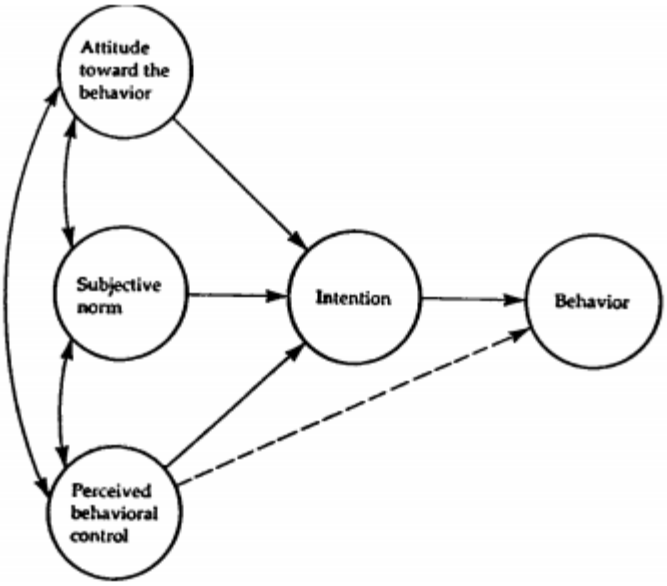
Theoretical Framework of the Study

The theoretical foundation for this study is rooted in the TPB which provides the framework to understand a person's behavioral intentions (Glanz et al., 2015; Hayden, 2019). The TPB, evolved from the theory of reasoned action (TRA), attempting to explain how attitudes, subjective norms, and perceived behavioral controls influence intentions that are manifested in behavior. The TBP has been applied to a variety of health behaviors and is one of the most widely utilized to understand barriers to engaging in physical activity (Latimer & Ginis, 2005). Applying the constructs of the TBP have been associated with attaining sustained behavior change and aids health educators in developing programs that will positively influence a person's intention to change their health behaviors.

For this study, I applied the constructs of the TPB when developing my research questions. I asked participants about their attitudes, subjective norms, and perceived behavioral controls that aligned with my research questions. Specifically, I asked health educators about their feelings and perceptions (*attitude*) toward physical activity and how that influences their recommendations to middle-aged women suffering from anxiety and depression. Likewise, I asked health educators about their motivation (*norms*) toward physical activity and how that influences their recommendations to middle-aged women suffering from anxiety and depression. And lastly, I asked health educators about their ability and knowledge (*perceived behavioral controls*) and how that influences their recommendations to middle-aged women suffering from anxiety and depression. The TPB provides relevancy that aligns with an attempt to understand what drives health educators to make physical activity recommendations. The expectation is that the TPB will aid in the understanding of health educator's decision making towards physical activity recommendations to middle-aged women suffering from anxiety and depression.

Figure 1

Theory of Planned Behavior



Note: "The Theory of Planned Behavior," by I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes, 50*(2), p. 182. (https://doi.org/10.1016/0749-5978(91)90020-T).

Nature of the Study

This study utilized a basic qualitative design by conducting semistructured, face-to-face interviews virtually. Qualitative methods helped gain a greater, more comprehensive understanding of the factors that influence physical activity recommendations of health educators for middle-aged women suffering from anxiety and depression. When compared to quantitative research, qualitative research has been recognized to be more proficient when examining attitudes, beliefs, and experiences within populations (Kaplan & Maxwell, 2005).

Participants held an active membership in the society for Public Health Education (SOPHE), had virtual capabilities, spoke and understood English, and were seasoned professionals working with middle-aged women in the field. The questions were designed to understand and describe the professional experiences, confidence, and self-efficacy of health educators and/or health promoters as well as the personal attitudes toward physical activity as a strategy to manage anxiety and depression for middle-aged women. Interviews allow for the ability to probe or pose follow-up questions and observe non-verbal behavior (Community Toolbox, 2020). The goal was to achieve saturation of interpretative outcomes to categorize according to patterns and common themes (Hon, 2014).

Definitions

The following terms are used throughout and are defined as intended for this research study. To mitigate confusion, the following definitions are provided to increase clarity and strengthen alignment:

Anxiety: feelings of intense worry, fear, tension, and uneasiness that interfere with daily life (American Psychological Association [APA], 2021).

Barriers: anything that inhibits recommendations for physical activity (Rimmer et al., 2004).

Depression: persistent feelings of sadness and loss of interest disrupting or ceasing activities of daily living (APA, 2021).

Facilitators: anything that encourages recommendations for physical activity (Rimmer et al., 2004).

Health educators: professionals tasked with educating people about health and healthy choices to promote wellness (SOPHE, 2021).

Physical activity: any bodily movement that contracts skeletal muscles and requires an energy expenditure; also referred to as exercise and used interchangeably for this study (WHO, 2021).

Assumptions

When conducting research with human subjects, assumptions are an essential element. Assumptions must be accepted as true yet are unable to be proven. I made the following assumptions as part of this dissertation. Arguably, the most widely accepted assumption, is that participants will be honest, accurate, and sincere in their responses. Likewise, they will not misrepresent their professional experiences and education. To establish the environment of truthfulness, I reminded participants, that all answers and their identity will remain confidential and only aggregate information will be reported. Furthermore, I assumed that the qualitative research design will ascertain a deep understanding of physical activity recommendations made by health educators to middle-aged women with anxiety and depression. Also, I assumed that my sample was adequate in size and representation to achieve saturation and produce valid outcomes. Finally, that the researcher remained cognizant, managed, and eliminated bias throughout the study.

Scope and Delimitations

The intended scope of this study included health educators with experience in making physical activity recommendations to middle-aged women with anxiety and depression. It was expected that all participants spoke fluent English and comprehended

written English. My primary recruitment strategy was leveraging the SOPHE membership distribution list with ancillary avenues of local and state health departments as well as Walden University's research forum. I sent these groups a recruitment email with instructions on how to contact me if they wanted to participate in the study. Likewise, I was fully transparent that each participant would receive a $10 gift card at the conclusion of their interview. I excluded students without practical field experience in the field of health education and promotion; please note, no participants were excluded based on race, gender, or age. I chose a basic qualitative design to gather data rich in detail and depth, yet fully aware that my findings are not able to be generalized.

Limitations

As part of a research project, I anticipated being vulnerable to limitations. An assumption of qualitative research is that the researcher will present some level of bias (Merriam et al., 2016). I had planned proactive provisions to minimize bias throughout the research process, yet it can never be truly eliminated. In addition to researcher bias, it was necessary for me to control for social desirability bias, that is, participants, consciously or unconsciously, providing responses they believe will be more desirable to prevent embarrassment and negative backlash (Latkin et al., 2017). Anonymous surveys could prevent some social desirability bias, yet that would negate the desire to gain in depth insight as the result of interviews (Larson, 2019). Participants were reassured that there were no wrong answers and all responses were confidential. To maximize a shared experience, purposeful sampling was used for recruitment into the study. I recruited participants leveraging SOPHE's membership distribution list as well as local and state

health departments and the Walden University's research forum, as necessary. Therefore, the results of this study are not relevant or generalizable to populations beyond these participants and recruitment organizations; a critical limitation of qualitative research. To establish a high level of trustworthiness, I planned for operational safeguards to enhance credibility, transferability, dependability, and confirmability of the outcomes.

Significance

Current research provides insignificant scholarly evidence into the understanding of the professional experiences, confidence, and self-efficacy of health educators and/or health promoters as well as the personal attitudes toward physical activity as a strategy to manage anxiety and depression for middle-aged women. To-date, research has provided an understanding of the limited professional experiences, confidence, and self-efficacy of physicians and registered nurses in physical activity recommendations, yet limited, to no insight, has been studied specific to health educators and/or health promoters (American Public Health Association, 2015; Dacey et al., 2014; Schuch et al., 2017). The burden of mental health continues to be a significant worldwide public health problem, with numerous professionals engaging patients with treatment protocols, and that includes health educators/health promoters. A thorough assessment of the phenomenon could provide the insight into enhancing symptom management, improving overall health, decreasing the financial and economic burden, and upgrading overall quality of life. Walden University defines positive social change as, "a deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals, communities, organizations, institutions, cultures, and societies" (Walden

University, 2021). Improving the human and social condition, by transforming the lives of people with anxiety and depression, is positive social change in action.

Summary

Mental health issues, specifically anxiety and depression, continue to be a growing concern that affects women at a higher rate when compared to men (ADAA, 2018). Traditional medical treatments are beneficial for some, but not all, therefore, requiring alternative strategies, such as physical activity, to be leveraged by health educators when advising patients (Stubbs et al., 2017b). I interviewed health educators to gain a deep understanding of their experiences when working with women who suffer from anxiety and depression as well as their own attitudes, norms, and perceived behavioral controls.

Chapter 2 provides an in-depth review and description of the current literature on physical activity recommendations for middle-aged women suffering from anxiety and depression. In Chapter 3, I have outlined my methodological approach for this research project. In Chapter 4, I described the data analysis and outcomes of this study. And in Chapter 5, I discussed the outcomes of the study and their practical implications in the field.

Chapter 2: Literature Review

Introduction

This literature review provides insight into the link between physical activity and its impact on anxiety and depression, clinical providers role in leveraging physical activity with patients, and the opportunistic contributions health educators could provide to the narrative.

To begin this process, I engaged my academic and professional professors, mentors, and colleagues in the field of health education and promotion as well as clinical relationships to gain feedback and insights into my area of interest. Walden University library resources allowed for an extensive search of the literature and professional guidance by its outstanding librarians. Walden University databases used included CINAHL, EBSCO Host, MEDLINE, PsycINFO, and various thesis and dissertations published in Pro Quest. While not the main source of academic, peer reviewed research, Google Scholar did provide some information pertinent to this literature review. Various configurations of key terms included *physical activity, physical activity promotion, physical activity counseling, exercise, exercise therapy, exercise interventions, mental health, anxiety, depression, health education, health educators, health promotion, health promoters, health teaching, primary care, doctors, clinicians, healthcare professionals, women, middle aged women, midlife women, benefits, meta-analysis, and systematic review*. All research met the inclusion criteria within five years of publication, peer reviewed, qualitative, quantitative, or mixed methods designs, and were theoretically grounded. Research included studies from the United States and internationally.

Anxiety, Depression, and Physical Activity Research

Anxiety and depression continue to be relevant, burdensome, and persistent mental health conditions that widely impact individuals, families, and societal quality of life, health, and overall wellbeing. The APA defines anxiety as, “an emotion characterized by feelings of tension, worried thoughts and physical changes that increase blood pressure” (APA, 2020a). In addition, the Diagnostic and Statistical Manual of Mental Disorders 5th Edition, DSM-5, categorizes anxiety as a group of disorders that manifest themselves with prevailing fear, a real or perceived immediate threat, and anxiety, a real or perceived future threat, resulting in subsequent, avoidance behavior (APA, 2013). Likewise, the APA states depression is ‘more than just sadness’ while the American Psychiatric Association defines depression as causing, “feelings of sadness and/or a loss of interest in activities you once enjoyed” (American Psychiatric Association, 2020; APA, 2020b). Moreover, DSM-5, identifies depressive disorders as those that reveal themselves with a sad, empty, or irritable mood resulting in one’s inability to carry out activities of daily living (American Psychiatric Association, 2013).

Traditional treatment plans for anxiety and depression often include pharmacology, specifically, selective serotonin retake inhibitor, SSRI, serotonin-norepinephrine reuptake inhibitor, SNRI, or benzodiazepines (Stubbs et al., 2017a). These medications can, and are often used, in conjunction with cognitive behavioral therapies (Stubbs et al., 2017a). While traditional therapies are successful for most patients, there are approximately 33-46% that do not experience symptom relief, are burdened by side effects from medications, and/or are impacted by prolonged delays in

the scalability of therapists (Bourdeau et al., 2020; Kandola et al., 2019; Stubbs et al., 2017b). Additionally, there are a portion of people suffering from anxiety and depression that do not seek treatment throughout the etiology of the disease (Hasin et al., 2018). Despite these treatment protocols acceptance, they are costly and contribute to the global financial burden in treating patients with anxiety and depression.

An often-overlooked strategy in the management of anxiety and depression is physical activity, a cost effective and convenient strategy (Stubbs et al., 2017a, 2017b). In addition to the benefits of physical activity toward anxiety and depression, physical activity has the capacity to improve comorbidities such as cardiovascular disease and obesity (Correll et al., 2017; Kvan et al., 2016; Vancampfort et al., 2015, 2016;). Notwithstanding this two-fold benefit, it is widely documented that patients suffering from anxiety and depression are less active and have higher co-morbidities (Stubbs et al., 2017a). To that end, people with depression have half the likelihood of meeting the recommended public health minimum of 150 minutes of moderate to vigorous physical activity per week (Schuch & Stubbs, 2019). There is still considerable debate and need for additional research to fully understand the mechanisms that precipitates this treatment effect. It has been suggested that physical activity alters brain chemistry, such as reducing inflammation and lowering cortisol levels, that improve the management of anxiety and depression (Beserra et al., 2018; Kandola et al., 2019). Likewise, physical activity has been linked to psychosocial benefits, specifically, improvements in self-esteem, social support, and self-efficacy (Kandola et al., 2019). Due to the complexities and individuality of anxiety and depression, the conversation, and subsequent research, needs

to continue to determine which mechanism(s) improves the diagnosis and treatment of anxiety and depression or if there is a blended approach that is most effective.

Previous research has documented the therapeutic effects of physical activity for depression and anxiety. Stubbs et al. (2017b), conducted a meta-analysis, to strengthen the methodological weaknesses investigating the potential benefits of physical activity on anxiety and depression. Of the initial database search, six studies, ranging from 1998 to 2015, met the inclusion criteria. The statistically significant reductions in anxiety (i.e., SMD and CI) suggests that physical activity is an 'evidence-based option' for symptom management and reduction in anxiety and stress related disorders; $p = 0.02$. Equally important, was the study finding that exercise professionals mitigated dropout rates. Prescriptive recommendations on the F.I.T.T. principle; frequency, intensity, time, and type; remained.

Schuch et al. (2018) validated Stubbs et al. (2017b) meta-analysis while adding to the body of knowledge. Physical activity was recognized as being a highly modifiable response to anxiety and depression symptoms and management. The researchers primarily focused on the relationship between physical activity and incident depression across the globe within varying ages, genders, and cultures. An overwhelming and consistent correlation between physical activity and decreased incidence of developing depression was recognized among the 49 studies. All levels of physical activity appeared to provide a protective effect of developing depression across the F.I.T.T. principle; higher frequencies and intensities provided a significant increase in a protective effect; $p = <0.001$. Comparatively, Meyers et al., (2016) found an equal dose-response in a single

bout of physical activity, 30 minutes of cycling, across low, medium, and high intensities when compared to controls who completed 30-minutes of 'quiet rest' on a cycle ergometer. The study was not able to recommend the optimal amount of physical activity due to variability of studies in the analysis, this was noted as an opportunity for further research. Furthermore, these results were consistent across self-report and clinical diagnoses, yet it is important to recognize that self-reported data can be influenced by recall bias.

Researchers have supported the benefits of physical activity on anxiety and depression, yet what remains in question, is the dose-response specific to intensity and duration. Martinez-Dominguez et al., (2018) provided some conflicting outcome in their meta-analysis on the use of physical activity to manage anxiety and depression symptoms in women aged 40 and over. While there was no significant difference between physical activity and control groups at baseline, variability was demonstrated between medium, 12 weeks to four months, and long, six to 14 months, duration interventions at low to moderate intensities. Statistical significance was achieved in the medium duration physical activity groups yet there was no association in the long-term physical activity groups; $p = 0.04$ and $p = 0.74$, respectively. Additionally, this study highlighted that physical activity interventions could be considered more impactful than other traditional treatment protocols.

Similar ambiguity to intensity and duration, is the use of physical activity alone, or in combination, with other treatment modalities. The most recent systematic review and meta-analysis, Bourbeau et al., (2020), focused on behavioral therapy (BT) in

combination with physical activity. Cognitive behavioral therapy, psychotherapy, stress management, education, cognitive training, and 'other' programs encompassed the BT category. The sample population was largely women, 65%, with an average age of 47.5 years. Outcome measures specific to depression were more positive for BT and physical activity compared to anxiety. There was statistical significance for moderate intensity, $p < 0.01$, compared to high intensity, $p > 0.05$, physical activity. Outcomes for anxiety were not significant for BT and physical activity intensities, $p = 0.036$, or duration of intervention, $p = 0.076$. The researchers posit that this could be due to the more immediate impact of physical activity on anxiety and advocated for additional research.

WHO (2020a) stands behind its recommendation for the use of physical activity in treating mental health conditions. There is robust and evidence-based data, endorsing the use of physical activity in the management and control of anxiety and depression, that is substantial and rapidly growing (WHO, 2020b). Physical activity can be an effective and useful alternative strategy for treating and reducing symptoms while enhancing quality of life and improving overall health outcomes (WHO, 2020b). Consequently, the unique characteristics of availability and affordability of physical activity are other factors encouraging its use in anxiety and depression treatment protocols.

Healthcare Providers and Physical Activity

In 2007, the American College of Sports Medicine (ACSM), in partnership with the American Medical Association (AMA), established the initiative Exercise is Medicine (EIM) with the intention to cultivate the connection between medicine and physical activity. The program's goal was, and is, to "encourage primary care physicians

and other healthcare providers to include physical activity when designing treatment plans and to refer patients to evidence-based exercise programs and qualified exercise professionals" (Mealy et al., 2019). Furthermore, this initiative has highlighted physical activity's preventative nature and disease management capabilities for chronic conditions and mental health. For a thorough assessment to occur, EIM propagates adding a few questions to the standard health history questionnaire and recommending physical activity be recorded as an essential 'vital sign' during patient visits (Cairney et al., 2018). Almost a decade later, the initiative has expanded nationally and established a global presence in 43 countries (Cairney et al., 2018; Thompson et al., 2020). Additionally, Healthy People 2020 advocated for policy level changes to increase physical activity levels through its promotion in the healthcare system while Healthy People 2030 objectives for physical activity aims to expand on baseline data (Albert et al., 2020; Healthy People 2030, n.d.). Additionally, WHO has restated that healthcare professionals and healthcare systems are vital to the promotion of physical activity (Albert et al., 2020).

It is widely accepted, and published, that physical activity counseling is ideal for healthcare providers, they are primed to educate patients on the benefits of physical activity and strategies to increase levels due to their insights into personal and protected health information. However, it has been reported that physicians provide health education, specific to physical activity, for only 90 to 180 seconds during patient visits (Ryan et al., 2017). Furthermore, several consistent barriers have been identified that hinder the promotion of physical activity in healthcare settings such as the lack of confidence, lack of self-efficacy, lack of time, lack of skill, lack of education, lack of

knowledge, lack of personal compliance, lack of reimbursements or financial incentives, and overwhelming patient and workload (Albert et al., 2020; Ryan et al., 2017; Wattanapisit et al., 2019;).

Several factors, across disciplines, have been identified as relevant in the recommendation of physical activity for healthcare providers. Albert et al., (2020), conducted a recent systematic review related to the perceptions of barriers and facilitators in the promotion of physical activity in the healthcare system. After an extensive search, 34 articles met the inclusion criteria, with a global representation and various methodologies. Study participants included physicians, nurses, surgeons, oncologists, psychologists, physical therapists, radiation therapists, occupational therapists, exercise physiologist, pharmacists, internists, rheumatologists, dietitians, and healthcare assistants. Of the 34 studies, the majority, 78-97%, believed that the promotion of physical activity was within their scope. In addition to the consistent barriers previously identified, some participants in this study believed physical activity counseling was relevant when asked, was warranted for a certain existing medical condition, was part of their role but questioned the context, and was based on the patient's history and interest in the strategy. Conversely, facilitators for effective physical activity counseling included standardized assessment protocols, ongoing training opportunities, access to physical activity educational tools, referrals to subject matter experts, and provider incentives. Wattanapist et al. (2019) defined improvements in counseling as the '3 Ts'. Specifically *training*, to begin with medical curriculums, *tools*, usage of standardized assessment and prescriptive protocols, and *teams*, inclusive of the right multidisciplinary team. This study highlights

the need for an integrative approach, leveraging subject matter experts, that possess the bandwidth to provide meaningful and timely physical activity counseling.

Healthcare providers are perceived to be influential and creditable subject matter experts to their patient's behavior. Wattanapist et al., (2019) stated that clinicians can influence physical activity in one out of 12 inactive patients compared to smoking cessation counseling in one out of 35-120 patients. This study was conducted in Thailand and demonstrated similar barriers to those studies that originated in the United States. Through semistructured interviews, the participants stated that, "*the limitation is time, we have to accept that we have only one-two minutes for each patient*" and "*it is about knowledge, I am not sure whether I can choose an appropriate exercise regimen for the patient with a particular disease".* It is important to note that Thai citizens receive healthcare through a universal healthcare system and still doctors experience similar barriers to the healthcare system in the United States. The philosophical and operational variances between these two healthcare systems, do not appear to be the differentiator during clinical practice. Research from other parts of the world also provided similar results and recommendations. Short et al., (2018), conducted a study, in Australia, assessing patient feedback on the counseling they received from their physician on the promotion of physical activity. Notwithstanding the national initiative, 5As, ask, assess, advise, assist, and arrange, only 18.2% of participants received physical activity counseling from their general practitioner during the previous year. While self-reported and recall bias could have impacted the outcome, similar barriers, and facilitators to effective and consistent physical activity counseling, were identified in this study too.

And consistency has also been demonstrated across disease states such as diabetes, overweight and obesity, cancer, and cardiovascular disease (Alghafri et al., 2017; Antognoli et al., 2017; Fong et al., 2018; Keogh et al., 2017; Omura et al., 2018).

In addition to physicians, nurses are uniquely positioned to promote physical activity and provide counseling to patients as the largest, and one of the most trusted, entities in healthcare (Jones, 2016; Walsh et al., 2020). While the majority of research in this area has focused largely on physicians, nurses believe physical activity promotion and counseling are also within their scope of practice yet similar inconsistent operationalization was observed. To facilitate consistency and increased professional preparation and acknowledgement, the American Association of Nurse Practitioners (AANP) too partnered with ACSM and EIM in 2018. The goal aligns with the partnership between ACSM and AMA, "to integrate physical activity assessment, prescription and/or brief counseling, and a referral to the appropriate physical activity resources to each clinical visit" (EIM, 2018).

Parallel barriers were identified in conjunction with physicians such as lack of knowledge, lack of time, lack of confidence, lack of clearly defined role, and feasibility (Freene et al., 2019; Walsh et al., 2020). In fact, Blake et al., (2017) found only 9% of participating nurses were able to articulate proper physical activity recommendations while, 95% stated they needed additional education on recommendations and guidelines to be effective. These barriers remained consistent across discipline, disease state, practice environments, and geographics (Freene et al., 2019; Karvinen et al., 2017; Walsh et al., 2020).

While barriers persisted with counseling patients, specific nurse led interventions, with the aim to improve physical activity, increased adherence, yet the question of sustainability remains unclear (Richards et al., 2016; Stoutenberg et al., 2020). Richards et al., (2016) the most recent integrative review uncovered during this literature review, reported encouraging outcomes from research between 1999 and 2014. Fifteen of the 19 studies identified reported increased levels of physical activity compared to controls, however, it is important to note, that outcomes were self-reported in 74% of the studies. Self-reported outcomes are prone to recall bias and social desirability bias in the absence of objective measurement tools such as pedometers (Richards et al., 2016). Additionally, it is difficult to extrapolate success of nurse led counseling in general practice in the absence of targeted interventions.

Literature supports that both physicians and nurses believe that physical activity counseling is within their scope of practice yet significant and consistent barriers have emerged. Several strategies have been identified to bridge this gap within practice however, the question of bandwidth remains unclear. As part of an integrated approach, physicians and nurses could be the catalyst for effective referrals to other healthcare professionals with subject matter expertise in physical activity and behavior change to maximize impact and improve patient health.

Health Educators

As research continues into effective physical activity counseling, a thorough introspection of health professionals is warranted. Allied health professionals, specifically health educators, could possess the depth of knowledge, skills, and abilities

as well as time necessary to be impactful (Society for Public Health Education, 2021). Health education programs often reflect a multidisciplinary team along with patient accountability. Health education programs intend to impact people at the individual, community, and institutional levels by bolstering health knowledge, attitudes, skills, and behaviors (Castro et al., 2017). Livingood & Allegrate (2017), endorsed the rich history of health education and its important implications on population health; this supports the seminal work of Connolly (1947). Health educators in the 21st century should obtain academic preparation from an accredited institution along with industry recognized certifications to be creditable sources of health information. SOPHE founded in 1950, and the National Commission for Health Education Credentialing (NCHEC), founded in 1988, lead the industry in professional preparation and support of health educators in the field. It is through the eight areas of responsibility that allow health educators to uniquely aid individuals in the process of complex behavior change to optimize health and wellness (NCHEC, 2021).

Increasing evidence supports that health education programs, such as physical activity, engender positive effects on health (Mao et al., 2017). It is well documented that physicians and nurses experience barriers that prevent effective physical activity counseling. As a result, there has been a shift, albeit evolving, to leverage allied health professionals in, conjunction or solely, to lead physical activity counseling and interventions in the field. Tulloch et al., (2006), laid the groundwork in their meta-analysis arguing for an interdisciplinary approach between physicians and allied health professionals. Their specific recommendation included initial discussions with a

physician and subsequent referral to allied health professionals which included health educators. The reverence for the doctor-patient relationship cannot be disputed, therefore leveraging this admiration, through a referral, created the opportunity for increased physical activity and a perception of credibility for the allied health professional. Increased physical activity manifested itself in programs of short- and long-term durations, with physician and health educator (Calfas et al., 1996; Writing group for the ACT research group, 2001) and health educator only (Harland et al, 1999; Hillsdon et al., 2002) methodologies. Success of combined, or health educator only, approaches was attributed to an increased amount of time with patients by health educators, extensive training for health educators in behavior change and motivational interviewing techniques, establishment of social support strategies, and follow up sessions. Expanding on the work for Tulloch et al., (2006), Castro et al., (2017), conducted a systematic review of cardiovascular disease with a specific focal point on physical activity interventions that leverage health education and health promotion principles, programs, and professionals. Health education delivery methods and durations varied among the studies, yet face-to-face, with remote support, proliferated significant increases in physical activity. When coupled with behavior change strategies, additional increases in physical activity were observed. Concurrently, positive outcomes in cardiovascular risk factor reduction, mirrored the successful outcomes of physical activity. It is important to acknowledge the use of self-reported data on recall bias in this systematic review.

Health Educators – Mental Health

Physical inactivity continues to be a persistent theme among those suffering from mental health issues globally. As the focus of this dissertation, there were only two studies that have been identified conducted in China and Saudi Arabia. Both provide insight into leveraging health educators as part of the healthcare team. Al-Ghamdi et al., (2017) and Zhang et al. (2021) included the use of health educators in their research to promote physical activity to those suffering from mental illness, specifically, depression, anxiety, and stress. Guided by the principles of the Health Belief Model, Al-Ghamdi et al., (2017), investigated perceptions, attitudes, and self-efficacy in healthcare delivery specific to physical activity. Survey results reported that 77-94% of healthcare providers advised patients on the psychological benefits of physical activity, and that health educators advised depression patients exponentially more; specifically, 61% always, 15.4% often, and 15.4% occasionally. Similarly, Zhang et al., (2021), found encouraging outcomes from their study conducted in China during the COVID-19 pandemic. Leveraging online Zoom technology, six-weeks of high intensity interval training (HIIT) classes combined with health education was compared to health education singly. The outcomes supported the original hypothesis that both the intervention group and the control group would increase physical activity while decreasing anxiety and perceived stress with greater impact in the intervention group ($p = 0.001$).

The notable difference between the two studies and countries is the use of health educators/education in professional practice (Al-Ghamdi et al., 2017; Zhang et al., 2021). Not unlike Saudi Arabia and China, and despite significant cultural differences, the

United States, also struggles with physical inactivity and mental health as top public health issues, yet the use of health educators is noteworthy (American Public Health Association, 2021). Scientific research specific to physical activity and mental health, with health educators as the conduit to professional guidance, is limited, yet what exists does provide an encouraging opportunity for optimism.

Concepts, Models, and Theories

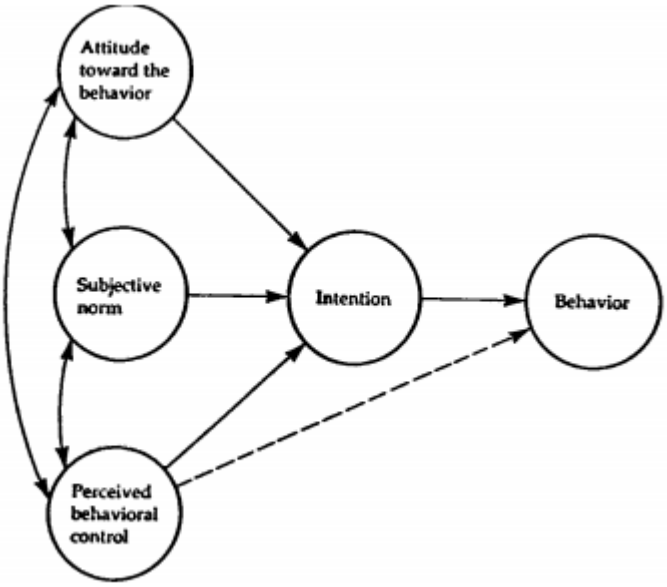
Behavior change is a complex, multifaceted, and a perplexing process for anyone wishing to change an undesirable behavior. Why people engage in unhealthy, and possibly destructive behavior, remains not fully understood and subject of much scientific research. Numerous concepts, models, and theories have been developed, and have evolved overtime, in attempts to predict and explain the complexities of human behavior change as it relates to health. Furthermore, it is likely not efficient or effective to develop research studies on the underpinning of just one concept, model, or theory. Human behavior is as unique as the person themselves presenting unparalleled personal, environmental, and situational factors.

The TPB provides the foundation for understanding a person's intention to engage in a particular behavior. Proposed by Icek Ajzen, in 1985, the TPB is an extension of the TRA developed by Martin Fishbein and Ajzen in 1980 (Ajzen, 1991). It has been leveraged to explain intentions to change many health behaviors such as tobacco use, nutrition and diet, alcohol use, and physical activity, resulting in the development of interventions. It is believed that the stronger the intention toward a particular behavior, the more likely the behavior will occur. This construct is called *behavioral intention*. The

original constructs of the TRA included *attitude*, *subjective norm*, and *volitional control*. To address the shortcoming of, limited or no volitional control, *behavioral control* was added and the TPB established (Ajzen, 1991; Asare, 2015; Glanz et al., 2015; Hayden, 2019).

Figure 2

Theory of Planned Behavior



Note: "The Theory of Planned Behavior," by I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes, 50(2),* p. 182. (https://doi.org/10.1016/0749-5978(91)90020-T).

Attitude is the outcome of one's belief about the resulting behavior, if the belief is strong and attributes have a positive value, a positive attitude is more likely to develop. Subjective norms bring to fruition the impact influential people, referents, have on the person evaluating a behavior change. If the influential person believes the behavior is positive, motivation will result, and the more likely behavior change will commence.

Volitional control is the direct manifestation of one's belief in their own, personal control. If the person believes they have the command of the behavior, the more likely the behavior will occur. However, the question arose, when volitional control was reduced or eliminated, what is the impact on behavior change. The construct of *perceived behavioral control* was added to the TRA to address external factors that impact the likelihood of behavior change, resulting in the TPB (Glanz et al., 2015; Hayden, 2019). Identifying external factors, barriers and facilitators, that impact the adoption of the desired behavior change is critical to change such a behavior.

TPB provides an important scheme to successful behavior change, and interventions, have been developed to target specific constructs to increase the probability of such outcomes. Recognizing the need to further explain the complexities of behavior change, other constructs were added from theories to create the integrated behavioral model (IBM); IBM does not provide the empirical framework for this study (Glanz et al., 2015). For over 35 years, the TRA/TPB has provided the theoretical foundation for studies intended to change behavior, resulting in best and promising interventions for the adoption of sustained behavior change.

Literature supports that patient's trust their healthcare providers, specifically doctors and nurses, when disseminating recommendations for physical activity (Dacey et al., 2014). Literature also supports that physicians and nurses have considerable barriers that make physical activity counseling challenging (Albert et al., 2020; Brennan et al., 2017; Ryan et al., 2017; Wattanapisit et al., 2019). Tomasone et al., (2014) leveraged the TPB in their research aimed at increasing physical activity counseling in clinical practice.

They posited that enhancing healthcare providers attitudes, subjective norms, and perceived behavioral control, would strengthen their intentions to provide physical activity counseling after attending a one-hour long seminar. By leveraging the TPB, the seminars were designed to increase the healthcare providers intention to discuss and prescribe physical activity counseling by targeting attitudes, subjective norms, and perceived behavioral control. Results post seminar supported the original hypothesis, attitude ($p < 0.05$), subjective norms ($p < 0.001$), and perceived behavioral control ($p < 0.001$) were statistically significant and a predictor of intention to providing physical activity counseling. These outcomes were particularly encouraging and validated that targeted education to healthcare providers can be effective. The longevity of maintaining this intention was subject to decreases at the one and six-month follow up, leaving room for further education and interventions. Likewise, Breenan et al., (2017), saw similar results from their study with second year medical students who attended the Exercise Expo. Pre-post survey results reported significant increases ($p \leq 0.01$) in attitude, perceived behavioral control, and intention to provide physical activity counseling, yet not in subjective norms ($p = .06$).

It is documented in the literature, that limited, or no, classes are offered for formal education on exercise and behavior change in medical school curriculums; a small number of programs noted electives as an option (Dacey et al., 2014; Wattanapisit et al., 2018). Nevertheless, alternative continuing education opportunities do appear to be relevant in bridging the gap. Both studies, grounded in the TPB, reinforce the importance of sound research methodologies rooted in a theoretical foundation.

Summary

Mental health issues, specifically anxiety and depression, continue to be on the rise, and of concern, only exacerbated by the COVID era (Silva et al., 2020). Literature presented in this section illustrates the trustworthy relationship healthcare providers have with patients as well as the overwhelming challenges that could disrupt the continuum of care. Likewise, physical activity represents a readily available and cost-effective treatment option for many disease states, including anxiety and depression. Evidence-based research was included in this literature review underscoring the use of allied health professionals, specifically health educators and promotors, as the possible conduit to physical activity recommendations and improved overall health.

Chapter 3: Research Method

Introduction

The purpose of this qualitative research study was to understand the experiences of health educators, the attitudes, norms, and perceived behavioral control when recommending physical activity as a strategy to manage anxiety and depression in middle-aged women. Women are less physically active and suffer higher rates of anxiety and depression when compared to men (ADAA, 2018; CDC, 2016). Likewise, those suffering from mental health issues are less physically active inveterately (Schuch et al., 2018). Physical activity has been suggested to be a viable, accessible, sustainable, and cost-efficient treatment strategy for those suffering from anxiety and depression, solely or in combination, with pharmacology and BT (Stubbs et al., 2017a, 2017b).

In this chapter, I describe the rationale for aligning my research with the basic qualitative approach. I identify the role of the researcher, describe mitigation strategies to enhance trustworthiness, and ensure ethical standards. And in the methodology section, I describe the generation of the question set, recruitment process, data collection, and data analysis.

Research Design, Paradigm, and Rationale

The purpose of this basic qualitative study was to explore the experiences of health educators, the attitudes, norms, and perceived behavioral control when they may confront, when leveraging physical activity as a treatment strategy for middle-aged women with anxiety and depression. There is limited empirical evidence in this topic area; therefore, insights gained from this study could be used for future research, process

improvements, and practical implications. As mental health issues continue to rise, alternative treatments could prove to be valuable tools. The following research questions guided this qualitative research project:

RQ1: What are the experiences of health educators who use physical activity as an impactful health outcome for anxiety and depression management among middle-aged women?

RQ2: How do health educators describe their facilitators and barriers to making recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

RQ3: How do attitudes, norms, and perceived behavioral control influence health educators' recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

The qualitative research approach strives to provide meaning and understanding by exploring individual or group experiences, likely in their own settings (Creswell et al., 2018). Fulsome data is often obtained using open-ended questions and responses (Creswell et al., 2018). Qualitative research is an emerging methodology, gaining momentum in the 1990's, yet still remains to be debated on its merits; Glaser and Straus (1967) and Guba (1978) are noteworthy contributors to the research approach (Abdullah Kamal, 2019). Creswell et al., (2018) defines qualitative research as, "exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (p. 250). Furthermore, Merriam et al. (2016) stated that qualitative research describes, "how (people) construct their worlds, and what meaning they attribute to their

experiences" and "cause and effect, predicting, or describing the distribution of some attribute among a population" (p. 5-6).

Philosophical worldviews, or paradigms, influence research as they are fundamental beliefs resulting in alignment, decision making, and interpretation (Creswell et al., 2018). Qualitative research commonly affiliates with the constructivism paradigm; constructivism is also referred to as naturalistic and interpretive paradigms (Abdullah Kamal, 2019). We seek to comprehensively understand the world by developing subjective meaning of individual or group experiences. Open-ended questions and active listening facilitates the opportunities to gather data for analysis and reasoning. The researcher must recognize how their own experiences, background, and perspective influence their interpretation and how their personal value applies.

Qualitative designs are plentiful with many approaches identified; Tesch (1990) referenced 28 and Wolcott (2009) 22 yet narrative, phenomenology, ethnography, case study, and grounded theory have emerged as common approaches in the social and health sciences (Creswell et al., 2018). The *narrative* approach concerns itself with interpreting stories about the life, or lives, of participants, and is retold by the researcher, resulting in collaborative data (Creswell et al., 2018). Hardy's seminal work eloquently describes the context of narrative research, "we dream in narrative, daydream in narrative, remember, anticipate, hope, despair, plan, revise, criticize, gossip, learn, hate and love by narrative" (Hardy, 1968, p. 5). This approach relies on the commitment of the participants, prioritizes their experiences, and attempts to understand their subjective experience (Pavlenko, 2012). Narrative research can be rather time consuming and challenges

confidentiality (Creswell et al., 2018). The goal of *phenomenology* is to describe the lived experience, the phenomena, of the participant through their perceptions, that is, phenomenology is the study of conscious experiences (Merriam et al., 2016). Thick description of the lived experience seeks to capture 'meaning, features, and essences' of the experience (Starks et al., 2007). Phenomenology often attempts to describe powerful experiences such as love, anger, and hate (Merriam et al., 2016). Researchers need to be keenly aware of, and separate themselves, from bias and/or personal experience they bring to the study through the process of epoche (Merriam et al., 2016). The *ethnographic* approach requires the researcher to immerse him/herself into the culture and natural setting of the participant study group. By defining the culture, a thick description of values, beliefs, and/or attitudes can be better understood about a particular population. Often requiring a lengthy time commitment, data is collected primarily through observation, active listening, and inferences and can be cost prohibitive (Creswell et al., 2018; Merriam et al., 2016). *Case studies* are in-depth, and contextually detailed, analysis of a single program, event, activity, process, individual, or group (Dooley, 2002). The researcher gathers data on a finite period of time through observation, interviews, focus groups, documents, and artifacts (Creswell et al., 2018). This research approach provides the opportunity to be emersed in a specific phenomenon and understand the rich detail and context by observation yet rises concern about its generalizability (Patton, 2015). Recognized as the founders of *grounded theory*, Glaser and Strauss, explained how data is used to generate theory by attempting to discover constructs (Chun Tie et al., 2019). With a solid foundation in field work, grounded theory

is established yet fluid, data driven, and leveraged when little is known about the phenomena. Researchers could gather a tremendous amount of data, preparation and mentoring can assist in data management (Olesen, 2007).

The reality of complex and vast human behavior is as unique as research approaches. Through the ongoing evolution of qualitative research, phenomena may not align with one approach or another, instead relying on concepts from multiple approaches or assert no allegiance to a particular philosophical assumption (Caelli et al., 2003; Creswell et al., 2018; Merriam et al., 2016). It is here that the *basic* approach thrives and is not obligated to one or another, benefits from flexibility, and encourages creativity (Kahlke, 2014). The overarching goal of this approach is to understand, to uncover, how people make sense of their lives and experiences, and to make interpretations (Merriam et al., 2016). The basic qualitative approach could also be referred to as simple, noncategorical, or fundamental approaches along with delineations of interpretive or descriptive (Caelli et al., 2003). The lack of allegiance to one specific methodology, precipitates vulnerabilities for the basic approach as atheoretical, contradictory, and empirically limited (Kahlke, 2014). It is noteworthy, to recognize that the basic interpretative approach has been stated to be the most common in applied fields of study such as health (Merriam et al., 2016). Human behavior is ever evolving, and to remain relevant, methodological approaches need to be able to respond. Without this ability, phenomena will never be fully understood, and health will be the collateral.

In selecting the basic qualitative approach, I was empowered to focus on the exploration and understanding of physical activity recommendations made by health

educators for middle-aged women with anxiety and depression. The research questions I developed, and goal of this study, were meant to gain a fulsome understanding of the attitudes, norms, and perceived behavioral control health educators encounter through interview questions. The research questions were developed to understand their past experiences, perceptions, and confidence in making physical activity recommendations as well as future opportunities for consideration.

Qualitative research, using the basic methodological approach, could be the mechanism in which I am able to elicit valuable data for interpretation within the profession, that could cascade into practice. Findings could be shared with influencers, decision makers, and key stakeholders that would benefit the health education profession and subsequently those suffering from anxiety and depression. As previously stated, mental health continues to be top of mind, alternative therapies are necessary if the profession intends to improve health and influence positive social change.

Role of the Researcher

For the qualitative researcher, it is essential to recognize the influence s/he has over the entire process. Qualitative researchers are asking to be given unedited access to a person's life and experiences, often inclusive of sensitive topics, which require trust and rapport. Building relationships is at the cornerstone of human interaction based on a shared commitment to a stated purpose. For qualitative researchers, the need for full transparency is the foundation to the merits of the research project.

Central to qualitative research is the researcher themselves, that is, the researcher is the primary instrument for data collection and analysis; the researcher is participatory

(Clark et al., 2018). There are tremendous benefits to this positioning which allow for immediate and real time clarification and adaptability as well as observation of nonverbal communication (Merriam et al., 2016). Because of this unique position, it is pivotal the researcher acknowledges bias and personal perspective while reminding themselves to maintain subjectivity; a positionality statement could be leveraged (Clark et al., 2018; Merriam et al., 2016). Elimination of bias is not necessary, or embraced, in qualitative research, yet the acknowledgement and implementation of proper mitigation strategies is required.

For this research project, I acknowledged my personal struggles with anxiety and depression and the pathway to effective management, including daily physical activity. Likewise, I have professional affiliations with industry organizations that work with clients suffering from anxiety and depression. My experiences could provide some potential benefits, yet I was present and mindful of them not permitting my personal beliefs and experiences to influence the research process. Peshkin (1988) posited that one's personal qualities are 'virtuous' to data collection (Merriam et al., 2016).

To manage and control for bias, I used triangulation by validating my interpretations with participants themselves and committed to the necessary time for data collection; this strengthened internal validity and thus credibility (Merriam et al., 2016). Likewise, feedback from my committee and peers, established trustworthiness, and I implemented reflective thinking, leveraged memos to further strengthen credibility (Clark et al., 2018). To address reliability, I had continued transparency in the study design and data analysis (Merriam et al., 2016). Lastly obtaining institutional review board (IRB)

approval ensured the protection of human subjects and the use of informed consent forms upheld research ethics.

To garner insights into my research questions, semistructured interviews were conducted for this research project; further details are provided in the methods section of this chapter. Interviews are often the primary method for data collection in qualitative research (Merriam et al., 2016). The interaction between the researcher and participants should be thoroughly planned, piloted, and practiced ensuring a smooth, seamless experience. Establishing an atmosphere of shared purpose and mutual respect should eliminate any concerns of seniority or power. Creating a warm welcoming, indulgent, and non-judgmental environment is critical and that begins with the researcher, myself.

Methods

Participant Selection Rationale

In qualitative studies, developing a sample plan provides insight into the sampling method, size, and recruitment strategies while propagating variety in settings, situations, and participants (Moser et al., 2018). As the study progresses, it is likely that the sampling plan will evolve and adaptations necessary; it is fixed yet flexible. Sampling is a critical step, with deliberate intention, to engage participants that are knowledgeable, articulate, and passionate about the topic. Purposeful sampling is the most common sampling method in qualitative research and was leveraged for this study (DeJonckheere et al., 2019; Merriam et al., 2016). Gentles et al., (2015) stated that purposeful sampling will allow the researcher to recruit participants based on their, ‘knowledge and verbal eloquence” on a specific topic.

The intention for this basic qualitative research study was to leverage the SOPHE membership directory as the intended primary recruitment pathway (SOPHE, 2020; Appendix A). Additionally, local and state health departments as well as Walden University's research forum could be the secondary and tertiary recruitment sources (Walden University, 2020b). Identifying these professional organizations allowed for the recruitment of participants with knowledge and insight into the profession. Upon written approval from Walden University's IRB and SOPHE, I sent recruitment emails to those email addresses available in the SOPHE directory.

Qualitative research provides a depth of information on the phenomenon of study while leaving the researcher vulnerable to establishing an adequate sample size; the exact quantity of participants remains debated and ambiguous. Established researchers have stated that there is no true answer, exactness cannot be defined, it depends, and whatever it takes when defining the appropriate sample size (Baker et al., 2012). The brutal reality can simply be guided by the availability of subjects, funding, and timeline (Baker et al., 2012). The dominant issue should not be focus on size and number, but on the principal concept of saturation. Glaser & Strauss (1967) introduced the concept of theoretical saturation to guide research by stating that researchers would continue to sample until no new insights are described and redundancy becomes predominant (Baker et al., 2012; Mason, 2010).

Instrumentation

I had developed an interview guide that aligned with my research questions, in addition to, questions gleaned during the literature review (Appendix B). Face validity

provided subjective feedback on the interview guide and interview questions to support that the instrument will indeed measure, what it is intended to measure (Salkind, 2007). To establish face validity, I incorporated feedback on my assessment tool from subject matter experts on my dissertation committee, as well as Walden University faculty and professional colleagues. I prepared a document entitled *request for expert assessment of face validity* to solicit feedback from three Walden University faculty members and two professional colleagues. The document contained the study's purpose statement, research questions, introductory and concluding scripts, demographic, and interview questions; three Likert scale questions were included at the end to assess face validity. Also, I piloted the question set which allowed me to gather preliminary data on questions and edit or clarify where appropriate and validated relevancy. Open-ended questions were utilized with the purpose of gathering personal experiences, thoughts, perceptions, attitudes, and beliefs specific to recommending physical activity to middle-aged women with anxiety and depression. DeJonckheere et al., (2019) stated that interviews are most used for new, exploratory, data collection and are the impetus influencing the entire design process. Interviews are typically conducted face-to-face, by telephone, or through various virtual formats. Questions should be clearly stated and concise addressing what, how, or why as they relate to the research questions. Interviews are intended to be conversational, guided by pre-determined and probing questions, to discover rich data and maintain consistency from participant to participant. Question sets begin from a broad sense, establishing rapport and trust while encouraging openness, and evolving to more poignant and detailed questions (Moser et al., 2018).

Recruitment and Data Collection

I conducted individual face-to-face, semistructured interviews, virtually leveraging Zoom or Google Hangout technology, for approximately 60 minutes. Upon commencement of each interview, I reiterated that participation was completely voluntary, interview could be terminated at any time, and that all responses and details will be kept completely confidential. Virtual interviews allowed the research to be conducted in a safe, healthy environment in the COVID era, as well as increase the geographic reach of participants. Likewise, both virtual platforms functionality, allow for meetings to be recorded when participants agreed; recordings were downloaded into transcripts. Additionally, I took notes and implemented memos, as needed for recall and documentation where necessary. To ensure accuracy of the transcripts, member checking was conducted electronically via track changes or standard mail. Each participant was sent the transcripts for review, edited as necessary, and approved with an electronic or handwritten signature. Should the participant opt for standard mail, a self-addressed, stamped envelope was sent for ease in return mailing. At the conclusion of each interview, I thanked the participant for his/her time, provided instructions on next steps, and followed-up with a token of my gratitude for their time with a $10 gift card to either Dunkin Donuts or Starbucks. Inclusion criteria was active membership in SOPHE, virtual capabilities, English speaking, experience working with adult women, professionals practicing in the field of health education/promotion while, exclusion criteria were students without practical experience and professionals working with children and adolescents.

Once approval was received from Walden University's IRB and SOPHE, I emailed active SOPHE members with email addresses listed in the SOPHE directory. Instructions on how to enroll, using the embedded link, was clearly identified in the email communication (Appendix C). Once participant's expressed interest in the study, I emailed them the informed consent forms directing them to thoroughly read the document, ask any questions necessary, and reply with 'I consent' in the body of the email to confirm their entrance into the study. Calendar invitations were established and reminder emails and/or text messaging were sent one week and at 48 and 24 hours before the established meeting. Should additional recruitment been necessary, I would have emailed local and state health departments and advertised my study on the Walden University's research forum page.

The relationship and interaction between the interviewer and interviewee are unique, in that, rapport and trust need to be established on a relatively short timeline. Establishing a welcoming environment, with clear options, allowed the participant to feel at ease, speak freely, and have a more conversational experience. Face-to-face interviews, conducted in person or virtually, present the opportunity for the interviewer and interviewee to observe body language such as gestures, smiles, or nods. The interviewer should be mindful and demonstrate empathy, respect, and encouragement through active listening, authenticity, and cultural awareness (DeJonckheere et al., 2019).

Data Analysis

Data analysis is a complex, multifaceted, and recursive process requiring a clear plan and ongoing management by the researcher. In qualitative research, it is

recommended that data collection and analysis occur concurrently to remain focused and organized (Merriam et al., 2016). In inductive analysis, data is grouped into usable codes and units, with shared concepts (Moser et al., 2018; Saldana, 2016). Ravich & Carl (2016), Rubin & Rubin (2012), and Saldana (2016) collectively stipulate that codes consist of a word or phrase that interprets the researchers understanding. Coding, first or second cycle, is the process of identifying data that might be useful in answering the study's research questions; codes often become refined from first cycle coding to second cycle coding. As a result, categories are generated inclusive of concepts, abstractions, that are revealed across the data set (Merriam et al., 2016).

Qualitative data analysis (QDA) software provides researchers with computer-based tools to analyze raw data by, "systematizing, organizing, and analyzing" text data. QDA analyzes text data to generate outcomes, with little to no, assistance by recognizing relevant words or phrases, either determined by the software or researcher, and calculated based on frequency (Adu, 2020). A software package that met my needs includes one that is user friendly, intuitive, and secure; with limited exposure to QDA software based on my needs, I used Quirkos. Quirkos offers a visually appealing interface that color-codes text, codes by category and subcategory, generates themes, and provides support through tutorials, guides, and manuals (Quirkos, 2021).

Transcripts were uploaded and coded in real-time to limit recall bias and enhance data management. The direct transcripts identified codes and categories that would answer this study's research questions and align with the theoretical foundation of the TPB. My intent was that first cycle coding was to be reflexive, while second cycle coding

was to be refined, as it relates to barriers and facilitators that health educators experience when making physical activity recommendations to middle-aged women with anxiety and depression.

Trustworthiness

The importance of establishing trustworthiness cannot be underscored in qualitative research, it is paramount to the confidence and rigor in the outcomes. The seminal work of Guba & Lincoln (1981) provided a foundation for the importance of trustworthiness in qualitative research, it is noteworthy to acknowledge the evolution of the specific terminology; today, the criteria are widely recognized as credibility, transferability, dependability, and confirmability (Amankwaa, 2016). It is advisable for the researcher to impose 'activities' to strengthen the criteria and consequently the overall research projects trustworthiness. As the passionate leader of this qualitative research study, it was important for me to be continually aware of my personal experiences, involvement, and subjectiveness to establish and maintain the highest level of trustworthiness possible.

Credibility

Credibility is the confidence in the truth of the study's findings, that is, does the interpretation of the outcomes accurately represent the data gleaned from participants (Korstjens et al., 2018). For perspective, creditability in qualitative research can be compared to internal validity in quantitative research. There are several activities that are commonly implemented to strengthen credibility such as persistent observation and triangulation, these will not be leveraged in this study; however, member checks, peer

review, prolonged engagement, and reflexivity were techniques that will be utilized to strengthen credibility and thus trustworthiness (Amankwaa, 2016; Korstjens et al., 2018; Merriam et al., 2016).

Member checking, also known as respondent validation, will be the first technique that I implemented to strengthen credibility (Merriam et al., 2016). Within a week of the interviews, the participants received a copy of their interview transcript for feedback, enabling them to make any necessary changes and ensure accurate interpretation. Peer review, also referred to as peer examination, was the second strategy I leveraged to strengthen credibility (Merriam et al., 2016). The nature of the dissertation committee positions itself as a readily accessible feedback loop. Each member read and provided feedback to assure alignment in accordance with dissertation level expectations and research principles. Prolonged engagement was the third planned strategy to strengthen credibility. When the data remains consistent, and no new insights are learned, the likelihood of data saturation is understood. Lastly, reflexivity, also referred to as researcher's position, remained top of mind by this researcher (Merriam et al., 2016). It is important to remain aware of, and acknowledge, how the researcher's bias, experiences, and perspectives influence assumptions throughout the research process; I used a reflexive journal.

Transferability

Transferability is best compared to external validity, in quantitative research, and often asks the question of how generalizable the results of the study are. By providing 'thick description' the reader can determine if the findings are applicable to other

populations, settings, and situations, this is called the transferability judgement, or transferability in qualitative research (Korstjens et al., 2018). Lincoln & Guba (1985) suggested that the notion of transferability is the responsibility of the current researcher and not the past or future (Merriam et al., 2016).

As Gilbert Ryle (1949) stated, to strengthen transferability, I provided rich, thick description of the phenomenon (Merriam et al., 2016). This was achieved by using open-ended questions and encouraging participants to provide as much detail in their responses as they preferred; probing questions were also used to solicit more information and for clarification. It is important to note that rich, thick description also applies to the procedures and context of the study, not just participant responses. Additionally, I used purposeful sampling as the strategy to recruit participants for my study. Patton (2015) stated that purposeful sampling diversifies the group of participants and strengthens transferability (Merriam et al., 2016). By leveraging SOPHE's membership directory, my participants could have had nationwide and global representation.

Dependability

In social science research, the notion of reliability is dubious, human behavior is dynamic. Lincoln & Guba (1985) were the first to posit dependability or consistency in qualitative research (Merriam et al., 2016). In qualitative research, the focus is not on replicating the study but on the consistency of the data's process and interpretation, that is the stability of the data. To strengthen dependability, I implemented an audit trail to vividly describe data collection and analysis as well as the decision-making process.

Journaling was the mechanism to gather reflections, capturing ideas, and explain problem solving situations.

Confirmability

Confirmability assimilates neutrality or objectivity in the study findings. By strengthening confirmability, the researcher establishes that the outcomes are grounded in the data and not his/her bias, motivations, or interests (Amankwaa, 2016). I used reflexivity to maximize confirmability by keeping a reflexive journal. This technique allowed me to intentionally document my personal experience with anxiety and depression, physical activity, and educational achievements as it pertained to my study. Lincoln & Guba (1985) stated that a reflexive journal is "valuable and essential" to examining one's, "preconceptions, beliefs, values, assumptions, and position" throughout the entirety of the research process (Amankwaa, 2016).

Ethical Procedures

Ethical research practices should be at the forefront of every research design. It is a critical component, and arguably the most important, when conducting research with human participants. Safeguards have been established by Walden University's IRB and U.S. federal regulations to uphold the utmost ethical standards. Likewise, the researcher bears the greatest burden to ensure ethical practices, that is, validity and reliability of the study depends on the ethics of the researcher (Merriam et al., 2016).

Institutional Review Board

No research was conducted prior to obtaining IRB approval by Walden University as well as any partner organizations such as SOPHE. Walden University's Center for

Research Quality clearly and explicitly outlines the process for obtaining approval for doctoral level research; checklists, office hours, and templates are available to students to assist in this important step (Walden University, 2020a).

Protection of Participants

It is the responsibility of the researcher to ensure that participants identity remains confidential. To protect privacy, names of participants were only known to me and stored in a secure location. Likewise, numbers were assigned to participants to further protect identity during the interview, transcription, and data analysis process. I confirmed, and reconfirmed, throughout the interviews, if participants wanted to continue or stop the interview, in addition to observing body language for signs of discomfort or stress. The intention of these actions was to minimize risk as much as possible to participants during my study.

Informed Consent

All participants signed and agreed to the informed consent form without exception. Like IRB, informed consent forms, share a protective purpose when conducting research with human participants. Walden University's Center for Research Quality provides informed consent templates for participants 18 years and older, under 18 years of age, and parental consent; I customized the template specific to participants 18 years and older (Walden University, 2020a). This form outlined the background, procedures, voluntary nature, risks and benefits, and privacy of the study as well as contact information to Walden University's IRB.

Data Security

To further strengthen research ethics, safeguards were established to secure data. I implemented password protected and encrypted files where necessary; while I was the only one with access to these files, these steps further secured my data. Furthermore, I will maintain the data for five years after the completion of my study; after five years, I will discard all files from my computer.

Summary

This study used a basic qualitative design to seek to understand how health educators leverage physical activity as a strategy for symptom management in middle-aged women with anxiety and depression. Semistructured interviews were conducted to answer the research questions; this was the primary source of data collection and analysis accompanied by journaling and observation. To ensure trustworthiness, the concepts, and associated activities, of credibility, transferability, dependability, and confirmability remained in the forefront to strengthen validity and reliability. Ethical practices were established and maintained throughout the study to protect participants identity, privacy, and data. No research was conducted without IRB approval from Walden University and partner organizations. Upon approval, recruitment began, and the official dissertation commences; results, discussion, conclusions, and recommendations are addressed in subsequent chapters.

Chapter 4: Results

Introduction

The purpose of this qualitative research study was to gain an understanding of the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression. Volunteers in this study participated in one-on-one, semistructured interviews via Zoom or telephone landline. All interviews upheld the utmost confidentiality, and those using Zoom, were recorded per participant approval. The interviews addressed the following three principal research questions:

RQ1: What are the experiences of health educators who use physical activity as an impactful health outcome for anxiety and depression management among middle-aged women?

RQ2: How do health educators describe their facilitators and barriers to making recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

RQ3: How do attitudes, norms, and perceived behavioral control influence health educators' recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

Study outcomes may help inform opportunities for health educators when integrating with other health professionals as part of a larger interdisciplinary team. Likewise, results may influence program development and interventions for the betterment of middle-aged women suffering from anxiety and depression. Results may highlight research and professional gaps that could enhance patient outcomes. This

chapter is presented in accordance with my three research questions and operationalizes study conditions, coding, and analysis as well as tables and figures are used to summarize data in a fruitful and succinct manner.

Setting

Participants were recruited through the SOPHE membership distribution list, Walden University's participant pool, and social media outlets; these aligned with the approved IRB proposal granted by Walden University's IRB. Interested volunteers sent an email directly to my Walden University email address to express interest in participating in the study. Once the volunteer agreed to participate, and confirmed consent via email, a Zoom meeting day and time was selected with a subsequent detailed invitation sent. The majority of participants permitted me to video and audio record the interviews, yet two participants preferred to conduct the interview via telephone where I took copious notes; consistency was maintained whenever possible. The data focused on the participants' experiences as health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression.

Participant Demographics

All participants were professionals working in the field of health education and promotion. A total of 13 interviews were conducted, 10 interviews are included in the data analysis; three were eliminated for potential misrepresentation by the participant. Nine of the 10 participants identified as female, and one participant identified as male. Six participants had earned master's degrees while four obtained their doctoral degree; degree programs included health education and promotion (5), public health (3), health

systems administration (1), and kinesiology (1). Participants represented a variety of professional settings including academia (5), nonprofit organizations (2), government entities (2), and other (1). It is important to note that while 50% of participants were from academic settings, not all were faculty positions, three provided health education and promotion services to students, faculty, and staff in their college or university community. Industry tenure ranged from six to 50 years of professional practice spanning considerable experiences. Industry certifications included the American College of Sports Medicine Health Fitness Specialist (ACSM HFS), American Council on Exercise (ACE), Athletics and Fitness Association of America (AFAA), Certified Health Education Specialist (CHES), Master Certified Health Education Specialist (MCHES), National Academy of Sports Medicine (NASM), National Strength and Conditioning Association's Certified Strength and Conditioning Specialist (NSCA CSCS), Spin Instructor, and Wellcoaches. Table 1 provides a concise overview of the study participants demographics.

Table 1

Highest Degree Earned, College Region, Industry Certifications, Length in Field, Current Work Environment

Participant	Highest Degree Earned	College Region	Industry Certifications	Length in Field	Current Work Environment
P1	Master	South	CHES ACE Health Coach ACE Fitness Nutrition	7 years	Government
P2	Doctoral	Mid-West	CHES	26 years	Government
P3	Master	Mid-West	CHES AFAA Personal Trainer AFAA Nutrition & Weight Management Spin	18 years	Other
P4	Doctoral	Mid-West	MCHES	50 years	Academia
P5	Master	East	N/A	10 years	Academia
P6	Master	South	N/A	8 years	Nonprofit
P7	Doctoral	South	CHES NASM Personal Trainer	17 years	Academia
P8	Master	East	NSCA CSCS MCHES Wellcoaches	29 years	Academia

Participant	Highest Degree Earned	College Region	Industry Certifications	Length in Field	Current Work Environment
P9	Doctoral	South	CHES ACSM HFS	20 years	Academia
P10	Master	Mid-West	Wellcoaches	6 years	Nonprofit

Data Collection

Data collection began on October 29, 2021 and concluded on January 7, 2022. Participants were recruited from the SOPHE membership list, Walden University's participant pool, and professional and public social media outlets. The recruitment email instructed participants to send me an email at patricia.schneider@waldenu.edu expressing their interest. I replied with the informed consent attached to the email asking interested participants to read, and ask any questions, before responding with "I consent" in the body of the email. Once this was received, a day and time was selected, and Zoom call in details were sent. The interview durations were between 25 and 40 minutes, with an average of 28 minutes in length.

I began each interview by confirming that this was still a good day and time to devote 30-40 minutes to our interview before beginning. Additionally, I inquired about the participants day, weather, and/or holidays, and apologized about the possible barking dogs in the background, this seemed to build rapport and relax both myself and the participant. Following my interview script, I stated the nature and purpose of my study, inquired if there were questions on the informed consent, reiterated the voluntary nature of the interview, ability to skip any questions or withdraw from the study at any time; I subsequently confirmed compliance with recording the interviews before starting the

recording. To establish a base, I began by asking each participant demographic questions important to my study such as highest degree earned, program title/discipline, college or university, industry certifications, industry tenure, and current work environment before asking my interview questions. To ensure comprehension, I rephrased questions and summarized, while leveraged probing questions to ensure rich responses. After completing my interview questions, I asked participants if there was anything else they wanted to share before stopping the recording. All participants appeared to provide honest and passionate responses, tone and diction confirmed this, as well as nonverbal cues, I was able to witness through the Zoom platform. Details on the interview script and interview guide can be found in Appendix B. Upon conclusion of each interview, I immediately sent the incentive to participant's email, transcribed the interview via Temi, sent a copy to participant for review, and completed my reflective journal. I found this was an efficiency for recall and personal critique purposes, it grew my level of comfort when conducting the interview sessions.

Data Analysis

Ensuring the highest level of rigor throughout the execution of this project was priority. To align with my research design, I tenaciously reviewed the purpose of my study and purposeful sampling protocol, both described in further detail in Chapter 3. All recorded interviews were transcribed in Temi, edited, organized for consistency, and returned to participants to ensure accuracy. Two interviews were not recorded but transcribed in Microsoft Word, edited, organized for consistency, and returned to participants to ensure accuracy; each transcript is included in Appendix D through M.

Once the transcripts were verified by the participants, I uploaded the documents into Quirkos for coding, theming, and analysis. Quirkos provides the researcher the opportunity to create ‘quirks’ and various levels of ‘sub-quirks’ to code interviews for like or similar comments; quirks and sub-quirks, are conceptualized as folders within folders. Research question one resulted in 186 codes, nine quirks, and 20 sub-quirks; research question two yielded 46 codes, three quirks, and three sub-quirks; and research question three emerged with 51 codes, five quirks, and two sub-quirks for a cumulative total of 283 codes, 17 quirks, and 23 sub-quirks. Furthermore, Quirkos allowed me to combine quirks and sub-quirks, when necessary, to create a visual conceptualization of the data in various formats. The result illustrates the data in a logical and concise manner, to maximize and understand the data; a word cloud and dashboard are included in Appendix N. I approached the coding as a two-step process of creating codes and identifying subsequent themes resulting in eight emergent themes: physical activity cost-benefit analysis, evidence-based knowledge, physical activity standardization, multidisciplinary team approach, professional preparedness, personal significance, colleague proposition, and COVID-19 impact. Saturation was determined and reinforced with the coding and subsequent analysis of all 10 transcripts. The most common codes for the participants were physical activity benefits (21 codes), optimal level of physical activity (21 codes), knowledge comfort of physical activity (21 codes), and drawbacks of physical activity (18 codes). Tables 2 through 4 below represents the codes and emergent themes from my research questions.

Evidence of Trustworthiness

Maintaining the highest level of trustworthiness is critical in all qualitative research, my study was no exception. Throughout the project, I reviewed each component to ensure the highest level of credibility, transferability, dependability, and confirmability.

As outlined in Chapter 3, member checking was the first technique that I implemented to strengthen credibility. Each participant received an email with the transcript of their interview attached, within 24 hours of the conclusion of their interview. The request was to review the interview transcript for accuracy and make any necessary edits, via track changes and comment boxes, to ensure veracity. Participants were asked to provide an email approval and/or send an edited version of the transcript back to me. Coding did not occur until each transcript was approved by the participant. Throughout the process, I was in communication with my committee who provided ongoing guidance and wisdom; this fulfilled my second strategy of peer review. In addition, I leveraged Walden University's individual appointment through the Center for Research Quality. In doing so, I met with a qualitative research specialist who provided valuable feedback to enhance peer review. As the interviews progressed, I recognized that I was not learning any additional insights and likely reached saturation. In consultation with my committee chair, we felt that 10 interviews were sufficient to ensure that I had indeed exercised prolonged engagement to reinforce credibility. Lastly, at the conclusion of each interview and successive follow-up, I completed my reflective journal. During each entry, I reflected on what was successful during the interview, where process improvements

could be made, and intentionally paused to evaluate possible bias. Transferability was validated using open ended and probing questions as well as purposeful sampling. Both strategies reinforced the diversity of participants and their responses. Leveraging SOPHE's membership directory, Walden University's participant pool, and social media outlets, for recruitment, yielded a disparate group of participants. As part of the recruitment protocol, I was forthcoming in the incentive I was offering; a $10.00 gift card to Dunkin Donuts or Starbucks. Dependability and confirmability were strengthened through the mechanism of journaling to capture contemplation, thoughts, critical thinking, personal experiences, and bias. Reflective journaling was conducted at the close of each interview, in real-time, which provided the opportunity to ensure the conclusions were based on direct feedback from participant, and not by myself, as the researcher.

Results

The purpose of this basic qualitative study was to explore the experiences of health educators who use physical activity as a strategy for anxiety and depression management among middle-aged women. I analyzed each transcript through the lens of my research questions to develop codes and identify emergent themes; the eight emergent themes are physical activity cost-benefit analysis, evidence-based knowledge, physical activity standardization, multidisciplinary team approach, professional preparedness, personal significance, colleague proposition, and COVID-19 impact. Below is a comprehensive analysis by each research question.

RQ1

Health educators were asked about their experiences in using physical activity as a strategy for anxiety and depression management among middle-aged women. Existing research has reinforced that physicians and nurses do not have the knowledge, confidence, and/or bandwidth to provide efficient and effective physical activity counseling. This led me to wonder who is providing this counseling and could health educators, as part of the allied health professions, be the catalyst. All 10 participants provided detailed insight into their experiences and agreed that physical activity is beneficial for managing symptoms associated with anxiety and depression.

Emergent Theme: Physical Activity Cost-Benefit Analysis

Participants were asked if they aligned with mental health experts who have stated that physical activity is beneficial for managing symptoms associated with anxiety and depression. Furthermore, participants described their thoughts on benefits as well as drawbacks when recommending physical activity. Collectively, participants stated that physical activity was beneficial, comments such as, “most definitely” (P1), “I think it does have a great effect” (P2), “oh, absolutely. I, I totally agree. I know it's helped me” (P3), “oh, I think it's absolutely necessary” (P5), “I believe it's true” (P6), “I absolutely agree” (P7), “I agree, it’s one of the most important, if not the most, important thing” (P9) and “oh, I absolutely agree with that. That's my go to personally, whenever I'm feeling stressed” (P10).

P3 stated, “it improves self-esteem, mindset, sleep, and health overall. It has a positive self-improvement which helps decrease depression.” P2 explained, “it’s

important to be physically active. It's important to get the stressors out of the day." Similarly, P5 expressed that, "it helps regulate mood, encourage getting out and moving, blood flow, chemical flow. It is critical to overall health and wellbeing." P6 said, "I've seen folks with increased mood, increased confidence, just calmer, an overall calm demeanor and it just satisfaction, greater satisfaction." P4 aligned with, "it is a form of stress management and coping." P10 stated, "it refocuses life in general."

P1 shared physical activity is,

> Relieving for those stressors or as being a coping mechanism to anxiety and depression. And it also helps with energy and sleep and other things, cognitive function and stuff like that, blood flow in the body.

And P9 mentioned,

> I think that physical activity does so much with releasing the endorphins and I just think it's so incredibly important for your mental health to be physically active.

While supporting the benefits of physical activity for depression management, P7 was unsure of the impact on anxiety by explaining,

> I would say yes with depression. I've read the research and there's a lot with depression. Anxiety is a little bit more up in the air with it. I mean, if you're nervous, I don't know how much exercise can necessarily make you less nervous, but you know, it's definitely with depression though.

Conversely, participants were asked about the potential drawbacks to being physically active. While some participants felt there were no drawbacks, other participants referenced chronic diseases, physical injuries, and eating disorders as particular obstacles

to physical activity. P1 shared, “some type of chronic disease or chronic illness that will prevent them. Or they think that it will, making their chronic illness or chronic disease worse by them moving and that will cause them not to get up and do physical activity,” and P5 said, “physical injury or disease is really all that comes to mind.” Several comments were specific to eating disorders and negative self-image,

> If there's perfectionist tendencies and people get overzealous and move into exercise as an addictive pattern, I think there's a downside to that (P4),
>
> someone suffering from an eating disorder (P3),
>
> Anorexic people before, you just look at them, they look sickly, but they still believe it (P7), and
>
> Self-defeating messages that you are not good enough, no one will love you, like that stuff (P10).

Emergent Theme: Evidence-Based Knowledge

Participants were asked about their professional experiences in designing physical activity programs for optimal use in middle-aged women suffering from anxiety and depression. Purposeful exercise bouts and activities of daily living developed as key components of participants responses; both being influenced by personal importance and accessibility. When asked about program design experience, P3 stated, “a ton, it’s what I do every day, all day long as a gym owner. I personally train or do nutrition consultations 80% of the time,” and P7 noted, “I've worked in commercial gyms.” Others leveraged physical spaces in their workplace to encourage physical activity. P1 described,

> For the position that I'm in right now, I actually have a wellness walking club at the federal hospital. And so, I actually try to get people moving, I work with different directorates or clinics on physical activity and how they can use challenges, such as walking challenges, how many steps you can get in a day, 30 minutes or 20 minutes, to just take a round on campus.

Likewise, P6 mentioned, “I first start off finding out what they're currently doing. For most people it's just, you know, walking day to day, we’re in New York City.” And yet others took a more holistic approach in identifying an activity, or activities, that someone enjoys and expanding that interest. P5 said, “people need to find something they enjoy for it to be sustainable so that is what I’ve focused on.” P10 described the process as,

> I have assessments that I use and based on those assessments we talk about what's working for them and what’s not and focus on the one thing they loved the most about themself and what was the one thing that they least like about themself and go from there.

To further understand what influences health educators in their program design, it was critical to learn how the participants operationalized the optimal level of physical activity for middle-aged women who suffer from anxiety and depression. Overwhelmingly respondents stated the importance of meeting women where they are and simply to get them to move. P6 began by stating, “I know the guidelines but just move.” P5 went on to explain,

> Really whatever you can get them to do. I think all too often people get bogged down with what they hear, 30 minutes, 5 days a week, it’s overwhelming. Especially if you can barely walk up and down the stairs. It’s that all or nothing mentality which is where we need to start.

Likewise, P4 added,

> It's so exciting because getting America to move has always been a theme that I've worked with women across the years; 3, 5, 10 minutes counts. It's not an hour in the gym.

Furthermore, P10 shared,

> I try to tell everybody start basic and because the thing is, consistency is key. The consistency is key. So you don't push yourself to a limit where you're gonna turn around and say, okay, I quit. I'm done. That's not, that's not the goal. The goal is to start small.

Finally, P8 concluded that,

> I think that scientifically they would probably say yes, but I've also found that you've gotta meet people where they are, right?

However, others communicated a more scientific approach that aligned with professional recommendations when asked to describe an optimal level such as, “at least 30 minutes, three times a week” (P1), “it's like 150 minutes a week of moderate physical activity, 30 minutes a day, five days a week” (P9), and “150 minutes a week of moderate to vigorous activity. And it says, but for optimal, for the best gains, you should shoot for 300 minutes” (P7).

Emergent Theme: Physical Activity Standardization

All participants were asked to provide insight into the sources of physical activity guidelines for middle-aged women suffering from anxiety and depression as well as how those guidelines influenced the type(s) of modalities they recommend. When participants were asked to provide specific name(s) of the organizations that informed their knowledge of the guidelines, participants offered several resources. Three participants stated the AHA (P1, P4, & P10), three participants recognized the ACSM (P4, P7, & P9), one referenced the CDC (P2), one stated industry certifications (P3), and one recognized Pinterest (P10).

Likewise, participants were asked about what modalities they recommended to middle-aged women suffering from anxiety and depression, a variety of modalities were reported, in several specific areas. Six were in strength training, P1 shared "weightlifting," P9 offered "strength training," P3 noted,

> They must incorporate weights to see improvements especially middle-aged women.

P6 stated,

> Let's get some strength training in there and it doesn't have to be a lot.

P7 felt,

> Women lifting weights movement has become socially acceptable a lot more.

and P2 mentioned,

> If you would like to do more of the strength training, I personally would recommend a combination.

Five participants stated they recommend walking since it was convenient, readily available, and could be done almost anywhere. P6 recommended, “walking day to day,” P2 said, “a walking program,” and P1 stated,

> Use the walking trail around the campus. I tell a lot of the staff, if they're having a bad day, take a walk, go outside, get refreshed by taking a walk.

Additionally, two participants, P9 and P2, recommend cardiovascular exercise to women.

Others noted the importance of just getting people to move with any type of activity they liked, or loved, doing. P1 stated, “do something that you love doing” and P2 recommended, “moving, whatever you like it to be.” Five recommended different types of group exercise classes such as yoga, Zumba, cycling, and dance, while one participant recommends flexibility training (P9) and one other stated leveraging a gym (P1).

Emergent Theme: Multidisciplinary Team Approach

In addition to health educators, all participants were asked to describe other professionals that would need to be part of a multidisciplinary team. Seven participants felt that having a fitness professional as part of the multidisciplinary team was most important and specifically identified ‘personal trainers’ and ‘physical fitness experts.’ Six participants felt that a dietician or nutritionist was important; this title was used interchangeably. Five responses included a PCP. P8 stated, “working through a provider, someone that is treating them, just to be aware if there's any medications and what side effects those could have on physical activity” and P7 expressed, “number one, the PCP. If your PCP isn't involved, your lost, because in the end, that's the gatekeeper for everything in our country.” Mental health experts were suggested to be a person’s therapist,

counselor, psychiatrist, or employee assistance provider equally referenced were social workers. Health coaches, diabetes educator, nurse, peer, and other were noted respectively. Figure 1 below provides a visual representation of the variety of suggested team members; the parentheses provide the number of participants that stated the need for each team member.

Figure 3

Multidisciplinary Team

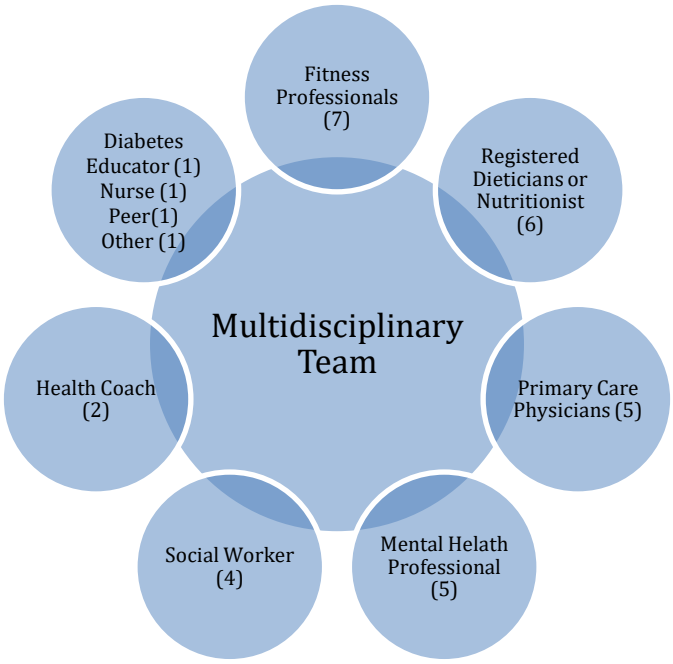


Table 2

Emergent Themes for RQ1

Research Question	Codes	Emergent Theme
What are the experiences of health educators who use physical activity as an impactful health outcome for anxiety and depression management among middle-aged women?	Improves self-esteem, mindset, sleep, energy, cognitive function, blood flow, chemical flow, mood, confidence, calmness, overall health, and wellbeing	Physical activity cost-benefit analysis
	Decreases depression, anxiety, stress	
	Self-care	
	Coping mechanism	
	Regulates mood	
	Greater satisfaction	
	Functional medicine	
	Releases endorphins	
	Develop or worsen eating disorders, exercise induced anxiety, chronic diseases, physical injury, poor self-image	
	Gym owner	Evidence-based recommendations
	Earned industry recognized certifications	

	Recommending walking, getting outside	
	ACSM	
	Assessments	
	20-60 minutes per day, 3 – 5 times per week, moderate intensity, vigorous intensity, cumulative bouts	
	ACSM, AFAA, CHES, AHA, CDC, journal articles, evidence-based recommendations	Physical activity standardization
	Strength training, cardiovascular training, walking, group exercise classes, yoga, dance, Zumba, cycling, flexibility	
	Do anything you love	
	Just move	
	Get outside	
	Physician, PCP, doctor, nurse	
	Nutritionists, dietician	Multidisciplinary team approach
	Personal trainer, physical trainer, strength trainer, yoga instructors	
	Therapist, counselor, social worker, mental	

	health expert, EAP person, psychiatrist
	Diabetes educator
	Health coach
	Peers
	Other - estheticians

RQ2

Health educators were asked to describe their facilitators and barriers to making recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women. That is, what were the tools, situations, or scenarios that promoted and simplified physical activity recommendations; conversely what hampered and obstructed physical activity recommendations. An understanding of these attributes could provide insight into streamlining recommendations for overall process improvement and patient health.

Emergent Theme: Professional Preparedness

Participants were asked about their experiences with professional preparation, and subsequent confidence, when making physical activity recommendations for middle-aged women suffering from anxiety and depression. It is important to gain insight into what type and depth of education these participants experienced. Seven of the 10 participants stated they had required collegiate courses in physical activity as part of their degree requirements. Six of the participants identified this requirement as part of their master or doctoral program while one acknowledged it to be part of the curriculum in

undergraduate study. P2 stated, “when I did my undergrad, there was a course that I took, where we had to develop exercise programs for folks. And we had to do a fitness assessment”. P6 shared, “the topic was high level during my MPH”, P9 mentioned, “I took a master's class in graduate school in exercise physiology. It was cardiorespiratory focused, we learn how to read EKG and do max testing”, and P7 noted, “It was part of my PhD, so I had to take them.” Two other noteworthy statements were from P10,

> For coursework, oh my goodness, yes. We had to do a lot of papers on specific diseases, heart, cardiovascular was one of the big. We had to develop programs, tailored to individuals with cardiovascular disease and how physical activity could turn their situation around more or less, so how physical activity was beneficial,

and P1,

> In my current doctoral program, in the health education and promotion program, we had one, well, two classes where we had to develop physical activity type plans or guidance around physical activity. These were part of my program.

College level elective courses in physical activity and nutrition were identified in four of the 10 participants. Other recognized educational opportunities were industry certifications, self-education, self-training, and academic and personal reading. P5 explained, “I’ve done mostly academic reading, personal reading but I didn’t have a specific class.” P8 acknowledged, “when I was doing aerobics, I was ACE certified. I did a lot of things with the ACSM when I was doing personal training, these are years ago. I did a yoga course and got certificated for that.” And P10 reported, “I basically, did a lot of just self-training and self-learning, researching.”

All participants were asked directly about their confidence level in making physical activity recommendations to middle-aged women suffering from anxiety and depression. Eight of the 10 participants stated they had high levels of confidence while only two felt minimally confident. P3 states, “absolutely. I own my own gym, certified, been doing it for some time. I’ve had over 6,000 clients”, P1 shared, “I'm very confident in my skills and ability to teach. I'm always going to workshops, conferences on physical fitness, wellness, and nutrition”, and P4 mentioned, “of course, that is a simple answer, more than I can remember, I’m in my late 60’s.” Conversely, P5 explained, “I’ve heard of them but I’m just not sure where they came from. I like uncomfortably, comfortable” and P8 noted, “for the most part yes. I’d feel more certain if I worked with exercise more frequently but I’m in academia now.”

Table 3

Emergent Themes for RQ2

Research Question	Codes	Emergent Theme
How do health educators describe their facilitators and barriers to making recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?	Elective college level courses Required college level courses Certifications: ACE, ACSM, Jazzercise, nutrition, yoga Self-training, self-learning Academic reading, research	Professional preparedness

	Gym owner
	Attending workshops, conferences on physical activity, wellness, nutrition
	Continuing education
	Certified personal trainer, CHES
	Evidence-based guidelines
	Personal experience
	Overqualified

RQ3

Participants were asked how their attitudes, norms, and perceived behavioral control influence their recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women. Awareness of what could be influencing a health educators' recommendations is critical to understanding outcomes and possible areas of opportunity.

Emergent Theme: Personal Significance

All participants were asked to describe how important physical activity was to them and 100% aligned on its importance. Simple statements such as it's my life, super important, and it's critical were used as common threads throughout the responses. Purposeful daily activity was a central theme among the lives of these 10 participants. P1 explained,

> I think on a scale of one to 10, I think it's 10 because I am a disabled veteran, but if you looked at me, you couldn't tell if I was a disabled veteran. And so, my journey is being better at movement. Since 2012, I have been doing well, I do suffer from chronic pain from my injuries from the military. I found out that physical activity, eating healthy, living a healthy lifestyle, it actually helps me through my day.

P4 shared,

> I took a part-time job that gets me walking four and five days a week. It was a very conscious thing. I can make some extra money, and in my state, I had to tap into my creativity to get walking. It’s a very conscious choice. I walk and I'm one of the two oldest people there, and I hustle, in that very large store but I'm happy to again be getting my steps and doing it.

P10 expressed,

> So, and most definitely, its exercise is what pretty much changed everything for me, it changed my world. It changed my outlook, my perspective on life.

P7 reported,

> I mean, it's the central aspect of my livelihood. It is what I do as a career. It is what I do as a hobby. It is what I do as a form of entertainment. It is what I do with my family. Like it's, it's everything.

And P2 explained,

> I do something every day. Maybe to the point I do it a little bit overkill. I check my Fitbit at mid-point in the day. I'm not sure if its good or bad or OCD.

Emergent Theme: Colleagues Proposition

All participants were asked to reflect on their colleague's approach to making physical activity recommendations to middle-aged women suffering from anxiety and depression. The participants presented a variety of experiences when answering this question.

P5 stated, "people are on the spectrum; some are hard core while others recognize it as a lifestyle." P3 shared, "they don't, I don't think they approach it. Many say things like, we weren't trained. We had no classes, what we have taken was mostly about theory." P9 expressed, "I dunno if I can really answer that question. I think it just depends on what their background is and what their interest is." P10 reported, "I think everyone has the best of intentions, but I don't think some have any idea what to recommend and go only by the guidelines. I think sometimes it's too by the book." And P7 mentioned, "it's beyond my scope. Let's go push it over there."

Conversely, P1 noted, "from what I have seen from other health educators that work in the space of physical activity and self-care, I see that they are recommending physical activity as a big part of mental health and self-care." P8 referenced, "it depends. When I was working in the hospital, certain providers definitely encouraged exercise." P2 stated, "I primarily work with health educators at the health district offices, they're always incorporating programs, implementing new things, to get people to be active, to take better care of themselves." In summary, P4 said, "I would like to see people, health educators come into the field with both, a strong health and a strong fitness background. The balance of that would make a difference for future health educators."

Table 4

Emergent Themes for RQ3

Research Question	Codes	Emergent Theme
How do attitudes, norms, and perceived behavioral control influence health educators' recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?	It's my life	Personal Significance
	It's a 10	
	Very important	
	Super important	
	Purposeful	
	It's critical	
	Most definitely	
	Changed everything for me	
	Central to my life	
	My go to	
	Spectrum	Colleague Proposition
	They don't, it's beyond my scope	
	Don't know, it depends, best intentions	
	Big part of mental health and self-care, always incorporating it	
	Future, strong health and fitness background	

Other - Emergent Theme: COVID-19 Impact

At the conclusion of each interview, I asked each participant if there was anything else they wanted to tell me about their experiences as health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression. Five of the participants stated they did not, while another five shared comments on how COVID-19 will influence their recommendations, general comments, and the overall impact of mental health. P9 stated,

> We will see more and more effort for people to be advised to be more physically active, to help with the anxiety and depressive symptoms, as a result of COVID. I would hope that it wouldn't go the other way. I think more people are probably less engaging in physical activity because of COVID and because of the depression and anxiety.

P8 shared,

> So obviously we're still in the era of COVID, I think certainly, for many reasons it's been exacerbated, anxiety and depression that is, and I think with not being able to gather in person to do a lot of things, a lot of activities that has caused stress, I think you can do a lot of things online. Think we've really tested those boundaries in doing way more than we ever thought possible. But taking a physical activity class online versus in person with a group, it's different, right?"

P7 mentioned,

> The COVID impact on physical activity and anxiety and depression. I think a lot more people are riding bikes now, like for where I live, it's a very big bike riding

> community. A lot of people are not going inside because they're scared to death that if they go exercise in a gym, they will get COVID. So therefore, they are being outside. They're being outside in state parks, they're being outside on a bicycle. They're being outside walking. That's a good thing for fitness. You know, that's a really good thing for exercise. So, I think that's a positive aspect. You read it all the time about state parks, they're overwhelmed with people. They wanna be outdoors and they're working from home, so they have the opportunity to get out of their house. You know, I'm sick of these four walls but if you get out of your house, you're gonna move. You have to, you're not just gonna sit in your car. You're gonna move therefore, by definition, it's exercise. So very, very true purposeful movement.

P2 expressed,

> COVID, I would hope that if nothing, it encourages people to get outside and walk. Gyms were closed for a while, a long time. The gym that I go to now, you still have to wear your mask, but I've seen other gyms here in my state where you don't. Do I like wearing a mask at the gym? No, I hate it, but it is what it is. I want to be safe. I want other people to be saved too, but maybe just encouraging people to use the natural environment a little bit more, get out and walk and it's safe. I was just talking to my daughter the other day and she was reading an article about how mental health concerns have skyrocketed through COVID. That's another great way to encourage physical activity because then you get those happy endorphins.

P4 observed, “I now work part-time in a fabric place next to a Planet Fitness. And I do see people of all shapes and sizes, post COVID, getting back into Planet Fitness so something good is happening” and P6 noted, “we learned through COVID how valuable, and heavy, laundry detergent bottles are.”

Summary

For this basic qualitative study, I conducted semistructured interviews of 10 health educators to describe their experiences when making physical activity recommendations to middle-aged women suffering from anxiety and depression. Codes and themes emerged and were guided by the principles of the TBP. Outcomes that the 10 health educators expressed supported the assumptions that physical activity is leveraged for anxiety and depression management; in totality, participants echoed similar insights and experiences. The outcomes from this research provide a detailed, in depth understanding into the current practices and opportunities for health educators when making physical activity recommendations to middle-aged women suffering from anxiety and depression.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this basic qualitative study was to help me better understand how the TPB influenced the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression. Using semistructured, open ended interview questions, data was collected from 10 health educators who volunteered to participate in my study. Throughout my research, I began to gain greater insights into the experiences of health educators with the goal of determining the most beneficial health professional(s) to provide physical activity counseling. Key findings clearly identified the knowledge and opportunities health educators possess, to be the possible conduit to improved physical activity counseling.

Anxiety and depression increased 25% worldwide, in the first year of the pandemic, with prevalence remaining dominant in women (WHO, 2022). Healthcare providers, such as doctors and nurses, continue to report barriers in providing adequate physical activity counseling (Albert et al., 2020; Ryan et al., 2017; Wattanapisit et al., 2019). Sustained research continues to support the use of physical activity as a beneficial strategy for the treatment of anxiety and depression, however, sedentary behavior is still persistent among patients (Stubbs et al., 2017a). Leveraging the framework from the TPB, this study sought to answer my three research questions.

Interpretation of Findings

The outcomes from this research study may assist the healthcare community with identifying the most appropriate professional(s) to provide physical activity counseling.

The findings from this research study highlight the experiences, barriers and facilitators, as well as attitude, norm, and perceived behavioral control of health educators that participated. There is a significant gap in the literature, specific to health educators experience(s), when making physical activity recommendations to middle-aged women suffering from anxiety and depression. Subsequently, the outcomes of this study will add to the body of knowledge pertinent to physical activity as a strategy for anxiety and depression management.

I used the following questions to understand the experiences of health educators:

RQ1: What are the experiences of health educators who use physical activity as an impactful health outcome for anxiety and depression management among middle-aged women?

RQ2: How do health educators describe their facilitators and barriers to making recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

RQ3: How do attitudes, norms, and perceived behavioral control influence health educators' recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?

Together, these research questions propagated the following eight emergent themes: physical activity cost-benefit analysis, evidence-based knowledge, physical activity standardization, multidisciplinary team approach, professional preparedness, personal significance, colleague proposition, and COVID-19 impact.

Theme 1: Physical Activity Cost-Benefit Analysis

There was full consensus among all participants that physical activity is beneficial for managing symptoms associated with depression, aligning with mental health professionals' recommendations. While the vast majority of participants agreed that physical activity has a positive impact on anxiety, only one participant abstained challenging the existing research and subject matter experts. Beneficial responses included the improvements of, or to, stressors, confidence, self-esteem, mindset, mood, energy, sleep, and overall health and wellbeing. Kandola et al., (2019) validated this in their research outcomes as well as research by Hallam et al., (2020), further supporting the benefits by noting significant reductions to anxiety (18%), stress (13%), sleep disruptions (7%), and an improvement in wellbeing (7%) as a result of a 50-day physical activity challenge. When participants were also asked about potential drawbacks to physical activity, statements ranged from potential physical injury, initiation, or negative progression of eating disorders, and diminishing self-image. Likewise, these findings support the application of the TPB, since health educators expressed positive attitudes toward the use of physical activity to manage symptoms associated with anxiety and depression. The TPB provides the foundation for understanding a person's intention to engage in a particular behavior; it is positing that the stronger the intention to a particular behavior, the more likely the behavior is to occur (Ajzen, 1991; Asare, 2015; Glanz et al., 2015; Hayden, 2019). Simply, the health educators in this study, overwhelmingly aligned with the benefits of physical activity while acknowledging minimal consequences.

Theme 2: Evidence-Based Knowledge

The study findings revealed that participants understood the importance of evidence-based knowledge when making physical activity recommendations. There was a strong connection between program design components to purposeful, planned exercise sessions, and activities of daily living. Both were influenced by personal importance toward physical activity and accessibility. Experience in exercise prescription varied over a spectrum of formal, structured program design in a fitness center setting to the informal use of leveraging the streets of New York City. A large majority of participants emphasized identifying an activity, or activities, the patient enjoys and building a foundation for progression and sustainability toward varying physical activity modalities. Overwhelmingly, responses highlighted the importance of meeting women where they are and developing a physical activity gameplan and strategy. The concept of meeting people where they are is important and cannot be overstated; it has a rich history in health education dating back to 1991 and the AIDS epidemic (Giraldo et al., 1991). Literally, it is physically going to familiar places of the population in which health educators are trying to build trust and rapport. Metaphorically, it is about a health educator bringing together values, needs, and connections that are meaningful to the population (Harvard Medical School, 2021). Recent examples of the concept of meeting people where they are, are noted in Smith et al.'s (2020) research specific to cardiovascular screening, among the Black and Brown community in Arkansas barber and beauty shops as well as Eckel et al.'s (2018) research on lifestyle habits in hard-to-reach populations.

Participants also recognized the cumulative effect of physical activity sessions for busy women managing the balance of career and family, suggesting shorter, five- to-10-minute bouts, several times a day, two to four, allowed them to meet the physical activity guidelines and achieve mental health benefits. This aligns with research of Piercy (2019) as well as the current trend of HITT and interval style workouts. However, the participants acknowledged completing their physical activity session at one time increased adherence (Piercy, 2019). The integration of evidence-based knowledge into evidence-based practice is the culmination of adding to the body of knowledge, developing standardized practice, and improving patient outcomes.

Theme 3: Physical Activity Standardization

Standardization is the process of ensuring conformity, and as a follow-up to theme two, all participants were asked to identify the source(s) that informed their knowledge of physical activity guidelines. All participants, with the exception of one, referenced industry leading, and respected organizations, with global reputations. The ACSM, the industry's leading authority, and AHA, were noted as the two main sources for standardization. Formed in 1954, ACSM was the culmination of insights by a small group of physical educators and physicians who understood that ill health and disease were a direct reflection of poor lifestyle choices, specifically highlighting smoking and inactivity (ACSM, 2022). Today, ACSM continues its leadership as the industry's foremost authority in sports medicine and exercise science. Established by six cardiologists, AHA, the industry's leader on heart disease and stroke, contributed to the overall knowledge base for physical activity and lifestyle choices. From its inception in

1924, it was believed that heart disease could be managed through better treatments and preventative strategies (AHA, 2022). Additionally, one participant referenced the CDC as their source of physical activity guidelines. The CDC retains an overall multitude of knowledge and resources, of which include references to ACSM and/or AHA, to ensure guidelines fulfill standardization. Industry certifications were acknowledged as another reliable source of knowledge by several participants. In addition to certifications earned through ACSM and AHA, participants noted AFAA, ACE, and CHES respectfully; these certifications ground their principles in those of ACSM and AHA. Finally, one participant referenced the Pinterest platform as their source of physical activity guidelines. Pinterest is a free social media platform that allows users to share and save images and print on all sorts of topics from recipes, to crafting, to home décor, to travel, and so much more including physical activity. The sources of 'pins' are not scientifically vetted for accuracy and reliability. While it is a fun and engaging social network, it is not the most reliable for physical activity recommendations.

Participants were asked about what specific modalities they recommended to their patients, again, a plethora was described. With the target population being middle-aged women, strength and resistance training was the most frequently noted modality. The terms strength and resistance training were used interchangeably. The research of Burrup, Tucker, Cheminant, & Bailey (2018) emphasized the importance of resistance training for middle-aged women on body composition, postulating that more strength training lowered body fat and increased lean mass; menopause was a contributing factor. In succession, walking was the recommended modality for its convenience, cost-

effectiveness, and accessibility which is heavily supported by the literature (Panter, Guell, Humphreys, & Ogilvie, 2019). Participants explained the use of walking as something everyone can do regardless of fitness level and even with limited mobility. Duration was considered flexible and could progress with improved fitness. Likewise, co-workers, friends, and family could participate as a form of social support.

Overall participants expressed the importance of getting people moving, meeting them where they were, and finding an activity, or activities, they liked for sustained behavior change. Health educators acknowledged that together these attributes increase adherence and lead to better symptom management for middle-aged women suffering from anxiety and depression.

Theme 4: Multidisciplinary Team Approach

The importance of a collaborative environment is essential for effective healthcare, which was unequivocally confirmed by the participants in this study while aligning with the American Public Health Association, 2015, Castro et al., 2017, & Schuch et al., 2017. The National Institute of Health (NIH) defines collaborative healthcare as, “healthcare professionals’ complementary roles and cooperatively working together, sharing responsibility for problem solving and making decisions to formulate and carrying out plans for patient care” (O’Daniel & Rosenstein, 2008). This approach allows healthcare professionals to present themselves as the subject matter experts and share knowledge for the improvement of patient outcomes. Physicians and nurses were not at the epicenter of referenced health professionals, that was, fitness professionals. Seven of the 10 participants suggested that a fitness professional was an essential part of

the cross-functional team. This highlights the importance of the 2007 initiative between ACSM and AMA that EIM to promote the connection between medicine and physical activity.

This was closely followed by a registered dietician and nutritionist, terms that were used reciprocally. An acknowledged challenge for these two professional entities is the limited, to no, reimbursable or healthcare premium; expenses for these services are often exclusively dependent upon the patient's direct payment to the provider. Primary care physicians, mental health professionals, and social workers were recognized by participants as healthcare professionals that should comprise the team. One participant suggested that primary care physicians are the leading authority in the United States yet also acknowledged their limited physical activity and nutrition expertise. Lastly, some ancillary professionals were referenced, but limitedly, in this study population and would likely have an insignificant impact on mental health and wellbeing.

Theme 5: Professional Preparedness

With the intention to understand the professional preparation, all participants were asked about formal education and ongoing continued learning. It was important to assess if knowledge was acquired as supervised learning or self-directed study. As an extension of this inquiry, confidence level was assessed when making physical activity recommendations to middle-aged women suffering from anxiety and depression.

For most of the participants, formal, collegiate level education was required for the successful completion of master or doctoral level programs; only one undergraduate level program required specific courses on physical activity and exercise. The remaining

participants identified that collegiate level courses were available for enrollment, yet the classes were electives and not required for program completion. Cumulatively, the majority of participants received at least one college level course focused on physical activity and exercise. In contrast, Cardinal, Park, Kim & Cardinal (2015), concluded that the majority of medical school curriculum does not include any formal education on physical activity, while the literature continues to support that patient's indiscriminately trust their physicians most for physical activity recommendations and counseling (Dacey et al., 2014). Self-directed study included several modalities such as industry recognized certifications, academic research, self-training, and personal reading.

Aligning with the key concept of the TBP, perceived behavioral control, all participants were asked about their level of confidence in making physical activity recommendations to middle-aged women suffering from anxiety and depression. Eighty percent of participants stated they have high levels of confidence in making recommendations while, 20% reported minimal confidence. The finding supports the application of the TPB, and it is likely a direct reflection of the formalized education and ongoing continuing study, as resultant capabilities.

Theme 6: Personal Significance

To assess the construct of attitude, I asked participants about their personal feelings toward physical activity. The TPB posits that if one aligns with a positive value, a positive attitude is likely resulting in a desired behavior. The use of the TPB as a framework to explain physical activity intention can be dated back to the work of Blue (1995). It is believed that the stronger the intention toward a particular behavior, the more

likely the behavior will occur. This construct is called *behavioral intention*. The original constructs of the TRA included *attitude*, *subjective norm,* and *volitional control*. To address the shortcoming of, limited or no volitional control, *behavioral control* was added and the TPB established (Ajzen, 1991; Asare, 2015; Glanz et al., 2015; Hayden, 2019). All participants were asked to describe in their own words, how important physical activity was to them personally. All participants universally stated that being physically active, and purposefully moving each day, spoke to the core of their values and who they are. The importance was also extended to family members and friends when socially gathering. These participants personally aligned with the value of being physically active and several elaborated on the impact physical activity had on their lives, their stress, their anxiety, and their resiliency. Additionally, several participants referenced overall health benefits and disease prevention strategies as an important result of being physically active. These participants intentionally sought out opportunities and prioritized their day around purposeful physical activity and activities of daily living. These findings provide evidence to support the research illustrating the connection between physical activity and symptom management. Health educators could play a significant role in assisting patients by influencing their attitude toward physical activity behaviors. With this homogeneity, the connection to leveraging physical activity recommendations for middle-aged women suffering from anxiety and depression appears to be a palpable solution.

Theme 7: Colleague Proposition

Having established that health educators could be an integral part of a multidisciplinary team, and received formal collegiate level education, participants were asked to reflect on the approach of their colleagues when making physical activity recommendations to middle-aged women suffering from anxiety and depression. Surprisingly there were a variety of responses causing a pause, and pondering, of expectations and education as practical application in the field. Their multiple responses made it challenging to decipher unanimity. They described their personal experiences or thoughts on their colleagues' attitude, norm, or perceived behavioral control. This small subset of the profession acknowledged the benefits, knowledge, experience, education, and personal importance, yet questioned the same for colleagues. This manifests as a possible disconnect beyond these 10 participants. One participant responded that health educators have the 'best intentions' which appears uplifting, yet circulates more questions than answers. With such limited research in this topic area, it is problematic to draw consensus based on previous studies or resulting conclusions.

Many of the participants stated that they had industry recognized certifications including CHES (5) or MCHES (2), the premier certifications in health education. Area five of the responsibilities and competencies, advocacy, and its sub-competency, references 'chronic disease and related lifestyle factors,' of which physical activity is included. In partnership with the American Journal of Health Education, physical activity is a focus area to examine the 'determinants of health and their underlying causes'. With more than 70% of participants having the same, minimal level of responsibilities and

competencies, this could imply a needed focus and educational opportunity for the National Commission for Health Education Credentialing, respectfully (Eifert, Chaney, Redican & Eddy, 2021).

Theme 8: COVID-19 Impact

As the novel coronavirus disease, known as COVID-19, recently surpassed its two-year mark of being declared a global pandemic, health and wellbeing are increasingly reported in the scientific community and on popular multi-media outlets. The impact on mental health has been consistently described in the literature, suggesting that people affected by COVID-19 have an increased prevalence of depression, anxiety, stress, panic attacks, emotional disturbances, posttraumatic stress disorder, and suicidal ideation; this is not an all-inclusive list (Hossain et al., 2020). A world with a global pandemic, political unrest, and the Black Lives Matter movement, necessitates a multi-pronged approach and all hands-on deck mentality. Likewise, Marconcin et al. (2022) conducted a systematic review of 31 studies, and observed a decrease in physical activity, and an increase in mental health issues during the pandemic, particularly during year one. Results showed that those who remained physically active reported lower levels of depression, anxiety, and stress and an increase in quality of life and overall wellbeing.

At the conclusion of my interview questions, I asked each participant if there was anything else, anything additional, that they wanted to tell me about their experiences in making physical activity recommendations to middle-aged women who suffer from anxiety and depression. Fifty percent shared their insights into how COVID-19 will influence and dictate their physical activity recommendations based on personal

experience and scientific conclusions. Overall, these five participants were concerned about the negative impact the pandemic, and the state of the world, would have on mental health and wellbeing. They felt that significant resources, human capital and financial, would be needed to effectively treat people now and across their life span. While this study did not focus on children, their mental health, later in life, was of particular concern as well as adequate educational standards for these participants. A few participants felt that the pandemic allowed, almost demanded, the encouragement to be, or become, physically active by getting outside and embracing nature, its local, state, and national parks, their walking trails, and natural beauty. The overall impact of the pandemic on mental health is in its infancy, more insights will be gained as a result of research and study.

Summary of Key Findings

The TPB was used to theoretically ground and identify how the constructs impact the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression. This study was intended to answer the three research questions posed at the beginning of this dissertation. The participants in this study all shared their personal stories about their experiences and provided insights into their knowledge, comfort, and practical application in the field. Establishing emergent themes provided structure to the data and allowed for conceptual analysis.

Participants unanimously aligned with mental health experts on the benefits of physical activity while, additionally noting its overall health benefits and proactive

disease prevention management. Likewise, inclusion of physical activity was described as an overall positive lifestyle strategy. Participants did identify some concerning drawbacks that could adversely affect health and should not be overlooked; appropriate professional(s) should be activated.

The knowledge, confidence, professional preparation, and personal importance of these participants is noteworthy. College level education and ongoing career development opportunities were consistent among this group, lying a solid foundation for knowledge transfer. Alignment with national recommendations was evident and representative in the skill level described during program design and implementation. Cumulatively, standardization was reinforced by this approach.

Participants provided a comprehensive list of health professionals that should comprise a multidisciplinary team, recognizing the importance of subject matter experts, on positive patient outcomes. However, they were unclear on the practical application of physical activity recommendations by their colleagues; this appears as a disconnect and possible opportunity.

An unexpected theme emerged, as the result of the open-ended inquiry of participants final, closing thoughts. It is meaningful to recognize that interviews were being conducted during the conclusion of the COVID-19 pandemic. The pandemics impact on mental health was of concern to these participants and the need for significant resource allocation was recognized.

Limitations of the Study

There were limitations to this generic qualitative study that could have impacted the results despite mitigation strategies. The findings of this study are limited, and reflective, to the health educators that volunteered to participate. A sample of 10 participants, for qualitative research, was acceptable for this type of study. The sample does not reflect the entire profession, and the results of this dissertation, are not generalizable to other health educators.

The realities of the pandemic required me to conduct interviews using a virtual platform where participants could be seen if they chose to turn on their camera. A few interviews were conducted via telephone, where body language could not be observed, and the setting could not be controlled; this could have affected the outcomes. Likewise, these affects could have been a factor when participants did not wish to be seen virtually and kept their cameras off. Environmental distractions, at home, could have diminished fulsome sharing and comfort level during the interviews.

Using the terms, physical activity and exercise, interchangeably could have impacted the parameters of reference. Both have unique, scientific definitions, establishing a delineation, could have been perceived by participants differently. Also, the overall sample population was predominantly female, possibly limiting experiences further. Throughout the interviews, it was important for me to be cognizant of my litmus and minimize any assumptions or bias. I was very aware of my demeanor, diction, and body language throughout each interview.

Recommendations for Future Research

Mental health continues to be a growing concern across the globe, and not exclusive to this group of health educators. This dissertation study aimed to understand the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression. Leveraging the TPB allowed the outcomes to be rooted in a theoretical foundation that attempts to explain why some people engage in a particular behavior and others do not. The data from this dissertation project will initiate a body of knowledge in this area of study; there is little to none presently.

The data identified the experiences of health educators, while emphasizing their facilitators and barriers to the practical application of physical activity strategies in the field. As health educators continue to become more valued members of a multidisciplinary team, it is critical to conduct additional research that will secure the best treatment, and outcomes, for middle-aged women suffering from anxiety and depression. It is important to continue this research with other health educators where physical activity is not central to their lifestyle. This could influence how health educators are targeted when physical activity is not a purposeful portion of their day. It is also important to understand the impact health educators could have in the post COVID era where mental health issues are projected to rise dramatically.

Further basic qualitative studies will expand upon the experiences of health educators that recommend physical activity to middle-aged women suffering from anxiety and depression. This type of research will assist health educators when

developing programs, and interventions, that positively impact mental health as practical application in the field. Also, research combining subject matter and organizational experts, such as ACSM, industry's foremost authority in sports medicine and exercise science, and SOPHE, industry's premier organization in health education, could culminate in intellectual excellence.

Social Implications and Recommendations for Future Initiatives

This generic qualitative study sought to understand the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression, guided by the constructs of the TPB. Through the use of semistructured interviews, I was able to actively listen to the experiences of health educators and gain a greater understanding and insight into their experiences. The themes that emerged from the study helped to answer my three research questions and strengthen positive social change. As previously defined, by Walden University, positive social change is, "a deliberate process of creating and applying ideas, strategies, and actions to promote the worth, dignity, and development of individuals, communities, organizations, institutions, cultures, and societies" (Walden University, 2021). This type of research design has been conducted with physicians, nurses, and other allied health professionals but not with health educators; the outcomes set the foundation for future study and contribute to the literature.

The outcomes from this study highlight what physical activity means to health education and its practical application in the field. A significant implication for this group of health educators, is their alignment with mental health experts on the benefits of

physical activity for middle-aged women suffering from anxiety and depression and validated its use. All enthusiastically recalled the personal importance of physical activity as an overall lifestyle strategy, how they purposefully included it in their day, and how it guided their practice. While they acknowledged potential drawbacks, those did not prevent them from leveraging physical activity.

These findings highlight the professional preparation, industry credentialing, and cumulative knowledge of health educators, yet they questioned their colleagues use of physical activity in practice. This is an important implication that could benefit from strategic partnerships and collaborations to drive thought leadership and efficacy of solutions as well as financial stability. Those outcomes include fulsome, and consistent, physical activity resources and initiatives driven by industry leaders such as ACSM and SOPHE. This implication was reinforced by the myriad of healthcare professionals that were recommended to be part of a multidisciplinary team.

As we continue to navigate COVID-19, the implications are boundless and ambiguous. Current data has indicated the growing mental health crisis during the COVID era which will impact society for years and decades to come. Health educators will need to advocate for their patients, and profession, to have ample resources to meet expectations. Health educators will need to work together to raise awareness of programs and resources, while leveraging partnerships and working collaboratively, to ensure needs are met for patients suffering from anxiety, depression, and other mental illnesses.

The outcomes from this research project may promote social change by providing insight into the experiences of health educators who make physical activity

recommendations for middle-aged women suffering from anxiety and depression. These outcomes could inform practical application by enhancing or creating treatment protocols, programs, initiatives, and resources to improve patient outcomes. Physical activity is a cost effective and readily accessible strategy that could stand alone, or in combination, with other strategies to provide much needed relief from anxiety and depression.

Understanding the experiences of health educators, their facilitators, and barriers, identifies opportunities for process improvements. Although additional research is needed, these outcomes highlight the opportunity the health education profession could foster when making physical activity recommendations to middle-aged women suffering from anxiety and depression. The individual, familial, and societal implications of anxiety and depression is infinite and extensive, impacting the totality of life. Improving the human and social condition, by transforming the lives of people with anxiety and depression, is positive social change in action.

Conclusion

This study addressed a gap in the literature pertaining to the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression, guided by the constructs of the TPB. Participants overwhelmingly agreed with mental health experts, on the positive impact physical activity has on mental health, and overall health, respectively. Drawbacks were identified but did not significantly influence pragmatic field work.

Participants demonstrated alignment with industry leading organizations, on physical activity knowledge and national guidelines, to meet standardization. Collectively participants understood the value of a multidisciplinary team and identified health and wellness professionals that should configure the team. The benefits of academic preparation and personal study was valued by this population and was a consistent mindset. Variation in practical application by colleagues was questionable in approximately half the participants, despite a consistent value proposition. All participants sought to include purposeful movement during the day and embraced meeting patients where they were. Finally, several participants recognized the unknown, and fearful, impact the COVID-19 pandemic could have on mental health and needed resources for years to come.

Additional research is needed to expand the knowledge base and fully assess the potential contributions health educators could make to patients independently, or as part of the multidisciplinary team. Exploring the same, or similar, research guide and question set, with a differing population, could determine the experiences of health educators that do not identify with such personal significance of physical activity.

The intent of this research was to understand the experiences of health educators who make physical activity recommendations to middle-aged women suffering from anxiety and depression. It is important to share the outcomes from this research with professionals and industry organizations to necessitate patient outcomes, provide alternative therapies, and transform lives through positive social change.

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Appendix A: SOPHE Membership Research Proposal Form

SOPHE Membership Research Proposal Form

Individual

Name:

Job title:

Organization:

Phone number:

Email address:

SOPHE member: _____National _____Chapter (At least one required for approval).

Are you a student? Yes No

If yes, name and credentials of research advisor:

Project

Project name:

Project description:

Research question(s):

Type of participants: *Please describe inclusion criteria.*

Data collection tool: ___Survey __ Interviews/Focus Groups ____ Mixed

Description of measures: *Please briefly describe the data collection tool. Please attach the survey, interview guide or tool for full review.*

Data collection time period or deadline (Note – in the interest of limiting outreach to SOPHE members with survey requests, the SOPHE Research Committee will only approve up to 3 requests over the same survey time period)**:**

IRB approval:

Please briefly describe the IRB approval process and/or non-human research determination for the data collection. If IRB approval has been obtained, please attach the approval letter.

Relation to SOPHE Strategic Plan:

How will the research questions address SOPHE's strategic plan and/or advance the health education profession:

Target Audiences:

If approved for SOPHE support, please indicate the target audience(s) you are intending to survey and the SOPHE assistance:

Audiences

____Students
____Transitional Members
____Professionals
____Emeritus/Honorary Members
____All of the Above

Please indicate what level of National SOPHE office support you are requesting (all apply):

_____**Email Dissemination** – notice of SOPHE approval of research project to be included in SOPHE News You Can Use or other broad SOPHE notices up to 3 times during the stated data collection period; excludes SOPHE members who opt out of e-communication.

a. Note: Researchers must provide content for dissemination no later than the 10th and 25th of each month to: news@sophe.org

_____**Mailing List** - SOPHE can provide names/addresses of mailing lists of active members; separate terms/conditions apply. Pls specify if your research project is aimed at a specific audience (e.g. students, emeritus, community of practice). See attached mailing list usage form that must be signed and returned.

Additional comments:

Required Disclaimer:

If approved, please note the following wording must be included in any announcements/publications/or connection with SOPHE:

> The Society for Public Health Education (SOPHE) reviewed the objectives of this research project and agreed to support its data collection as an important opportunity to expand the health education field. The results and conclusions of the investigators of this project do not imply endorsement of SOPHE, the project findings, or the conclusions or recommendations.

Required documents:

To expedite the review and potential approval of this data collection. Please complete this form fully and attach associated study summary, data collection instrument and associated IRB approval letters. Please submit all information to Doreleena Sammons Hackett at dsammons-hackett@sophe.org (202) 408-9804.

Mailing List Usage Agreement for
Approved SOPHE Research Projects

Total Count	Approximately 1,500 members of the Society for Public Health Education (National organization; excludes chapter only members)
Type of Label	Electronic transmission of active members via Excel file – including name, organization, address, city, state, zip, country. Can include type of membership, community of practice, if specified/requested in relation to research projects.
Description	Membership in SOPHE comprises researchers, academicians, practitioners, and students interested or working in health behavior and health education throughout the United States, Canada, and some 25 foreign countries. SOPHE members work in federal, state, and local public health agencies; voluntary health organizations e.g., the American Heart Association, American Lung Association; secondary schools and universities; medical care, managed care and HMO settings; worksites for major corporations; and foreign health agencies, universities, and governments. SOPHE has 14 Communities of Practice (CoPs) in school health, medical care/patient education, workplace health, international/cross-cultural health, health communications/social marketing, arts & health, environmental health, tobacco, healthy aging, public health nutrition, university faculty, and students/new professionals. SOPHE is the only independent organization exclusively devoted to health education and health promotion.

Use of List For use only with SOPHE approved research project for up to 3 mailings paid for by the survey researcher; not to be used for any other purpose – commercial or otherwise – or transferred. Information is proprietary to SOPHE. Explanation of research must specify that The Society for Public Health Education (SOPHE) reviewed the objectives of this research project and agreed to support its data collection as an important opportunity to expand the health education field. The results and conclusions investigators of this project do not imply endorsement of SOPHE, the project findings, or its conclusions or recommendations.

Signed Agreement: I agree to abide by the SOPHE mailing usage policy as stated.

Name **Email**

Cell phone Anticipated date of survey mailing(s)

This form must be returned to Shadia Henson (shenson@sophe.org) prior to release of the SOPHE mailing list. For questions or additional information, contact 202/408-9804.

Introduction

Good {morning, afternoon, evening}, thank you for agreeing to take time out of your busy day to participate in my study, I truly appreciate your time. I am eager to learn about your experiences as a health educator.

As you know, this research study is part of my doctoral dissertation at Walden University. The purpose of our interview is to learn about your experiences as it relates to physical activity recommendations for middle-aged women suffering from anxiety and depression. There is no right, wrong, desirable, or undesirable answers. I would like you to feel comfortable with saying what you really think and how you really feel.

If it is okay with you, I will be recording our conversation. The purpose of this is so that I can get all the details correct but at the same time be able to be present for the conversation with you. I assure you that all your comments will remain confidential. I will be compiling a report which will contain all participants' comments without any reference to individuals.

Also, please note, your participation is completely voluntary, and you have the right to skip any questions or withdraw at any time. Please take your time to give your opinion, beliefs, or reflection of experiences as a health educator. Are you still comfortable and willing to participate? Do you have any questions before we begin? Great, let us begin.

Sociodemographic Questions

1. What is the highest level of education you have completed?

   Associate degree
   Bachelor's degree
   Master's degree
   Doctoral degree

2. Where did you go to college?

3. What industry certifications do you hold (i.e., CHES)?

4. How long have you been working in the field of health education and promotion?

5. What type of environment do you work in?

   Corporate
   Public/Government
   Healthcare
   Research
   Academia
   Other _____

Interview Questions

RQ1: What are the experiences of health educators who use physical activity as an impactful health outcome for anxiety and depression management among middle-aged women?	Interview Questions	Probing Questions
	1. Many mental health experts have stated that physical activity is beneficial for treating symptoms associated with anxiety and depression. How do you feel about that?	• What are the benefits of physical activity for middle-aged women with anxiety and depression? • What are the possible positive outcomes or drawbacks of recommending physical activity?

	2. Tell me about your professional experience with physical activity programming?	• How do you prevent sedentary behavior in this population? • Do you recommend physical activity? • If so, what do you recommend? Cardiovascular? Yoga? Strength training? Walking? • If so, what do you base your recommendations on? • If not, can you tell me why?
	3. Do you have any thoughts/from your experience on what the optimal level of physical activity would be for a prescription for middle-aged women with anxiety and depression?	• Can you give me an example of when you created or delivered physical activity programming? • Do you follow any recommendations by leading industry organizations? ACSM? NSCA?
	4. When you have recommended physical activity, can you tell me how you felt about it?	• Tell me about your confidence? • Did you feel like you knew what you were recommending? • Did you believe physical activity had the ability to manage symptoms?
	5. In addition to health educators, what are the other professionals that need to be part of the multidisciplinary team?	• Would exercise physiologists, physical therapists, registered dietitians, personal trainers be part of that team?
RQ2: How do health educators describe their facilitators and barriers to making recommendations for physical activity as a strategy for	Interview Questions	Probing Questions

anxiety and depression management among middle-aged women?		
	1. Do you feel comfortable with your knowledge of current guidelines for physical activity?	• Are you familiar with the American Heart Association recommendation or the American College of Sports Medicine?
	2. Can you share with me your professional preparation for making physical activity recommendations?	• Did you take any classes in college? • Was there a required class? • Were there electives to take? • Specific class or part of a class? • Have you completed any continuing education opportunities that were focused on physical activity?
	3. What would prevent you from making physical activity recommendations?	• Do you have enough time when seeing patients? • Do you feel you have enough knowledge to make recommendations? • Do you feel your patients would adopt and adhere to your recommendations?
RQ3: How do attitudes, norms, and perceived behavioral control influence health educators' recommendations for physical activity as a strategy for anxiety and depression management among middle-aged women?	Interview Questions	Probing Questions
Attitude	1. In your words, how important is physical activity to you?	• Is physical activity and exercise the same thing? • What does physical activity mean to you?

Attitude	2. Tell me about your feelings or thoughts toward physical activity for anxiety and depression management?	• Is physical activity a good or bad strategy for this population?
Attitude	3. What do you think most other Health Education Specialists approach recommending physical activity for the management of anxiety and depression?	• What are the positive results? • Are there any negative results?
Norm	4. What would it take to convince you that physical activity is important for anxiety and depression management?	• Do you read research on physical activity for this population?
Perceived Behavioral Control	5. Do you feel like you are in a position to recommend physical activity to women with depression and anxiety?	• Why or why not? • Do you have any real-life examples to share?
Perceived Behavioral Control	6. Do you feel knowledgeable enough about physical activity and mental health to make recommendations for women with depression and anxiety?	• Why or why not? • What resources would be helpful to increase your knowledge?
Conclusion	That covers the questions I wanted to ask you. Is there anything else that you would like to tell me?	

Conclusion

Again, I want to thank you for your time today. Your experiences and insights are invaluable to this study and I have learned a lot from our time together. Within two weeks, I will transcribe our interview verbatim and ask you to review it for accuracy, please add any additional thoughts or comments you may have; I will email it to you. If you are interested, I would be happy to share a summary of the findings once all the data has been analyzed.

Please feel free to contact me with any questions, my contact information is 203-893-0359, you can text or call; also, my email is patricia.schneider@waldenu.edu. Both will be sent to you in a follow-up email to assure that you have them. And as a token of my gratitude for your time and transparency, I will also be emailing you an electronic gift card for $10 to either Dunkin Donuts or Starbucks, do you have a preference? Thank you again.

Appendix C: Recruitment Email

Dear Potential Participant

Thank you for your interest in my research study to explore the experiences of health educators' who use physical activity as a strategy to manage anxiety and depression in middle-aged women. This is a qualitative study that will consist of individual interviews consisting of open-ended questions. Interviews should take between 45-60 minutes and will be held virtually via Zoom or Google Hangout. Your participation is completely voluntary, and the interview can be stopped at any time for any reason. Your identity will be completely confidential, and answers stored in a secure manor which will be only accessible to me. I will ask you to complete an informed consent form at the beginning of the study should you be willing to participate.

If you are willing to participate, please click on the link below and I will call you with more information or you can contact me at 203-893-0359 or patricia.schneider@waldenu.edu. At the conclusion of our interview, and as a token of my gratitude for your time and attention, I will be providing you with a $10 gift card to either Dunkin Donuts or Starbucks.

Participant Enrollment (MOCK)

This research study received approval by Walden University's Institutional Review Board (IRB; XX-XX-XX) and SOPHE. If you are selected to participate and have any questions or concerns about the study, please contact me or Dr. XYZ, the Walden IRB representative who can discuss your questions or concerns. Dr. XYZ can be reached at XXX-XXX-XXXX or via email at dr.XYZ@waldenu.edu.

The data collected may provide practical insights for professionals, like yourself, on anxiety and depression management.

Thank you for your interest.

Sincerely

Patricia Schneider

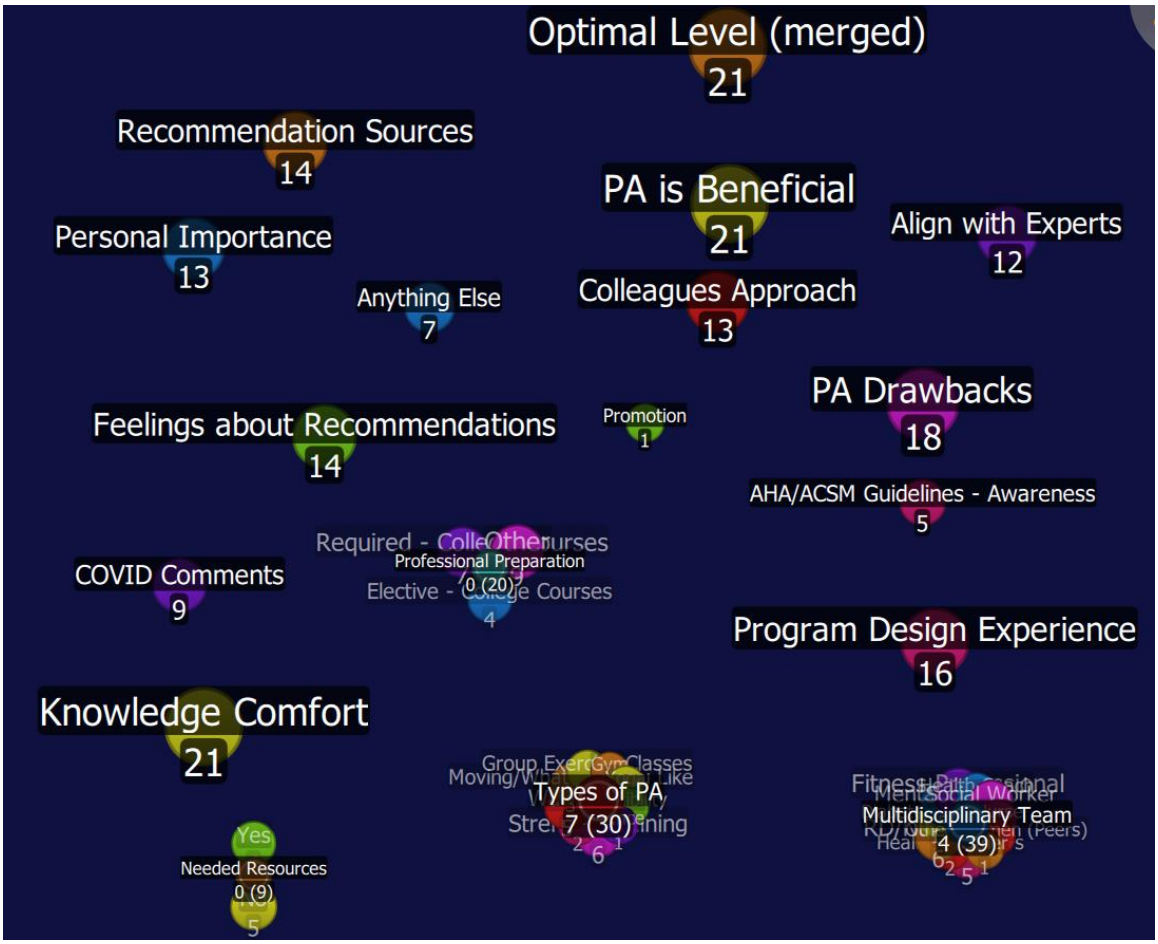
Doctoral Candidate; Health Education and Promotion

Walden University

203-893-0359

patricia.schneider@waldenu.edu

Appendix D: Word Cloud and Dashboard


Optimal Level (merged)
21
Recommendation Sources
14
PA is Beneficial
21
Align with Experts
12
Personal Importance
13
Anything Else
7
Colleagues Approach
13
PA Drawbacks
18
Feelings about Recommendations
14
Promotion
1
AHA/ACSM Guidelines - Awareness
5
Professional Preparation
0 (20)
COVID Comments
9
Elective - College Courses
4
Program Design Experience
16
Knowledge Comfort
21
Types of PA
7 (30)
Multidisciplinary Team
4 (39)
Yes
Needed Resources
0 (9)
5