Exploration of Facilitators, Barriers and Opportunities for Faith-Based Organizations to Implement Nutrition and Physical Activity Programs and Partner with Virginia's Supplemental Nutrition Assistance Program Education

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ABSTRACT

Poor diet and physical inactivity contribute to excessive weight and related diseases in the United States. Given the increasing rates of adult overweight and obesity among Americans, there is a need to develop and implement effective prevention and treatment strategies to decrease the public health burden of obesity-related chronic diseases. Faith-based organizations (FBOs) provide a unique setting and partnership opportunity for delivering evidence-based programs into communities that can be sustained. The federally funded Virginia Supplemental Nutrition Assistance Program Education (SNAP-Ed) delivered through Virginia Tech's Cooperative Extension and Family Nutrition Program, utilizes evidence-based programs to promote healthy eating and physical activity among limited income populations. The Virginia SNAP-Ed Volunteer Led Nutrition Education Initiative uses SNAP-Ed agents and educators to reach limited income populations by training and coordinating volunteers from communities to deliver nutrition education programs. However, these partnerships and training initiatives have been underutilized in FBOs across Virginia. This dissertation research describes four studies conducted to better understand how to facilitate collaborative partnerships and health-promotion programming initiatives between academic/extension educators and FBOs to build capacity and inform future initiatives within VCE. Study one conducted a literature review to examine FBO characteristics and multi-level strategies used to implement nutrition and physical activity interventions. Study two examined VCE SNAP-Ed agents' perspectives on FBO partnerships to deliver health programming. Study three assessed three FBOs and their member health needs to identify policies, systems and environments to support healthy lifestyles. Study four examined the acceptability of Faithful Families, a faith-based nutrition and physical activity program delivered in a rural church, and explored ways to build capacity for program sustainability through input from stakeholder partners. Results across studies yielded information which helped to identify and prioritize strategies for promoting FBO partnerships within VCE and helped to generate questions that merit further investigation to identify specific culturally relevant strategies for promoting health in FBOs. This exploratory body of research contributes to the field by describing relevant opportunities for academic sectors to partner with FBOs using participatory approaches to increase partnership readiness and build capacity to carry out and sustain health programs within faith settings.

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GENERAL AUDIENCE ABSTRACT

Unhealthy eating and lack of exercise can lead to obesity and diseases which might have otherwise been prevented. Given the growing population of obese people across the United States, coming up with new ways for treating and preventing obesity is key to help improve the health of Americans. Faith-based organizations (FBOs), like churches, mosques and temples, are becoming popular places for delivering health promotion programs. Given that most of these settings are around for a long time in communities, health programs can potentially impact a large number of people and be sustained over a long period of time. The Virginia Supplemental Nutrition Assistance Program Education (SNAP-Ed) is an educational program funded by the government, which provides low-income people and families with health education programs to help them eat better on a budget and live more active lives. In Virginia these SNAP-Ed programs are delivered through Virginia Tech's Cooperative Extension. Agents who work with Virginia Cooperative Extension (VCE) are hired to train volunteers from different communities in their areas to deliver nutrition education programs. Agents who partner with FBOs can train people from the FBO to deliver health programs in a way that can be sustained. However, few of these training initiatives have taken place across FBOs in Virginia. This dissertation is made up of four studies conducted to identify strategies and opportunities for promoting health and increasing partnerships between VCE and FBOs. Study one involved a literature review to identify strategies used in nutrition and physical activity programs taking place in FBOs. Study two examined SNAP-Ed agents' perspectives towards partnering with FBOs to deliver health programs. Study three surveyed three FBOs to identify health interests and opportunities to support healthy lifestyles. Study four conducted a faith-based nutrition education program in a small rural church and interviewed partners involved in the program planning and delivery regarding various components of the project. Collective results from this body of dissertation research informed new and better ways for VCE staff to partner with faith communities throughout Virginia and identified strategies for promoting health in FBOs that better fit their unique needs and culture.

DEDICATION

This dissertation is dedicated to my children. I love you so much and want you to know that no matter how hard life gets and no matter what bumps and trials you encounter along the way, don't ever give up on your dreams. God has amazing things planned for your lives!

> Do not be conformed to this world, but be transformed by the renewal of your mind, that by testing you may discern what is the will of God, what is good and acceptable and perfect.
> ~Romans 12:2

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Every good gift and every perfect gift is from above, coming down from the Father of lights, with whom there is no variation or shadow due to change. ~James 1:17

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LIST OF ABBREVIATIONS

BMI	Body Mass Index
CBPR	Community-Based Participatory Research
CE	Cooperative Extension
EFNEP	Expanded Food and Nutrition Education Program
ESMM	Eating Smart and Moving More
FB	Faith-Based
FBO	Faith-Based Organization
FCA	Faith Community Assessment
FFESMM	Faithful Families Eating Smart and Moving More
FNP	Family Nutrition Program
FP	Faith-Placed
FV	Fruits and Vegetables
HE	Healthy Eating
HE/PA	Healthy Eating and Physical Activity
MHIS	Member Health and Interest Survey
NRV	New River Valley
PA	Physical Activity
PE	Peer Educator
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta Analyses
PSE	Policy, Systems and Environment
VCE	Virginia Cooperative Extension
SEM	Socio-Ecological Model
SNAP	Supplemental Nutrition Assistance Program
SNAP-ED	Supplemental Nutrition Assistance Program and Education
USDA	United States Department of Agriculture

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ATTRIBUTION

A brief description of the contributions made by colleagues and mentors who assisted with the preparation of my dissertation chapters is described below.

Chapter 2. Literature Review: Identifying Opportunities to Support Health Eating and Physical Activity Interventions to Reduce Obesity Risk Across Populations Served by Faith-Based Organizations

Elena Serrano helped with design, data extraction and determining eligibility criteria, Vivica Kraak, Kathy Hosig, and Jay Williams contributed to the overall design, reserch questions edits and revisions of the final manuscript.

Chapter 3. SNAP-ED Agent Perspectives Toward Partnering with Faith-Based Organizations

Elena Serrano and Kathy Hosig assisted with the study planning, design and development of questions. Elena also assisted with the qualitative interpretation of the data.

Chapter 4. Lessons Learned from Faith Congregation Health Assessments in the New River Valley Region

Elena Serrano assisted in the design and edits, Vivica, Kraak, Kathy Hosig and Jay Williams assisted in edits and revisions.

Chapter 5. Examining Factors Influencing the Acceptability of a Faith-Based Nutrition Education Program

Elena Serrano assisted with planning, design and editing. Vivica Kraak and Kathy Hosig assisted with the planning and design. Jay Williams helped with statistical analyses and interpretation of the data.

Chapter 1. Introduction

Disparities in the Treatment and Prevention of Obesity

A healthy body weight achieved by good nutrition and regular physical activity are essential to help lower the risk for developing obesity-related conditions, such as high blood pressure, high cholesterol, diabetes and cancer. Several dietary and activity lifestyle factors may contribute to obesity and related conditions, such as decreased consumption of whole grains, fruits and vegetables, increased consumption of foods and beverages high in salt, sugar and fat, and low levels of physical activity/exercise and increased sedentary time (time spent sitting). Most Americans do not achieve the federal government's dietary or physical activity recommendations, which has contributed to alarming rates of obesity across the country.[1] Obesity has been identified as a high-priority health issue and leading health indicator of Healthy People 2020.[1] Currently, more than two-thirds of American adults aged 20 and older are either overweight or obese (body mass index ≥ 25 kg/m^2).[2] Reducing the proportion of adults who are obese and increasing the proportion of adults who are at a healthy weight are leading objectives of Healthy People 2020.[1] Multi-level interventions, based on the socio-ecological model (SEM), targeting individual and social environmental factors to support healthy behaviors, is key to achieving these Healthy People goals.[1,3]

Numerous factors affect one's ability to achieve and maintain a healthy body weight. At the individual level, these changes can only happen through lifestyle behavior modification involving diet and physical activity behavior changes. Environmental factors, such as the built environment can have an impact on a person's ability to purchase fresh fruits and vegetables and/or have access to locations to be physically active (e.g., gyms, recreation centers, walking trails). Furthermore, having strong social ties as well as social and familial support are key factors to impact one's ability to achieve a healthy lifestyle and normalize healthy behaviors.[2] With alarmingly high rates of obesity across the United States, exploring innovative approaches to improve nutrition and physical activity lifestyle habits in hard to reach populations is key to impacting weight status.

Use of Faith-Based Organizations to Address Obesity-Related Disparities

Religion and faith-based organizations (FBOs) play many roles to promote the health of populations.[4] Religion itself is gaining recognition as a social factor and determinant of health by many public health practitioners. Social determinants of health are defined as how people "are born, grow up, live, work, and age, and the systems put in place to deal with illness."[5] The circumstances and conditions in which people live their lives has a large impact on the health of populations. These circumstances and conditions are in turn, shaped by a variety of social, political and economic influences.[6] Religion and FBOs can impact health at multiple levels. At the individual level, religious beliefs and behaviors can have positive effects in health maintenance and the primary prevention of some diseases. The relationship between faith and health has been well documented in the literature. Many successful health promotion interventions have positively influenced individual health outcomes by highlighting the faith and health connection by tying in spiritual components into health messages and content of interventions.[7] At the community level, religious institutions are assets for collaborative partnerships by providing ongoing and stable structures, as well as local knowledge and shared interest in the health and well-being of their local communities.[6]

Faith-based organizations play an important role in the health and well-being of people in their community. By definition, a faith-based organization (FBO) is an "organization that is influenced by stated religious or spiritual beliefs in its mission, history, and/or work."[8] This term typically includes three types of organizations: faith communities (e.g., local churches, mosques or synagogues), faith-based non-governmental organizations (e.g., Catholic Relief Services), and large networks of FBOs that work under a shared organizational structure (e.g., Christian Medical Commission).[9] For the purpose of this research, FBOs referenced throughout this paper describe local faith communities. FBOs provide unique assets that play an important role in bridging social capital (e.g., social networks, facilities, communication channels, time and influence) and developing collaborative partnerships to better connect outside institutions and academic sectors with the local community.[6]

FBO settings are ideal avenues for promoting health through programming, outreach and education opportunities. Several characteristics of FBOs make them uniquely equipped to deliver health-related programming, such as: being connected to harder to reach populations (e.g., limited resource/income or rural populations), having resources and structures in place that can be leveraged to support health initiatives, and being committed to improving the health and well-

being of their community. Faith community leaders are also strong assets to their congregation and community by providing spiritual guidance and communication channels. Additionally, the strong social ties, support and networking among faith communities makes it an ideal setting for spreading health education and health promotion efforts to positively impact the health of people in their community.[6,10]

Goals and Mission of SNAP-Ed

The Supplemental Nutrition Assistance Program Education (SNAP-Ed), the educational arm of SNAP (formerly referred to as Food Stamps), is funded by the Food and Nutrition Service (FNS) of the United States Department of Agriculture (USDA). The SNAP-Ed goals, missions, infrastructure and staff allow for a large number of individuals to be reached through train-the-trainer opportunities. The goal of SNAP-Ed is to "improve the likelihood that low-income individuals, including those eligible for SNAP, will make healthy food choices within a limited budget and choose physically active lifestyles consistent with the *Dietary Guidelines for Americans*, *Physical Activity Guidelines for Americans*, and *MyPlate*."[11] SNAP-Ed is an evidence based program that helps to combat the obesity epidemic by building partnerships with various community organizations to educate low-income populations about good nutrition and physical activity. These partnerships target multiple levels of the socio-ecological model through a variety of mechanisms, such as delivering social marketing campaigns, teaching nutrition education classes, and improving nutrition and physical activity policies, systems and environments to support healthier communities.[12]

Delivering nutrition education and obesity prevention efforts to SNAP's target population requires cooperation and coordination across various state and local agencies. The infrastructure and staff of SNAP-Ed allows for local, state, and regional SNAP agencies and providers to collaborate, in order to maximize the reach to the SNAP's low-income target audience. Opportunities for stakeholders to collaborate and coordinate efforts include: shared resources to better identify low-income populations and areas; working with a variety of stakeholders through public and/or privately funded nutrition interventions; health promotion or obesity prevention strategies; and utilizing shared resources and evaluation tools to deliver evidence-based programs. Hiring and training Peer Educators (para-professionals) to provide nutrition education programming in their local communities is an additional responsibility of EFNEP and SNAP-Ed.

Within SNAP-Ed, the ability to also provide train-the-trainer opportunities for local community members and stakeholders helps not only to build community capacity, it also enhances the reach and dissemination of nutrition education programming across communities needing it the most.[12]

Research Needs

Despite the many unique assets of SNAP-Ed – its infrastructure, staff and training opportunities, there are still some research gaps to fill in order to better reach populations with the greatest need for nutrition education and obesity treatment efforts.

Use of Peer Educators and Train-the-Trainer Opportunities

In many communities across the country, the use of paraprofessional peer educators (also known as lay health educators, lay health advisors, or community health workers) has been a beneficial way of promoting health over the years. Peer educators (PE) are members of a community that are trained and prepared to deliver and promote health education and outreach in their community.[13] The type, extent and depth of training for a peer educator is based on the goals and health efforts of a community. This allows for a lot of flexibility for what they do and how they do things in their community. The roles of peer educators complement the formal health care or education system and include (but are not limited to): counseling or educating community members about various health topics, coordinating and mobilizing resources for health services, and acting as an advocate for improvements in the local health care system. No matter what role a peer educator takes on, the most important qualities he/she possesses are being a "natural helper" to others, being a knowledgeable source of information, and being viewed as trustworthy and supportive by others.[14]

The type of training peer educators receive varies from project to project. However, one particular approach to training these paraprofessionals is through the use of a "train-the-trainer" approach. In this type of approach, a paraprofessional (who often has some background in the health or education field) is trained by a public health professional to deliver an intervention targeting people in their respective communities.[15] Train-the-trainer approaches have been applied to a variety of public health programs, such as nutrition education,[16] smoking cessation,[17] and hypertension prevention.[18] One major advantage to using this approach is that it allows for a greater number of people to be reached with an intervention. Peer educators from the local

community often have a deeper understanding of their communities needs and contextual issues that may facilitate or hinder the delivery of an intervention. Lastly, this approach is particularly useful when building capacity in local communities; especially in communities (such as FBOs) that historically have lower levels of trust when partnering with outside organizations to participate in research-based interventions.[10,15]

More Research Needed in Rural Areas

The ability to reach a larger proportion of the targeted population is indeed an advantage of using the train-the-trainer approach, especially in geographically hard to reach areas.[15] Rural populations suffer a disproportionate burden of chronic diseases, such as cancer, diabetes and heart disease, compared to those living in more urban areas. Limited access to health care, health information, education and poor lifestyle behaviors are a few salient factors influencing the health of those living in rural areas.[19] In regards to the field of nutrition education and obesity prevention, little is known about using the train-the-trainer approach to deliver these types interventions into rural faith-based settings throughout Virginia. Leveraging and exploring the assets and roles of SNAP-Ed agents within Virginia Cooperative Extension (VCE) allows for a unique opportunity fill these knowledge gaps in Virginia.

Potential Role for Extension

The phrase '*hard to reach population*' is not just limited to people who are geographically hard for health care providers or educators to reach; it also encompasses those who are difficult to communicate with, serve, teach and/or identify with.[20] The Volunteer Led Nutrition Initiative is part of VCE's Family Nutrition Program, whose aim is to better reach limited resource populations through collaborators and trained volunteers. SNAP-Ed agents offer education through training paraprofessional community volunteers to deliver local nutrition education programming.[21] This train-the-trainer approach is a unique method for SNAP-Ed agents to reach a broader population by training paraprofessional peer educators, to deliver nutrition education programs in their local communities. Despite the interest for and support of the Volunteer Led Nutrition Initiative, there are still a limited number of partnerships and train-the-trainer initiatives taking place between agents and paraprofessionals from local faith communities across Virginia.

Research Goals and Objectives

The overall purpose of this dissertation is to develop a deeper understanding of how to better facilitate collaborative partnerships and programming efforts between academic and faith sectors. There are four distinct aims of this dissertation research which contribute to achieving the overall goal, to build capacity and inform future programming efforts within Virginia Cooperative Extension's Family Nutrition Program. The four aims are as follows:

Aim #1. Summarize the characteristics and strategies used in faith-based nutrition and physical activity interventions through a systematic review of the literature, and identify strengths, gaps and future opportunities for this field of research.

Aim #2. Examine SNAP-Ed agent's perspectives and interest in partnering with FBOs to deliver health programming in Virginia.

Aim #3. Conduct faith community health assessments to identify the health habits and interests of adult congregants, and to identify policies, systems and environments to support healthy lifestyles at faith communities in the New River Valley area of Virginia.

Aim #4. Evaluate a faith-based nutrition and physical activity education program delivered in a small church in rural Virginia and examine factors influencing the acceptability of this program from stakeholder's perspectives involved in this university-FBO partnership.

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Chapter 2. Literature Review: Identifying Opportunities to Support Healthy Eating and Physical Activity Interventions to Reduce Obesity Risk Across Populations Served by Faith-Based Organizations

ABSTRACT

Introduction: Faith-based organizations (FBO) offer a unique venue to deliver nutrition and physical activity health promotion interventions to reduce obesity risk in the United States (U.S.). This review summarizes characteristics, methods, and strategies used in FBO interventions to inform current practices and future research needs.

Methods: PRISMA guidelines were used to identify articles published through March 2017, reporting on behavioral or health outcomes from nutrition or physical activity-related FBO interventions in the U.S.; study quality was assessed using Methodological Index for Non-Randomized Studies.

Results: Eighty-four articles representing forty-four unique studies were reviewed; 97% represented Christian faith denominations and 77% targeted only African American (AA) populations. Most studies involved lay health educators to deliver some or all of the intervention, incorporated spiritual and religious themes into the intervention content, and utilized multi-level approaches to influence healthier policy, system, and environments at the FBO setting as a whole. Studies using lay health educators to help deliver programs led to more significant changes in outcomes.

Discussion: Notable findings from individual and group-level behavior change interventions positively impacting the FBOs as a whole are discussed, along with opportunities for program sustainability and evidence supporting more multicultural/ethnic programs in FBO settings. Major study limitations discussed relate to the search strategy and evaluation of study outcomes.

Implications for Research and Practice: Formative research is needed to identify sociocultural strategies unique to Muslim and Jewish faith sectors and non-AA populations/FBOs, in order to develop culturally appropriate interventions. Partnership and train-the-trainer opportunities through organizations such as Cooperative Extension should be considered, which may help improve the reach and dissemination of FBO programming initiatives throughout the country.

INTRODUCTION

Faith-based organizations (FBOs), such as churches, temples and mosques, offer a unique setting to deliver nutrition and physical activity (PA) interventions to promote health and address obesity in faith communities across the United States (U.S.). The physical environment of FBOs allows for a space for large groups of people to gather, and they often have kitchen and dining space with equipment for preparing and eating food. Most FBOs are deeply rooted in local communities with strong social networks, their leaders are often viewed as trustworthy pillars in the community, and there is a common shared culture of helping others. These unique physical and social characteristics enable FBOs to reach diverse and hard-to-reach populations, especially in rural areas with limited access to preventive health care.[1,2]

A recent review examining relationships between religion and body weight found that greater levels of religiosity (e.g., attendance, prayer) were significantly associated with higher body mass index (BMI).[3] Given this evidence, one should not jump to the conclusion that religiosity causes higher body weight; however, this can be used to highlight an opportune role for FBOs to play in positively influencing the health of their congregations and addressing the obesity epidemic at a local, community level. Many faith-based health promotion interventions have taken place across the U.S. to facilitate smoking cessation,[4] breast and cervical cancer screenings,[5-7] treatment of hypertension,[8] and encourage dietary behaviors and physical activity to promote a healthy weight.[9-13] These non-traditional approaches and settings for developing and delivering health promotion interventions are gaining recognition and interest by health researchers, as evidenced by an increasing number of published articles in this field over the past decade. However, a majority of these efforts have targeted African American populations and Christian faith-sectors with less known about their applicability across other diverse populations and faith sectors.[14-17]

Identifying key components of successful lifestyle modification interventions (diet and physical activity) that have taken place in FBOs is necessary to inform and improve the success of future interventions. Several reviews have been published in the area of faith-based health promotion interventions, examining the research methodologies, the use of faith-based versus faith-placed interventions, and the effectiveness of these interventions on changes in body weight, diet and physical activity.[16,18,19] Populations, interventions and settings examined in previous reviews included African Americans with type 2 diabetes,[19] obesity interventions in

African American FBOs,[16] and PA interventions delivered in FBOs.[18] Collectively, they highlight the benefits of using collaborative research approaches, developing culturally appropriate intervention content, the integration of spiritual themes, and the ability of FBO interventions to produce significant changes in obesity-related outcomes.[16,18,19]

In regards to developing culturally appropriate interventions, community workers and health researchers should consider strategies from two dimensions used to achieve cultural sensitivity, referred to as *surface structure* and *deep structure* in the literature.[20] The first dimension, *surface structure*, involves tailoring intervention content and method of delivery to make a program more visually appealing and interesting on the surface for a specific target population. For FBO health interventions, common strategies could include adapting audio, written and visual materials to reflect the culture of a target population (peripheral strategies), tailoring healthy recipes to align with common foods consumed within a given culture, or involving lay community members in the planning, designing and delivery of a program (constituent-involving strategies).[21] The second dimension, *deep structure*, involves acquiring a deeper knowledge and appreciation for how a group's social and cultural values, beliefs and behaviors impact their perceptions of a health issue. With regards to FBO health interventions, understanding and appreciating how one's spiritual beliefs relate to a specific health behavior is necessary to express meaning and salience for a given population. The link between faith and health is a unique feature of FBO health promotion interventions. Adapting interventions to align health issues and behaviors with specific spiritual beliefs or religious tenants of a group (sociocultural strategies) is a common strategy used to reflect the deep structure and make a program more meaningful to a group.[20,21] This integration of spiritual themes (e.g., scripture tied to health messages, group prayer, etc.) into the content and delivery of the intervention materials is a distinguishing feature and sociocultural strategy of *faith-based* interventions that can be used to provide motivation for targeted populations. In contrast, *faith-placed* interventions include little to no spiritual themes though these are designed to reach specific target populations through the FBO setting. A clearer understanding of the peripheral, constituent-involving and sociocultural strategies used in faith-based health promotion interventions as they relate to diverse populations is needed to benefit future initiatives.

A shortcoming of previous reviews and literature published in this field is the limited knowledge about FBO lifestyle change interventions (diet/PA) implemented across various

populations and faith sectors. This review seeks to fill this gap by summarizing the characteristics, methods and research approaches used in FBO health-promotion lifestyle interventions targeting *all* populations and faith sectors, in order to identify strengths and gaps in the current field and highlight future research opportunities.

METHODS

Search Strategy

The Preferred Reporting Items for Systematic Reviews and Meta Analysis (PRISMA) statement guidelines was used as a guide for identifying relevant interventions.[22,23] The research team involved in the initial search included a graduate student doctoral candidate with knowledge in faith-based health programming, a professor with expertise in program and policy evaluation to address obesity and food insecurity among Supplemental Nutrition Assistance Program (SNAP) populations, and a research librarian from (**location blinded*). The graduate student (**initials blinded*) took the lead role with identifying eligible articles, collecting and extracting relevant data for this review. The professor (**initials blinded*) assisted with identifying articles, collecting data and resolving discrepancies throughout these processes. A trained librarian assisted in planning the literature review methods, specifically to identify the search terms, electronic database selection and search methodology.

Data Sources

Electronic databases were searched to identify articles in faith-based health promotion literature targeting nutrition and/or physical activity through March 25, 2017. Limits were applied to studies written in English and took place in the United States of America. This search was applied to Web of Science Core Collection (1900-Present), Web of Science MEDLINE (1950-Present), PubMed (1946-Present), Cumulative Index to Nursing and Allied Health Literature (CINAHL) (1981-Present), PsycInfo (1894-Present), Religion & Philosophy (1967-Present), and American Theological Library Association (ATLA) Religion (1949-Present). The following search terms were used: ("faith-based" OR "faith based" OR "faith placed" OR "faith-placed" OR "church setting*" OR "religious" OR "Jewish" OR "muslim" OR "mosque" OR "temple" OR "temple-based" OR "temple based" OR "mosque-based" OR "mosque based")

AND ("diet" OR "nutrition" OR "physical activity" OR "exercise") AND ("program" OR "programs" OR "intervention"). Because a previous search (not published) yielded zero eligible articles targeting Muslim or Jewish faith sectors, specific Muslim and Jewish related search terms were used in an attempt to identify studies from all major faith sectors in the U.S. (**Table 2.1**). Reference lists from potentially eligible articles were also reviewed to identify relevant, eligible companion articles.

Table 2.1 Database sources, terms and limiters applied to literature search.

DATABASES	SEARCH TERMS	LIMITERS
Web of Science Core Collection (Thomson Reuters)	(TS=("faith-based" OR "faith based" OR "faith placed" OR "faith-placed" OR "church setting*" OR "religious" OR "Jewish" OR "muslim" OR "mosque" OR "temple" OR "temple-based" OR "temple based" OR "mosque-based" OR "mosque based")) AND (TS=("diet" OR "nutrition" OR "physical activity" OR "exercise"))	*Filters*: English; Article; USA
MEDLINE (Web of Science)	(TS=("faith-based" OR "faith based" OR "faith placed" OR "faith-placed" OR "church setting*" OR "religious" OR "Jewish" OR "muslim" OR "mosque" OR "temple" OR "temple-based" OR "temple based" OR "mosque-based" OR "mosque based")) AND (TS=("diet" OR "nutrition" OR "physical activity"))	*Filters*: English; Journal Article; Humans *Exclude*: Reviews
PubMed (NLM)	("faith-based"[tiab] OR "faith based"[tiab] OR "faith-placed"[tiab] OR "faith placed"[tiab] OR "religious"[tiab] OR mosque[tiab] OR muslim[tiab] OR islam*[tiab] OR islam[MeSH] OR synagogue[tiab] OR temple[tiab] OR jew*[tiab] OR jews[MeSH]) AND (diet[tiab] OR nutrition[tiab] OR "physical activity"[tiab] OR exercis*[tiab]) AND (U.S. OR "united states" OR america*)	*Filters*: Humans, English
PsycINFO (APA)	Any Field: "faith-based" OR "faith based" OR "faith placed" OR "faith-placed" OR "church setting*" AND Any Field: "nutrition" OR "physical activity"	*Filters*: Journal Article
CINAHL, ATLA Religion, and Religion & Philosophy (EBSCOhost)	TX ("faith-based" OR "faith based" OR "faith placed" OR "faith-placed" OR "church setting*" OR "religious" OR "Jewish" OR "muslim" OR "mosque" OR "temple" OR "temple-based" OR "temple based" OR "mosque-based" OR "mosque based") AND TX ("diet" OR "nutrition" OR "physical activity" OR "exercise*")	*Filters*: Full Text; English; Human; USA; Journal Article; Boolean/Phrase

Abbreviations: ALTA=American Theological Library Association (ATLA); APA=American Psychological Association; CINAHL=Cumulative Index of Nursing and Allied Health; NLM=National Library of Medicine; TS=Topic Subject; TX=All Text

Study Selection

Article selection was based on an initial screening of titles and abstracts followed by a second screening of full-text articles. The second screening examined articles in more detail to determine if they met certain inclusion criteria. Inclusion criteria comprised studies that: (1) took place in/targeted a FBO setting, (2) reported on behavioral/clinical outcomes related to nutrition, physical activity or obesity, (3) include an intervention component (individual, group, or setting level), and (4) were conducted in the United States. Articles were excluded if they were related to chronic disease management, were descriptive or lacked an intervention evaluation component (e.g., screening studies, health fairs, reviews, or study design/methods papers).

Data Extraction

Relevant data from each article were extracted and analyzed by the primary author and organized using an Excel spreadsheet. Eligible articles were grouped according to the study/program name. For articles lacking information on outcomes related to nutrition or PA (e.g., only described study design), a search was conducted using Google Scholar to identify potentially eligible companion articles. If no companion articles were identified, an email was sent to the corresponding author(s) to obtain necessary information. Articles were deemed ineligible if no response from the author was received, or if the author was unable to supply the necessary information.

For the studies included, the following information was extracted: study design, faith sector and denomination, geographical location, participants targeted (race/ethnicity, age, sex), research theories, frameworks and approaches used, intervention content, faith-based components (sociocultural strategies), who delivered the intervention (constituent-involving strategies), and relevant behavioral or clinical obesity-related outcomes described. An adapted evaluation framework for assessing public-private partnerships supporting healthy lifestyle initiatives along with the socio-ecological model were used to organize results and identify the most salient strategies and actions used across studies pertinent to FBO partnerships and programming.[24,25] Specifically, common policies, program components, partnerships and collaborative approaches used across studies were described. The public health field recognizes the need for creating policies, systems and environments (PSE) that are supportive of healthy behaviors to increase the success of interventions and maximize their impact on the health of the population.[25] Therefore, strategies used to incorporate PSE changes were recorded. Additionally, changes in important behavioral (e.g., diet, PA) and health-related (e.g., body weight, BMI) outcomes relevant to obesity prevention were recorded. Based on relevant literature highlighting benefits of participatory approaches in FBO interventions, each study's research approach was categorized as *conventional*, *collaborative* or *participatory* using information provided in the articles.[26] These approaches are distinguished by examining who controls the research process throughout the planning and delivery of an intervention. In a *conventional* research approach, researchers mainly control the process and the faith community has limited say in the intervention content or delivery. In a *collaborative* approach, the researchers have chief control,

but give stakeholders from the faith community varying levels of responsibility in developing and implementing the program/intervention. Finally, a *participatory* approach allows for shared, equal control between the faith community and researchers throughout the intervention planning, design, and implementation.[26] Earlier reviews highlight that participatory or collaborative approaches are necessary to promote long-term sustainability of health programs in faith communities; thus, study approaches were categorized to be conventional, collaborative, participatory or unknown, based on the information available in the articles.[19]

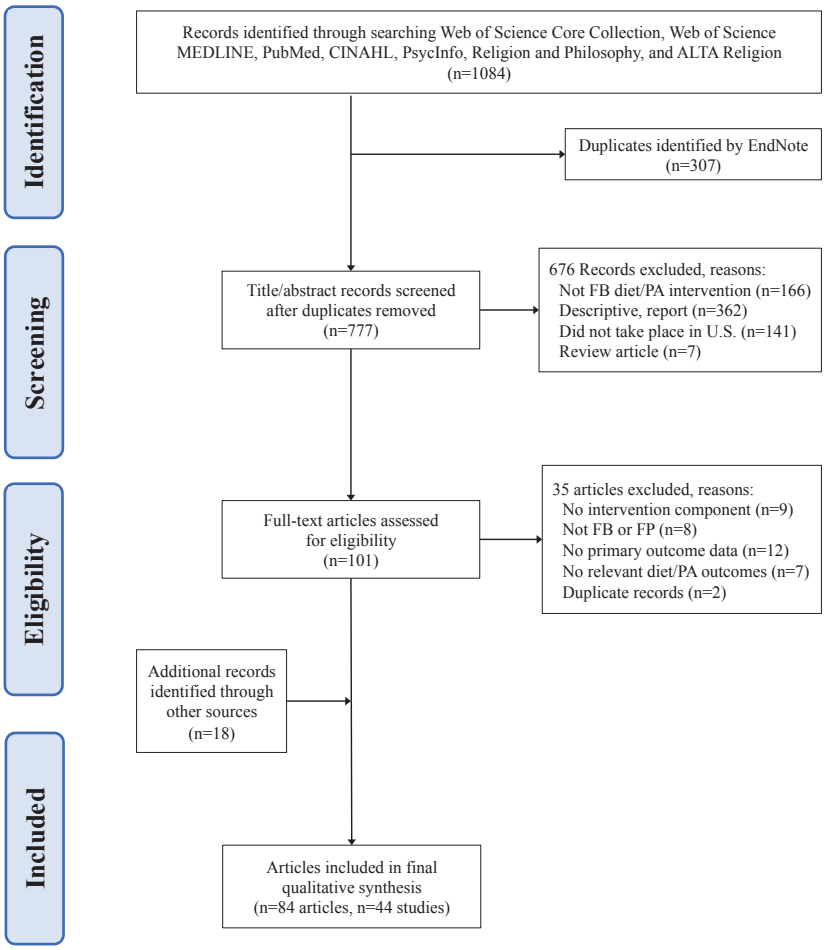
Study Quality Assessment

To assess risk of bias across studies, the Methodological Index for Non-Randomized Studies (MINORS) instrument was used.[27] Each item was scored as 0 (not reported), 1 (reported but inadequate), or 2 (reported and adequate). An ideal (maximum) total score for study quality is 16 for non-comparative studies and 24 for comparative.

RESULTS

Figure 2.1 depicts the search and selection process based on the PRISMA flowchart.[22,23] A total of 84 articles encompassing 44 studies [28-71] were identified for inclusion in this review. The initial search of electronic databases yielded 1084 citations, 777 after duplicates were removed. Six hundred seventy-six records were excluded by screening titles and abstracts. During a full-text review of the remaining 101 records, 35 articles were excluded, due to a lack of data for relevant outcomes related to weight, nutrition or physical activity, the intervention was neither faith-based or faith-placed, or the study lacked any type of intervention component or evaluation, such as a risk screening or social marketing campaign.

Figure 2.1 PRISMA diagram depicting search of faith-based nutrition and PA interventions.



Abbreviations: CINAHL, Cumulative Index to Nursing and Allied Health Literature; ALTA, American Theological Library Association

Study Quality

The mean quality score across comparative studies (n=19) was 19.95 (79%), with scores ranging from 12 to 23. The average score for non-comparative studies (n=25) was 11.86 (74%), ranging from 7 to 14. Overall, the methodological criteria items scoring the lowest (=1.05) included having an unbiased assessment of study endpoints and having a loss of follow-up greater than 5%. Items scoring the highest included having a clearly stated aim (=2) and having a follow-up period appropriate to the aim of the study (=1.95).

Study Sample Characteristics

A detailed description of the included studies can be found in Appendix A. Thirty-two of the forty-four studies (73%) described at least one significant change in an obesity-related physical or behavioral outcome. Geographically, 48% (n=21) were implemented in the southern region of the United States.[28,30-32,34,39,40,43-47,50,51,57,59,60,63,66-68] The remaining 23 were implemented across various Northern, Midwestern and Western U.S. cities, including Los Angeles and New York, and across states, such as Maryland, Michigan, Arizona, Colorado and Kansas.[33,38,41,55,62,69,70] Of the 28 studies describing the population density of the geographic region, nine (32%) were implemented in a rural area [30,31,39,44,46,59,60,65,72] and 19 in an urban area.[32,33,35,36,38,40-42,48,52-54,56,62,66,69,70,73,74] Seven out of the nine (78%) rural interventions described significant improvements in at least one obesity-related clinical or behavioral health outcome; compared to twelve of the nineteen (63%) in urban areas.

Forty-three studies (97%) represented Christian-based faith sectors. Although the Faithfully Fit Forever program was primarily implemented across Christian-based faith denominations, it was also implemented in a Jewish temple; however, no other information describing details specific to the temple setting were provided.[65] Thirty-two (73%) described the FBO as predominantly African American, Christian faith sector.[28,32,36,38,39,43,46,49,51-53,55,56,59,60,63,66,69,71-74] Common denominations included African Methodist Episcopal (AME),[34,41,67,70,75] Roman Catholic,[29,33,41,47,48,54,70] and Baptist.[40,43,70] Others included Seventh Day Adventist,[41] United Methodist[44,70] and a non-denominational church.[62]

The number of churches included per study ranged from 1 to 74; however, the actual reach (number of churches involved in the intervention/program) was greater for some studies. In one example, the Health-e-AME project published findings from a cohort of 20 churches, but the overall reach of that program targeted 303 churches.[67] The Health-e-AME project is also an example of an intervention delivered in partnership at a large-scale denominational level. The infrastructure of the AME church is such that each local church is part of a larger connection, each AME conference (region) is divided into smaller districts. Conferences and districts are equipped with health directors at both levels who oversee health ministry activities in local churches within their regions. This interconnectedness of the AME church and existence of health ministries contributed to greater dissemination of Health-e-AME throughout AME churches in SC. This top-down approach to gain support for recruiting churches was also seen in Roman Catholic churches partaking in Fe en Acción, in which the research team discussed the

project with the Chancellor of the Roman Catholic Diocese of San Diego who in turn provided his support and a list of Spanish speaking churches to recruit from.[29] In addition to denominational-level approaches, other methods for delivering programs at larger scales included programs developed with academic-community partners serving FBOs associated with community health coalitions and/or local faith-based outreach initiatives,[42] or programs developed and funded through a national grant or research center representing large academic and faith-community partners and organizations, some reaching across an entire state or across the country at a national level.[31,49,61]

As mentioned previously, African American (AA) populations have been the primary focus of research in this field. Ten studies (23%) targeted populations other than AA communities.[29,31,33,35,47,48,54,58,62,65] Four (9%) targeted Latino populations,[29,33,48,54] and three of these four specifically targeted Latinas (only women) in Roman Catholic churches.[29,48,54] These three Latina studies also utilized a *Promotora* (also called Lay Health Advisor) model to train well-known community members similar to the target population (Spanish-speaking, Latin women) to deliver all or part of the intervention, which has been recognized as a useful approach for communicating health information to Latin populations.[76] Additionally, four (9%) included predominantly Caucasian participants from various denominations.[31,35,47,77] The *Optimal Health* program was one of the two studies targeting multicultural (multi-racial/ethnic) populations, with an 8-week nutrition and physical activity faith-based program.[62] The second multicultural intervention, *Shining Like Stars*, was also the one program that directly targeted young (elementary-aged) children using a PA intervention integrated into the Sunday School curriculum plus family devotional activities to reinforce and support PA messages throughout the week.[58]

Relevant Models, Theories and Approaches

The socio-ecological model is a useful framework to identify opportunities for impacting multiple levels of FBOs (individual, interpersonal, organizational, environmental, etc.), such as PSE changes to help make healthy eating and PA opportunities readily available to FBOs on a larger level.[78] Interventions that include PSE components in addition to a behavioral intervention/program can help to promote greater reach and longer-term sustainability of health programming efforts in a faith community. Nineteen studies included some type of PSE

change(s) in the intervention;[28-31,35,39,43,48,49,59,64,65,67,70,71,73,75,79,80] and 37% of these used the social ecological model as a way to intervene on multiple levels (e.g., the intervention involved PSE changes plus a group-based nutrition education/PA program). Common PSE changes involved making a commitment to serve healthier foods at church events and posting signage promoting healthy food and physical activity choices. Thirteen of studies involving PSE changes (68%) reported significant changes in obesity-related health outcomes. Comparatively, 20 of 25 studies (80%) that did *not* include PSE components reported significant changes in health outcomes. Although not all studies targeting PSE changes demonstrated statistically significant improvements across outcomes, all described positive improvements in multiple obesity-related clinical and behavioral outcomes.

The FAN study directly targeted environmental (e.g., social, cultural, physical) and organizational (e.g., policies or practices) changes within the church setting by providing opportunities for PA and healthy eating that were culturally appropriate and fun, setting organizational guidelines to serve healthier foods at functions, and increasing support and awareness of PA and healthy eating throughout the congregation.[75] *Walking in Faith* indirectly targeted PSE changes in their 12-week long web-based intervention for Christian clergy members. The study objective was to influence the church environment by focusing half of the weekly session topics on ways that clergy can positively impact their church environment in order to improve the eating and PA behaviors of their congregation. This top-down approach of targeting clergy members was used to indirectly influence PSE changes at their respective churches.[64] Alternatively, a pilot faith-based adaptation of the diabetes prevention program (DPP) did not specifically target policy or environmental changes, however, the congregation pursued them following completion of the group-based DPP lifestyle intervention.[39] The *Church Health Environment* intervention was the one program solely focused on implementing PSE changes without any type of individual or group-based intervention component.[30] Participating churches were provided a guidebook and technical assistance to make policy and environmental changes, such as committing to always offer healthy food and drinks whenever meals are served at the church, or increasing access to facilities and spaces for exercise in and around the church building.[30] Despite the various ways PSE changes were implemented across studies, 58% (11/19) utilized a participatory approach in doing so.

A variety of behavior change theories and constructs were noted; two predominant theories used were the Social Cognitive Theory (SCT) (n=23) [28,31,32,34,36,39,42,43,46-49,51,54-56,61,64,66,70,71,75,79] and the Transtheoretical (TTM) model (n=9).[28,34,35,46,53,54,61,67,74] Strategies aligning with constructs from SCT included eliciting social support, increasing self-efficacy, positive role modeling and reciprocal determinism.[81] The TTM was often utilized as a means for assessing participants' stage of changing a specific health behavior, in order to tailor intervention strategies to move participants forward to the next level of change.[82] To a lesser extent, Motivational Interviewing (MI) techniques were utilized in 4 studies as a strategy for increasing self-efficacy and motivation to change a health behavior. MI techniques were integrated within group-based sessions, and individual (in-person and telephone-based) counseling sessions.

A distinguishing feature of *faith-based* interventions is the integration of spiritual themes into the content and delivery of the intervention such as group prayer, incorporating and tailoring Biblical scriptures into health messages, gospel themed exercise classes, or pastors preaching about healthy eating or PA from the pulpit. *Faith-placed* interventions, on the other hand, do not describe any spiritual themes or components incorporated into the intervention content. Nine studies (20%) were described as being considered faith-placed.[28,30,31,52,53,55,61,63,72] It should be noted that several of the faith-placed interventions identified in this study were described as faith-based in their published articles. However, for the purpose of this paper, only those describing spiritual components are identified as faith-based. The spiritual intervention components (sociocultural strategies) identified in order of popularity, across the 35 faith-based studies, included: the use of scriptures or biblical references to reinforce health messages (25/35), group prayer (17/35), pastoral support or participation in program (9/35), pastor preaching about health from the pulpit (5/35), and use of gospel-themed music during PA sessions (3/35). With regards to pastoral support, a variety of strategies were identified. In the *FAITH!* program, the pastors from 3 participating churches wrote and sent letters with spiritually motivated messages to encourage each participant at the start of a 16-week group-based heart disease prevention program.[36] To provide support and positive role modeling, the pastors, pastor's wives and other church leaders participated in the 8 month nutrition education program, *Dash of Faith*.[43] Alternatively, pastors from 8 churches participating in *Delta Body and Soul*, signed a healthy eating covenant and displayed on the wall for congregants to see, at their respective church.[60] When examining outcomes, 78% (7/9) of faith-placed studies described at

least one significant change in obesity-related outcomes, compared to 71% (25/35) across faith-based studies.

As mentioned previously, studies were categorized as using a conventional, collaborative or participatory approach, based on information given in the article(s). A *participatory* approach, which allows for shared, equal control between FBO, community stakeholders and researchers throughout program planning and implementation, is thought to be beneficial with FBO programming.[25] Nineteen studies (43%) used a participatory research approach,[28,31,33,34,36-40,42,43,46,51,59,67,69,70,73,75] and fourteen of those also used a lay health educator to help implement various parts of the program.

Use of Lay Health Educators

Lay health educators, sometimes called Peer Educators, Lay Health Advisors, Community Health Workers or Promotoras have a close relationship and understanding of their community, enabling them to translate health information into something that is culturally relevant.[83,84] The use of trained lay educators to deliver health programming in a faith-based setting has been described as a beneficial and cost-effective method to offer and sustain culturally sensitive programs that reflect the values of a community.[84] Twenty-six studies (59%) used a lay educator to deliver part or all of the intervention.[28,29,31,32,34,35,37-40,46,48,49,51,55,56,59-61,66,67,70,72,75,77,85] All lay educators were recruited from the participating FBOs, with one exception. The Living Well by Faith program recruited lay educators (referred to as "group leaders") from outside the congregation to avoid potential biases of hiring church members because not all churches involved in the project had an eligible congregant who could deliver the program.[66] The lay educators from the other 25 studies were typically self-identified or were assigned by the pastor or minister.

Having an interest or background in health, health education or nursing, being a well-respected 'influence leader' of the congregation, and the ability to serve as a positive role model were the most prominent qualities of lay health educators described.[29,31,38,43,46,48,56,66,70,72,85] For example, in Project JOY, the authors recognized the importance of recruiting a well-known, highly respected female member of the congregation to be trained to take on the role of the lay educator at participating churches. These women were described as key in helping to energize congregants about the project, and they were well-equipped to handle recruitment and to keep

participants informed and excited throughout the program.[70] Alternatively, a six-month intervention targeting female AA church attendees in the Baltimore city region hired local certified aerobics instructors familiar with the community to lead the group exercise classes. Although a lay educator did not initially deliver the intervention, towards the end of the program church volunteers were trained to lead and continue the group exercise sessions post-intervention, as a means to improve sustainability.[71] These examples highlight various roles and influences lay educators have in promoting, delivering and sustaining health promotion initiatives.

Numerous approaches were used to train lay health educators: some were given a program curriculum with a training manual and materials to deliver the intervention;[58,66] whereas others had more rigorous training such as weekend workshops covering intervention materials, behavior change theories, MI strategies, and/or other types of skill development.[31,55,61,77] Eight studies specified a model for training lay educators; including the Peer-led model,[55] the Lay Health Advisor model,[46] the Train-the-Trainer model,[34,38,56] and *Promotora* model.[29,61,85] Using approaches such as these to guide training helps to ensure that all program components are accurately implemented, taught and addressed in a culturally appropriate and sensitive manner. The train-the-trainer model, described in 3 studies, is particularly useful for promoting wide dissemination and sustainability and can be an economical choice for public health interventions, by allowing trained congregants (lay educators) to later train other congregants to deliver the same program.[86] This approach also equips FBOs with a variety of trained staff to deliver a program so they are less vulnerable to scheduling challenges and staff turnover.[34,86]

DISCUSSION

This review is the first of its kind to examining faith-based nutrition/PA health interventions across all populations in the United States. Overall, a majority of studies (73%) produced statistically significant improvements in at least one obesity-related clinical or behavioral outcome. Additionally, 78% of faith-placed programs and 71% of faith-based programs reported at least one significant outcome. These findings support the development of future interventions in FBOs, and the integration of 'sociocultural' faith-based strategies to produce significant improvements in obesity-related health outcomes. In the assessment of study

quality, across all 44 studies, the two lowest scoring items included having an unbiased assessment of study endpoints and having a loss of follow up greater than 5%. These findings suggest a need for using blinded methods when evaluating study endpoints to reduce bias, and a need for pursuing various methods to keep participants engaged throughout the program and its assessments. Nearly half of studies took place in the Southern region of the United States. FBOs play a vital role in the local community, especially in Southern communities, which was likely the reason for having a large proportion of the interventions located in this region. The findings from this review also suggest a trend regarding the use of participatory approaches to positively influence PSE changes and the inclusion of lay health educators to enhance program impact, influence and sustainability. Perhaps not surprising because of the participatory nature of these projects, only 20% of studies were considered faith-placed.

Notable Findings

Assessing program impact through dissemination and sustainability efforts was not a focus of this review, however, several articles described efforts to promote efforts in these areas which seem fitting to highlight. With regard to dissemination, *Faithfully Fit Forever* began as a partnership between a non-profit healthcare system and faith communities, then grew into an ongoing training program for parish nurses and lay leaders to: deliver PA classes within their faith communities, advocate health education topics, and promote social support using group devotion/spiritual time. Participants (parish nurses and lay leaders) attend one 4-hour in person training, receive a manual with reproducible handouts, and are provided ongoing training 'renewal' sessions as needed used for receiving new information on health topics, such as updated PA guidelines. This upstream approach to promote PA and health education in FBOs has led to over 1000 community members across 15 states being trained to deliver PA programs in their respective FBOs.[65] Other studies described opportunities for promoting sustainability of health behavior changes at FBOs post-intervention completion. For example, PSE changes within an AA church were proactively initiated by congregant participants following the completion of a modified group-based DPP. These changes included: 1) initiating a "well report" during Sunday services to identify and pray for the success of congregants trying to make lifestyle changes, 2) starting a weekly Saturday morning exercise group at the church, and 3) the church cooking ministry began to incorporate healthier food choices on their menu.[39] This

example demonstrates how one program can transform to create a more supportive health environment at their FBO, and highlights new faith-based strategies to tailor a program through prayer for congregants during church services. Alternatively, the promotoras delivering *Abuelas en Acción* pursued continuation of the group educational workshops post-program, when program completers expressed interest in being trained as promotoras to deliver future iterations of the program in their church.[54] These examples suggest a 'trickle-down' effect that faith-based health promotion programs can have on a congregation at various levels over the long term.[39]

Although outside the scope of this review, a notable finding was differences in weight loss patterns such as rate of weight loss, weight loss maintenance or regain of weight, between intervention and control groups. One study examined differences in weight between a 16-week Catholic-tailored diabetes prevention program and a 16-week standard behavioral intervention (same content, only lacked spiritual messages), and found that both groups lost a significant amount of weight. However, participants in the Catholic-tailored group experienced less weight regain six months post-treatment in comparison to participants in the standard behavioral group.[47] Another study examined adherence to a behavioral choice treatment among three groups of women: 1) AA women in a university setting, 2) Caucasian women in a university setting, and 3) AA women in a church setting. The only difference between intervention groups was the setting it was delivered in; the church setting group did not include any faith/spiritual components in the intervention. AA women in the church group demonstrated less disordered eating attitudes and less interpersonal distrust at baseline compared to the other groups. Furthermore, despite the fact that the church group had the lowest program attendance rates, participants lost a significantly greater amount of body weight post-intervention compared to both of the university groups.[52] Weight loss cycling, maintenance and regain may be an area of interest for future research.

Study Limitations

To examine differences in outcomes based on success of the intervention, a comparison was made between the proportion of studies reporting one or more significant change(s) in obesity-related health outcomes between two groups. For example, 77% (20/26) of studies using LHEs reported at least one significant outcome compared to 61% (11/18) of those not using LHEs. Due to the heterogeneity of outcome data reported across studies, a true estimate and

comparison of program impact across studies was not possible without using meta-analytic techniques, which was beyond the scope of this review. However, the information is still useful to show a picture of how differences in outcomes compare on the surface as they relate to various intervention strategies (e.g., use of lay educator, faith-based vs. placed, etc.).

It was evident that some faith-based programs were not identified in the database search. One published study in particular, Faithful Families Eating Smart and Moving More, a faith-based nutrition and physical activity program delivered by peer educators with Cooperative Extension was not identified, because it was published in a non-indexed journal.[87] The inability to systematically include articles and resources from non-indexed journals or the gray literature prevented an examination of the full breadth of research in this field. A second limitation of the selection process was being limited to studies in which information on health outcomes related to weight, nutrition or PA could be obtained. Given that the field of faith-based programming is an emerging and growing area of research, as evidenced by the large proportion of studies (82%) published between 2007 and 2017, it seems likely there would be a number of studies that have not yet published outcomes. Attempts to contact authors to obtain outcome information yielded one additional eligible article for inclusion.[29] A Tai Chi intervention targeting older adults in rural Appalachia could have provided useful information about a lesser-known population impacted by obesity disparities but was excluded since outcomes were unavailable at the time of this search.[88]

Based on previous [14,16,18] and current findings, a majority of research is limited to African Americans. There are many reasons for this, the most prominent being their strong social ties and social networks and sense of community in AA churches. Furthermore, compared to all other racial/ethnic groups across the United States, AA are more likely to report religious affiliation, higher attendance at religious services, importance of religion in their life, belief in God, frequency of prayer, attendance in prayer group, and reading and interpreting scripture. Leveraging these social networks and the important role faith and spirituality plays in the lives of AA are key assets that have made faith-based programs so effective in these faith communities.[14,89] Latinos also have strong social networks in their communities with deep spiritual roots[33] but less is known about FBO programming efforts with Latinos.[29,33,48,54] Populations in rural areas such as the Appalachia region are often vulnerable to poor health, including high rates of obesity-related health conditions, smoking rates and cancer due to limited

resources, such as access to healthcare.[90,91] Both of these groups display strong social and religious ties similar to those with AA faith communities,[92] but the shortage of formative research hinders an ability to guide specific recommendations. The role of spirituality and the faith-health connection is not just limited to Christian faith-sectors; it is also prominent in other religious such as Muslim and Jewish.[89]

As mentioned previously, only one study described implementing their program into a non-Christian (Jewish) faith setting,[77] and none described a program in a Muslim FBO (mosque) setting. The lack of non-Christian studies might simply be related to the religious landscape of the United States. In 2014, 70.6% of Americans identified themselves as Christian, 1.9% as Jewish, and 0.9% as Muslim.[93] Based on these statistics, it could be hypothesized that there are not as many researchers that identify with Muslim/Jewish faiths or feel comfortable enough to adapt programs to be culturally relevant and sensitive for these faith communities. Many key elements that make churches positive settings for health programming also apply to mosques, such as: available/accessible space, sensitivity to gender differences, family centered environment, and strong social ties and relationships. Formative research examining Muslim women's perspectives on designing mosque-based health interventions identified intervention strategies that are also in line with those used in Christian faith-based interventions, including: imam (pastor)-led sermons, peer-led group education class format, and incorporating health messages tied to scripture.[94] Alternatively, some barriers to engaging in health programs may look different for Muslim faith sectors compared to others, especially women.[20,95] For example, a pilot PA intervention targeting Muslim women in Canada incorporated culturally sensitive strategies to overcome common barriers towards engaging in PA identified by Muslim women, including: religious modesty, avoidance of mixed-gender activities, and fears of going out alone to do PA.[94,95] Researchers adapted the PA sessions to be gender restrictive (women only participants and instructors), to take place in the mosque, and gave women extra time to seek advice from their spouse or head of household before providing written consent to participate. Remaining culturally sensitive to the practices and beliefs of these women was identified by researchers as key to the program's success.[95] As the field of research in faith-based settings continues to grow, researchers will likely see more programs delivered in non-Christian settings.

IMPLICATIONS FOR RESEARCH AND PRACTICE

The conclusions of the current review are consistent with other reviews that found FBOs are valuable settings to deliver culturally appropriate nutrition and physical activity interventions to address obesity prevention and management. Essential components of these interventions include: using a group-based class format, eliciting social support and leveraging social networks, individual goal setting strategies, and incorporating faith components and the congregation in a variety of ways (health messaging tied to scriptures, group prayer, pastor involvement and role modeling). Based on results from this review, 77% of studies using lay educators to deliver part or all of a program reported at least one significant change in obesity-related outcomes, compared to 61% of those not using a lay educator; highlighting promising evidence in support of lay health educator involvement throughout these interventions. Alternatively, when examining the proportion of studies reporting significant changes in at least one obesity-related outcome, those incorporating PSE changes appear to be less effective than those that did not incorporate any PSE changes (68% and 80%, respectively). This does not mean that interventions should not incorporate PSE changes; however, it may point out a need for greater attention to individual behavior change components along with PSE changes to produce more significant changes under real world conditions.

Several common themes and recommendations have been identified for faith-based interventions targeting African American populations and settings. However, what is relevant for African American cultures and urbanized communities may not be relevant to rural, Caucasian, Jewish, or Muslim populations. In agreement with others, a 'one size fits all' approach to faith-based health promotion programming initiatives is not appropriate in this field.[14] With such variability in faith-based approaches used to tailor programs, and differences in cultural practices and beliefs among faith sectors/denominations, a clearinghouse of culturally appropriate strategies employed across various denominations would be extremely useful for real world applicability. Having a toolkit for adapting health programs to better fit the social, behavioral and religious-related (surface and deep structure) cultural characteristics of groups belonging to various faith sectors would be useful for community-based health researchers and could help to break down barriers to pursuing these partnerships in the real world. Given the limited number of studies targeting youth, additional formative research exploring opportunities to engage youth

and children in faith settings (e.g., during youth group activities or summer camps, incorporating into faith-based daycare activities, family-based approaches, etc.) should be pursued.

Involvement of the faith community beyond the intervention participants, through development of policies, systems and environments that encourage healthy food and physical activity behaviors for the entire congregation is recommended for future research. More information is needed regarding effective strategies to develop policy, systems and environmental changes in faith-based settings. Two studies described using a church health survey or conducting walking audits to guide program activities; however, there was no description of the validity or reliability of the tools used. Reliable and comprehensive tools to identify the most pressing health needs and guide the implementation of PSE changes unique to the faith community setting are essential. Additionally, incorporating new ways of influencing PSE changes, such as top-down approaches targeting clergy members to improve the nutrition and PA environment of their congregations, should be explored further.

The use of lay educators (e.g., peer or para-professional) during the program planning, delivery and maintenance stages was present within a majority of studies reviewed. However, the Expanded Food and Nutrition Education Program (EFNEP), which has historically utilized educators considered indigenous to the population, was not mentioned in the studies identified in the review. This highlights both, a gap and an opportunity, for faith-based programming and research. The Expanded Food and Nutrition Education Program (EFNEP) Model, in addition to the Supplemental Nutrition Assistance Program – Education (SNAP-Ed), could serve as effective models for program delivery and training opportunities with faith-based settings and populations through direct education, train-the-trainer opportunities, and now policy, systems, and environmental change support.

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Chapter 3. SNAP-Ed Agent Perspectives Toward Partnering with Faith-Based Organizations

ABSTRACT

Background: Faith-based organizations (FBOs) provide a promising avenue for delivering health care programming opportunities in a sustainable fashion. However, little is known about these types of collaborative partnerships, such as those between academic and faith-sectors. The purpose of this mixed-methods study is to explore the perspectives of agents from Virginia Cooperative Extension's (VCE) Supplemental Nutrition Assistance Program and Education (SNAP-Ed) regarding their experiences and interest in partnering with FBOs, in order to identify strategies to strengthen these types of collaborations.

Methods: Individual in-depth telephone interviews were conducted with current and former SNAP-Ed agents and supplemented with brief online surveys. Topics included previous experiences, obstacles and barriers, level of comfort and future interest in working with FBOs, personal affiliation with a faith community, and participant demographic characteristics. Strategies to develop and strengthen partnerships between FBOs and VCE were identified.

Results: Ten (n=10) current and former SNAP-Ed agents participated in this study. Agents who identified with a faith sector were more comfortable working with FBOs to deliver health programming, compared to those who do not have a personal faith affiliation. Compatible climate, mutually beneficial partnership, adequate resources, effective leadership, and congruent goals were the most important factors of agent's for partnering with FBOs. Difficulty identifying low-income qualifying FBOs and limited knowledge of various religious beliefs and food practices were the most common barriers identified by agents.

Discussion: Findings highlight several individual and organizational strategies to strengthen the fit and capacity of programming initiatives between agents and FBOs. An agent training workshop to discuss strategies to overcome barriers for identifying and recruiting qualifying low-income populations within FBOs should take place, along with cultural awareness education related to FBO practices and beliefs. Research with VCE and FBO stakeholders to develop a toolkit for agents to adapt programs to be more culturally and spiritually relevant for a variety of faith sectors and denominations should be pursued.

INTRODUCTION

Faith-based organizations (FBOs) are unique locations for promoting health through programming, outreach and education opportunities. FBOs act as stable settings in communities, they have strong social and community ties, an ability to connect with hard to reach populations (e.g., limited income, resource, or rural populations), and they are deeply committed to the health and well-being of those in their community. These characteristics make FBOs uniquely equipped for spreading health education and health promotion efforts to positively impact the people in their community.[1,2]

A History of Collaboration between FBOs and Cooperative Extension

Although different entities with distinct operating structures and purposes, FBOs and Cooperative Extension have a shared altruistic vision and commitment towards the well-being and vitality of their communities and are known for building relationships based on respect and mutual trust, regardless of one another's beliefs or background. Historically, Cooperative Extension (CE) has partnered with FBOs to revitalize communities and build social capital through various agricultural, education, leadership and outreach initiatives. In the early 1900s, a primary focus of these collaborative partnerships was geared towards problem solving to slow down the decline of rural communities during the industrial revolution era. Some of the earlier examples included providing summer educational opportunities for rural church leaders in topics such as leadership training, religion, philosophy and agricultural economics, in addition to networking with agricultural leaders at land-grant universities. Other examples included partnering with church leaders to establish local credit unions and farmer cooperatives. These efforts helped empower rural church leaders to positively impact their communities by creating solutions to overcome the various agriculturally-based problems faced by rural communities at that time in history.[3] Despite their earlier successes, these partnerships saw a decline in the later part of the 1900s.

Collaborative partnerships and efforts between FBOs and CE still exist and thrive to positively impact communities, albeit on a much smaller scale than a century ago. Nowadays these partnerships and programming efforts primarily focus around nutrition education and physical activity programming opportunities. For example, North Carolina Cooperative Extension has partnered with limited-resource FBOs throughout the state to implement a faith-

based nutrition education and physical activity program with church-level policy and environmental changes, called Faithful Families Eating Smart and Moving More (FFESMM).[4,5] Sisters Together, a nutrition education and wellness program for African-American (AA) women, was developed in 2001 by Nebraska Extension and implemented in a predominantly AA church with the help of the church minister.[6] More recently, Extension researchers at Texas A&M University conducted an exploratory study to examine potential partnerships and roles for CE and cowboy churches in Texas. Their formative results indicated that congregants from cowboy churches were interested in nutrition programing through chuck wagon cooking, animal science education, 4-H/youth development programs with church families, and equine management programming.[7] These examples highlight some of the more recent ways that CE has partnered and worked with FBOs to promote health and health education in their respective harder to reach communities.

The phrase '*hard to reach population*' is not limited to people who are geographically hard for health care providers or educators to reach; it also encompasses those who are difficult to communicate with, serve, teach and/or identify with.[8] The Volunteer Led Nutrition Initiative is part of Virginia Cooperative Extension's (VCE) Family Nutrition Program, whose aim is to better reach limited resource populations through collaborators and trained volunteers. SNAP-Ed agents train and educate paraprofessional community volunteers to deliver local nutrition education programming.[9] This train-the-trainer approach is a method for SNAP-Ed agents to reach a broader population by training paraprofessional, peer educators, to deliver nutrition education programs in their local communities. Despite the interest for and support of the Volunteer Led Nutrition Initiative, there are still a limited number of partnerships and train-the-trainer initiatives taking place between agents and paraprofessionals from local faith communities across Virginia.

Study Objectives and Hypotheses

Although hypotheses exist as to why there has been a decline in FBO and Extension/academic partnerships, such as fear of violating the separation of church and state,[3] very little has been done to examine perspectives from each side of the partnership. The purpose of this study is to gain insights from the perspectives of VCE's SNAP-Ed agents about their previous experiences and future interest in working with FBOs to deliver health programming.

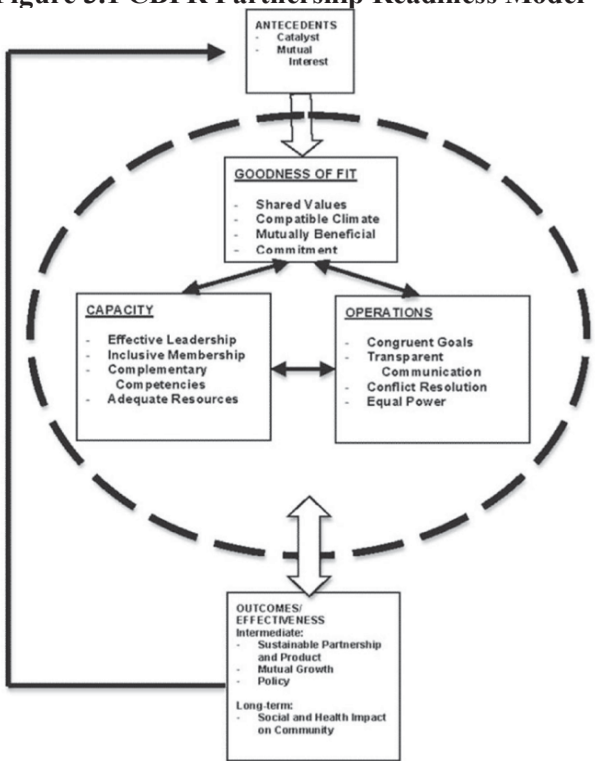
The research goal is to identify barriers and strategies to better facilitate these partnerships and inform future initiatives within VCE. To achieve this goal, in-depth telephone interviews were conducted with current and former SNAP-Ed agents, to gain information about their previous experiences, obstacles, barriers, level of comfort and future interest in working with FBOs. The second part of this study involved a brief online survey, where participants answered questions regarding their personal faith beliefs, their level of involvement with a faith sector in their community, and their level of comfort delivering health programming in various faith-settings. Respondents interview and survey data were matched. It was hypothesized that agents with no personal religious affiliation and/or limited experience working with faith communities would be less comfortable working with FBOs the future.

METHODS

Study Design

This mixed-methods study involved: 1) individual semi-structured telephone interviews, and 2) a matched, complementary online survey with a convenience sample of current and former SNAP-Ed agents working with VCE. The telephone interviews lasted approximately one hour and the online survey took participants about 10 to 15 minutes to complete. All participants received the same interview and survey questions. The Community-Based Participatory Research (CBPR) Partnership Readiness Model was used as a guide to develop interview and survey questions. CBPR Partnership Readiness is defined as "the degree to which academic-community partners 'fit' and have the 'capacity' and 'operations' necessary to plan, implement, evaluate, and disseminate CBPR projects that will facilitate mutual growth of the partnership and positively influence targeted social and health needs in the community."[10] This model assumes that readiness is issue and partnership specific. It also assumes that there are differing levels of readiness that can be influenced by a variety of factors which fall under three major dimensions: goodness of fit, capacity and operations (Figure 3.1).

Figure 3.1 CBPR Partnership Readiness Model[11]



The two-part format of this mixed-methods study was intentionally developed. The topic of an individual's faith beliefs and religious affiliation can be personal for some to discuss, especially when the population of interest is employed by the government/state sector. Including these questions as part of the interview could potentially cause agents discomfort and might bias their answers, especially if they felt obligated to respond in a certain way about their personal faith beliefs or affiliation. Regarding bias, a study conducted by the Pew Research Center examined the effects of "social desirability bias" – a phenomenon where respondents overstate socially desirable behaviors and understate less desirable behaviors during interviews in order to present themselves in a more positive manner;[12] by comparing differences in the way respondents answer identical survey questions when delivered via two different modes: a telephone interview format and an online survey. A statistically significant mode difference was found in reporting personal attendance of religious services. Specifically, web respondents were seven points more likely to report that they 'seldom or never attend religious services' compared to phone respondents.[13]

In order to create a more comfortable atmosphere and minimize potential social desirability bias, questions regarding participants religious affiliation were separated into an

online survey format and participants were also allowed to skip any questions they wish in the surveys. Additionally, a co-investigator of this study also serves as the director of the Family Nutrition Program with VCE and is responsible for overseeing the jobs of the agents participating in these interviews. Even though the director was involved in this project as an investigator, she was not permitted to view any personally identifiable information from study participants to prevent conflict of interest and any concerns about participants comments influencing their performance evaluation. This was explicitly stated in the informed consent documents and mentioned during the phone interviews. These measures were taken to further protect participants confidentiality, minimize any perceived risk, and create an environment where participants feel comfortable and free to share their honest opinions without penalty in their job setting.

Participants and Recruitment

Study participants recruited included current and former FCS SNAP-Ed agents (n=14), formerly titled "Nutrition Outreach Instructors," serving Virginia Cooperative Extension. Former SNAP-Ed agents have been working for VCE but have recently changed positions (within past year). Current or former involvement as a SNAP-Ed Agent is necessary to obtain relevant information regarding agent's past experiences and future interest working with FBOs in the community. A list of potential participants was developed using public records from VCE's website to identify current and previous SNAP-Ed agents' names and email records. A study investigator recruited potential participants by email using a recruitment email script (Appendix B). Interested participants were emailed a copy of the implied consent form to review (Appendix C) and set up a day and time to review the consent form and conduct the telephone interview based on their scheduling preference. All study procedures were approved by the Virginia Tech Institutional Review Board (IRB# 15-963) as indicated by the IRB approval letter (Appendix D).

In-Depth Telephone Interviews

The semi-structured interview questions were developed and revised by the research team. A semi-structured interview is one method to collect qualitative information by having an interviewer ask a series of open-ended questions from a written script. The use of open-ended questions gives the interviewer (researcher) more control over the questions and allows for the

researcher to delve into a deeper discussion of a topic of interest by probing and eliciting for more details from the interviewee (participant) when necessary.[14] The topics listed below describe the main subject areas covered in the interview; a full interview script can be found in Appendix E.

1. Agent's background information, including: current and former role(s) with VCE, previous experience with community programming, and their level of involvement in their local community (e.g., length of time living there, and if they currently serve on a board, coalition or in a community/volunteer organization).
2. Agent's previous experience(s), interest, barriers and facilitators related to working with FBOs in community settings.
3. Agent's future interest and opportunities for partnering with FBOs to deliver health programming in the communities they serve, along with the barriers and facilitators that would strengthen or hinder these current and/or potential partnerships.

Online Surveys

Upon completion of the telephone interview, the researcher emailed each participant a web-link for agents to complete the second portion of this project – an online survey – at a time and location convenient to them. Each participant was given a unique study identification number to enter at the start of their survey, which was used to connect and match survey responses to interview data. The survey questions were developed by the research team and delivered via Qualtrics© ([survey software]. Version 2017. Provo, UT: Qualtrics; 2005. http://www.qualtrics.com), a web-based research and survey tool which aids in data collection and analysis. This SSL online survey consisted of a series of primarily close-ended questions but participants could provide comments and feedback if desired. Questions in this survey covered the following main topic areas (a full version can be found in Appendix F).

1. Personal identification, affiliation, and level of involvement with a faith community.
2. Readiness for working and/or interacting with *any* faith-community sector to deliver health programming.
3. Factors most important to them when/if partnering with FBOs to deliver health programming in their community.

4. Personal interest in working with FBOs to implement a faith-based nutrition education program, called *Faithful Families Eating Smart and Moving More*.
5. Sociodemographic characteristics, including: age, sex, race, and ethnicity.

Outcome Measures

Participant Characteristics

Several qualitative and quantitative outcomes were captured from the data collected. Sociodemographic characteristics include participants' age, sex, race and ethnicity. Since the subject pool included current and former SNAP-Ed agents ('former' meaning that they still work with VCE but changed job positions within the previous year), their current role and length of employment with VCE was asked to further describe participants. Additional characteristics of participants included: previous experience and length of time spent working in some type of capacity to do community programming, as well as previous experience partnering or working with FBOs in any capacity for community programming. A series of questions in the online survey were used to describe participant's religious affiliation, including: personal identification with a religious faith sector (e.g., Christian, Muslim, Jewish, agnostic, etc.), denominational affiliation (e.g., Baptist, Catholic, etc.), membership with affiliated church, holding a leadership role, and serving on any ministries within their congregation. Questions from the Duke University Religion Index (DUREL) survey were used to assess attendance and level of involvement with their faith community; a valid and reliable tool for assessing religiosity.[15]

Partnership Readiness

To measure agents' readiness, participants were asked to rate their level of comfort working or interacting with: (1) the faith community/religious sector they identify with to deliver health programming, and (2) any faith community/religious sector to deliver health programming. This outcome is measured using an 11-point Likert scale, where participants rated their comfort level on a scale from 0-10 (where '0' = *not comfortable at all*, and '10' = *very comfortable*). To further understand agent's readiness for engaging with FBOs, participants were asked to identify and select up to five (5) factors (listed in the survey) that are the most important to them when thinking about partnering/working with FBOs to deliver health programming. The CBPR Partnership Readiness Model was used to identify the most salient factors that can

influence one's readiness to engage in certain academic/community partnerships.[10] Key indicators/factors from the three major dimensions of this model (goodness of fit, capacity and operations) were adapted into a descriptive list for participants to choose from in the survey.[10,11] The indicators related to *goodness of fit* include: having a sense of shared values and principles, a compatible climate, and a mutually beneficial and committed partnership. *Capacity*-related factors include: effective leadership of partners, having appropriate and influential partners, partners have complementary competencies, and partners have adequate resources to carry out the project. Lastly, indicators of *operations* include: partners have congruent and aligning goals, transparent communication between partners, having conflict resolution processes in place, and having shared, equal power among partners.[11]

Program Readiness

The final question from the survey included a detailed description of the *Faithful Families Eating Smart and Moving More* Program, along with a 'hypothetical' description of what their role would be as a SNAP-Ed agent who was involved with implementing this program. Based on the descriptions given, participants were asked to select whether or not they were interested in working with faith organizations to implement the *Faithful Families* program in their community from the role as a SNAP-Ed agent. This outcome was measured by a response of 'yes', 'no' or 'not sure' to indicate their future interest. Additionally, a text box was provided for participants to share additional feedback related to their reasoning for their selected response.

Data Analysis

Qualitative and quantitative data were collected from both the telephone interview and online survey. For the telephone interviews, qualitative data was collected and recorded using a digital audio recorder and written field notes by the interviewer. Audio files from each participant interview were transcribed verbatim; participant statements were coded into meaning units, and common themes identified. An inductive thematic analysis approach was used to identify emerging patterns and capture how often topics were discussed by participants. Thematic analysis is a common method to organize, categorize and summarize qualitative data in a meaningful way, to identify the most salient ideas and themes emerging from the interviews.[16]

This qualitative analysis approach has demonstrated to be particularly useful in the field of health and psychology research.[17] Additionally, quoted statements from participants were used to elucidate common or meaningful ideas related to a specific theme; such as common barriers faced by agents when attempting to partner with FBOs to deliver health programming.

In the online survey portion of this study, quantitative data was collected and recorded through the Qualtrics© software online survey system. Data were organized and analyzed using IBM SPSS® Statistical Software ((for Mac) [computer program]. Version 24, Armonk, NY: IBM Corp; 2016). Descriptive analyses were used to summarize socio-demographic characteristics of participants, personal affiliation with a faith community and interest in implementing the *Faithful Families* program, as well as to identify the most common important factors to agents when working with FBOs. Descriptive statistics were used to calculate numerical measures of central tendency (mean, mode) and the range as it relates to agent's readiness and comfort level in working with FBOs to deliver health programming (measured using a Likert scale on a scale ranging from "0 to 10").

One-way ANOVA tests were carried out to examine differences between agent's personal religious affiliation and comfort level in working with FBOs, and between agent's previous experience working with faith communities and their comfort level. To determine if there was a difference between agent's personal religious affiliation (Yes/No, Dependent Variable) and their comfort level score ("0 -10" scoring on Likert Scale, Independent Variable) working with FBOs to deliver faith-based health programming, a one-way ANOVA test (with a significance alpha level of <0.05) were conducted. Similarly, to compare differences between *agent's previous experience* working with FBOs (Yes/No, Dependent Variable) and *comfort level* score ("0-10" on Likert Scale, Independent Variable), a one-way ANOVA test using a significance alpha level <0.05 was carried out.

RESULTS

Participant Characteristics

Socio-demographic Characteristics

A maximum of three attempts via email were made to recruit the 14 potential study participants, consisting of current and former Virginia SNAP-Ed agent employees. A total of ten

responded to recruitment emails and agreed to participate. All participants (n=10) completed the telephone interviews and the supplementary online survey. Participants were 100% female, averaged 34.8 years (range: 22 – 56). Seventy percent identified as Caucasian (n=7), 20% African-American (n=2), and 10% Asian (n=1). Eight participants affiliated with a faith community, and 2 reported no religious affiliation. The denominations affiliated participants identified with were all from the Christian faith sector, including: Baptist (n=2), Catholic (n=1), Pentecostal (n=1), non-denominational (n=1), Lutheran (n=1), Methodist (n=1) and other Christian denomination (n=1). Religious involvement varied across affiliated participants, measured by attendance in religious services/meetings: a few times a year (n=4), once/month (n=2), once a week (n=2), and more than once/week (n=1).

Regarding employment, of the ten participants, eight were currently employed as SNAP-Ed agents. The other two participants were previously employed as Nutrition Outreach Instructors (the former title of SNAP-Ed agents), but recently changed positions around the time of the interview to become Family and Consumer Science agents within Cooperative Extension. The length of employment with VCE ranged from 2 months to 20 years; a majority (80%) were employees of VCE for 1.5 years or less at the time of the interview. Regarding previous work experience, most participants had at least some former work experience within VCE (n=8) and nearly all (n=9) had previous community programming work experience. Six agents had experience working with FBOs to deliver programming, three had no FBO experience and one participant had very limited experience working with FBOs.

Partnership and Program Readiness

Overall, the comfort level (scored on a scale of 0 – 10) of surveyed respondents (n=10) to work with any FBO to deliver health programming averaged 7.5 (range = 4 – 10; mode = 9). When asked to rate their comfort level working with FBOs to deliver health programming from the faith sector *they identify with*, affiliated respondents (n=8) mean score was 8.9 (range = 5 – 10; mode = 10). And when asked to rate their comfort level working with FBOs from *any faith sector* to deliver health programming, affiliated respondents scored slightly lower, with an average score of 8.3 (range = 6 – 10; mode = 9). When asked to share her reasoning for the score given, one religiously affiliated participant described a limited 'interaction with Jewish and Muslim' faith affiliations contributed to her feeling less comfortable (compared to working with

her personally affiliated faith sector). Across religiously affiliated participants, all but one indicated a lower readiness score regarding working with all faith sectors, compared to the sector they identify with. Compared to religiously affiliated participants, those unaffiliated with a faith sector (n=2) scored themselves as significantly less comfortable (mean = 4.5; range = 4 – 5, standard deviation = .707) towards working with any faith sector to deliver health programming. A one-way ANOVA revealed a statistically significant difference between agent's average comfort level score and personal faith affiliation (p=0.005; 95% confidence interval (CI)). Additional one-way ANOVA tests revealed no statistically significant differences (alpha level <.05) when comparing agent's mean comfort level score and having former FBO experiences (p=0.136), or when comparing agent's comfort level score and having former community programming experiences (p=0.052).

When asked about their interest in working with FBOs in their community to implement the FFESMM program in the online survey, eight respondents expressed definite interest and two indicated they were "not sure." In addition to a "yes," "no," or "not sure" response selection, participants were prompted to share details regarding their selection choice. The quotes below highlight some meaningful responses from those who expressed interest in the program.

> *"I am interested in working with a faith community using the [FFESMM] curriculum to see the impact it truly has on the faith base community, while assisting them with creating healthy policy change in their organization."*

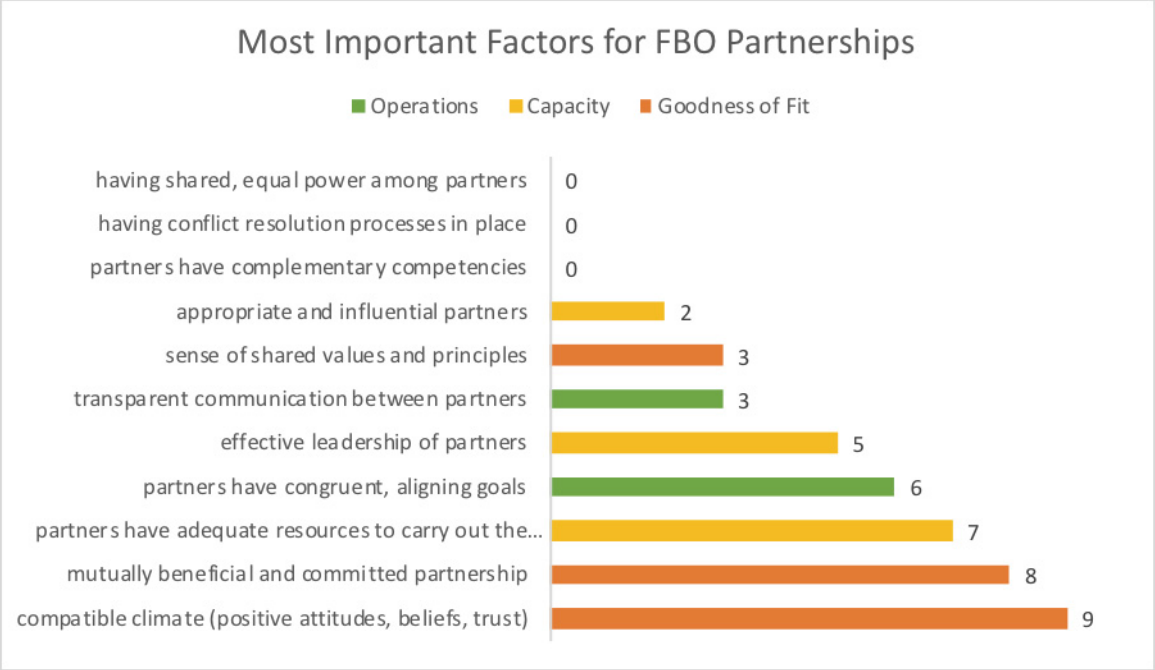
> *"I am currently working with a program assistant to get [FFESMM] into churches. However, I am more comfortable with having her teach the lessons than myself. Our plan is for me to help the faith leaders create the wellness policy and have [the program assistant] do the education piece and assist her as needed."*

> *"I have the curriculum [and] think some of the scriptures may need to be tailored to what biblical version or context the denomination may use."*

The following quote was shared by one of the participants who indicated some uncertainty in working with FBOs to implement FFESMM program in her community:

> *"My problem is identifying faith communities that have a high enough low-income membership and where faith leaders are willing to help identify or target those individuals. The program itself is great."*

As mentioned previously, the CBPR Partnership Readiness Model was used to identify the most salient factors influencing agent's readiness to engage in academic/community partnerships. When asked to select up to five (5) factors most important to them when engaging in FBO partnerships to deliver health programming, the factors relative to the dimension of goodness of fit were selected most often (46.5%), followed by capacity-related factors (32.6%), and operations (20.9%) lastly. The top five most important indicators selected by agents for partnering with FBOs to deliver health programming included: a compatible climate, mutually beneficial partnership, adequate resources, effective leadership and aligned goals. A complete frequency distribution of indicators identified by agents is graphically represented below.



Qualitative Interview Findings

After meaning units (meaningful participant statements) were coded, common themes and sub-themes began to emerge relative to the CBPR readiness model. Specifically, positive assets/characteristics, common barriers and strategies as they related to partnership antecedents/formation, and the three dimensions from the CBPR partnership readiness model emerged. Additionally, details regarding agent's former experiences and future interest working with FBOs were described. Themes and sub-themes identified from qualitative interview data were organized into six main categories: (1) agent's former experiences working with FBOs, (2) partnership antecedents, (3) goodness of fit, (4) capacity, (5) operations, and (6) future FBO partnership opportunities. For each main category, specific themes and subthemes are described.

Tables are provided to depict themes, sub-themes and notable participant quotes for four of the six main categories; agent's past experiences and future interests working with FBOs are described in a paragraph format.

Past Experiences Working with FBOs

Agents shared former involvement working with FBOs at varying levels and capacities within and outside of VCE. A common role described by agents was delivering nutrition education classes at a church or church event, as well as training volunteers and educators to deliver curricula at the church. The type of volunteers trained to deliver curricula ranged from lay community church members, to church childcare educators, and church high-schoolers who were trained to deliver a nutrition education program to young children/youth groups. Other roles discussed included: a community liaison who recruited churches to start/share community garden space used for underserved children attending a summer camp, partnering with churches to conduct semi-annual health fairs, integrating physical activity (boot camp) sessions during church youth summer camps and with small groups of adults at a church, and sharing various educational resources, handouts and/or curricula with churches. One participant shared how she integrated a nutrition education curriculum into an existing church youth outreach program as a way to make the church's youth night program more attractive to high-schoolers, and still be able to include the spiritual messages during the lessons.

> *"[The Teen Cuisine curriculum I delivered within the youth outreach night program at a church] was kind of like a Sunday school lesson […] it was definitely faith-based, I would say. We had a curriculum but yet, I mean, [the church] had some say in how we did the program and how it was presented."*

Partnership Antecedents

Three major themes identified within the partnership antecedents' category, including: (1) agent-FBO partnership formation catalysts, (2) barriers impeding partnership formation, and (3) strategies for successful partnership initiation (Table 3.1). Networking in various ways was the most commonly described catalyst for FBO partnership formation. Some agents who were new to their job/area described networking with local program assistants (PAs) as well as other current and former VCE employees in their area to identify community needs and stakeholders from churches that were interested in partnering with the agent. Two agents received referrals to

specific churches from a local PA and a former SNAP-Ed agent. Alternatively, two agents described initiating partnerships through cold-calling churches, some that were specifically located in a known low-income area.

Table 3.1 Themes, subthemes and quotes related to partnership antecedents.

CATALYSTS FOR AGENT-FBO PARTNERSHIP FORMATION	
SUB-THEME	PARTICIPANT QUOTES
Networking & Referrals: community events, interfaith food pantries, other agents, PAs, and current/former FBO partners	*"[My mentor] steered me in the right direction as to what churches might have some type of [health] ministry or ones that might be interested in working [with me]."*
Cold-calling: phone and letters to local churches	*"…cold calling [and] sending out information, like a newsletter letting [churches] know who I was, what I could provide, and how [their gardening program] was going to be a community effort, [were ways that we began former FBO partnerships]*
Invited by a church or faith-based health coalition	*"[I was invited to join a coalition that wanted] someone to do wellness policy initiative [with churches] and nobody's really been able to devote the time to it that's been needed … so I told the coalition that I could help lead [the church wellness policy initiatives]."*
BARRIERS IMPEDING PARTNERSHIP FORMATION	
SUBTHEME	PARTICIPANT QUOTES
Finding a qualifying low-income church on front end	*"That's the tricky part …when I actually bring in a curriculum, I would have to make sure that 50% or more [of participants meet low-income eligibility criteria] before I taught it. So I guess I would have to evaluate before I went in [to a church]."* *"Until you were [at the church] and did the entry forms that ask about [participants] income, is when you really find out if [participants] qualified or not [for a free SNAP-Ed program]."*
Networking as an outsider	*"It's a very tight knit community and I'm not from the area…so as an outsider it's kind of hard to get my foot in the door with networking. If I just walked in, I would anticipate some resistance [from churches]."*
FBO uninterested in nutrition education	*"Not making it a function/desire that they (FBOs) necessarily need nutrition education or health programming [offered to them by SNAP-Ed agent]."*
STRATEGIES FOR SUCCESSFUL PARTNERSHIP FORMATION	
SUB-THEME	PARTICIPANT QUOTES
Discretely identifying low-income qualifying FBO	*"Even if a church is located in a low-income area, people go to churches from all over everywhere. It's not like a school [where they get] kids just from 'that' area. With the church [you] don't know…so you just have to be a little bit more sensitive about [identifying a church as low-income]."*
Team up with PA to meet with local pastors	*"We (agent and PA) reach out and meet with the pastors together and tell them what we have to offer [nutrition education from the PA and wellness policy changes from SNAP-Ed agent]. Maybe the church will say 'we don't want policy but we want nutrition education' or 'we don't want the education but we want the policy.' So hopefully [churches] will be interested in both things we have to offer."*

Attend church services, events hosted by FBOs or ecumenical ministries to meet pastors and stakeholders	*"Finding events in the community that [churches] sponsor and checking out the events. …Then, meeting the different people there [from a local church] and passing your card along, see if they have one as well and then contact them later…you're not going to the actual church, you're going to the event where other people [from church's outreach ministry] are present."*
Identify church needs first, then find ways to fill needs	*"Sometimes different churches have different times [of the year] that they might ask for something, so I would try to find out what they're needing and wanting [related to nutrition education], and go from there."*
Networking with local organizations and resource council meetings	*"A lot of connections made in the community have been through resource councils – each county has one and so it's a great way to share resources…A lot of times you do have local churches partnering, anyone basically in that county, that's looking for resources or volunteers, or looking to learn what's out there [going on in the community]."*
Partner with Christian food banks	*"Partner with some food banks in the area because they do tend to be Christian-based. … reach out to them, see how it would be best to recruit or find a faith-based community that would like [SNAP-Ed] programming."*

Goodness of Fit

A well-fitting partnership is influenced by the values, climate, past histories, and commitment of partners for pursuing a project together.[10] Several barriers were identified that could influence the fit of a program in general, such as challenges for agents to work within the time frames of FBO partners, like getting a program started in a timely manner, having available leaders at FBOs that want to commit their time and energy into promoting a program within their congregation. Another program-related barrier identified was that several churches expressed interest in a nutrition education program, however, they prefer to have the agent deliver the educational sessions, rather than having a lay leader trained from the church to deliver a curriculum; as one agent described that "is where [agents] probably find the most resistance" from churches wanting a specific program. Alternatively, agents might encounter pushback from congregants to implement healthy policy changes at a church, despite the leaderships interest in pursuing those changes. Setting up a Memorandum of Understanding (MOU) at the start of a partnership was a key strategy identified by two participants that would help to improve the fit of partners and overcome some basic barriers related to carrying out a program. A useful MOU would describe the roles and responsibilities of agent-FBO partners, articulate which resources would be provided by each partner, outline the schedule/timing for a program to be delivered, and describe any program adaptations to fit the setting and faith needs of a FBO.

Another area influencing the fit of agent-FBO partnerships relates to the awareness of and differences in cultural and religious practices/beliefs. From one perspective, an agent's unfamiliarity of cultural and religious traditions surrounding the spiritual beliefs and food habits of a given faith community might make them feel uncomfortable. Alternatively, due to SNAP-Ed agent's being funded by the government, FBOs might be reluctant to feel comfortable partnering with agents. Below are a couple perspectives from participants regarding these topics:

> *"I think it is difficult to keep that whole 'separation of church and state' kind of thing to be able to maintain the partnership. But, for the most part, if [FBOs] do something and you do not want to partake in it, like if they do a prayer or something and I didn't want to participate they don't force you to. But they do encourage you to kind of participate in what they do. ... I'm always kind of conflicted; do I have my work hat on, or do I have my personal hat on."*

> *"If you are not from that denomination, it can be sometimes intimidating because you don't know everything they do. Like during mass, you don't know all the steps or the things a Catholic church has during [mass], so I think it can make some people vulnerable and maybe challenge some of the things they might think, or challenge some of their personal beliefs."*

Cultural awareness and sensitivity was a topic touched on by all participants in various ways. A common barrier for agents was being unfamiliar of the beliefs, food or cultural practices surrounding different faith sectors, which made them hesitant to heavily pursue FBO partnerships. Additionally, a lack of available curricula that have been tailored for a faith sectors can be a barrier for agents because they feel as though some programs may not be as attractive to some faith settings due to them lacking any type of spiritual/religious themes in the content of the curriculum.

One agent described the importance of leveraging the positive assets church settings and faith tenants to align with making healthful behavior changes, such as how churches act as strong support groups for congregants, and the religious tenants of taking care of a person's mind, body and spirit are useful assets and tools for agents to consider when trying to build program interest from congregants in a way that is relevant and meaningful to FBO populations. Having curricula available that are tailored to the cultural and religious beliefs/practices of a faith sector was identified as a strategy to make agents more comfortable to pursue FBO partnerships. Additionally, several agents stressed the importance of building close relationships with key leaders and congregants from a church to improve buy-in and gain interest from congregants,

especially when/if an agent is facing pushback to implement healthy policy changes. Key church stakeholders can help agents to strategize ideas for implementing healthy changes in ways that are more meaningful and would help to gain greater buy-in from a congregation.

Table 3.2 Themes, subthemes and quotes related to goodness of fit.

BARRIERS IMPACTING GOODNESS OF FIT	
SUB-THEME	PARTICIPANT QUOTE
Timing of project does not always align with FBO partners timing	*"[As an agent], you want the faith community to work with you but sometimes you may not give the right amount of notification. Or you want something to be completed or something to be started, but you still have to realize you have to work out the kinks in the particular project and that everything may not go smooth sailing."*
Potential for partners to have conflicting beliefs, or perspectives	*"[as an agent], a lot of times you have to imbed yourself in the [faith] group somewhat and sometimes some [religious beliefs or practices] might conflict with my own perspectives or where I work for a state agency, you know, they may conflict in some senses that way."*
Agent unfamiliarity with cultural or religious practices	*"I also just don't want to make any assumptions about their religion or their eating habits based on what I see through media, or what I know or believe I know, because I may not know exactly what their dietary restrictions are and things like that."*
Finding interested FBOs, but do not meet low-income qualifying criteria	*"Because I'm SNAP-Ed, the church would have to be considered low-income, low-resource population, which has made [partnering with churches] a bit harder. There's some churches here […] that will be interested [in doing the FFESMM program], […] but they don't necessarily qualify because their members might not be in that low-income demographic."*
Program not a good fit for church – prefers agent versus training lay leader to deliver a program	*"[The FFESMM program] requires a representative from the actual church to be the leader of it, and that part is where [agents] probably find the most resistance. … there has to be that person from the actual church to kind of step up [and get trained to deliver the program], so that's the part where it's a big a challenge to find."*
Program not a good fit for church – congregation is uninterested in healthy policy changes	*"I've tried to implement [healthy food changes], but it can be challenging because you've got a lot of factors [and pushback from congregants to make healthy food changes] going on within the church, a lot of strong opinions, so I haven't quite had an opportunity to do that."*
POSITIVE ASSETS & CHARACTERISTICS DESCRIBED BY AGENT	
SUB-THEME	PARTICIPANT QUOTE
Compatible climate and relationships that foster mutual learning & trust	*"the biggest strength was building those relationships, and how the [partnership/gardening program] was able to teach all [partners involved] — how we were building the community partnership, how we were educating people in the community about growing their own foods, and [all learning] ways to stop hunger within a community.*
Partners have shared interests and goals strengthens community	*"everybody had similar interests and goals [to be active, which made the partnership fit well]"*

Mutually beneficial when program can align with religious beliefs	*"…the religious belief is taking care of the body literally and figuratively and so [the church] thought [the nutrition education program] was a good fit with that part."*
FBOs acting as existing support groups for their community members	*"…when you have your reverend, your pastor and your friends at these churches also making healthier decisions, you have a support group — an already existing support group; so it's really just capitalizing on that group that's already in existence, a group of people they already trust."*
STRATEGIES FOR SUCCESSFUL FIT OF PARTNERSHIP	
SUB-THEME	PARTICIPANT QUOTE
Establish a memorandum of understanding with roles, responsibilities and program adaptations	*"setting up a memorandum of understanding to let them know what we will be responsible and what [the church partners] will be responsible for… to be able to collaborate and to keep minimum confusion down."*
Partner with champions from FBO before initiating program to gain better acceptance/interest from congregation	*"Partner with someone in the group who is [the church's] community spokesperson – they are part of the church but they are also the person that attends all [the church's] other meetings in the community…. They give an agent the eye in the church and then that allows the rest of the congregation accept why we (agents) are there as well."*
Build personal relationships with FBO partners	*"Personal friendship …and building relationships with the people that are in charge of the program [at the church]"*
Have a presence at FBO outside of just doing a program; (attend church events, help with church health ministry or food pantry needs)	*"when working with faith communities, sometimes there has to be a give and take relationship. … So you may not get everything you want with a partner within the normal 8 to 5 business hours, but you have to let your presence be known and let them know that you're interested in working with them."*
Being respectful of FBOs time, goals, and needs beyond the program	*"[Churches] today have so many things going on – like women's groups and youth groups. And, you know, their main goal is faith, their [faith] message and their agenda. So, [agents] have to make sure that [they] are respectful to the [church's] time and what they need and what their main goal is; and then you try to fit in [the program] you're doing as well but do it in a respectful manner."*
Build relationships with FBOs based on trust and respect	*"as far as programming and going out and making [FBO] partnerships and collaborations, you've got to have [a trusting and respectful relationship with your clientele]. You've got to build a relationship. You've got to have a trust factor.*
Be sensitive when discussing & identifying a church as predominantly low-income when initiating partnership	*"When you do have an opportunity to work with the [low-income target] population [at a church], find a discreet way to get that qualifying information… when you say low income sometimes some red flags come up because some folks, I mean unless it's a minister who already knows that a large part of his congregation is low income, there's a little bit of resistance, because they may not feel that they have a large population that's low income."*

The characteristics relative to goodness of fit have been described as the building blocks for the "dating phase" of a partnership. During this phase, partners learn about: one other's shared values, the compatibility of their attitudes and beliefs about a project, and whether or not they share a mutual interest and commitment to carry out a project.[10,11] Agents identified several practical strategies that could be utilized to improve the fit of agent-FBO partnerships, which could in turn grow into a more formal relationship where partners are "going steady."[11] Having strong building blocks in a good fitting partnership could in turn help to improve the partners capacity to carry out a program.

Capacity

Capacity refers to the ability and capability of partners, organizations and the community to carry out and sustain a program; this dimension is indicated by effective leadership, inclusive membership, having complementary skills and adequate resources to carry out a project.[10] Several salient subthemes across four major themes of capacity (barriers hindering capacity, capacity-related strengths of FBOs, strategies to overcome barriers, and agent-identified resources to build capacity) were identified from the interviews.

When agents deliver a nutrition education program, they are limited by the amount of contact they can have with the same group of participants. So, for example, if an agent partnered with a low-income school to do a nutrition education program with a group of second graders, the population of students would change each year which makes it an easy setting for a sustainable partnership and program for an agent. Alternatively, with faith settings, the populations typically do not change drastically from year to year. This population barrier limits an agent's ability to maintain a program and hinders capacity. One agent described this barrier and some ideas on how to overcome it when working with FBO settings:

> *"You know, with schools you have another group of students each year [which is an easy way to sustain an ongoing partnership/program], but with faith-based communities, sometimes it may be the same population. [One solution with faith communities] may be that the first time we can work with the adults, and the second time we can have a volunteer working with the youth. But still being able to get that nutrition education message out [in new ways and with new populations over time], to keep that ongoing partnership [with FBOs]."*

Table 3.3 Themes, subthemes and quotes related to capacity.

BARRIERS HINDERING CAPACITY

SUB-THEME	PARTICIPANT QUOTE
Finding lay leader to train and deliver curriculum	*"I think finding folks in the faith-based community [who are interested in being trained to lead nutrition education sessions] who also have a passion, interest, or knowledge somewhat in regard to nutrition and fitness I think is going to be a little bit of a challenge."*
Ineffective leadership at community or FBO levels to keep momentum for a program	*"a lack of leadership [has been a challenge for our community coalition] … a reverend [in the coalition] got a lot of churches who were interested in making healthy policy changes, and he was promoting it to churches but then no one made it happen. It wasn't anyone's full time job to follow up with these churches and [the policy change project idea] just got left behind. So nobody ever followed up and it really just fizzled out."*
High staff turnover	*"We have a good team [partnership to implement policy changes in FBOs], but you never know…there's sometimes high turnover here with employees, so I think that also hurts things like coalitions [and community-FBO partnerships] because people join and then they leave and nothing really gets done."*
Challenge to find ways to have ongoing program opportunities at FBOs	*And with sustaining that [FBO] partnership, sometimes you have to stay current…so with the information I'm giving [a participating FBO] this year, I have to find a way to have some type of 'part two' or some type of way to allow [participants] to still be interested in the nutrition education programs that we do have. … "that's one thing you have to understand with a lot of our partners or volunteers helping with our program, [it's a challenge to find new ways for keeping relationships going with FBOs after the initial program is over].*
Lack of resources in multiple languages	*"Particularly in [my] region there's a lot of diversity up here. I think language is going to become a barrier because we don't always have materials printed and scanned in other languages [participants] are more comfortable with."*
FBO PARTNER & SETTING ASSETS	
SUB-THEME	PARTICIPANT QUOTE
Church childcare center settings are resources that can help improve capacity	*"Most of the time these church [childcare center] programs are pretty dependable. I mean they're not going to pop up, be around and then the next year they're going to be gone. I mean most of them are pretty consistent in creating a child care center and sustaining it. They like having our resources because it's no cost to them."*
FBO partners have unique relationship-building abilities and competencies to the table	*"One of the benefits of the faith community is relationships. They have a powerful ability to develop relationships and do things that are not necessarily in a dedicated time period but that can evolve and grow and really help [the community]."*
FBOs enjoy free curricula & resources that agents have to offer	*"[FBO childcare settings] like having our [nutrition education] resources because it's no cost to them [if they qualify as low-income population]. So that helps them to put their money into other projects that they have, or into other needs."*
STRATEGIES TO HELP BUILD CAPACITY	
SUB-THEME	PARTICIPANT QUOTE
Enthusiastic FBO leader to improve program buy-in	*"Having a good relationship with each individual pastor because once the pastor kind of says to the congregation "we're going to do this [nutrition education] program" then they're a lot more willing to participate. If it was just me going in and the pastor wasn't really all that interested then the congregation might not*

	be, you know, all that enthusiastic about it. But if the pastor is really enthusiastic about it then it's more likely to be successful."
Getting appropriate & influential program partners at FBOs to lead and sustain a project	*"If we can get volunteers [from the church] that are really excited and interested in teaching [a program] themselves, and they feel confident about it… that would be a great fit. Because they're known by the local community, with the local church, they might have an easier way getting in and making an impact on their peers or people that they see all the time [at church], if that makes sense. They might make more on an impact if people know them in the area."*
Having an open-door policy to provide services and resources that best fit the needs of FBO partners	*"Always have an open-door policy [with FBO partners]. So if there's something [the FBO] needs from us [agents], like if they don't have or understand a particular topic, or want a different way [to teach a topic] to their population; have that open door policy. …That doesn't cost us anything to be able to give them new ideas or assist them if they might not be comfortable teaching that particular topic."*
Flexibility in adapting curriculum to align with food culture of FBOs	*"I think in most of our nutrition curricula there is a food demonstration or a food tasting, so it would be good to pair that with [when churches] have a Sunday brunch, or full church dinner or another kind of religious dinner. It would be good to, tailor [some program parts] to that."*
Creating user-friendly documents for FBOs	*"Try to create documents that are really easy and user friendly for [FBOs] to create the [healthy] policies, so that it doesn't feel like a lot more work [for them to do]."*
Leveraging inter-agency partnerships within VCE	*"With gardening projects, definitely pulling on the expertise and partnering with the master gardeners and additional training involved with sustainability [of gardens]. A lot of people want to get gun-ho about doing a garden but they need a decision as to who's taking care of the garden, knowing what to plant and when [to plant it]."* *"The program assistants actually go out and teach the different curricula, so we are encouraged to partner [with PAs] when it comes to the Faithful Families Program; because it's more of their job to go out and teach [whereas direct education makes up half of my job]. That's one resource right there."*
AGENT-IDENTIFIED RESOURCES NEEDED TO HELP BUILD CAPACITY	
SUB-THEME	PARTICIPANT QUOTE
Funding for extra resources or equipment to improve cooking experiences if FBOs do not have kitchen space	*"With funding, sometimes providing the training experience, being that we are using the 'train the trainer' approach. So for instance, if I'm training the trainee that will be teaching the program, allow the same resources so that the [FBO] members that are attending the particular nutrition education program, allow them to get that ultimate experience. If we're cooking and that particular church may not have the kitchen to do that, find some way of funding or some funding available for them [to partake in the same hands-on kitchen cooking experience].*
Variety and availability of curricula	*"I think there needs to be more [faith-based] curriculum available to us. We just have one [curriculum]…I've heard about it, but we [agents] only have so many copies so I don't have a copy. I have no idea if it's just all nutrition focused or if it has any fitness-based aspects in it as well. So I think [having more curricula available to us] is definitely something that needs to happen."*
Bilingual volunteers to deliver programs for non-English audience	*"If there was a way to have our [curriculum] materials translated [for people who don't speak or read English very well] that would be very, very helpful."*

with translated written materials/resources	*"I'm always looking for Spanish speaking volunteers…So additional resources that would help with various populations that don't speak English would be [helpful] or even limited English would be helpful."*
Toolkit/framework for adapting program to fit various faith sectors and denominations	*"Having a framework, not necessarily a curriculum, but a framework that could pair with our curriculum that may have like a biblical verse or that go with [the nutrition education topic] we're talking about [from a lesson]. A lot of my teachers and groups, they like what I call 'a lesson in a box.' [the curriculum] is all in there for them to do it. … [Teachers] want you to give them all the resources so they don't have to seek it out on their own.*
Ongoing/long-term program incentives for FBOs	*"Incentives are always great. We don't have anything that we're giving [churches] besides our free services. I think [our PA has] certain things (incentives) she gives out when she does the lessons. …but definitely more incentives [for SNAP-ed agents]; not so much to get them on board, but to make them feel valued for being a participant."*
Agent training on navigating FBO partnerships and cultural sensitivity	*"It would be good to potentially do an agent training on, you know, how we do work, reach out to these [faith-based] groups and what are the challenges and some of the ways we can overcome those challenges from the state perspective as well." I know Virginia as a whole as well as Virginia Cooperative Extension are very big on diversity training and inclusion, and it would be good not only to just talk about how we overcome some of [the challenges] as an agency working with faith-based groups, but kind of a cultural sensitivity to the different faith-based groups that we could potentially work with. Like, some of the different food practices – if you don't eat pork or you don't eat pork-based products, you know, that kind of thing we would need to know [to be more culturally sensitive working with faith communities]."*

All participants described some aspect regarding the importance and usefulness of having a lay person trained from a participating FBO to deliver some or most of a nutrition education program/curriculum. This train-the-trainer approach is utilized by agents as a way for promoting reach. This constituent-involving sociocultural strategy is also a useful way to make a program more culturally appropriate and relevant for populations served by FBOs. One participant described how having a volunteer delivering the program would help overcome some of her own personal barriers as a facilitator:

> *"I definitely think it would be a challenge if it were myself to deliver faith-based curriculum just simply because – well, I guess we would need to know what our boundaries are as a facilitator. But I think it would be in our best interest to find somebody already within the church to deliver the curriculum and that way we don't necessarily have to worry about us looking like we're pushing down values or beliefs upon other people."*

Another participant shared input from her former experiences working with a church, and highlighted some valuable complementary competencies that benefited a nutrition education program she was involved with. FBO partners often have a strong ability for building

relationships with their community (beyond their congregation), an asset that can help to improve long-term growth, evolution and sustainability for a program.

> *"When we have programs we have a beginning, we have an end, and we're pretty systematic about how we deliver that program which is great. That's what we do… But I think one of the benefits of the faith community is relationships. They have a powerful ability to develop relationships and do things that are not necessarily in a dedicated time period but that can evolve and grow and really help [the community]. I mean not that we can't do some of that stuff; but I know when I was doing a youth project and the church would come, we wouldn't even look at the clock. We would just be enjoying [our time together]. The kids would be enjoying what they were doing. There's a benefit to having that [quality from FBO partners]. I think it's important to receive that when you partner with churches is that there are times when their time frame might be a little bit different from what we have or they may develop some relationships with the folks that they're serving beyond the program and that's not a bad thing."*

Operations

According to the CBPR readiness model, 'operations' is defined as the operating structures and processes for a partnership to carry out a project, and indicated by: congruent goals, transparent communication, conflict resolution and equal power. This dimension was not discussed as often by participants; however, a few salient themes were identified that helped or hindered operations. The topic of conflict resolution was specifically brought up by any participants, but the use of a Memorandum of Understanding was identified as a helpful tool for promoting transparency, establishing roles and goals for a partnership. Primary barriers identified by agent relate to getting data and paperwork reported and completed back to the agent in a timely manner.

Table 3.4 Themes, subthemes and quotes related to partnership operations.

BARRIERS IMPEDING OPERATIONS	
SUB-THEME	PARTICIPANT QUOTE
Getting data reported in timely manner	*"The downside [working with some FBOs] is sometimes they're a little bit challenged to report back to me the participant demographics and the data. Sometimes I really have to kind of get on [FBO partners] about that. But they're not used to reporting data necessarily as a DSS office or a school would be with [a program], so I get that."*
Paperwork before, during and after a program	*"The paperwork that we have to get for proof [of low-income SNAP-Ed eligibility]. Just in general, the paperwork. The volunteers have to fill out a registration form, we got to get the demographics, just a little bit of paperwork before we can actually go in and do things or provide them our curriculum. Getting agreements, getting the MOUs, the agreement between you and the [faith] organization that it's okay that I'm coming in there to help and providing the materials. I mean it's just a little bit of a nuisance having to get all the paperwork back and have them keep up if they decide to teach the curriculum and having them report back and being consistent about it."*

FBO/Community partners less interested in surveys & measuring outcomes	*"I brought [a church health environment] survey to the coalition/workgroup to see what they thought about using that [to assess environmental changes]. I wanted to try and collect some data pre and post while we were doing [policy changes] — and the other people in the workgroup were pretty intimidated by the length of the assessments. And even though I suggested cutting it down a little bit and creating a very short assessment, the workgroup still was pretty turned off by the idea and just didn't think it would go well to try to come in [to churches] and do the survey. So, we did end up nixing that."*
No tools for agents to assess policy change outcomes	*"We're not really measuring [policy and environmental change] outcomes [at FBOs] per se; maybe just observational data at this point. But that is something I wish we could do."*
STRATEGIES & ASSETS TO HELP OPERATIONS	
SUB-THEME	PARTICIPANT QUOTE
Transparency articulating agent's roles and responsibilities	*"I think the main thing is, because [agents] are restricted on what we can do in the beginning [before we can identify a church as low-income], you just want to form that relationship with organizations and establish some rapport. So, I think in the beginning it's important to do what you can to develop that relationship and then kind of remind them what our responsibility is as a SNAP-Ed agent and what we can do for them in the future."*
Partnering with FBOs that have a health ministry	*"Some of the larger churches…they have health ministries, [which are useful for partnering and coordinating activities].*

Future FBO Partnership Opportunities and Interest

All participants described future interest in working with FBOs with varying degrees of opportunities available to them. Additionally, all SNAP-Ed agents expressed interest in training others to deliver nutrition education curricula in FBOs. A few agents shared that their primary interests in working with FBOs is focused on creating healthy policy changes in faith communities. However, realistically their role working with FBOs would likely be more fluid, in order to cater to their specific needs and interests, as described by one participant.

> *"I'm here as a resource for the different community members; if they want something, I hope I can help them make it happen. And if I can't do it directly, like if they want someone to do cooking demos, I could find some local people, local chefs or something who would donate their time and to help train them to do stuff using our curriculum. So, if they want resources, if they want incentives, I can try to work with them to get that stuff. If they want different educational materials or different programs, I'm sure I can come up with something for them. Right now, my plan is to first and foremost work with [FBOs] to develop a policy and they can implement it and enforce it. You know, I'm not there to check up on them and make sure they're doing it, but to be there more or less for a resource if they say "hey I want to create a tobacco free campus, but that's not working out so well, so do you have any resources" — and then connect them with people from*

the health department or something. …So more just being a guide for whatever they want to do and kind of let them lead the way and tailor it to their needs."

Another participant described a new partnership of hers with an ecumenical ministry group, and how she is starting to work with them in various capacities to help with developing programs and food share opportunities for needy populations in her area. The future interest she has is more closely tied to activities with the ecumenical group, but has potential to grow based on the groups needs and interests.

I have a larger project with [an ecumenical ministries community coalition] group of about twelve different churches of all different denominations from Christian to Baptist, Methodist, Lutheran, and they work together to do backpack programs for kids. They have a soup kitchen/pantry and then we're working with them to do a summer school program. … I'm potentially looking at an idea, they were talking about starting a community food share [project], so I'm [working on identifying extra food from campuses that could be used for] a food sharing ministry program. …When I got to [the coalition] meetings I wasn't sure where my role fit in because when I first go they say a prayer and then they talk about the community outreach that they're doing and then we finish up with scripture and prayer. So it's more of their outreach ministry, I guess, but it definitely does have a whole religious component that's around it; but the people they help, not all of them are within their church. It can be anyone in the community so they open their ministry up to anyone who needs; you do not have to be a member of any of the particular church.

A few participants described a main goal of theirs at the time of the interviews was to focus their time on networking to identify eligible churches who would qualify for free nutrition education programming, like the Faithful Families program. One participant described interest and challenges she is trying to overcome during this process.

"We have the Faithful Families curriculum and so they want us to go out and try to work with the different churches [to implement it]. So basically, what I've been doing with that is kind of getting a good feel for [finding] churches that would qualify. Because I'm SNAP-Ed, the church would have to be considered a low-income, low-resource population, which has made things a bit harder. There's some churches here that will be interested and they have health-related ministries but they don't necessarily qualify because their members might not be in that low-income demographic."

In terms of other program interests, agents were interested in training preschool teachers to deliver the LEAP curriculum into church childcare centers, integrating faith-based nutrition education program into a weekly bible study at a church, partnering with master gardeners to implement a garden curriculum at FBOs, and implementing a bilingual adaptation of the Eat

Smart, Move More curriculum for families who speak English as their second language. Below highlight some notable participant quotes about some of their population and program interests.

> *"A lot of our Head Starts are Pre-K kids that have settings within the churches and so I'm just learning about that now. I'm actually in the process of reaching out to them so that [I] can train the teachers on our LEAP curriculum through the Pre-K. So that's also a partnership we work with, day cares that are within the churches."*

> *"[My pastor friend] runs a Bible study group every Wednesday and I could see our faith-based nutrition curriculum being a perfect fit for that, especially because he is also a personal trainer. …He's a pastor and a personal trainer so it's a really good fit for him to deliver something like that [in his church]."*

> *"We've been doing some work with farmers markets. In a couple of areas they're really promoting the community gardens as well and there seems to be a rise in the number of churches that are involving themselves in these community gardens, with the idea that they're going to support some of their local pantries. In [one county] they were actually connecting churches with the master gardeners [from] Extension, because the master gardeners can provide [churches] with some expertise in growing and sustaining these community gardens. I've done a little bit more work in the farmers' market side; but I have a feeling at some point I'll be getting into the garden piece as well – that's a great relationship with the faith community."*

> *"We're going to do a program with a Catholic church where I train bilingual people in the church on our Eat Smart Move More curriculum, and then they would in turn [teach] the program in Spanish to the people in the church, the Spanish-speaking congregants."*

DISCUSSION

Findings from this study were used to gain deeper insights about the experiences and interest working with FBOs to deliver health programming from the perspective of SNAP-Ed agents. The most common barrier identified by all agents stems from challenge to identify low-income qualifying populations on the front-end of a program. Other barriers include networking as an outsider, having a potential for conflicting beliefs, a lack of culturally and linguistically appropriate curricula, and agents having a lack of cultural awareness and comfort navigating FBO partnerships from the perspective of a representative of a state agency. The most important factors for FBO partnerships include having a compatible political and social climate (attitudes, beliefs and trust), having a mutually beneficial partnership, having adequate resources to carry out/sustain a project, having effective leadership, and having congruent goals with FBO partners. Findings from statistical analyses supported the first hypothesis that agents having a personal

faith affiliation were more comfortable working with FBOs. Alternatively, results of statistical analyses did not support the second hypothesis, finding no significant difference in agent's comfort level and having previous experience working with FBOs. Despite various faith affiliation and experiences working with FBOs, all participants expressed future interest and partnership opportunities with FBOs.

Study Limitations

Due to the small sample size (n=10), there are limitations in making any definitive inferences about the study population. A large proportion of study participants were relatively young and described themselves as having limited experience working in their role as a SNAP-Ed agent (employed less than 1 year). Additionally, some agents reported that they had recently moved to their area and were still getting to know the people, stakeholders, faith and other community organizations in their localities. These factors may influence their comfort level and/or ability to develop partnerships with FBOs to deliver health programming.

Implications for Practice

Several strategies for developing and strengthening partnerships between SNAP-Ed agents and local faith-based organizations have been identified to inform future initiatives with VCE's Family Nutrition Program. Despite having a wide range of past programming experiences, personal affiliation and levels of involvement with faith communities, in general, agents expressed positive feedback and future interest in working with FBOs to deliver health programming. Findings indicated that factors related to the fitness of FBO partnerships were considered most important by agents (46.5%), followed by capacity-related factors (32.6%), then operations (20.9%). Furthermore, agents identified that having a compatible climate, a mutually beneficial partnership, adequate resources, effective leadership, and partners sharing congruent goals, were identified as the five most important factors for agents to partner with FBOs to deliver health programming.

A good fitting, committed partnership that is built on shared values, beliefs and trust, and benefits all partners involved provides a strong foundation to increase capacity and operations for a partnership to deliver a program. It seems appropriate that factors related to the goodness of fit for a partnership were most important to agents, since the fit of a partnership has the ability to

influence all other dimensions of a partnership. For agents pursuing new partnerships with FBOs and those with limited experience with FBOs, several strategies can be used to help improve the fit of the partnership for a program. First and foremost, a sense of cultural understanding and cultural humility is needed to establish and maintain mutually respectful and dynamic relationships. During the interviews, several agents described hesitation, lack of comfort or knowledge regarding religious or dietary practices of some faith traditions. The process of cultural humility involves self-reflection to learn more about another culture as well as a self-reflection of one's own beliefs and cultural identities.[18] For agents partnering with faith communities, learning about the culture of the faith community, reflecting on their own cultural identity and having a deeper understanding and appreciation for their cultural differences can increase their cultural humility. Asking FBO partners questions about the cultural and religious food practices of their faith would assist agents in better understanding a faith community, create a sense of shared interest in the community beyond the scope of a project, and establish a foundation that fosters mutual learning and trust. Another key strategy for improving the fit of a partnership is for agents to have committed partners at all levels of an FBO who have similar short and long-term goals for a given project. Agents having a deeper knowledge of the FBO setting, culture, people and partners during the initial phase of partnership formation might better equip and mobilize partners to carry out and sustain the project.

When examining the capacity for a partnership to carry out a given project, agents indicated that having adequate resources, effective leadership and inclusion of appropriate and influential members were most important for FBO program initiatives. Finding effective and influential leaders and members from FBOs (which includes the church pastor/leader and trained lay leader) can improve buy-in of a program and increase participation. Several agents identified having a lack of interested members to be trained as a lay leader was a significant barrier hindering capacity. Agents should identify ways to improve initial buy-in for a project and identify appropriate members to carry out the project. For example, having a kickoff event/information session to talk about a program idea, plus a survey/assessment to identify how to best fit a program within the FBO setting that aligns with their interest, schedule and available resources may increase capacity and gain buy in from the congregation. Inclusive membership is not just limited to the FBO setting, it is also appropriate from the perspective of a SNAP-Ed agent. Inter-agency partnerships to leverage existing staff and resources within Virginia

Cooperative Extension should be considered when considering strategies to help build capacity. When appropriate, agents should attempt to partner with program assistants in their area to assist with delivering nutrition education, in addition to master gardeners who can offer assistance for FBOs interested in establishing or planning a community garden to help identify what, when and where to grow fruits and vegetables. From an organizational standpoint, other agent-identified resources for building capacity included additional funding and incentives to help FBOs create healthy policy changes, and training agents on cultural awareness and strategies for reaching, recruiting and partnering with FBOs.

FBOs offer unique and promising avenues for delivering health programming, which comes with its own set of strengths and challenges. This study highlights various avenues agents can use to engage with FBOs to promote health within and across faith communities. Agents identified many FBO setting strengths also highlighted in the literature, such as having strong social ties and networks, and FBO leaders being viewed as trustworthy pillars in the community. Despite these strengths, the biggest challenge for all agents is the inability to identify low-income qualifying FBO settings and populations on the front end. Some agents have been approached by FBOs interested in pursuing nutrition education programming, then were unable to offer them free programming after learning the FBO did not qualify as a low-income setting. FBOs that do not qualify for free SNAP nutrition education programming should still be pursued and explored for their future potential to impact other settings. For example, it is very common for a church to have several partnerships or connections with other churches in/around their community, sometimes referred to as "sister churches." By training and equipping lay leaders from higher income/resource churches to deliver programming, those trained leaders could later partner with their "sister churches" to deliver future iterations of a program, share resources, space or equipment needed to deliver a program, and/or train lay leaders from their sister churches to deliver the same curriculum.

Future opportunities should be pursued to explore program sustainability and dissemination approaches such as these, and how to pursue them within the context of VCE. A workshop/training for agents to discuss how to best identify qualifying FBOs in their areas and how to partner with non-qualifying FBOs would be extremely appropriate and useful for this field. Facilitating a discussion amongst SNAP-Ed agents, program assistants, other extension agents, specialists and higher up leaders within the VCE organization would help to further elicit

strategies to improve these partnerships and connect resources at an organizational level. Additionally, the development of a toolkit or framework that agents (and possibly other academic sectors) could use to help partner with FBOs and adapt programs to fit the religious and cultural beliefs and practices from different faiths should be provided for agents. More formative research and input from stakeholders from VCE and stakeholders representing various faith sectors and faith denominations would be needed to develop this type of toolkit. Overcoming personal barriers related to cultural sensitivity, and organizational barriers reaching FBOs would greatly move this field forward. Pursuing strategies to increase agent's comfort and readiness for engaging with FBOs is key for increasing sustainable FBO partnerships and initiatives across the state of Virginia.

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Chapter 4. Lessons Learned from Faith Community Health Assessments in the New River Valley

ABSTRACT

Background: There is a growing body of evidence highlighting the important role that faith-based organizations (FBOs) can have in improving the health and well-being of communities, especially in regions with limited access to health care and education. Certain characteristics of FBOs make them uniquely equipped to deliver public health education and programming, and to implement healthful policies, systems and environmental changes to positively impact the health and well-being of their community. The goal of this project is to better understand the nutrition and physical activity environment and policies of FBOs in a rural region of Virginia, the New River Valley, to help inform future initiatives and bridge gaps in the research.

Methods: Guided by principles of community-based participatory research, the socio-ecological model, and the Eating Smart and Moving More Planning Guide for Faith Communities, a mixed-methods approach was utilized to: 1) examine the health policies, systems, and environments (PSE) of faith communities using a faith community health assessment, and 2) survey adult congregants to examine nutrition and physical activity (PA) habits and behaviors of adult congregants. Church PSEs and congregant health habits and interests are shared, and multi-level intervention strategies were identified from survey.

Results: Three churches participated in this study (two non-denominational and one Episcopalian church), membership sizes ranged from 200-300 congregants, predominantly (≥92%) non-Hispanic /white. Targeted multi-level FBO health promotion strategies identified included: group activities/walks, prayer, sharing testimonies, pastor role modeling, passive approaches to healthy food guidelines, partnerships with interfaith organizations, working with farmers to obtain donations of extra produce for low-income families, connecting and expanding academic/extension partnerships, and shared use space agreements.

Discussion: Opportunities for adapting faith community and member health surveys should be considered to better reflect the unique cultural, missional, religious and spiritual contextual factors, as they relate to health behaviors and health perceptions of each individual faith community.

INTRODUCTION

There are many levels of factors that contribute to the obesity epidemic in the United States, including individual, social, organizational, community and environmental factors. From an individual perspective, genetic, behavioral, racial and ethnic factors can contribute to obesity-related health disparities. On a broader level, individual behaviors can be influenced by the ways in which people are born, raised, live, work and age. Social and familial networks and support systems, access to affordable health care services, education and job opportunities, organizational structures, and availability of public or governmental resources are all broader-level factors that can contribute to obesity inequalities. Additionally, differences in the geographic, physical or built environment has an effect on obesity status. Geographically speaking, adults living in rural areas experience higher rates of obesity, chronic diseases and higher prevalence of all-cause mortality, compared to adults living in urban areas.[1-4] One study examining the obesity prevalence of adults in rural versus urban areas found that rural residence was significantly associated with higher rates of obesity, even after controlling for age, education, income, race/ethnicity, marital status, diet and physical activity. Furthermore, rural-dwelling participants ate less healthfully, consuming significantly more dietary fat than their urban counterparts.[5] These along with other findings signify a need for targeted approaches to mitigate obesity and its related health effects in rural populations.

The recent growing body of literature highlights the important role that faith-based organizations (FBO) can play in promoting the health and well-being of people in their community and alleviate the burden of obesity, through education and programming efforts, as well as the creation of policies, systems and environments to support and encourage healthy behaviors in these settings.[6] Certain characteristics of FBOs makes them uniquely equipped for these health promotion efforts, including: strong social networks, being a familiar setting in their community, having an organizational structure in place, and having deep rooted values and beliefs that often align with caring for the health and well-being of individuals and communities. Furthermore, FBO leaders are often viewed as strong pillars in their community who act as trustworthy sources of information.[7,8] Multi-level partnerships that collaborate to develop and implement health promotion programs and policies allows a greater opportunity for program results to be sustained when they are implemented into settings, such as FBOs, which already exist and likely will be part of their community for many years.[6,7,9] Several programs have taken

place in FBO settings targeting health behavior changes at individual and organizational levels have demonstrated positive outcomes.[7] However, less is known about how these programs were developed, and to what extent congregants provided input in the development and/or planning the program (if any at all). Little research has been done in rural regions that examines the roles and interests of FBOs relative to health programming opportunities.

A Framework for Addressing Obesity

The Socio-Ecological Model

The socio-ecological model (SEM) considers the complex nature of the factors influencing health behaviors, such as diet and physical activity, and provides a holistic framework for intervention opportunities at multiple levels (e.g., individual, interpersonal, organizational, community, and policy levels) to promote behavior changes.[10,11] This conceptual framework is particularly helpful for identifying factors in one's environment that influence behaviors at various levels, while supporting policy, systems, and environmental (PSE) change in communities. In order to improve the public health impact of interventions, transforming the environments and policies to promote healthy behaviors beyond the individual level must be considered. Policy, systems and environmental changes can be incorporated into settings to improve the access to and availability of healthy eating and physical activity opportunities. Interventions that include these components in addition to the individual behavioral change component can help to promote longer-term and wider reaching sustainable behavior change in its community.[12]

Policy, Systems and Environmental Changes in Faith-Based Settings

Policy, systems, and environmental changes examine the laws, rules, and surroundings that impact one's behaviors, and are used as a way to transform environments to improve the access to and ability for making healthy lifestyle choices easier for communities. PSE efforts are specifically developed and implemented in a sustainable fashion to address unhealthy behaviors, such as smoking, unhealthy food and physical activity habits.[12] Policy and systems changes involve passing a new law, rule or regulation, and/or altering the structures of a system to promote healthy behaviors, such as limiting the amount of sweetened beverages served at church functions, adopting a tobacco free policy, or creating a health ministry within a church that is

responsible for planning and overseeing health-related programming. Environmental changes impact the social and physical environments; creating a community garden, improving the appearance of stairwells, and mapping or clearing walking paths around a church are all examples of environmental changes.

Faith-based nutrition and physical activity programs addressing multiple levels of the socio-ecological model by incorporating PSE changes are more likely to result in lasting behavior change and reach a greater proportion of the population in need.[7,12] Although the field of research related to PSE changes in faith-based settings is fairly new, the few examples found in the literature highlight their potential and success. The Faith, Activity, and Nutrition (FAN) study is a well-known faith-based intervention that targeted organizational and environmental change components at the church-level in addition to a physical activity and healthy eating program targeting individual behavior change. Some notable PSE changes from the FAN study included: incorporating healthy eating messages by the preacher from the pulpit, setting organizational guidelines for healthy foods served at the church, and creating opportunities for congregants to become more physically active in the church setting.[13] The Faithful Families Eating Smart and Moving More program incorporated 1-2 PSE changes in addition to the group-based nutrition education intervention component. Some examples of PSE changes implemented were to mark walking routes around the faith community's parking lot to promote physical activity, and creating a policy to serve fresh fruits and vegetables at all faith community events.[9] The "Prevention Strategies That Work" is a recent example of a mini-grant program developed specifically for FBOs to create and implement PSE changes at the organizational level in six churches across rural southern Georgia. Results from their pre-post surveys indicated that perceived improvements in the nutrition environment of the church post PSE implementation was associated with an increase in healthier foods consumed and greater intentions to use physical activity resources in the church setting.[6] Although these three examples differ slightly in the structure, components and delivery of the interventions, the key aspect to note is that they all led to positive behavior change outcomes relative to food and physical activity habits post implementation of PSE changes.[6,9,14] These and other similar programs highlight the importance and added value for targeting and incorporating PSE changes into faith-based health programming initiatives.[6,8,9,14-19]

Addressing Local Needs and Disparities

As mentioned previously, significant disparities in the prevalence, treatment and prevention of obesity exist in rural communities versus urban.[20-22] Many rural and mixed rural areas of Appalachia region, such as the New River Valley in southwest Virginia, suffer this disproportionate burden of obesity and its related conditions. People living in rural areas have limited access to health care compared to urban or suburban, therefore public health approaches should be considered across a variety of settings and avenues when working towards obesity prevention solutions in these communities. The New River Valley (NRV) region is located in southwest Virginia, part of the Great Appalachian Valley. Home to two large universities within 20 miles from each other, Virginia Tech and Radford University, the NRV serves a large, culturally diverse population of college students and professionals. Despite the benefits of having two universities centrally located in the NRV (e.g., greater access to resources and community outreach programs), there are still pockets plagued with poverty and poor health when compared to other areas of the NRV and the state of Virginia.[23] These areas often lack the resources, money, and access for health care and needs necessary for establishing a healthy community.[23]

Recently, outcomes from a local Community Health Needs Assessment (CHNA) were published; which assessed the health status and health needs of those living in the NRV region, prioritized health concerns, and outlined an implementation strategy targeting feasible strategies to address priority health care needs.[24] Compared to the rest of the state of Virginia and national benchmarks, the NRV ranks poorly on several health-related outcomes. The most troubling priority health concerns include: smoking, **physical inactivity, obesity**, substance abuse, poverty and teen pregnancy. According to the CHNA, surveyed respondents (many were limited income individuals from the community) identified 'overweight/obesity' as one of the three most important health problems in the NRV, signifying a strong community awareness and concern for addressing this health problem locally.[24] In addition to assessing the health care priority needs of the NRV, the CHNA asked respondents for their input on 'what makes a healthy community.' When individuals were asked about their thoughts regarding the *three most important factors for a healthy community*, twenty-six percent of respondents indicated that '**religious or spiritual values**' was one of the most important factors needed to have a healthy community.[24] This point emphasizes the meaningful role spirituality plays in the well-being of

individuals, and highlights the potential assets of including FBOs as strategic partners to help address some of the health concerns in the NRV. Results from the CHNA and the fact that there are approximately 400 active places of worship in the NRV highlights the important role that faith-based organizations (FBOs) can have for improving the health of their congregation and surrounding communities.[25]

Study Purpose and Objectives

The current evidence from the literature combined with the local health issues and needs of the NRV region led to this research project. The purpose of this study is to better understand the nutrition and physical activity environment, policies and congregational support from faith communities in the NRV. The research objectives for assessing the needs of faith communities are to (1) identify the current nutrition and physical activity-related policies and practices of FBOs, and (2) gauge the interest of adult congregants in partaking in future health programming opportunities and/or policy changes within their faith community. Findings have been used to inform future nutrition and physical activity-related programming initiatives between FBOs and local community organizations, such as Virginia Cooperative Extension.

METHODS

Study Design and Procedures

Guided by the principles of Community-based Participatory Research (CBPR)[26] and the Eating Smart and Moving More (ESMM) Planning Guide for Faith Communities toolkit,[27] a mixed-methods research approach was utilized to carry out the following study objectives:

1. Assess the health policies, systems, and environments of faith communities by conducting a faith congregational health assessment (FCA).
2. Assess the diet and physical activity-related health behaviors and interests of the congregation by conducting Member Health and Interest Surveys (MHIS) with adult congregants from participating faith communities.

This project involves the administration of two types of surveys: (1) a Faith Congregation Assessment (FCA) to identify policy and environmental changes that would help promote a healthier church environment, and (2) Member Health and Interest Surveys (MHIS) to determine

the health habits and the most pressing perceived health needs of faith community members. The ESMM toolkit (www.faithfulfamiliesesmm.org) was used to guide the processes involved in this research. Specifically, to help researchers and faith communities identify and adopt policies, environmental (PSE) changes and practices to support healthy eating and physical activity in the FBO setting, using FCA and MHIS surveys.[27] These surveys are recognized as part of a practice-tested faith-based nutrition and physical activity intervention, and have been successfully used to identify and implement PSE changes in over 40 faith communities across North Carolina.[8,9,28-31] From a research standpoint, one major limitation of the ESMM FCA and MHIS tools is that neither of these surveys have been validated. Therefore, these tools were modified to include reliable and valid measures from other sources in the literature. The Faith, Activity and Nutrition program developed a church environmental audit tool, the "Church Environment Checklist", for objectively assessing the eating/physical activity environment of churches; and preliminary reliability testing found it to be a reliable objective tool for researchers to evaluate the behavioral health supports in faith settings. This survey is conducted in person at the FBO by a researcher, it includes a script for data collectors to use while administering, and detailed instructions to encourage consistency across measurements (the original Church Environment Checklist can be found at http://prevention.sph.sc.edu/resources.htm).[32] The tool and script were adapted for the current study to better fit the geographic location and research study goals. Additionally, questions assessing FBO demographics and characteristics pertaining to health and wellness infrastructure, partnerships and programs from the ESMM FCA survey were incorporated into the current study's FCA.

A lack of valid survey questions for assessing the health habits and interests of congregants, specifically related to dietary intake and PA behaviors was mitigated by adapting the ESMM MHIS to include questions from validated tools to measure diet/PA behaviors. Questions from the Rapid Assessment of Physical Activity (RAPA) survey were added to assess the type and average amount of PA; results are used to identify the proportion of people meeting PA recommendations at each participating FBO. Additionally, questions from the Starting the Conversation (STC) survey were used to assess fruit, vegetable and sugary drink intake of congregant participants. Both the RAPA and STC are valid, easy to use tools for use in public health, and the outcome measures are particularly appropriate to guide intervention planning.[33-35] Therefore, the FCA and MHIS described from this point forward refer to the modified surveys

assessing the PSEs and the health behaviors and interests from participating FBOs and their congregants, using reliable and valid measurements.

After recruiting FBOs, the following study procedures were carried out. First, a research team member met with a pastor or leader from the church to discuss study details, and obtain a signed letter of support from the leader on behalf of the FBO which indicated their support and understanding for partaking in two main research components (assist researchers to (1) identify a lay leader to participate in FCA and (2) share MHIS recruitment information with congregants on behalf of the research team), and their understanding of how the FBO is compensated for assisting with the two study components described above. Participating FBOs received up to two (2) $25.00 Kroger grocery store gift cards for participating in this research (one gift card was given for assisting with each of the two study components). A letter of support template for FBOs was developed and modified for each participating FBO (Appendix G).

Second, researchers recruited a lay leader to complete the Faith Community Assessment audit/questionnaire after gaining initial FBO support. After reviewing and obtaining signed informed consent to participate, the lay leader completed the FCA with the researcher in person at the FBO; taking about 40-60 minutes to complete. At this time, the researcher read aloud FCA questions and checklist items for the lay leader participant to answer, while walking around the FBO to visually examine and assess the physical environment. Upon completion of the FCA, the church received a $25 Kroger gift card. The third step involved coordinating a time/location for researchers to recruit and share member health and interest surveys with adult congregants. The MHIS survey and recruitment information documents were developed in both paper and online formats; then each participating FBO decided how, when and where to share MHIS information and surveys with their congregants, in whichever method was most convenient for the FBO. After a decision was made, MHIS were distributed to adult congregants during an agreed upon time/venue (e.g., distributed during a regularly scheduled church function by the research team or the MHIS information was emailed to congregants on behalf of the researchers which also included a link to complete the survey via Qualtrics online SSL survey software). Each MHIS took about 5-10 minutes to complete. After this study component was completed, the church was given a second $25 Kroger gift card for helping us invite/share member health surveys with congregants.

Upon completion of Member Health and Interest Surveys, findings were shared with the FBO leader in a report format. The report summarized respondent's healthy eating and physical activity habits and how they compared to the recommended guidelines, and their primary health-related interests, along with the various resources, policies and/or practices within the FBO (identified from FCA) that could be used to support congregant's interests and promote a healthier faith community. The goal for summarizing and sharing this information with leaders is to help them make more informed decisions about the types of health programming opportunities to pursue based on interests and resources available to them. Finally, the research team participated in ongoing, follow-up communication with FBO leader(s) to assist and connect them with local resources and programming opportunities aligning with their interests and needs, if desired.

Participants and Recruitment

The Virginia Tech Institutional Review Board (IRB #16-252) approved all study procedures (Appendix H). The subject pool included a convenience sample of FBOs from various denominations around the NRV area. A list of potential FBOs was developed using public records from the telephone book and google. To be considered eligible, FBOs needed to have a physical location/building where congregants could gather or meet in groups. Potential FBOs were recruited through email and phone a maximum of three times to determine participation interest; a FBO recruitment script is in Appendix I. For each participating FBO, researchers asked a leader (pastor, associate pastor, parish nurse) for his/her assistance in identifying a lay leader from his/her FBO for the research team to recruit to participate in the FCA. Any adult from the FBO who was familiar with the setting, policies, and demographic characteristics of the FBO was eligible to participate in the lay leader FCA (n=1 lay leader per FBO). The church leader (e.g., pastor) could partake as the lay leader for the FCA if so desired.

The subject pool also included several adult congregants (n=3 or more) from each FBO to participate in a brief, anonymous one-time MHIS. Any adult (>18 years of age) members or regular attenders from the church was eligible to participate. A researcher worked with the primary leader or pastor from each faith community to coordinate and schedule a date for the research team to recruit and share member health and interest surveys. The church leader chose one of the following options for researchers to recruit potential MHIS participants, including: (1)

recruitment via announcement in the church bulletin, (2) via mass email to church members (written by research team and sent by leader on behalf of the research team), or (3) through a verbal announcement from the researcher during a regularly scheduled church function or gathering. The member health and interest survey recruitment information language is found in Appendix I.

Consent and Approval

For FBOs interested in participating, a signed letter of support from the church leader on behalf of the entire church was obtained, describing their support and understanding of the FBOs involvement in the research and the compensation to be received by the FBO for their involvement with two main research components. Written consent was obtained in person from the lay leader prior to beginning the FCA questionnaire. A copy of the consent document was shared with participants before meeting in person (Appendix J). When meeting in person, the researcher read aloud the consent to the lay leader and gave him/her time to review and ask questions before obtaining his/her signature. Due to the anonymity and low risk involved with the MHIS, only implied consent was needed. A cover page was attached at the beginning of each MHIS (or as a cover page in the online survey) which described the purpose, benefits and risks for participating, and contact information of study team members (Appendix K). Completion of the MHIS indicated their consent. After completion of the surveys, the research team organized the data, analyzed, interpreted and reported results to identify most common health concerns and themes identified by from respondents, and the policies, systems and environments currently in place that support healthy behaviors.

Outcome Measures

The two key concepts of the ecological perspective were used as a basis for how study outcomes were reported: first, behavior influences and is influenced by factors across multiple levels, and second, individual behavior shapes and is shaped by one's social environment.[10] Study outcomes were measured using the FCA and MHIS, and results were organized and described for each participating FBO and their surveyed congregation.[12] Additionally, specific FBO intervention strategies identified from results are described as they the relate to the various

levels of influence for health-related behaviors, adapted from the socio-ecological model (Table 4.1).[10]

Table 4.1 Description of the multiple levels of influence from the social-ecological model.

SEM LEVEL	DESCRIPTION AND TARGETED APPROACHES
Individual (Intrapersonal)	Individual characteristics that influence health behavior such as knowledge, attitudes, beliefs, self-efficacy, religious identity, racial/ethnic identity, values, goals, expectations, and past experiences.
Interpersonal	Formal (and informal) social networks and social support systems that can influence individual behaviors. Interpersonal and group influences including formal and informal social networks and social support from family, friends, and church members to support healthy behaviors
Organizational (Institutional)	Policies, facilities, and organizational structures (e.g., standing committees such as health ministry) which may help promote/maintain recommended behaviors within the church **also includes structures that hinder behaviors*
Community	Relationships among organizations, institutions, and informational networks within defined boundaries, including the built environment (e.g., parks), village associations, community leaders, businesses, and transportation
Public Policy (Environment)	Neighborhood, community, or governmental resources, institutions, policies, advocacy, media activities, or other activities that improve the supportiveness and availability of healthy options for church members, or access to healthcare services

Faith Community Environment, Policies and Programs

As described previously, the FCA questionnaire and environmental audit was used to assess organizational level food and physical activity-related environment, policies, and demographic characteristics of participating FBOs. A full copy of the FCA can be found in Appendix L. Outcomes from the FCA are organized and described from three categories: (1) Opportunities for Physical Activity (PA), (2) Opportunities for Healthy Eating (HE), and (3) General Health and Wellness Characteristics, Policies & Infrastructure.

Opportunities for PA includes a checklist of items that are available *inside* and *outside* of the FBO that could be used to encourage PA, as well as a group of questions to identify programs/policies available to support PA. Indoor examples of PA items listed include aerobic/exercise equipment (e.g., jump ropes, Frisbees, yoga mats, weights or resistance bands), TV/DVD player, active gaming equipment, a fellowship hall that could be used for PA, stairwells, and signage to encourage use of stairs. Walking trails, ball fields, open green space, playground equipment and signage encouraging outdoor PA are some examples of outdoor items listed. Each item is marked as to whether or not it is present; and available items are further rated as being usable and in good condition. The last part of this section includes a list of five questions to identify any policies and/or programs available to support PA. Topics include

organizing exercise/walking groups, a sports team, guidelines incorporating PA during children/youth gatherings, and leadership promotion of PA to adults and children. Each question is answered in a yes/no/not sure format, along with space to write in notes and further details.

The category describing opportunities for HE is structured similarly to PA; it includes a checklist of features related to food, food preparation and vending items, along with a list of questions to identify programs/policies to support HE at the FBO. Food preparation items and other kitchen space and equipment (e.g., refrigerator, oven, portable burners, fryers, serving stations, outdoor grill, healthy cookbooks, seating/tables for eating, signage promoting healthy eating), garden space, private space for women to breastfeed, and food/beverage vending items are some examples from the checklist to assess the HE-related environment. Similar to PA, each item is marked as being present, usable and being in good condition. The next part of this category includes questions about programs and policies to support HE. Healthy guidelines for meals served at functions and food guidelines for children, access and availability to shared community garden space, involvement with a produce share program, promoting HE in sermons or newsletters, offering nutrition-related classes or groups, and/or leadership recommendations to offer healthy foods to children during youth activities. Each question is answered, with further details written to describe specific programs and policies.

The final section includes questions to describe the general health and wellness characteristics, policies and infrastructure of the FBO, such as having a health ministry, having health as part of the FBOs creed or mission statement, involvement with community health coalitions, former health assessments of congregation, and involvement with health services or health fairs in the community. The final portion of this category and FCA involves demographic-type related questions about the FBO. These include the faith sector/denomination, role of leader assisting with FCA, size and makeup of congregation (age, race/ethnicity, sex), and an estimated proportion of low income households. The low-income question was added to determine potential eligibility for receiving free nutrition education programming resources available from the Supplemental Nutrition Assistance Program and Education (SNAP-Ed), or other local resources.

Congregant Health Habits and Interests

The Member Health and Interest Survey (MHIS) was used to assess the current health status of church congregants, as well as their interest in partaking in nutrition and physical activity education and/or programming opportunities at their church (Appendix M). Outcomes from this survey provide information relative to the following main categories: (1) Eating and PA Habits, (2) HE Topic Interest, (3) PA Topic Interest, and (4) Other Health Topics and Interest. Three questions from Starting the Conversation survey were used to assess fruit and vegetable intake (measured by average servings/day) and sugary drink intake (measured by number of non-diet sodas or sweetened tea drinks consumed/day). The additional sections included a list of statements describing personal interest in various topics in a "yes," "no," or "not sure" response format.

Examples of HE items included interest in learning about healthy food choices, incorporating fruits and vegetables into diet, portion control to manage weight, having healthy snacks and meals available at church gatherings, or growing vegetables in a community garden. Some PA item examples included interest in learning about benefits of PA, increasing PA level, participating in team activities and/or walking groups with other congregants. Examples about general health topics and interest include: their preferred method for receiving health information (e.g., in weekly bulletin inserts or mailed/emailed newsletters), timing for participating in health activities (before/after services), interest in incorporating HE/PA opportunities for children during regular activities, and interest in having leaders promote health from pulpit, during group bible studies or small group discussions. At the end of the survey, the respondent is provided a space to describe specific details to describe their reasoning for their responses and/or other specific areas of interest related to topics identified throughout the survey.

The MHIS was developed for delivery via paper or in an online format through Qualtrics online survey software website. Additionally, the HE/PA interest-related topics were developed in a general format, but participating churches had an ability to revise the wording of some questions to better fit their setting and specific language used to describe their FBO. Based on feedback from other studies and literature reviewed from this dissertation, it was evident that being flexible, developing a program or potential program that is mutually beneficial and sensitive to the religious culture and community are key components to promote successful partnerships and programming opportunities with FBOs. Thus, having flexibility and adaptability

of the MHIS for this study was important and these efforts were pursued to help promote a more mutually beneficial working relationship with FBO partners.

Data Collection and Analyses

Quantitative and qualitative data were collected from the FCA and MHIS, then organized and analyzed using SPSS® Statistical Software (Version 25, IBM Corp., Armonk, NY, 2015). Data from the FCA was collected by paper at one time point per FBO setting; and was completed in person at the FBO with a lay leader, prior to sharing the member surveys with the congregation. Data from the Member Surveys was collected at one time point per participant in a paper and/or online format via Qualitrics survey software. The member survey format (paper vs online) was decided on by each individual church, based on their preferences and primary method for communicating.

Basic descriptive statistics were used to summarize characteristics of participating FBOs and their congregants. Specifically, the unit of analysis assessing the characteristics, health environments and policies of the faith community was at the church-level. Church-level characteristics include: the faith sector, denomination, congregation size, demographic makeup (age, sex, race/ethnicity, and proportion of low-income congregants), and a number and description of the policies and programs in place to help support HE and PA opportunities within the FBO setting. The unit of analysis for assessing the health and health interests of congregants was at the individual level, with participating congregant members. Individuals current eating habits are measured using three questions from STC diet instrument and used to describe their average daily servings of fruits, vegetables, and daily sweetened drink intake; as well as a summary score of participants dietary intake quality, from SCT responses. These response options for diet survey items are organized into three columns, and items are scored as 0, 1, or 2, with a score of "0" indicating the healthiest option and a score of "2" indicating the unhealthiest option. Item scores can then be added to create a total summary score ranging from 0-6, with lower scores reflecting a more healthful diet and higher reflect less healthful. A total summary score was calculated and averaged for participants from each FBO setting to further describe diet quality and compare quality across settings. PA items from the RAPA were scored and summarized categorically as the proportion of participants from each FBO categorized from the

following levels for aerobic PA: sedentary, under-active, under-active regular/light activities, under-active regular, or active.

RESULTS

Four FBOs expressed initial interest and were invited to participate, with a total of three (n=3) FBOs participating in the current study. No specific information was given as to why the one FBO did not agree to participate in the study. Recruitment and study activities took place from December 2017 through March 2018. All participating FBOs were from the Christian faith-sector, including 2 non-denominational Christian churches and 1 Episcopal church. Additionally, all leaders identified their congregants as predominantly affluent, with less than half of all congregations being from low/limited-income households (e.g., eligible for/participating in SNAP/food stamps, WIC or if they obtain food from food banks). Leaders from churches #2 and #3 reported very few households in their congregation would qualify as low/limited-income, whereas church #1 estimated around 30% of households in their congregation would qualify as low/limited-income.

FBO Setting Participant Characteristics

Church #1

Church #1 is an inter/non-denominational Christian church, having a medium-sized congregation with approximately 200 member families. The leader participating in the FCA was a deacon/elder of the church. Compared to churches 2 and 3, church #1 was the most racially/ethnically diverse. The church is located on a main street in between Blacksburg and Christiansburg. The building itself is two stories tall. The main worship area, staff offices, and 'coffee' room (equipped with kitchenette, used as small gathering/meeting space) are located upstairs. The downstairs has more large meeting rooms, play/activity rooms, and a large dine-in kitchen area. The church also rents two spaces out in their buildings: one is for a full-time daycare facility upstairs, and the second is a private Christian school that rents out some space in the downstairs area for their high-schooler students during the week. A complete list of the socio-demographic, policy and environmental characteristics of church #1 can be found in table 4.2.

Environmental resources that could be used to promote physical activity, primarily are geared towards children and youth-related activities. There is a small outdoor playground area that is used primarily by the daycare facility during the weekdays and also by the church during Sunday services. During the FCA interview, the lay leader mentioned that the church had plans to build a new, larger outdoor playground with new equipment in the coming year. There is a large amount of indoor space on the lower level that can be used for various activities; including a large room with an indoor basketball court, and another 'activity' room which includes an air hockey table, a pool table and a ping-pong table. The leader reported these spaces were most frequently used by youth during Sunday school activities or youth group gatherings. The one main staircase has signage posted to encourage use of the stairs, which is also posted to help discourage people from using the elevator (unless physically necessary). At the time of the interview, there were not any current PA-related programs taking place. However, the leader mentioned mixed ages of congregants participating in church softball and volleyball leagues in recent summers past, in addition to an exercise/walking program organized by a church member, where congregants met at a well-known walking trail to do group walks over a 10-week period.

Leadership was said to encourage and promote PA and HE from the pulpit and through modeling behaviors. Three out of the four main church leaders actively participate in a holistic wellness program targeting changes in nutrition, exercise, stress management and other lifestyle-related health behaviors. This program was not affiliated with the church, however, it has positively impacted the way church leaders model healthy lifestyle behaviors to their congregation. When appropriate, healthful eating and/or PA topics are touched on during some sermons, primarily as it relates to taking care of one's physical, mental/emotional and spiritual body. Another aspect of modeling and encouraging healthy behaviors is through religious fasting. This type of fasting is stems from a biblical standpoint and is done for spiritual purposes, rather than for weight loss purposes. Every year, the congregation as a whole participates in a 21-day fasting and reflection period sometimes referred to as "Daniel's Plan" (based on a bible story), where all healthy and non-pregnant congregants are encouraged to fast, reflect and pray. The specific ways to fast vary from person to person within the congregation. Most commonly involved fasting from meats and sweets (eating only fruits and vegetables for 21 days), whereas other methods of fasting involved abstaining from social media or using the internet.

Additionally, the lay leader shared that all of the church leaders individually practice fasting from food (only consuming water) one day each week as a personal spiritual practice.

With regards to healthy eating, there were no specific policies in place setting guidelines for meals served at church functions; however, their leader described the church as taking a "passive approach" to encourage healthier food options brought to church meals/potluck events. Specifically, when creating a sign-up sheet for a potluck event, the leader groups and categorizes dishes needed for the meal using specific tailored phrasing of words. For example, a meal sign-up sheet would specifically label categories in a way that would encourage/promote congregants to bring more leafy/colorful vegetables by labeling sign-up categories using terms like "vegetable salad" or "hot veggie dish" rather than categories labeled to say "salad", "starch salad" or "side dish." The goal for this passive approach is decrease the amount number of starchy or less healthy side dishes frequently brought, such as mayonnaise-based potato salads, mashed potatoes, starchy rice/corn dishes, etc. With regards to beverages, the church only provides water and lemonade or coffee for group functions, in an effort to limit other sugary drinks/sodas consumed.

Church #1 also houses an on-site food bank in a small building outside of the main church building, along with a mobile food bank which delivers food to two nearby trailer parks, a homeschool co-op and a daycare. Both food banks are 100% run and led by church and community volunteers, and 100% of the foods supplied come from donations by various people, and through partnerships with local companies and community organizations. The food banks are involved in a "share the spare" initiative; a program in which leftover, excess, and/or almost expired produce from grocery stores or local farmers markets are donated to the food bank. During operating hours at the food bank, a volunteer "shopper" is available to assist and encourage recipients in taking produce by sharing ideas and recipes with recipients about ways to cook or prepare some lesser-known produce items.

Table 4.2 Demographic and PSE characteristics of church 1 (*n*=200 families).

GENERAL DEMOGRAPHIC & HEALTH-RELATED CHARACTERISTICS	
Sex	60% Female 40% Male
Race	92% White 4% African American/Black 2% American Indian 2% Asian American

Ethnicity	99% Non-Hispanic 1% Hispanic
Age Distribution	5% (0 – 5 years) 10% (6 – 17 years) 80% (18 – 64 years) 5% (65+ years)
Low-Income Status	<50% households qualify as low-income
General Health & Wellness Characteristics and Infrastructure	Health professionals who are members of the church: doula, nurses, and nurse practitioners Members serve/volunteer with church on-site Food Bank and Mobile Food Pantry
OPPORTUNITIES FOR PHYSICAL ACTIVITY	
Indoor Items and Space Available to Encourage PA	Large fellowship hall that could be used for PA Activity equipment: ping-pong table, air hockey, pool table, balls (e.g., for basketball, dodgeball) TV, DVD player, VCR Stereo/sound system, projector Indoor basketball court with goal Indoor stairwells, with signage encouraging use
Outdoor Items and Space Available to Encourage PA	Playground: jungle gym, see-saw, swings, and other equipment for children ages 6 and under
Programs and Policies Available to Support PA	Organized group exercises/walks: Mixed ages – a 10-week long walking group Congregants (mixed adults) participated in recreational softball and volleyball league Leadership promotion of PA during sermons/talks occasionally, and through modeling active lifestyles Guidelines incorporating PA into children/youth: 20-40 min of “active play” during Sunday school (ages 12 and under)
OPPORTUNITIES FOR HEALTHY EATING	
Food Preparation Items, Equipment and Space	Large standard kitchen (lower level) plus a smaller kitchenette in main level, next to worship hall: refrigerator, freezer, oven, stovetop, commercial dishwasher, microwave, portable electric griddles, serving station, countertops Indoor seating: several foldable/portable tables with chairs in large kitchen area, plus smaller seating and meeting space with chairs and couch on main level next to kitchenette Vending machine with beverages available for purchase: regular/diet soda and fruit drinks (not 100% juice)
Programs and Policies to Support Healthy Eating	‘Passive’ approach for foods served at functions: meal sign-up sheets for gatherings list specific, healthier side item options (“vegetable salad” instead of “starch salad” to encourage more colorful vegetables; church only provides water and lemonade or coffee at functions (no sodas) Church has an on-site Food Bank and off-site Mobile Pantry (delivers to trailer parks, homeschool co-op and daycare), both are 100% volunteer-led and donated, “share the spare” concept of overflow and near expired produce donated from several local groceries and organizations

	Leadership HE promotion integrated into some sermons, and during times/events related to religious fasting (e.g., fasting from meats and sweets) Annual 21-day church-wide fasting (only for healthy, non-pregnant adults) based off "Daniels Plan" program; religious fasting could involve: only consuming fruits/veggies, fasting from meets and sweets, or from social media; also includes a self and group reflection component

Church #2

Church #2 is a medium-sized Episcopal church. The church is housed in a downtown area and includes a main building where Sunday worship services take place, along with several wings that were added on over the years. The main worship hall building was built over 150 years ago; building additions throughout the 1900s included a bell tower, a parish house (now parish hall), and an educational wing. In addition to the main worship hall, the current church includes a library room, a large fellowship hall/room that connects to a commercial kitchen, an educational wing that is partially rented out and used as a Montessori preschool during the weekdays, along with a parish hall located on a second floor which includes several smaller classrooms and spaces often used by children during Sunday school activities. There are about 300 total members in their parish (aka, congregation), but only 250 of these are considered active members. The church parish nurse participated in the FCA. Compared to churches 1 and 3, church #2 was composed of an older and more affluent congregation. The parish was described as being largely composed of active and retired professors from Virginia Tech. Only one household was estimated to need/receive help from a food assistance program. A complete list of church #2's socio-demographic, policy and environmental characteristics identified from the FCA can be found in table 4.3.

Various opportunities for promoting PA were discussed, such as annual walking challenges, Tai Chi classes, and involvement in a church softball league. Every year, in the season leading up to Christmas and during the season of Lent, the parish participate in a church-wide PA event, called the "Walk to Bethlehem" and "Walk to Jerusalem" challenge. The congregation is encouraged to walk/do other physical activities, then asked to log their mileage and report it each week to the parish nurse throughout the season of Advent until Christmas, and again during the season of Lent until Easter. Some participants log their activity miles as an individual, whereas others log their PA miles as a group or family. Regardless of how the PA is done, the overall program goal is to encourage parish to increase their physical activity, spiritual

growth and cultural awareness. One ongoing PA program is a group Tai Chi class that takes place once a week at the church and is volunteer-led parish member. The class meets in the large fellowship hall and supplies the foam/rubber exercise mats for attendees.

The majority of PA/HE promotion by leadership comes in the form of written materials. Specifically, each week parish congregants are emailed a weekly newsletter which includes announcements of church events, local activities, needs, various articles, and a small health topic blurb that's written by parish nurses and often includes topics aligning with PA/HE (such as heart healthy foods/activities during American Heart Month in February). Compared to PA opportunities, there are relatively fewer HE opportunities available. There are not any specific guidelines for foods served for adult or youth/children, although, the leader described those items served as typically being healthier in general for children and youth. The church partners with an off-site interfaith food pantry and they supply all of the dry cereal items for the pantry as part of an ongoing partnership. Cereal foods are continuously donated by parish, then collected and delivered to the food bank once a month. There were two HE-related items listed in the FCA which were currently unavailable at the church, however, the lay leader expressed interest by parish in pursuing both of them. The first was starting an outdoor garden space on-site, and the second was interest in setting aside a private room for women to nurse their children or express/pump breastmilk. Given the large fenced in, relatively flat church lawn and various rooms in the parish/education wing, there is enough space-related resources that can potentially be used to pursue these opportunities of interest.

Based on the lay leader FCA interview, it was evident that the church is deeply involved with various outreach and ministry partnerships and efforts around the community. The interfaith food pantry was the only partnership focused solely around food; other community partnerships which could have food-related donation/component (depending on the need) includes: the Montgomery County Emergency Assistance Program, an Interfaith Daycare for low-income families, and a partnership with the Women's Resource Center. Additionally, when asking about PA/HE-related activities for children/youth, the lay leader described their current kids in the youth group as being more interested in doing service/outreach activities in their community, rather than doing trips and activities with just the youth group (e.g., sports or other youth-related functions and activities). Lastly, as far as health-related infrastructure, the church staff includes two parish nurses who are in charge of health-related activities, write health newsletter articles,

and visit parish at their homes who are in need of spiritual and physical encouragement, and a listening ear during times of illness or medical need.

Table 4.3 Demographic and PSE characteristics of church 2 (*n*=300 members).

GENERAL DEMOGRAPHIC & HEALTH-RELATED CHARACTERISTICS	
Sex	60% Female 40% Male
Race	100% White
Ethnicity	99% Non-Hispanic 1% Hispanic
Age Distribution	4% (0 – 5 years) 10% (6 – 17 years) 70% (18 – 64 years) 16% (65+ years)
Low-Income Status	<50% households qualify as low-income
General Health & Wellness Characteristics and Infrastructure	Active health team: Parish Nursing, part of 'Caring Ministry' visits parish with medical issues, and provides encouragement from a spiritual and medical understanding/background Parish members who are health professionals: nurses, nurse practitioners and physicians Parish members represent church by serving health-related coalitions/ community programs, including: Women's Resource Center, Montgomery Co. Emergency Assistance Program, Interfaith Food Pantry and Interfaith Daycare
OPPORTUNITIES FOR PHYSICAL ACTIVITY	
Indoor Items and Space Available to Encourage PA	Large fellowship hall that could be used for PA Several foam/rubber exercise mats for stretching/Tai Chi TV, DVD player & VCR available Stereo/sound system and projector with laptop hookup Indoor stairwells, used frequently
Outdoor Items and Space Available to Encourage PA	Several usable (public) sidewalks surrounding church building, outdoor labyrinth garden for parish and community to walk around in Large fenced-in green space, good condition Some playground equipment (e.g., see-saw, sand box)
Programs and Policies Available to Support PA	Organized various annual and recurring exercise classes and walks: Adults – weekly Tai Chi class; Individual/Group-based – Walk to Bethlehem (Christmas) and Walk to Jerusalem (Lent) annual PA/walking challenges, parish logs and report PA miles weekly to church during Christmas/Lent seasons with entire parish working towards achieving a mileage goal Parish adults participated in church softball league in previous years Leadership PA promotion in written material and parish walking challenges; e.g., weekly Church email newsletter and monthly 'Compass' mailed include short blurbs about PA and other health-related topics, written by parish nurses; parish nurses promote annual 'walking challenges'
OPPORTUNITIES FOR HEALTHY EATING	
Food Preparation Items, Equipment an d Space	Large standard/commercial kitchen space: refrigerator, freezer, oven, stovetop, commercial dishwasher, microwave, portable electric griddles, serving station, countertops Indoor seating: several foldable/portable tables with chairs
Programs and Policies to Support Healthy Eating	Typically serve healthier foods/beverages to children/youth, but don't have specific guidelines for those items Church supplies all dry cereal at an Interfaith food pantry (off-site), parish donates and delivers cereal to pantry monthly

	Leadership HE promotion in written material: weekly Church Newsletter (email) and monthly Compass (paper mail) include short blurbs on HE and other health-related topics, written by parish nurses

Church #3

Church #3 is a non-denominational church affiliated with the Southern Baptist Convention. This medium-to-large sized church's congregation is composed of approximately 509 regular attenders, which includes about 200 congregant members. An associate pastor participated in the FCA. Compared to churches 1 and 2, church #3 had the highest proportion (25%) of children and youth under 18 years of age (15% and 14%, respectively). The setting of Church #3 is unique in that their weekly worship services take place in the auditorium of a middle school; however, they also rent two large spaces in the town of Blacksburg. The first location is the main church office building, which includes large and small meeting rooms and individual offices for church staff. The second setting is a large open space in a downtown building that's primarily used as a meeting space and includes a large, open floorplan with several tables and various seating arrangements that can be used by the public for informal meetings or rented for larger meetings/events. Despite not having one central location for congregants to gather and worship, there were several opportunities and space available to encourage PA and HE.

The main office location of church #3's is located in a building housed between a large grocery store and an elementary school. In terms of outdoor opportunities for PA, the main office building backs up to a well-known paved public walking trail that is nearly 6 miles in length, and the adjacent school has a large outdoor playground. Indoor, both church building locations have a large fellowship hall/room that could be used for PA. The church as a whole has not organized or provided any specific exercise classes in the past 12 months, however, some women have recently expressed interest in starting a walking group for other women to meet on a regular basis for group walks on the walking trail next to the church office. There are not specific guidelines in place to incorporate PA into children/youth gatherings; however, there is an active "dance/praise" component during young children's Sunday school activities and there is always some type of sports or game component incorporated into kid's summer camps.

Regarding healthy eating space and equipment, the main church office location includes a kitchen with standard cooking and freezing equipment, along with an outdoor space that can be

used for grilling in the summers; there were no food or beverage vending items. Several tables and chairs indoors, plus a few outdoor patio tables were available for groups to gather and eat if desired. Church staff reported using the kitchen space almost on a daily basis for preparing breakfast and other foods for staff and/or other small group meetings. The only food guidelines identified at the church were related to snacks/foods served during children's activities, specifically avoiding foods with known allergens (e.g., peanuts). The church has a "care ministry" where congregants make and deliver meals to families in need during various life events (such as after having a baby or after recovering from major surgeries). Although there are no healthy guidelines, this is an ongoing meal support ministry involving food. A complete list of church #3's socio-demographic, policy and environmental characteristics identified from the FCA are described below in table 4.4.

Table 4.4 Demographic and PSE characteristics of church 3 (*n*=200 members).

GENERAL DEMOGRAPHIC & HEALTH-RELATED CHARACTERISTICS	
Sex	50% Female 50% Male
Race	98% White 1% African American/Black 1% Asian American
Ethnicity	99% Non-Hispanic 1% Hispanic
Age Distribution	10% (0 – 5 years) 14% (6 – 17 years) 71% (18 – 64 years) 4% (65+ years)
Low-Income Status	<50% households qualify as low-income
General Health & Wellness Characteristics and Infrastructure	Active health ministry: "Care Team" includes hospital visits, helping sick people, and providing meals for families in need or those welcoming a new baby/foster child Church members who are health professionals: Nurses
OPPORTUNITIES FOR PHYSICAL ACTIVITY	
Indoor Items and Space Available to Encourage PA	2 fellowship hall rooms that could be used for PA Activity/aerobic equipment: ping-pong table, darts TV, DVD player or VCR for viewing exercise videos Stereo/sound system Sports equipment: basketballs
Outdoor Items and Space Available to Encourage PA	Basketball goal in parking lot Corn-hole (bean bag toss) set Paved walking trail (shared public trail) Playground equipment, jungle gym (public, shared by school) Basketball court and open green space (public, school)
Programs and Policies Available to Support PA	Organized one-time group activities: young adults – hike, ultimate Frisbee, flag football; youth group – winter skiing/tubing; church staff (adults) – trampoline park field trips

	Organized sports team (young adults): recreational/co-ed volleyball league Guidelines incorporating PA into children/youth gatherings: dance/praise activity during Sunday school, kid's camps have sports or active game component Leadership PA promotion is limited to promoting/organizing events with different age groups (youth, college/young adult, adult staff)
OPPORTUNITIES FOR HEALTHY EATING	
Food Preparation Items, Equipment and Space	Basic/standard kitchen equipment: refrigerator, freezer, oven, sink, 2 microwaves, portable stovetop burner, countertops Indoor seating: foldable/portable tables with chairs Outdoor grill and seating: picnic tables with benches
Programs and Policies to Support Healthy Eating	Food guidelines for items served during children/youth gatherings: only allergen related (e.g., peanuts) Seasonal blueberry picking event at farm (berries donated to low-income families of young children) Meal ministry: provides meals to families during times of need (having baby, surgery or major events), no healthy guidelines

Surveyed Member Characteristics

All participating churches preferred using the online survey delivery method (via Qualtrics) to share MHIS with congregants. Congregants from churches 1 and 3 were sent a recruitment email on behalf of the research team, which included the survey web-link; whereas church #2 included the recruitment information as part of their weekly church email newsletter which gets sent to all congregants/regular attenders once a week. Church 1 used one of their two Kroger gift cards as an incentive for members to participate in the survey (a 'raffle' gift card giveaway); similarly, church 3 used both of their gift cards as a raffle/incentive for congregants to participate in the member surveys. In order to maintain survey anonymity and confidentiality, at the end of the online surveys (churches 1 and 3), a web-link was provided which redirected them to a second (optional) survey, where each participant could submit his/her contact information to enter the gift card giveaway drawing. Creating the two-separate survey web-links (1-member survey + 1-raffle entry) prevented researchers from linking participants contact information with individual MHIS responses; thus, maintaining MHIS anonymity and confidentiality. Twenty-seven (out of 38 total) participants from church 1 entered in the gift card drawing, and forty-three (out of 65 total) participants from church 3 entered into the drawing for one of two gift cards.

Table 4.5 summarizes food and physical activity habits of surveyed congregants across all three churches. Proportionally speaking, church 1 was the least physically active with 48.89%

of respondents reporting sedentary to underactive PA levels, followed by church 3 (29.55%) and church 2 (27.78%), respectively. Using scoring criteria adapted from the STC tool, each food dimension was scored and summarized. The maximum individual score for each dimension is 2 and the maximum total summary score is 6; lower scores representing healthier food behaviors and higher representing less healthier behaviors. Across all food behavior dimensions, church 1 scored the healthiest (=3.05) overall. Church 3 had the healthiest fruit dimension score (1.56), compared to churches 1 and 2 (1.66 and 1.75, respectively). Church 1 had the healthiest vegetable score of 1.32, compared to churches 2 and 3 (1.38 and 1.42 respectively). Lastly, church 2 scored the healthiest for soda/sweet tea intake dimension (0.06), compared to churches 1 (0.08) and 3 (0.15). Tables 4.6 – 4.8 list member's shared health interests from each church. Boxes shaded in green signifies ≥50% of respondents indicated having interest in the topic, boxes shaded in pink signifies ≥50% of respondents were *not* interested in it and those shaded in yellow signifies ≥50% indicated that they were 'not sure' or 'maybe' interested in the topic.

Table 4.5 Congregants food and physical activity behaviors from all churches.

	Church 1	Church 2	Church 3
FOOD AND PHYSICAL ACTIVITY HABITS	(n=38)	(n=16)	(n=65)
Fruits (servings/day)	%	%	%
5 or more	5.3	0.0	4.7
3 to 4	23.7	25.0	34.4
2 or less	71.1	75.0	60.9
Vegetables (servings/day)	%	%	%
5 or more	13.2	6.3	7.7
3 to 4	42.1	50.0	43.1
2 or less	44.7	43.7	49.2
Sweet soda, tea (drinks/day)	%	%	%
Less than 1	92.1	93.7	86.2
1 to 2	7.9	6.3	12.3
3 or more	0	0.0	1.5
Total diet summary score (max 6)	3.05	3.19	3.13
*PA Level Category	%	%	%
Sedentary or Under-active	8.9	0.0	6.8
Under-active regular/light	40.0	27.8	22.7
Under-active regular	31.1	33.3	36.4
Active	20.0	38.9	34.1

**PA category definitions:*
Sedentary/Underactive: rarely/never do PA; or some light/moderate PA but not every week
Under-active regular/light: some light PA every week
Under-active regular: moderate PA <30min/day, 5 days/week OR vigorous <20 min/day, 5 days/week
Active: 30+ min/day moderate PA, 5+ days/week OR 20+ min/day vigorous PA, 3+ days/week

Church #1 Member Health Interests

Surveys for church 1 were delivered online and shared with congregants using the church's email listserv. The survey was available online to congregants for 2 weeks. A total of n=38 adults participated, and individual item response rates ranged from 31 to 38 per question. A full description of the church's health interests can be found in table 4.6. Respondents indicated high interest in ten out of the 18 survey items, and no interest in 3 items. With regards to healthy eating, having healthy options served at fellowship meals was of greatest interest, in addition to learning about healthy food choices, incorporating fruits and vegetables into their diet, and learning to grow fruits/vegetables in a community garden. These interests align with some of written comments about having healthy snacks offered to children, wanting to learn a variety of ways to cook healthy foods, and how to feed large families healthy on a small budget.

Over half of respondents indicated interest in having their faith community offer regular classes on PA or healthy eating, and one respondent described interest in leading a class on healthy eating in the comments section. A majority of respondents would like to increase their physical activity levels and would like to have the church offer group gatherings to do PA. Over three quarters of respondents are interested in walking to increase their PA, but more than half were *not* interested in participating in team activities; highlighting an opportunity for the church to schedule group walks or hikes as a way to increase PA and simultaneously meet the health interests of some congregants. Scheduling health activities before or after services would not be of interest, however, timing health activities to take place during other regularly scheduled church events would be of interest. Lastly, including health information in church bulletins, newsletters or through signage posted on bulletin boards would all be useful avenues for sharing information.

Table 4.6 Congregants health interests from church #1 (*n*=38).

HEALTHY EATING TOPIC INTEREST			
	% Yes	% No	% N.S.*
I am interested in learning more about healthy food choices	68.8	25.0	6.3
I am interested in learning how to incorporate fruits/vegetables in my diet	62.5	34.4	3.1
I am interested in learning about healthier food choices and portions to help manage my weight	45.2	45.2	9.7
I am interested in participating in 'tasting' or 'cooking' events to sample or learn how to prepare healthy foods	46.9	25.0	28.1
I am interested in having healthy snack/entrée options at fellowship meals	84.9	6.1	9.1
I am interested in learning how to grow vegetables and fruits in a community garden	53.2	34.4	12.5
PHYSICAL ACTIVITY TOPIC INTEREST			
	% Yes	% No	% N.S.*

I am interested in learning more about the benefits of physical activity and how it can influence my health	39.4	42.4	18.2
I am interested in increasing my physical activity level	75.8	15.2	9.1
I am interested in walking to increase my physical activity level	68.8	25.0	6.25
I am interested in participating in team activities	30.3	54.6	15.2
I would like to see our church offer gatherings for PA (can be outside, e.g., group walks/hikes)	75.8	3.0	21.2
OTHER HEALTH INTERESTS & TIMING			
	% Yes	% No	% N.S.*
I would like to receive health information that I can read, listen to or watch on my own	48.5	33.3	18.2
I would like to participate in health activities *before* services	6.1	78.9	15.2
I would like to participate in health activities *after* services	12.5	62.5	25.0
I would like to participate in health activities like physical activity breaks or healthy food tastings during regularly scheduled faith community events	53.1	31.3	15.6
I would like for our leaders to talk about healthy eating and physical activity in sermons, messages or other talks	28.1	34.4	37.5
I would like to see health information in our bulletins, newsletters, and on bulletin boards	51.5	33.3	15.2
I would like our faith community to offer regular classes on physical activity or healthy eating	54.5	15.2	30.3
ADDITIONAL PARTICIPANT FEEDBACK & COMMENTS			
- *I would like to see healthier snacks/treats (less sugar/junk food) offered to my children [church]Kids downstairs* - *I am Interested in leading classes on healthy eating* - *Exercises for people with disabilities* - *More info on the food bank (what they provide, hours of operation, and how to get involved) communicated consistently and accurately.* - *Healthy eating tends to get boring for me. Cooking the same things, the same way makes me want to quit. I'd really enjoy classes that teach cooking and sharing recipes.* - *How to feed a large family healthy foods on a small budget.* - *I have been eating mostly fruit, veggies, smoothies with protein, and juicing for over 30 years.* - *Support group that would pray through issues in relationship to bad choices in food and exercise.* - *Physical activity for the over 60! :)*			
*N.S. = Not Sure or Maybe Boxes in green means that ≥50% of respondents indicated having interest in the topic. Boxes in pink means that ≥50% of respondents were *not* interested in the topic. Boxes in yellow means that ≥50% indicated that they were 'not sure' or 'maybe' interested in the topic.			

Church #2 Member Health Interests

Church #2 had the lowest survey response rate, with a total of n=16 respondents. A description of the survey (recruitment information and a web-link to the online survey) was sent on behalf of the research team and delivered to congregants as part of their weekly emailed church newsletter/bulletin. Church #2 did not use any incentive for member participation. Overall, respondents were more *un*interested in survey items, than they were interested; as indicated by a majority being *dis*interested in 7 items versus a majority interested in five (table 4.7). Qualitative feedback from participant aligned with the larger ratio of un-interested vs

interested items, in which he/she shared their opinion that "parishioners do not want to openly discuss *their* health issues." Similarly, another respondent believed that although educating Americans on healthy diets and PA is important, this person was not sure it "should be a major thrust of a parish church."

In terms of healthy eating topics, congregants were primarily interested in having healthy snacks available and healthy meal options served the church. Most were un-interested in learning about healthy foods to manage their weight. Respondents were least interested in participating in team or group activities with other congregants, in addition to learning about the health benefits of PA. Alternatively, most were interested in increasing their PA level and walking as a way to do so. Despite a large disinterest in group/team activities, 60% expressed that they might be interested in having the church offer regular PA classes. In terms of timing and delivery, most respondents did not want to participate in activities before or after services, nor did most want to receive health information they could read or view on their own time. Congregants were largely uninterested (No=60%) in having HE/PA topics discussed during sermons, messages or other group talks. However, almost three quarters were interested in incorporating more PA opportunities for children and youth during their regularly schedule functions or gatherings.

Table 4.7 Congregants health interests from church #2 (*n*=16).

HEALTHY EATING TOPIC INTEREST			
	% Yes	% No	% N.S.*
I am interested in learning more about healthy food choices	46.7	26.7	26.7
I am interested in learning how to incorporate fruits and vegetables into my diet	46.7	33.3	20.0
I am interested in learning about healthier food choices and portions to help manage my weight	40.0	53.3	6.7
I am interested in participating in 'tasting' or 'cooking' events to sample or learn how to prepare healthy foods	26.7	40.0	33.3
I am interested in having healthy snacks available	80.0	6.7	13.3
I am interested in having healthy meals served in our church	53.3	13.3	33.3
I am interested in learning how to grow vegetables and fruits in a community garden	20.0	46.7	33.3
I would like our faith community to offer classes on healthy eating	26.7	40.0	33.3
PHYSICAL ACTIVITY TOPIC INTEREST			
	% Yes	% No	% N.S.*
I am interested in learning more about the benefits of physical activity and how it can influence my health	13.3	53.3	33.3
I am interested in increasing my physical activity level	53.3	33.3	13.3
I am interested in walking to increase my physical activity level	60.0	33.3	6.7
I am interested in participating in team/group activities, such as group walks, hikes or joining a softball team with other congregants	26.7	66.7	6.7

I would like to see more places to be physically active in or around our church	20.0	46.7	33.3
I would like our church to offer regular classes on PA	13.3	26.7	60.0
OTHER HEALTH INTERESTS & TIMING			
	% Yes	% No	% N.S.*
I would like to receive health information that I can read, listen to or watch on my own	40.0	53.3	6.7
I would like to participate in health activities *before* services or meetings	0.0	80.0	20.0
I would like to participate in health activities *after* services or meetings	0.0	53.3	46.7
I would like to participate in health activities like PA breaks or healthy food tastings during regularly scheduled church events	6.7	46.7	46.7
I would like for our parish leaders to talk about HE and PA in sermons, messages or other talks, like Bible study or Adult Forum	6.7	60.0	33.3
I would like to see health information in our bulletins, newsletters, or posted on bulletin boards around the church	46.7	13.3	40.0
I would like our church to incorporate healthy food choices or discussion for children/youth during regular gatherings (e.g., Sunday school, youth group)	46.7	13.3	40.0
I would like our church to incorporate/promote PA opportunities for children/youth during regular gatherings (e.g., Sunday school, youth group)	73.3	0.0	26.7
ADDITIONAL PARTICIPANT FEEDBACK & COMMENTS			
- *Our Parish Nurses do a weekly and monthly newsletter with healthy tips of all topics. We have had programs regarding healthy eating which have been poorly attended. We have had forums re Stewardship of our bodies, "body temples," etc., but not recently. It is my opinion that parishioners do not want to openly discuss their health issues.* - *I think wellness activities are typically linked to spirituality might be an obvious place to start - e.g., meditation.* - *At age of 96 physical activity is limited!* - *I am quite interested in healthy diet and physical fitness. Some of my answers may have been misleading because I showed little interest in new opportunities to learn about these things at church. While I believe there needs to be more efforts somewhere to educate Americans about improved diets and the importance of exercise in mental and physical health, I am not sure this should be a major thrust of a parish church. I would also add education about the importance of sleep to good health.*			
*N.S. = Not Sure or Maybe Boxes in green means that ≥50% of respondents indicated having interest in the topic. Boxes in pink means that ≥50% of respondents were *not* interested in the topic. Boxes in yellow means that ≥50% indicated that they were 'not sure' or 'maybe' interested in the topic.			

Church #3 Member Health Interests

A total of 65 congregants completed the MHIS from church 3 and indicated strong interest in eight topics and potential interest in one topic. Participating in health-related activities before services was the only topic item where ≥50% respondents indicated disinterest. A full description of member's interests can be found in table 4.8.

Sixty percent of respondents indicated interest in hearing about caring for their physical bodies from a faith perspective (e.g., eating healthy/being active) during sermons, messages or other talks. Nearly 52% indicated they might be interested in participating in a small group focused on improving healthy lifestyle habits from a biblical perspective. Qualitative feedback

shared by two participants similarly described a general interest in having health-related classes offered but doing so in a way that it does not take away from the main focus of Christ which should be the focus for small groups, Bible studies or sermons. On respondent shared interest but also a potential danger of allowing body image/healthy lifestyle changes becoming an idol in ones' life by putting it ahead of Christ.

In terms of topics specific to healthy eating, more than half of respondents were interested in learning ways to add more fruits/vegetable into their diet, having healthy options served at church gatherings/functions and during children/youth gatherings/activities. Additionally, a large proportion of congregants were interested in outreach opportunities to serve people from different faith sectors and knowing how to provide them with culturally appropriate foods or meals based on their different religious dietary practices/restrictions. Over half of respondents were interested in increasing their physical activity and having regular classes or group gatherings offered to do PA with other congregants, such as regular group walks or hikes. Lastly, nearly three-quarters expressed interest in seeing more PA opportunities incorporated into children/youth activities.

Table 4.8 Congregants health interests from church #3 (*n*=65).

HEALTHY EATING TOPIC INTEREST			
	% Yes	% No	% N.S.*
I am interested in learning more about healthy food choices	43.4	22.8	29.8
I am interested in learning how to incorporate fruits and vegetables into my diet	56.1	24.6	19.3
I am interested in learning about healthier food choices and portions to help manage my weight	45.6	33.3	21.1
I am interested in participating in 'tasting' or 'cooking' events at our church to try or learn how to prepare healthy foods	48.2	28.6	23.2
I am interested in having healthy options (snacks, drinks or meals) at church gatherings/functions	76.8	7.1	16.1
I am interested in growing vegetables/fruits in a community garden	35.1	43.9	21.0
I would like to see healthy snacks and food options for children and youth during their activities	77.2	1.8	21.0
I'm interested in learning about the cultural food practices of other faiths (Muslim/Jewish) so that I know how to prepare appropriate foods/meals for those from different faiths	47.4	22.8	29.8
I'm interested in outreach opportunities to serve Muslim/Jewish families by providing them with culturally appropriate meals, and/or hospitality	53.6	14.3	32.1
PHYSICAL ACTIVITY TOPIC INTEREST			
	% Yes	% No	% N.S.*
I am interested in learning more about the benefits of physical activity and how it can influence my health	42.9	39.3	17.9
I am interested in increasing my physical activity level	69.6	19.6	10.7

I am interested in participating in team activities with others in the church, like softball or bowling league	38.2	29.1	32.7
I would like our church offer regular classes or group gatherings to do PA (e.g., walking/hiking groups or other group exercise opportunities)	53.6	10.7	35.7
I would like to see PA opportunities incorporated into children/youth activities	73.2	1.8	25.0
OTHER HEALTH INTERESTS & TIMING			
	% Yes	% No	% N.S.*
I would like to receive health information that I can read, listen to or watch on my own	26.8	44.6	28.6
I would like to participate in health activities *before* services	7.1	69.6	23.2
I would like to participate in health activities *after* services	28.6	28.6	42.9
I would like to participate in health activities like physical activity breaks or healthy food tastings during regularly scheduled faith community events	23.6	36.4	40.0
I would like to hear about caring for our physical bodies from a faith perspective (e.g., eating healthy/being active) during sermons, messages or other talks	60.0	10.9	29.1
I would like to see health information integrated into bulletins, or emailed newsletters	23.2	33.9	42.9
I am interested in participating in a small group to improve my diet and healthy lifestyle habits from a Biblical perspective	23.2	25.0	51.8
ADDITIONAL PARTICIPANT FEEDBACK & COMMENTS			
- *I would be very interested in recreational activities or church leagues for softball, basketball, or racquetball! I would not be interested in seeing health/diet/exercise information regularly during church or small group, but as it relates to the Bible could make for one good sermon. I am very big into diet/health/exercise and think it would be good to promote, but outside of regularly scheduled church services and small groups.* - *I love thinking about healthy eating and exercise as a way of respecting and utilizing our God-given physical abilities!* - *I believe that we as the body of Christ should be diligent in taking care of our bodies. It may require significant attention, but also, I think it can easily be something that comes before Christ in life (an idol). I've seen that personally as I've looked into caring for my body. That's why I don't think it needs to necessarily be its own small group, but I think that classes being offered is a great idea.* - *I agree it is important to be healthy spiritually and physically, which can help emotionally as well.* - *I'm very interested in becoming healthier and in seeing myself as God sees me!*			
*N.S. = Not Sure or Maybe Boxes in green means that ≥50% of respondents indicated having interest in the topic. Boxes in pink means that ≥50% of respondents were *not* interested in the topic. Boxes in yellow means that ≥50% indicated that they were 'not sure' or 'maybe' interested in the topic.			

Socio-Ecological Model and Faith-Based Health Promotion Strategies

Targeted multi-level health promotion strategies were identified using the information and feedback provided from the different church and member surveys. Table 4.9 lists various strategies as they relate to different levels of the SEM. Tailored communication strategies, motivational interviewing techniques, sharing educational materials that align healthy lifestyle behaviors to biblical truths are a few ways to target individual knowledge, beliefs, and/or attitudes to better promote individual health. Tailored communications might include a resource shared with congregants including scriptures, devotionals and/or prayer topics about the

importance of viewing your body as a temple, in the way that God sees you, and how your lifestyle choices impact it. These might also include related scriptures tied to health messages, and prayer topic guides for people ask God for the strength to make those changes, thus help to increase self-efficacy for doing so.

Several interpersonal strategies were identified from survey feedback. Family-based programs, peer-led healthy eating classes, and peer-led group activities (such as group walks/hikes) were of interest. Creating a support group for congregants to meet and openly share and pray for one another who have unhealthy relationships with food, PA or body image is another interpersonal strategy, which could in turn, positively influence one's individual perceptions, attitudes or self-efficacy to make healthy lifestyle changes. Sharing of group testimonies from others making healthy changes and how those changes influenced their walk with Christ might be another useful interpersonal-level strategy.

Church leadership and stakeholders are influential individuals and champions that can promote health within the church from an organizational standpoint. Pastors could integrate the importance of healthy food/activity lifestyles from a biblical perspective during sermons. Pastors leading and modeling healthy lifestyles by example, in addition to supporting policy changes to serve healthy foods at church gatherings for adults and youth are ways leadership can support the health of the congregation. A church can include short 'tidbits' about a healthy food/PA topic as it relates to a verse of scripture or a biblical truth in the church's regular newsletters/emails, magazines, blogs or bulletin inserts. Lastly, a church should consider establishing a health ministry within the organization which would be responsible for overseeing various health-related events, coordinating one-time and ongoing classes, activities, outreach opportunities or health-related partnerships with people/organizations outside of the faith community.

On a larger, community level, FBOs can leverage partnerships with stakeholders from a variety of organizations to better promote health within their organization, or to promote healthy behaviors for other people in the local community who would benefit. For example, the main office of church 3 (and setting for many regular youth and group gatherings) is located adjacent to an elementary school which has large playgrounds, a baseball field and open green space. To promote PA opportunities for youth, the church may want network with stakeholders/leaders from the adjacent school to see about creating a shared use space agreement, allowing the church to use some of the school's green spaces/fields during reserved times for some youth activities.

Alternatively, a church can partner with local farmers to allow church members to pick a certain amount of fresh produce which could in turn be donated to a food bank or limited-resource families, as an outreach opportunity to serve others in the community and support healthy behaviors. If interested in establishing a community garden, the church might want to consider a partnership with master gardeners from VCE who could assist them and provide gardening expertise.

Table 4.9 Multi-level faith-based health promotion strategies.

SEM Level	Targeted Intervention Strategies
Individual (Intrapersonal) Strategies	Tailored communications for congregants Motivational interviewing techniques Align biblical truths to behaviors to improve one's self-efficacy for healthy lifestyle
Interpersonal Networks & Social Support Strategies	Family-based nutrition education programs Peer-led healthy eating, cooking or PA classes Support groups to pray through unhealthy attachments to food/body image Witnessing/group testimonies of positive lifestyle changes Groups sharing healthy recipes Budget-friendly tips/recipes for large families to eat healthy
Organizational (Institutional) FBO Strategies	Pastor leadership & modeling Church-sponsored education/events Health-related tidbits, scriptures or testimonies in print or online/email formats Policy changes (e.g., active or passive approaches for healthy food guidelines) Health ministry committees
Community Relationships and Environment Strategies	FBO partnering and networking with stakeholders from: - local K-12 schools, universities - VCE agents, program leaders or master gardeners - interfaith organizations (e.g., food pantry) - community health-related companies, programs or partners - community health coalitions/advisory board Resource sharing with other FBO partnerships
Public Policy (Environment)	Farmer's markets Shared use space agreement SNAP-Ed resources Increasing access to health care and low-cost screening/follow-up

DISCUSSION

Study Limitations

As with any research project, several limitations influenced the direction and outcomes for this study. The first and most significant limitation of this study comes from the small sample size. An initial research goal was to examine how some basic differences in the characteristics of participating FBOs (e.g., congregation size, age makeup, faith denomination, available resources

for HE and PA in the built environment, etc.) might influence the number of health-related policies in place and/or the interest of FBO congregants to pursue HE or PA-related programming. A larger FBO with more HE/PA resources in its built environment (e.g., commercial kitchen, outdoor playground/recreational field or having an established community garden), or those having a more affluent congregation may already have a health ministry in place and might be more interested to engage and pursue health programming. A larger sample would have allowed us to conduct multiple regression analyses and to determine if FBO characteristics are predictive of the number PSEs in place and congregant's interest for pursuing future initiatives upon completion of this study. Furthermore, the small sample of three Christian churches of predominantly affluent members limits an ability to generalize findings to other FBOs, faith sectors, and populations that are interested in pursuing these types of programs.

Implications for Research and Practice

Previous formative research with FBO leaders, Cooperative Extension agents and program assistants working with FBOs highlighted the importance of creating projects that are built on mutual trust and respect, with aligning goals, shared decision making power and key stakeholder interest. FBOs historically have a lack of trust toward researchers, simply as a means for conducting research; this mistrust has been especially prevalent in African American faith communities who have sadly been marginalized and misused by researchers in the past.[7] These negative stigmas towards outsiders could significantly impact the willingness to participate and make recruitment more challenging.[36,37] Thus, researchers for this study found it especially important to create an environment that supports mutual trust and respect while attempting to partner and work with faith communities in this current project.

Researchers made several adaptations throughout the planning of this integrated research-extension study, in order to promote a mutually beneficial relationship with FBOs that was built on trust and respect. First, a convenience sample of three FBOs was used; potential partners were identified by networking with known FBO attendees and other community stakeholders affiliated with FBOs. One reasoning for a convenience sample had to do with challenges faced obtaining study approval, and time constraints for recruiting FBOs. Final approval to recruit was in December, which was coincidentally the busiest time of the year for churches. After attempting to contact a few FBOs, two leaders initially expressed that they could not even talk about the

project until after the New Year. The initial timing and low response/interest from FBOs led to researchers pursuing a convenience sample for the current study. One beneficial aspect for using a convenience sample is that the primary researcher already had a foot in the door during the recruitment period, due to existing relationships with various members or workers involved with the FBOs. Having somewhat of an initial relationship helped to create a trustworthy environment from the start of the project.

Another reason for using a practice-based approach with a smaller convenience sample was due to a concern of not being able to meet potential long-term programming needs and interests of participating FBOs. As mentioned previously, the researcher shared a report of FCA and MHIS results with FBO leaders that identified the most salient health interests. Included in this report was a list of ideas and opportunities to promote a healthier congregation, along with a list of potential resources from VCE's Family Nutrition Program that might help to align with their interests. The initial purpose for sharing VCE resources with FBOs was to create a more mutually beneficial partnership that would support their future health programming interests and pursuits and help sustain the partnership. From a practical viewpoint, researchers were concerned that having a large sample of FBOs interested in obtaining nutrition education/programming resources from VCE all around the same time could potentially be burdensome for VCE staff if they were not prepared to take on those tasks at the time. Therefore, a smaller sample of FBOs was also thought to help overcome this potential barrier.

Conclusions and Lessons Learned for Future Research

Lessons learned throughout this study shed light on some pragmatic and contextual factors to consider for making adaptations to improve the next iteration and recruitment wave of FBOs; specific considerations relate to the adaptability of MHIS topics and language, as well as the flexibility of the researcher to adapt program components and compensation to fit the desires of each FBO. First, it was clear that the MHIS questions and language was originally written in a manner that could be used as a general assessment for a variety of faith settings. After meeting with participating FBO leaders and lay leaders, it became increasingly clear that parts of the MHIS should be adapted for each faith community. The validated questions assessing HE and PA habits should not be changed but could be expanded on to include more HE measurement topics (e.g., fat intake or sugary dessert food intake behaviors), if desired by FBO leaders. The

questions used for gauging interest in various HE/PA-related health topics should be modified to best fit the language, available space, resources, and other general characteristics unique to each church. In regards to language, the phrase "faith community" is used throughout the survey to refer to the FBOs congregation or church. To make the survey sound more relevant for participants, the term "faith community" should be replaced with terms such as church, congregation, assembly or parish, and "leaders" should be replaced with pastor, priest, minister, etc., – whichever terms most appropriately reflect the terminology commonly used in each setting.

Additionally, some MHIS were too general for the FBO and could be reworded, whereas other topics and questions could be added to reflect the various ministries and outreach programs the FBO may already be involved in. For example, one statement assessing PA interest reads: "I am interested in participating in team activities." This does not specify *what* type of team activities; thus, results might be a little too general to guide specific planning of future "team" activities, and members may not be likely to indicate interest in such a generalized statement. For example, during a discussion with a church leader, the researcher learned that several congregants previously participated in a church softball team/league in summers past. Additionally, a small group of females from another church expressed interest to their leaders in starting a walking group for women from the church/community to socialize, encourage, and pray with one another while being active. Given these examples, it might be appropriate to modify the survey questions to give specific examples of team activities based on past interests and activities pursued within a given FBO. Alternatively, one participating FBO included had a food bank on-site that is run by volunteers. During initial meetings with a church leader, it became clear that there was potential interest for incorporating more nutrition education opportunities and recipe resources to share with the people who receive produce and other foods from the food bank on a regular basis. Knowing this, a question in the member survey could have been added to gauge congregants interest in getting trained to deliver nutrition education classes for food bank recipients that would help teach and empower them to be able to make healthier food dishes with the various types of fresh produce available at the food bank. These are just a few examples of how member surveys could be adapted to more appropriately fit various FBO settings.

From a practitioner's standpoint, more formative and qualitative research to better understand the spiritual and organizational contextual factors motivating FBOs to pursue or engage in various health-related education, programming or outreach opportunities. How do those outreach opportunities and initiatives (e.g., food pantries) begin? Are some leadership initiated, or are they initiated by church members then passed down over time? Also, how might a faith denominations religious/spiritual and cultural perspectives or beliefs influence the health interests of its congregation and/or the direction or focus for health outreach initiatives within the faith community as a whole? For example, feedback from church #3 respondents indicated the potential dangers of focusing too much on one's food/activity behaviors, and how that could lead to idolizing self-image and putting that above your devotion to Christ. Another question one might want to pursue to better know the culture of a FBO might focus on understanding how open congregants are about discussing healthy and unhealthy lifestyle behaviors – whether they be food, PA, smoking or alcohol use. The feedback from two respondents from church #2 described earlier and shared in table 4.7 points to this related contextual issue. Perhaps the parishioners from that church find the topic of discussing (good and bad) personal lifestyle behaviors to be taboo and inappropriate; and perhaps this was the reason why respondents were more uninterested in health topics than they were interested in them. With the growing number of FBO programming efforts, research to identify the religious and cultural factors influencing the direction and interests of congregants from various denominations would be extremely valuable.

In conclusion, the FCA and MHIS utilized in this study are relatively easy and feasible methods for identifying the primary HE/PA-related PSEs from three churches and related health habits and interests of congregant members, in order to align member interests with available resources from each church. A hope is that a better awareness of interests and resources could help empower FBOs leaders and congregants to make informed decisions when pursuing health promotion opportunities within their FBO. Lessons learned from this study highlighted the importance of balancing flexibility in designing member interest survey items to reflect the culture and setting of each individual FBO, along with incorporating valid and reliable tools to accurately measure individual health behaviors and habits. Despite several challenges and limitations from the small sample, preliminary findings from this feasibility study helped determine further iterations and testing of these surveys in various FBOs to be appropriate and

should be pursued. Furthermore, a significant gap exists in the research related to suitable and effective methods for assessing the health habits and interests of faith communities, in order to identify more appropriate partnership opportunities between FBOs and other community and academic sectors. Expanding on the knowledge gained in the current study by conducting assessments with a number and variety of FBOs would significantly contribute to this emerging field of research with faith-based settings and promote more positive interactions and opportunities between academic and faith sectors.

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Chapter 5. Examination of Factors Influencing the Acceptability of a Faith-Based Nutrition and Physical Activity Education Program: A case study

ABSTRACT

Introduction: The Faithful Families Eating Smart and Moving More (FFESMM) program is a practice-tested intervention targeting multiple levels of the socio-ecological model through: group-based nutrition education sessions integrating spiritual components (e.g., scripture), along with policy, systems, and environmental (PSE) changes implemented in churches targeting predominantly low income/resource populations. A trained peer educator delivers the nutrition education program, and a SNAP-Ed agent from CE assists with PSE changes. FFESMM has been implemented throughout various churches across North Carolina. The purpose of this study was to implement FFESMM into a small church in Virginia and examine the acceptability from the perspectives of VCE and FBO stakeholders involved in this project.

Methods: A mixed methods approach guided by CBPR principles was used to: 1) assess member's health habits and interests, 2) assess, develop and evaluate PSE changes at the church setting, 3) evaluate a 6-week faith-based nutrition education program (FFESMM) for adult congregants, and 4) interviews stakeholders (church lay leader, peer-educator) regarding various aspects of the FFESMM program post-implementation.

Results: Member health interest surveys indicated 50% of surveyed congregants (n=18) did not meet recommended fruit/vegetable intake and 82% did not meet PA recommendations. Eight adults participated in the nutrition education program, significant changes were identified in two food/PA related behaviors post-program. Results of stakeholder interviews (n=2) exposed a need for culturally sensitive recruitment materials, inclusion of more spiritual themes into the FFESMM curriculum, and a greater focus on and resources to improve program sustainability. Differences arose in stakeholders' perceived importance of having shared decision-making power, and confidence in having their goals met during the partnership.

Discussion: Findings helped guide future program iterations with other churches in Virginia. Limitations arose from a small sample, staffing changes, survey issues, and partners not fully utilizing all available curriculum materials. Strategies for developing culturally appropriate materials, increasing buy-in, institutionalization and sustainability of nutrition education program and PSE changes are discussed.

INTRODUCTION

Faith-based organizations (FBOs) serve as a practical setting for promoting health and disease prevention through delivery of health education and programming. The strong social networks, familiar setting, organizational structure, deep rooted values and beliefs that align with caring for one's body and health are all positive characteristics of FBOs and one's faith, which can be leveraged to encourage and adopt healthy behaviors.[1,2] Multi-level partnerships that collaborate to develop and implement health promotion programs and policies allows a greater opportunity for program reach and for results to be sustained when they are implemented into settings, such as FBOs, which already exist and likely be part of their community for many years. Cooperative Extension has a long history of partnering with FBOs to promote healthier and stronger communities. Since the early 1900s, these two groups have partnered to promote community renewal.[3] Although these groups may be in different domains, from a local perspective, Cooperative Extension and FBOs have aligning altruistic visions of assisting communities and empowering individuals to improve their lives – whether that be through agriculture sustainability efforts, financial management, health education, or through faith and spirituality. Despite their history, these partnerships have seen a decline over the past few decades.[3] Less is known about the processes involved related to these partnerships for the purpose of planning and implementing health promotion programs using an approach that fosters mutual trust, respect, and collaboration to promote sustainability of health promotion efforts in local communities.

Participatory Research Approaches for FBO Partnerships

Community-based participatory research (CBPR) is a helpful approach for conducting health promotion research in a collaborative way that fosters trust and mutual respect among partners.[4,5] Recognizing the faith community as a unit of identity, building on strengths and resources within the community, facilitating collaboration among all partners, promoting a co-learning environment, disseminating findings to all partners, and addressing health from a positive and ecological perspective are some of the CBPR principles most applicable to this project.[4] This research approach seeks to identify and build on existing assets, strengths, resources and relationships to support processes involved in carrying health promotion programming; and is particularly useful when applied to academic-community partnerships

working together to promote and improve health, especially when one or more partners have a long history of distrust in research. African American churches have frequently been mistreated by researchers throughout history – where researchers have treated churches as labs simply to be used for a research study/program and then leaving as soon as the project completed with no follow up or care for sustainability. These negative past experiences have led to a lack of trust in people representing academic sectors by FBO leaders and congregants.[1,5] Findings from previous literature reviews of faith-based health promotion programs and from the formative research of study investigators, emphasized the use of participatory approaches as being a key characteristic to promote successful FBO partnerships and programming initiatives.[1,6,7]

Faithful Families Eating Smart and Moving More Program

The Faithful Families Eating Smart and Moving More (FFESMM) program is a practice-tested faith-based health promotion program that has been implemented in limited-resource faith communities across various regions in North Carolina. This program applies several evidence-based intervention strategies across multiple levels of the socio-ecological model, including: social support for health eating and physical activity, comprehensive nutrition programs in one setting, changing access and availability to favor healthy foods and beverages, and increasing access to places for physical activity.[8] EFNEP staff (SNAP-Ed Agents), local faith communities, and Program Assistants with the SNAP-Ed program work collectively to plan and implement various aspects of this program in North Carolina churches.[9] To date, no one has fully pursued implementing FFESMM within limited-resource faith communities in Virginia. The current project adapted FFESMM program components to fit the needs of a limited-resource church in a rural Virginia town, while keeping intact several core program elements (described below).[8]

1. *Recruit and train a program assistant* to act as nutrition/physical activity educator for the program.
2. *Recruit a faith community* to deliver the program.
3. *Recruit a lay leader* from the faith community to connect with program participants and use scriptural readings or faith-messages to connect health information for faith community members.
4. *Administer health assessments* (Member Health Interest Surveys) to faith community members at the start of the program.

5. *Recruit faith community members* to participate in nutrition/physical activity sessions led primarily by a Peer-Educator.
6. Administer environmental and policy assessments (Faith Community Assessment) with a lay leader pre- and post-program.
7. *Commit to at least one environmental change* (i.e., post walking routes with distances around the church parking lot/building space) the and *at least one policy change* (i.e., requiring fresh fruit to be a dessert option at church meal gatherings).
8. *Develop and implement policy and environmental changes* with input from partners and assistants from outside community organizations if necessary.

Knowledge Gaps and Purpose for Research

Despite the growing body of literature about faith-based health promotion research and encouraging dissemination efforts from the FFESMM program throughout North Carolina, there is still little known about the processes involved of academic-FBO community partnerships with regards to planning and implementing health promotion programs. Specifically, what are some of the environmental, cultural and contextual considerations that might hinder or promote the success of a faith-based health promotion program adapted to be delivered in the real world? What might be some useful approaches to pursue these programs in FBOs in a way that fosters mutual trust, respect, and collaborative learning to improve sustainability of health promotion efforts in faith communities? As the field of faith-based research grows, it is becoming increasingly important to have a deeper understanding of these contextual factors and how they might relate or be applied into other settings. Therefore, the purpose of this research is to fill these knowledge gaps by providing information about various processes and factors related to an academic-FBO partnership established for the purposes of implementing a faith-based nutrition/physical activity education program and establishing healthy policy and environmental changes at the church.

METHODS

Study Design and Procedures

A mixed methods approach, guided by CBPR principles and the SEM for targeting multiple levels for influencing behavior change, was used to carry out this case study evaluation.

In the fall of 2016, a partnership was initiated between a SNAP-Ed agent, a peer educator from Virginia Cooperative Extension, and a pastor representing a small Methodist church located in rural, low income town of Virginia's Eastern Shore region. Soon after then, a graduate student researcher from Virginia Tech and a congregant lay leader from the Methodist church joined the partnership to help with four main study components: 1) to assess the church's environment and members interests related to healthy eating (HE) and physical activity (PA), 2) to deliver and evaluate a modified group-based FFESMM program with adult congregants, 3) to develop and implement policy, system and environmental (PSE) changes to promote positive HE/PA behaviors at the church, and 4) to gain stakeholder perspectives and experiences regarding various partnership/project aspects. All study procedures were approved by the Virginia Tech IRB. An approval letter can be found in Appendix N.

Part 1. Kick-off Luncheon Event with Church and Member Surveys

A week prior to beginning the ESMM program a 'kick-off' event took place at the church immediately following Sunday services, which included a free lunch provided by the research team. The purpose of having a kick-off luncheon was to provide an opportunity for the peer educator to introduce her role with the project, details about the FFESMM program, and then recruit participants to sign up for the program; it also provided the student researcher an opportunity to introduce her role with the project, the purpose for the MHIS, and then recruit adults to complete the MHIS during the luncheon. A post-church meal event was chosen by community partners as the preferred avenue for delivering the surveys for two reasons: first, it provided an opportunity for academic and community partners to meet congregants and build interest in the program and surveys, and second, it provided a comfortable environment and setting for congregants to converse with one another and with partners in a social manner, thus build and grow relationships in a way that fostered mutual trust and respect. This informal setting to meet and recruit potential participants allowed the research team partners to build relationships and trust, while providing congregants a time to ask questions about the project.

The overarching goal for the luncheon was to help congregants feel that, although this project involved a research component, it also served and benefited them greatly by providing free nutrition education classes for congregants and empowering them to pursue PSE changes in their church based on their own interests. A secondary goal for this luncheon was to be used as a

means for delivering faith community and member surveys. The MHIS was used to identify the most salient health behaviors and interests of church congregants. After introducing the purpose of the MHIS, the student researcher passed them around the room for adult congregants to review and complete. Upon completion, each participant was given a $10.00 Walmart gift card as an incentive and appreciation for their participation. Additionally, the FCA was used to assess the policies, systems and environment (PSE) of the church as they relate to healthy eating (HE) and physical activity (PA) behaviors. One FCA was completed by a church lay leader during the luncheon, with the researcher to probe for more details. The FCA and MHIS results were later used to identify resources and opportunities for creating a more healthful environment and establishing health-related PSEs within the church.

Part 2. Deliver and Evaluate Adapted Faithful Families Program

As mentioned previously, the Faithful Families ESMM program is a practice-tested intervention based on socio-ecological model, CBPR approach and Peer Education model, which has been tested within the North Carolina EFNEP program.[8,9] The ESMM program includes nine weekly nutrition education sessions (6 core + 3 additional/optional) incorporating faith-based/spiritual messages, along with 1-2 policy/environmental changes implemented at the faith community setting.[2] A peer educator delivers six core nutrition education sessions, lasting approximately 60-90 minutes each. Three of the core sessions include a "food experience" component, where participants prepare food that is related to a specific nutrition topic, such as kitchen safety, or ways to add more fruits and vegetables to a meal. Participants are given small incentives coinciding with each session, such as measuring cups, food thermometers and exercise bands. All incentives and food for the food experiences is provided by SNAP-Ed, with no cost to participants. A complete description of session topics and incentives can be found in table 5.1.

After completing the six core sessions led by the peer educator, participants had an option to choose whether or not they would like to have a lay member of the church to be trained to lead three additional (and optional) sessions. If so, an interested lay member of the church would be provided with the training, curriculum and materials to deliver three additional sessions, with assistance from the peer educator. Lastly, a celebration party took place at the church after FFESMM program participants completed the core sessions led by the peer educator. The celebration was held at the church, following Sunday worship services, where participants and

their family members joined together to celebrate one another's successes and eat lunch together. The unique aspects about this celebration lunch was that the food and beverage items were provided by all partners (rather than only the researchers, as in the kick-off luncheon) and prepared by a few of the program participants using recipes that came from the 'cooking experience' sessions. Each program participant was celebrated during the event, were given a certificate of completion and participants shared positive testimonies from the program with their friends and family at the celebration party.

Table 5.1 A description of adapted ESMM session topics with incentives.

TOPIC	DESCRIPTION	INCENTIVE
1. MyPlate	Families learn how to use MyPlate as a guide to eating smart and to balance energy from food and physical activity.	MyPlate Magnet
2. Shop for Value, Check the Facts	Families learn to stretch their food dollar and use labels to compare different foods.	Shopping Pad List
3. Choosing More Fruits & Vegetables	Families learn how to add a variety of colors of fruits and vegetables to their plates each day.	Liquid Measuring Cup and Vegetable Brush
4. Plan: Know what's for Dinner	Families learn ways to meal plan, shop and prepare foods to make smarter eating and activity choices at home.	Exercise Resistant Stretch Bands
5. Fix it Safe	Families learn how to keep food safe to prevent illness.	Meat and Refrigerator Thermometers
6. Smart-Size Your Portions	Families learn how to use proper portion sizes to eat smart and be healthy.	Measuring Spoons

Part 3. Develop, Implement and Assess PSE Changes

The FCA tool served two main purposes: 1) to identify and develop policies and environmental resources available at the church for promoting healthy behaviors, and 2) to assess and evaluate PSE changes implemented within the church setting post-program. The student researcher worked with the church lay leader and pastor throughout the process to identify, plan, and implement PSE changes at the church. The initial step for the PSE component involved the researcher developing a report using results from the FCA and MHIS completed at the kick-off lunch. The report highlighted the assets, resources and current health initiatives of the church identified from the FCA, along with the health behaviors (HE/PA habits) and health interests of congregants from the MHIS. This report, compiled by the student researcher, was shared with the church pastor and lay leader; and served as the first step to identify potential avenues of interest for implementing PSE changes. After sharing the report, the researcher worked with the church lay leader and pastor to narrow down and identify at least two PSE changes of interest to

them and the congregation. Once identified, the researcher developed a written plan describing at least 1-2 PSE changes the church would commit to, using input from the lay leader. The following was articulated in writing to describe each PSE change: *why* the PSE change was chosen, *when* the change will take into effect, *how* it will be implemented, *what* resources are needed to implement, and *who* will be responsible for overseeing its progress. Additionally, Biblical scriptures and language aligning with each policy and with the church's mission statement of faith were incorporated into each policy document to make more meaningful for the church.

As previously stated, the secondary purpose of the FCA was to assess PSE changes implemented within the church setting post-program. The FCA functioned as a pre-post survey to fulfill this part and evaluate how the PSE changed after the various program components were completed (conducting a pre-FCA, MHIS, creating policy documents and delivering ESMM program). To accomplish this purpose, a lay leader completed the FCA at two separate time points. First, during the kick-off event, then again three months post-FFESMM program completion, both were completed with the help of the researcher to clarify responses and/or probe for details. A three-month period was given to allow ample time for PSE changes to be pursued within the church.

Part 4. In-Depth Stakeholder Interviews

The final portion of this study involved in-depth interviews, with key stakeholders (the SNAP-Ed peer educator, and church lay leader) who were primarily involved in this partnership. The objectives for these one-time interviews were: to gain insight into different aspects of the collaboration and partnership, and to identify assets, challenges and lessons learned from delivering the ESMM program and implementing PSE changes. Interviews were conducted by the researcher and took place over the telephone three-months post-program completion. Interviews were audio-recorded and later transcribed verbatim by a member of the research team. The CBPR Partnership Readiness model was used to guide the development of open- and closed-ended questions for stakeholder interviews.[10,11]

Participants and Recruitment

Study participants involved in various parts of the project included the pastor, a lay leader and congregants from a small church located in a rural town (<10,000 population) in the Eastern Shore area of Virginia, as well as a VCE SNAP-Ed peer-educator working and residing in that area. This particular church was selected for two main reasons; first, the reverend expressed interest in offering health programming and/or educational resources to his church members, and second, the church is located in an area largely composed of a low/limited-income population, which made it an eligible setting for providing SNAP-Ed programming at no cost to the church. The term 'low/limited-income' designates that at least 50% of the people from the church or people living in the town are: eligible for Medicaid, eligible for free/reduced school lunches, are participating in SNAP, and/or are living at or below 200% of the federal poverty level. Targeting a predominantly limited-resource population allowed the church to link their economically disadvantaged members to nutrition/physical activity education opportunities and resources; thus, empowering them to eat healthier, be more physically active and participate as an advocate for supporting healthful policy and environmental changes in their community.

Church congregants were recruited during the kick-off luncheon to participate in completing the MHIS and to participate in the FFESMM program led by the peer educator. Prior to the luncheon, recruitment flyers were posted at the church and announcements were made during church services to promote the kick-off luncheon and recruit participants for the FFESMM program. A sample recruitment promotional flyer for the ESMM class can be found in Appendix O. All adult members or regular attenders from the church were eligible to participate in the MHIS and the FFESMM program. These MHIS surveys were distributed to congregants at a single time point and completed during the luncheon. The student research team member explained the dual purposes of the MHIS: 1) to provide information for the church to use to guide healthy changes for the church, and 2) to contribute to a graduate students' research and used for publishing purposes. The church lay leader was initially identified by the pastor to join the partnership, and act as the primary church representative, and the communication liaison between the researcher, peer educator, program participants and the rest of the congregation. After joining the partnership, the lay leader was recruited by the student researcher partner to participate in the pre/post FCA and follow-up in-depth phone interview. Similarly, the peer educator partner was recruited by the student to participate in the in-depth interview post-program completion.

Consent and Approval

The consent process for the MHIS, FCA and in-depth interviews all took place during the kick-off luncheon in person. After describing the study details, adult luncheon participants were each given a hard copy of the MHIS with an attached an implied consent cover page describing overall study details and included two checkboxes for participants to indicate one of the following two options for consenting to participate: 1) a checkbox to participate and only allow their MHIS results to be shared with the church to inform health programming, or 2) a checkbox to share MHIS results with the church and allow their results to be used for the student's publishing and dissertation purposes. This one-time survey did not ask for any personally identifiable information; therefore, only minimal consent was needed. Participation was voluntary, so luncheon congregants who do not wish to participate may simply decline participation in the research component. A copy of the implied consent cover page for the MHIS can be found in Appendix P.

Participants from the ESMM program were evaluated using the 'entry' and 'exit' forms that are currently used as a pre/post program evaluation with all EFNEP programs and SNAP-Ed programs in Virginia. These pre/post surveys (also referred to as "Behavior Checklist") have been tested for reliability and validity in varying levels and are systematically used in reporting for their programs.[12-14] It is a requirement for all SNAP-Ed program participants to complete these forms, which are used for the purposes of reporting outcomes back to VCE and evaluating program effectiveness in making changes to dietary and physical lifestyle habits. In order to minimize burden of completing too many surveys, the research team obtained consent to share de-identified copies of their Entry and Exit surveys with the research team in order to evaluate the program and to use for research and publishing. A cover page was added to the front of the entry (pre-) survey describing the purpose for obtaining consent for research (Appendix Q). During the luncheon the consent was read aloud by the researcher and shared with participants that signed up for the FFESMM program. Similar to the MHIS, participants provided consent for sharing pre/post survey results by checking one of the following two boxes indicating their consenting option: 1) to only allow their results to be shared with SNAP-Ed to inform health programming, or 2) to share results with SNAP-Ed and participate in the research component, allowing their results to be used for publishing and dissertation purposes of the graduate student.

Selecting a consent box and completion of the surveys indicated volunteered participation and consent for both pre- and post-surveys. In order to maintain confidentiality and anonymity, the peer educator shared a copy of the surveys with the researcher after removing all personally identifiable information from them. Additionally, each survey was given a unique participant identification number, which was used to match the pre/post surveys results.

Signed informed consent for the in-depth interviews and pre/post FCA also took place during the potluck event. Key stakeholder partners previously expressed interest in being involved in the in-depth interviews; and were provided an emailed copy of the consent document to review prior to the lunch event. Written consent took place on the day of the potluck event; documents were reviewed with the researcher, then signed by each stakeholder involved in the FCA and interviews. A copy of these consent forms can be found in Appendices R and S.

Outcome Measures

Member Health Habits and Interests Outcomes

The Member Health and Interest Survey (MHIS) found in the Eat Smart Move More (ESMM) toolkit and planning guide for faith communities (www.faithfulfamiliesesmm.org) was used to assess the current health status of church congregants, as well as their interest in partaking in nutrition and physical activity education and/or programming opportunities at their church (Appendix T). Adult congregants completed these surveys during the kick-off lunch, with a research team member of the research team available to help if necessary. Outcomes from the MHIS survey provided relevant information regarding the following outcomes related to congregant's health and health interests: 1) nutrition habits and behaviors, 2) interest in nutrition-related education and program opportunities, 3) current level of physical activity, 4) interest in physical activity education and program opportunities, and 5) interest in integrating health education and health messaging using various communication forms in the church setting. Survey questions are in a "yes," "no," or "not sure" answer format. Additionally, space was provided at end of the survey allowing respondents to provide additional qualitative comments and suggestions related to their programming interests.

Currently, there is no data published regarding the validity and reliability of the MHIS, as well as the FCA. These surveys were utilized in the Faithful Families program and recognized by the Center for Training and Research Translation as a practice-tested intervention focused on

healthy environmental and policy changes within faith communities along with evidence-based behavior change strategies.[8] When church leaders were given options of more in-depth, longer adaptations and versions of the MHIS and FCA tools, they preferred using the brief versions to be more appropriate for the audience. Thus, the brief MHIS and FCA tools from the FFESMM toolkit were used.

Church Policies, Systems and Environmental Outcomes

Assessing the policies, systems and environment of the faith community is an important component to help identify which areas are best suited to make healthy changes in. The Faith Community Assessment (FCA), found in the ESMM toolkit and planning guide for faith communities (www.faithfulfamiliesesmm.org) was used to assess organizational level food and physical activity related environment policies and resources available at the church. The full FCA consists of 91 items, which was thought to be too lengthy by church partners. Therefore, in the spirit of remaining true to CBPR principles,[4] a shortened version of the FCA from the toolkit was utilized (Appendix U). Outcomes from the FCA were categorized into the following sections: 1) health and wellness infrastructure, 2) physical activity – policies and environments, 3) physical activity programs and education, 4) healthy eating policies and environments, and 5) healthy eating programs and education. Survey questions are in a "yes," "no," or "not sure" answer format. The FCA was completed by a church leader during the luncheon and again three-months post-program to evaluate PSE changes.

FFESMM Program Outcomes

During an initial meeting, partners expressed concern about making the project feel "too research heavy" when describing potential evaluation approaches for the ESMM program. In order to fit the needs of the FBO and stay true to CBPR principles,[4] the ESMM program was evaluated using data from the Pre/Post surveys currently used to evaluate all SNAP- Ed programs (Appendix V). The Entry Form survey is used to obtain information about each participant's demographics (age, sex, race/ethnicity, and education), dietary and physical activity habits, their use of social media platforms and preferences for electronic resources.

Dietary habits questions relate to the types of food consumed, and how they plan and prepare foods; responses are closed-ended using a Likert scale (No/Never, Sometimes, Often,

Very Often, or Almost Always). Similar to the dietary habits assessment questions, the physical activity-related questions are also scored using Likert scale responses (No/Never, Sometimes, Often, Very Often, or Almost Always). The dietary and physical activity-related pre/post evaluation questions are listed in the table below, along with the lesson(s) corresponding to changing the behavior outcome. An addition to the post-survey was a section with space for participants to share their goals met at the end of the FFESMM program and a success story from their class experiences. These meaningful qualitative statements are also shared in the results.

Table 5.2 Pre/post survey evaluation items with corresponding lessons.

Domain	*Lesson Number and Title*	*Evaluation Question*
DIETARY HABITS	1. MyPlate	I eat 2-3 servings of milk, yogurt and cheese each day. When I eat grains, I eat whole grains.
	2. Shop for Value, Check the Facts	I always shop with a grocery list.
	3. Choosing More Fruits and Vegetables	I eat 2 or more servings of fruit each day. I eat 3 or more servings of vegetables each day. I can get fresh fruits and vegetables
	4. Plan: Know What's for Dinner	In the last year, I could not afford to eat healthy foods.
	5. Fix it Safe	I refrigerate or freeze foods within 2 hours after serving.
	6. Smart-Size Your Portions	I eat low-fat foods instead of high-fat foods. When I eat protein, I eat lean protein.
PHYSICAL ACTIVITY	1. MyPlate	I walk, take the stairs, run with my kids, and take other opportunities to be physically active.
	4. Plan: Know What's for Dinner	I break up the time I spend sitting at home. I plan on using the physical activity resources and videos from class at home. **only in post-survey*

In-Depth Interview Outcomes

The purpose of these interviews is to obtain feedback from key stakeholders (peer educator and church lay leader) regarding their perspectives and processes involved in carrying out the project. The objectives are to gain insight into different aspects of this collaborative partnership, and to identify assets and challenges from partners when planning and implementing the ESMM program and PSE changes in the church. The CBPR Partnership Readiness Model was used to explore various aspects about this partnership, project and potential for sustainability. CBPR Partnership Readiness is defined as "the degree to which academic-community partners *fit*, have the *capacity* and *operations* necessary to plan, implement, evaluate, and disseminate CBPR projects to facilitate mutual growth of the partnership and positively influence targeted social and health needs in the community."[11] Open and closed-ended

questions adapted from the CBPR Partnership Readiness toolkit were developed to explore the three main dimensions of the readiness model (goodness of fit, capacity, and operations) for the in-depth stakeholder interviews.[15]

There is slight variation in the interview questions asked for each stakeholder. However, the general topics were consistent throughout both interviews and included questions from the following five topic areas: 1) *Goals, Objectives and Goodness of Fit* – describe the goals for the partnership and the importance of having partners with similar values and have certain characteristics or qualities to them; 2) *FCA, MHIS, PSE Changes, ESMM Program* – explore the impact of the MHIS and FCA surveys and their usefulness for identifying potential PSE changes, the method for recruiting FFESMM program participants, comfort including faith-based/spiritual components and obstacles encountered during those processes; 3) *Compatible Climate* – examined the past history and experiences (both positive and negative) of former/related partnerships; 4) *Project and Partnership Capacity* – articulated the appropriateness of partners roles, adequacy of resources available, and intention to continue the partnership or program; and 5) *Partnership Operations* – perspectives regarding communication between partners, the distribution of power for decision making, and the lessons learned throughout this entire project.

In addition to open-ended questions, participants were asked closed-ended questions throughout the interview, and rate several different areas related to partnership readiness. For example, to better understand goodness of fit, each partner was asked to rate 'how important it was for them to have shared values and goals with their partners' on a scale from "1" to "10." Other topics rated included: comfort level incorporating faith messages into the program, overall communication between partners throughout the project, and the importance of having shared, equal power and decision-making responsibility amongst partners. Full interview scripts for the church leader and peer educator can be found in Appendix W.

Data Collection and Analysis

Faith Community Assessments and Member Health and Interest Surveys

Data was collected by paper survey at various time points throughout the project and analyzed using SPSS® Statistical Software (Version 25, IBM Corp., Armonk, NY, 2015). The unit of analysis to assess the health and determining congregant's interest in partaking in nutrition/physical activity education was at the individual level, with participating congregant

members. Data from the MHIS was collected at one-time point per participant during the kick-off lunch, then analyzed by the student researcher. Data from the FCA was collected at two time points (pre- and post-FFESMM program). The unit of analysis for assessing the health environments and policies the faith community by completing the FCA was at the church level. The primary purpose of the MHIS and initial (pre-) FCA is to serve as a needs assessment to identify health interests, assets and guide PSE change recommendations. Descriptive analyses were used to summarize average health characteristics and health interests of participants who completed the MHIS, and to compare health behaviors to recommended health behaviors. Additionally, qualitative information gleamed from the pre-FCA was summarized to elicit potential environmental and organizational resources available that aligned with the health interests of surveyed congregants.

FFESMM Program Evaluation

Data collected from the entry and exit surveys were used to evaluate and measure changes in diet and physical activity after completion of the FFESMM program. Data was organized and analyzed using IBM SPSS® Statistical Software ((for Mac) Version 24, IBM Corp., Armonk, NY, 2016). Basic descriptive statistics was used to summarize average demographics and characteristics of participants. Food and physical activity-related behaviors were measured using a 5-point Likert scale, response options included: No/Never, Sometimes, Often, Very Often, or Almost Always. To examine the effect of the ESMM program on changing participants diet and physical activity habits, pre-post response data was entered for each participant as "matched pairs" in SPSS, and a paired sample student's *t*-test was used to determine if there was a significant difference between the mean pre-post scores, based on a significance alpha level of <0.05. A paired *t*-test has shown to be appropriate for use with small sameple sizes, even with samples sizes as small as two (n=2).[16] To assess the magnitude of the difference between pre- and post-test group scores, effect sizes were examined using Cohen's *d*; and calculated by taking the difference between the pre/post score group means, divided by the pooled (average) standard deviation (SD). Effect sizes for pre/post scores were classified as: *trivial* ($d<0.2$), *small* ($d=0.2$), *medium* ($d=0.5$), *large* ($d=0.8$) and *very large* ($d=1.3$).

In-Depth Interviews

Qualitative and quantitative data was collected using a digital audio recorder and written field notes by the researcher (interviewer) during the in-depth stakeholder interviews. A thematic approach was used to identify and organize salient themes discussed by participants.[17] Audio files from each interview were transcribed verbatim, then relevant participant statements were organized and categorized as they related to various interview topics. This approach for organizing qualitative data from the interviews is useful for summarizing information in a way that highlights the most salient ideas, thoughts, common themes and patterns identified from the stakeholder interviews.[18] Quantitative data was collected in the interviews, by asking participants to rate or indicate their level of comfort or importance regarding various readiness-related topics throughout in the interview, measured by a Likert scale from 1-10. Similarities and differences in ratings are described as they relate to stakeholders rating responses.

RESULTS

Member Health Habits and Interests

A total of 20 adults completed Member Health and Interest Surveys during the luncheon, which was about half of all church service attendees that morning. However, two surveyed congregants did not consent to the research component (allowing results be used for research and publishing purposes), thus only results from n=18 consenting participants are reflected in the current results. Findings from the entire sample were only shared with church leaders.

Half (50%) of respondents reported eating the 1 ½ cups of fruit each day, 44.4% eat 2-3 cups of vegetables each day, and 38.9% reported drink regular (sugar-sweetened) sodas on most days of the week. In terms of physical activity habits, 17.6% self-reported partaking in the recommended 60 minutes of physical activity on most days each week, 35.3% are somewhat active getting 30-60 minutes of activity most days, and 47.1% get little to no activity, reporting less than 30 minutes on most days (n=17).

In general, most respondents (83.3%) were interested in having some type of regular classes on physical activity and/or healthy eating offered at the church. Compared to interest in physical activity topics, respondents were on average more interested in topics specific to healthy eating. Most (94.4%) wanted to learn how to incorporate fruits and vegetables into their diet, learn about healthy food choices, and learn about food choices and portion sizes to help manage

their weight. Sixteen (88.9%) were interested in participating in 'tasting' events to sample healthy foods at their church. Slightly less respondents (83.3%) were interested in having healthy snacks available at the church, and having healthy meals served at their church functions. With regards to PA topics, all 18 respondents wanted to learn about health benefits of physical activity, 94.4% wanted to increase their activity and see more places to be active at/around the church, and 83.3% were interested in walking as a way to increase their physical activity level. Participating in team activities was of least interest for participants, with only 11 respondents (61.1%) indicating interest.

With regards to congregant's preferences for receiving health information, most (88.9%) would be interested in receiving information they could read, listen to, or watch on their own time. Slightly fewer 83.3% would like to see health information posted in/around the church, like in church service bulletin inserts, in church newsletters or posted on bulletin boards. Additionally, 83% of respondents would like to have their leaders talk about healthy eating and physical activity topics during sermons, in messages and/or other talks by church leaders. Lastly, in terms of timing for partaking in health activities with the church, 77.8% would like to participate in health activities like physical activity breaks and/or healthy eating food tastings during regularly scheduled church events. Slightly fewer (66.7%) were interested in participating in health activities *before* services, and only 61.1% would like to participate *after* church services.

Two participants shared additional feedback about their specific interests from the overall topics and questions brought up in the MHIS, quoted below. A copy of the full MHIS report with additional 'next steps' for church leaders to begin PSE changes can be found in Appendix X.

"I need to exercise more and eat more healthy. But most times healthy foods are much more expensive. So maybe some help learning how to work that into my budget would be helpful as well and much appreciated."

"I already lead a very healthy lifestyle with diet and exercise. But I can always learn more. AND I am very interested in helping my church family and the larger community develop ways of encouraging healthy living."

Church PSEs and Post-Program PSE Changes

Baseline Church PSEs

The initial (pre-) faith community assessment revealed one potential PSE related to health and wellness infrastructure, and three PSEs supportive of healthy eating. No PSEs were

identified for the following sections: PA policies and environments, PA programs and education, or HE programs and education. With regards to health and wellness infrastructure, the church leader reported having a relationship with staff from Virginia Cooperative Extension, and staff from the local Health Department but neither of these relationships led to providing services for their members in the prior 12-months; however, opportunities for these relationships were only in their infancy the time of the pre-FCA. Three items were available under the section of healthy eating policies and Environments. A small kitchen was available in the church which included enough available space to prepare meals, such as a working oven with stovetop, a refrigerator with freezer, a sink, and a small serving bar space that opened to the larger meeting room with several tables and chairs. Second, various equipment was available inside the kitchen which could be used for preparing healthier foods, including: some pots and pans, a colander, a blender, and several metal chafers with fuel holders and fuel cans used for keeping food warm. Third, leadership has promoted healthy eating in various church sermons of the lead pastor, primarily how it healthy eating is important part of healthy living and caring for one's physical body.

Post-Program PSE Changes

The post-FCA revealed several health-related PSE changes taking place since the start of the FFESMM program. At the time of the post-FCA, three changes had begun to positively influence the church's health and wellness infrastructure. First, the church was in the process of establishing health committee with about six adults from the church. Several program attendees were interested in pursuing semi-regular group meetings with the congregation to cover various health topics and health promotion activities after completion of the 6-week FFESMM. Second, there was one female appointed to be responsible for health activities at the time of the FCA; however, she was trying to recruit one other congregant to share that leadership role with her. Specifically, she wanted an energetic African American woman from the church to help with health activities, due to the fact that congregants from a predominantly African American church were thought to enjoy having a more culturally relatable leader, as opposed to just having one Caucasian woman leading activities. Third, the relationship which was formed at the time of the pre-FCA led to nutrition education services provided to congregant members by a peer educator from Cooperative Extension, and the relationship with the health department staff led to the church being in the process of obtaining materials and signage to post at the church stating the

location was a non-smoking site. Additionally, a new relationship formed with staff from the local parks and recreation to help pursue potential PA opportunities.

Based on the interest from congregants and input from the church pastor and leader, a policy was created to support the leadership and church-wide commitment to health which included the establishment of a health ministry committee/team, along with a covenant agreement document detailing the shared vision, roles and responsibilities of the health ministry team. Ministry covenant agreements were intended for each health ministry member to sign. A copy of the church commitment to health/health ministry policy and the health ministry committee covenant agreement developed for the church can be found in Appendix Y. Additionally, though not specific to HE/PA, the pastor was interested in having a tobacco-free church campus. A representative from the health department would provide the church with free "tobacco" and "smoke-free" signage that could be posted in/outside the church building if the leader put their tobacco-free commitment in writing. Therefore, a tobacco-free policy was created in order to receive free signage resources; a copy can be found in Appendix Z.

At the time of the pre-FCA, there were no PSE items to promote PA policies, environments, programs and educational opportunities. Since the pre-FCA leadership has promoted the importance of PA and living an active lifestyle, specifically the lead pastor promoting PA during various church sermons. Second, although this had not taken place at the time, the church leader was in the process of organizing group walks for congregants. The church leader discussed a new partnership with a staff member from parks and recreation department who is responsible for overseeing a local walking trail, leads group walks and might potentially lead group walks for interested congregants, if their schedule would permit them to do so as a group.

With regards to healthy eating policies and environments, the church established guidelines for serving healthier meals for the first time; specifically, to provide water instead of sweetened tea or other sweetened drinks, to serve low-fat dairy products rather than full-fat dairy, to include fruits and vegetables, and to serve whole grains instead of refined grain food items into church potlucks and meals. The church's healthy food policy can be found in Appendix Z. Although leadership was said to promote healthy eating from the pulpit during the pre-FCA, a new addition to this was having leaders share the positive success stories during church services to point out and encourage program participants who were making healthy

changes during church services. Lastly, the implementation of the FFESMM program led to three changes impacting the HE programs and education opportunities, which included: providing healthy cooking classes, organizing nutrition-related education classes, and distributing healthy eating recipes to congregant participants during their post-program church celebration party.

FFESMM Program

Socio-Demographic Characteristics of Sample

A total of 9 people participated in the program and n=8 consented to participate in sharing their entry/exit survey results for this research. The socio-demographic characteristics of consenting ESMM program participants (n=8) are summarized in table 5.3. Participants average age was 54.6 and ranged from 26 to 66 years of age. Three people indicated their families received food assistance benefits from governmental food programs, such as Women, Infants and Children (WIC), SNAP and Temporary Assistance for Needy Families (TANF). Participants (n=6) total monthly household income ranged from $250 - $3200. Five participants said they plan on using the PA resources from class at home after the program.

Table 5.3 Characteristics of FFESMM (*n*=8) program participants.

DEMOGRAPHIC CHARACTERISTIC		N (%)
Mean Age	54.6 years	6 (--)
Sex	Female	6 (75.0)
	Male	2 (25.0)
Race/Ethnicity	Black/African American	7 (87.5)
	White/Caucasian	1 (12.5)
	Non-Hispanic	8 (100)
Household size	1-2	5 (62.5)
	3-4	1 (12.5)
	5-6	2 (25.0)
Education level	Grade 6 or less	1 (12.5)
	Grade 12	2 (25.0)
	Some college	3 (37.5)
	Graduated 2-yr college	1 (12.5)
	Post-graduate	1 (12.5)
Monthly Household Income	$1625.00 (mean)	6 (--)

Changes in Food and Activity Behaviors

Average pre-post mean scores with corresponding significance levels (*p*-value) for all 12 food and PA habits assessed can be found in Table 5.4. Across the ten items assessing food-

related habits/behaviors, all but one item yielded positive changes in pre-posttest mean differences ("I eat 2-3 servings of milk, yogurt and cheese each day"). Matched pairs t-tests revealed a statistically significant difference in how often participants shop with a grocery list (p=.011). A positive increase was identified in the pre-post scale responses for one of the two items assessing PA habits ("I break up the time I spend sitting at home"); however, matched pairs t-test revealed this difference was not statistically significant (p=.140). The Cohen's d index was calculated and used to examine the effect sizes between pre/post group scores and effect sizes were classified. Cohen's d and effect size classifications consistently align with p-values, as demonstrated by the only large effect size aligning with the only significant p-value (shopping with a grocery list). Seven small effects were seen across the other food dimensions and one medium effect for PA (time sitting at home).

Table 5.4 Comparison of food and physical activity behaviors pre-and post-program (n=8).

	Pre-Mean (SD)	Post-Mean (SD)	p-value	Cohen's d	Effect Size
FOOD HABITS					
I always shop with a grocery list.	2.25 (1.39)	3.50 (1.51)	**.011***	0.862	Large
I eat 2 or more servings of fruit each day.	2.25 (1.28)	2.63 (1.30)	.197	0.295	Small
I eat 3 or more servings of vegetables each day.	3.0 (1.69)	3.5 (1.69)	.316	0.296	Small
When I eat grains, I eat whole grains.	2.5 (1.69)	3.0 (1.31)	.104	0.333	Small
I eat 2-3 servings of milk, yogurt and cheese each day.	2.75 (1.28)	2.5 (1.69)	.451	0.168	Trivial
When I eat protein, I eat lean protein.	2.25 (0.89)	2.38 (0.74)	.685	0.160	Trivial
I refrigerate or freeze foods within 2 hours after serving.	2.75 (1.91)	3.13 (1.48)	.285	0.224	Small
I eat low-fat foods instead of high fat foods.	2.25 (1.58)	2.75 (1.39)	.104	0.337	Small
In the last year, I could not afford to eat healthy foods.	1.63 (0.74)	2.0 (1.31)	.504	0.361	Small
I can get fresh fruits and vegetables.	2.63 (1.60)	3.38 (1.41)	.170	0.498	Small
PHYSICAL ACTIVITY HABITS					
I walk, take the stairs, run with my kids, and take other opportunities to be physically active.	2.50 (1.41)	2.38 (1.30)	.732	0.085	Trivial
I break up the time I spend sitting at home.	2.13 (1.13)	2.75 (0.89)	.140	0.549	Medium

*Significant p-value <.05; Likert scale ratings: 1=no/never, 2=sometimes, 3=often, 4=very often, 5=almost always
Effect sizes classified as: *trivial* (d<0.2) *small* (d=0.2), *medium* (d=0.5), *large* (d=0.8), or *very large* (d=1.3)

Stakeholder Interviews

Two key stakeholder partners partook in the telephone interviews, both took place about 3 months post-ESMM program. The first stakeholder participant was the church lay leader, whose role was primarily to communicate between the pastor, congregation, peer-educator and student researcher. She was also responsible for helping to recruit participants and get the word out to the congregation during program recruitment efforts. The second key stakeholder interviewed was the peer educator (PE) from VCE. Her primary role was to lead the core nutrition education lessons and also to assist in various efforts related to recruiting, scheduling timing of classes, coordinating pre-program kickoff lunch event, and the post-program celebration event with other partners. Key findings of the interviews from both perspectives are described in more detail throughout this section. Quantitative, Likert scale ratings of various aspects related to stakeholders' readiness related to the CBPR readiness are described in the table below.

Table 5.5 Key stakeholder responses to readiness questions from interviews.

Readiness-Related Question with Likert Rating Scale	Peer Educator	Lay Leader
How important was it for you to have shared values and aligning goals with your other partners? *"1" = not important —— "10" = extremely important*	10	10
How confident do you feel that your values and goals aligned with your other partners? *"1" = not confident —— "10" = extremely confident*	7.5	10
How comfortable were you incorporating faith messaging into the ESMM program? *"1" = not comfortable —— "10" = very comfortable*	10	n/a
How confident are you that the church's preferences will be incorporated into the PSE changes being implemented? *"1" = not confident —— "10" = extremely confident*	n/a	8
How would you rate the overall communication between partners throughout the entire project? *"1" = poor —— "10" = excellent*	10	10
How important is it for you to have shared, equal power and responsibility for decision-making amongst partners? *"1" = not important —— "10" = very important*	10	4
**n/a denotes the question was not included in the interview*		

Partnership Goals, Values and Long-Term Vision

Both the PE and lay leader envisioned working with partners over a long-term period in similar fashions. This long-term partnership primarily involved having the PE lead the 6 core nutrition education sessions, followed by a semi-regular (monthly) ongoing nutrition group

support sessions for participants where the PE could come in from time to time to lead a refresher course. The main difference is that the PE intended for herself to act as a support long-term, whereas the lay leader did not feel as though the PE was able to do that as part of her current job capacity, as described below.

> PE: "*I envisioned working with [the church] over a long period. To first initiate the program and introduce them to the six nutrition lessons; and then from there, to have them set up where they could have maintenance classes from time to time."*
>
> Lay leader: "*I would have loved there to be more ways to interact with [the peer educator] later on, maybe come back here and teach [congregants] every six months. I know that's not the kind of support she can offer through her program. We have to develop that kind of support within ourselves."*

With regards to the most important values considered essential for a successful partnership, the lay leader described cultural appropriateness, sensitivity and understanding to be the characteristic of utmost importance for this specific partnership, and related partnerships between community, academic and faith sector partners. Several points were made throughout her interview praising the cultural appropriateness of having an African American peer educator lead the nutrition classes, and how well she was able to relate to the audience and make the importance of having well-balanced diet be something of importance to them. For example:

> *Lay leader: "Cultural appropriateness and sensitivity [are essential characteristics of a successful partnership and is strongly evident in our PE partner]. I thought [the PE] was fabulous and she fit hand and glove. It was so good that there was somebody of her qualifications as a teacher, and also her as an African American. It would've been completely different to have me, or a thin white girl come in and teach the [nutrition] class. The way she flowed with the community, she was one of them and could speak to them as someone who understands the community….and I think she understands the cultural role of foods and the role that food plays for comfort in a community where a lot of people deal with impoverishment; she instinctively understood that role of comfort and culture and food in that community. It was pitched perfectly … And when she talked, [participants] would listen; and a couple of people have lost A LOT of weight!"*

When asked to rate the *importance* of having shared values and goals with program partners on a scale from 1 to 10, both rated this with a "10," to be extremely important to them. Alternatively, when asked to rate their *confidence* in feeling their own values and goals for the partnership/program aligned with partners, the PE rated her confidence at a 7.5, whereas the lay leader rated herself as extremely confident, indicated by a score of "10." The two main reasons

for the PE scoring herself with a lower confidence level related to participants uninterested in making behavior changes and having a career change preventing maintenance of the partnership (described by her in the following quote). Specifically, the PE reported having a couple participants interested in the nutrition education component, but then would not acknowledge any personal need to change their own problem behaviors. Second, the PE left her job to pursue a different career shortly after the program, therefore is unable to maintain the partnership as it was previously.

> PE: *"Everything's not going to be perfect [in a project], and there were quite a few changes [throughout the project]. Then there were maybe 1 or 2 participants that came to get the nutrition information, but already had their minds set that there weren't any goals (nutrition/dietary change goals) they needed to work on. ... Because I accepted a new job I was not able to continue that partnership with [the church]. Hopefully things have been set in place, so that whoever is hired in my previous position is able to pick up and continue that partnership. There were a lot of things I would have liked to do [to maintain the partnership], I would have liked to set them up to do the health information once a month, come back in and do classes periodically. And to even start a second class there with new folks – that was one of our goals too – we were going to use the first group [of participants] to try to push a second group to take the class."*

Lessons Learned from Previous Partnerships

The lay leader and PE shared various past experiences and histories with previous partnerships with different churches and community organizations. Both stakeholders described different but related experiences while sharing their own lessons learned from those former partnerships. The biggest lesson identified by the lay leader was the importance of focusing efforts on institutionalizing a program within the church organization and culture. She also stressed potential dangers for churches when they "try to do too much" and having programs that become the "flavor of the month" in a church. She's witnessed programs come and go in various churches, where there has been a lot of excitement from congregants at the start of the program, but then the program fizzles, when there have been no efforts made to institutionalize it.

> Lay leader: *The importance of integrating values like [the importance of nutrition] at a deeper level, not all churches will be able to do something like this. And the danger for churches is that they try to do too much. A program like [FFESMM] will be successful if the community takes it to heart and if they consistently, and over a long time, take it to the community so that they can be a light for that particular [program]. ... My experience in general and overall is the danger of*

having this program (or any program) be "flavor of the month" …it has to become institutionalized or its going to fall."

Similarly, the PE described various lessons from previous experiences that, although are not directly tied to institutionalizing a program, are all components and program efforts that are likely going to complement efforts for institutionalizing a program. She stressed the importance of getting leader buy-in, having multiple congregant stakeholders to promote a program, and tying in goal setting for nutrition-related goals with participants individual faith goals.

PE: *If you can get the pastor to believe in the mission [the importance of nutrition education] then they can definitely push that from the pulpit. If you don't have that pastor on your side [as a nutrition educator], then 9 times out of 10 the parishioners aren't going to be involved. … It's also important to have more than one key player within the congregation to help promote and push the mission. Because let's face it, people do not always want to come back in the evening [for a nutrition class]; they'll come back out for bible study or for other programs, but for nutrition – they don't always want to do that. So, if you have some key players within the church promoting it, and getting the congregation in gear and hyping them up for a program, that's very important. … I [also] think that goal setting is very important when working with parishioners. They already have [faith goals] in their mind, they're already working on their own personal faith goals. So, if you can tie that in and get them to have that same mindset while you work with their nutrition goals; that is an important aspect of a program too. So, you have to work with what's already in place, what's already there, and then [integrate] the faith message through it."*

Decision-Making Responsibilities and Power Distribution

A wide gap was evident when asked to rate their level of importance for having shared, equal power and responsibility for making decisions between partners, as evidenced by the PE rating herself at 10 and the lay leader rating herself at a 4. The leader shared that her discrepancy was more so related to her role on the project being largely focused around facilitating, organizing and communicating between congregants and program partners for this specific project. From her perspective, the *importance* of power in this project was low, however, her actual *experience* with this aspect of the project was much more positive.

Lay leader: *"I would rate [importance of having equal power and decision-making responsibilities] at a '4,' but my experience was at a '10'. For me personally, it would be low, because my role was to get [the program] organized and try to get things to move smoothly. In life in general it's important for me to have my own voice, but this [project] wasn't so much as important because my role was mainly to facilitate. I felt that I did have an equal voice and that was perfectly lovely, but*

if I hadn't I wouldn't have gone home crying or upset or anything, I would've just done my job. But for somebody else, I think it's important that the structure or the vibe be in place, and everybody does have an equal voice. And I definitely did feel that I was one-fourth of the key [partnership], not more or less than one-fourth."

Alternatively, from the perspective of the peer-educator, regardless of the person's role in a partnership, she felt strongly that herself and others should have equal, shared power and responsibility for making decisions amongst partners. Similar to the lay leader, the PE also felt as though there was equal power shared amongst partners throughout various parts of the project.

PE: *"[Shared power and decision-making responsibility is] very important. Because it's not just one side of one organization represented within a partnership – if you don't feel like everyone has a stake in the partnership or make everyone feel like they have a stake in it, then you're not going to have your partners attention and input. So, I think that's very important. ...I think [this was accomplished] and the church's needs were met, they said so."*

Perspectives and Opportunities to Improve PSE Changes

Results from the MHIS report shared with church leaders was described as a useful and practical component to help identify priority health interests of members and to highlight potential areas for improving PSEs within the congregation. The lay leader was "enormously encouraged" from the positive comments shared by surveyed members. She also shared how the MHIS results opened her eyes to the fact that the topic of health improvement and nutrition was of genuine importance to members.

Lay Leader: *"[The MHIS report] changed my understanding by showing me that [nutrition] was genuinely important to the congregation. It wasn't something that, so to speak, was coming from the top down; it was something that they genuinely wanted and wanted more of. So, maybe I had underestimated the positive response [and health interests from members]. And it showed that we have something to work with!"*

When asked to rate how confident she felt that the members health interests would be fully incorporated into the policy/environmental changes within the church, the lay leader rated herself at an "8" on the scale from 1-10. Specifically, she felt like the policies will all get implemented, but they will probably modify some of the language "to shorten or simplify the text." She also shared a key important component needing more attention – that creating policy changes on paper is much easier than actually implementing and institutionalizing them within the church. Lastly, with implementing policy changes, there needs to be significant amount of

buy-in from congregants to institutionalize those changes, and they need to be a top priority for the congregation, otherwise the PSEs can get pushed down to a low priority and not be institutionalized in a timely manner.

> Lay leader: *"The [PSE changes have not completely happened] but it will get done. It's one thing about having policies on the books but having a policy that is actually put in front of the congregation in a useful way – is a much different deal. ... It would be useful for this project to distinguish between a church saying "yes, we'll have that type of policy" and "a program in which they make that policy known and useful to that congregation." Those are two entirely different things and the second one is much more difficult than the first – it takes a much greater level of buy-in. and every church has about fifty competing things in their church."*

Perspectives, Resources and Opportunities to Improve ESMM Program

Both the PE and lay leader agreed that the program kick-off luncheon was a suitable event and avenue for sharing the member health and interest surveys, introducing congregants to the ESMM program and recruiting them to sign up for the classes. To improve future iterations, the lay leader recommended initiating recruitment efforts more in advance. Also, she recommended that academic/community partners should focus more time on the front-end to assess the interested church's readiness before bringing in a nutrition program, as well as the capacity for congregants to sustain it.

> Lay leader: *So, before you even target your church, [community/academic partners should ask the church]: "how ready are [congregants and church leaders to pursue a program]?" or "do they have the readiness to want to pursue the program?" And then, empowering [congregants] to market the [FFESMM] program, and then empowering them to institutionalize it within the church.*

The lay leader shared a need for having a greater number and variety of recruitment materials to help spread the word and get congregants interested in the nutrition education classes. Her community is predominantly made up with people making very little income, typically less educated, and lack the experience that other more well-off people growing up in more affluent communities might have. For this reason, recruiting and marketing ideas and efforts may not come as easily to people in her community as they would in a more affluent one. A marketing and recruitment package was one of the most important resources discussed by the lay leader as necessary for future iterations.

> Lay leader: *"If I had a request in advance I would ask for more [recruitment/advertising] help and advanced publicity, for example, "here's a program announcement you*

can make in paper" or "here's an announcement you can make from the pulpit" or "here are three flyers you could print out at different times." It would probably not take a volunteer or staff member very long to put together a marketing package. Because if you're going into some of these [low-income, low-resource] churches – they haven't marketed anything before, they haven't put up a flyer before. So, one way to empower these communities would be to empower them to share [recruitment materials]and spread the word, because they're not used to that. It just might help to empower communities more, period – to give them more up-front marketing materials and help [to market programs]."

Furthermore, the importance of cultural sensitivity and appropriateness was not just a characteristic for the PE teaching the nutrition education classes, it was also recognized as an essential element for program materials. According to the church leader, the ESMM program recruitment flyer shared by the PE to post at the church had an image of "healthy young white girls" on the paper. She strongly recommended using different flyers that are tailored to be culturally specific to improve future iterations of the program. Furthermore, although the PE shared Biblical scriptures during the lessons, the lay leader felt as though scripture and linking food to health from a spiritual standpoint should be of greater focus in the future.

Lay leader: *"The one stumble we did have – on the initial [recruitment] flyer that she gave me, it had, healthy young white girls on the picture – and I took one look at it and thought "oh, this is wrong, this seems off to me" [for the targeted population]…so what I would say is to definitely get a different flyer that is more community specific – to fit a more culturally specific person. That was the only critique I had of the program"*

"We did not talk about the scripture that much [during the program]. But I would talk more about scripture because that is a key to the whole [food behavior change] thing. Linking spiritual growth and Jesus messages to nutrition, makes it more important to it. It elevates the importance of a healthy diet to the level of your walk with Christ. So, if you can talk about food in terms of how Jesus wants us to be and how we can be better stewards of our bodies, our energy, or how we can be better servants... I think there's more of a reason for getting healthy."

From the perspective of the peer educator, she described two main opportunities to improve future program adaptations and implementations. The PE felt as though she could have focused more attention during the program to draw participants in on a greater level, by having them alternate taking more of a lead role during the nutrition education sessions, as a way to empower participants to be more confident to lead lessons post-core program sessions. Second, she would have pushed greater attention to spreading program recruitment efforts beyond just

one setting, by inviting other churches in the community to participate in the program as well. This point of expanding recruitment efforts also resonated true for the church lay leader.

> Lay Leader*: "If our church were to do it again, I would start [program recruitment efforts] 3 months up front, with a lot of publicity in a lot of different ways, and also publicity in a local press to let people know from the other surrounding churches – that they too can participate."*
>
> PE: *"We did have our main support people – [the lay leader] & pastor. I think everybody in the class were hands on and I got everyone to take turns participating in class – whether it was meal prep or cooking. [One] thing I would have done [differently] was to find a way to draw participants in even more; meaning whether they took a lead in the class session or something…so that way once I was gone, they would have felt more empowered to [lead lessons] on their own."*
>
> *"I know the pastor wanted to start [the program] off small the first time, which was fine and worked well; but if it were me, I would have invited other local churches to participate – and maybe that could be done with the second class. That way the [nutrition] message is being spread more widely across the community and with churches, making it more of a hands-on community effort."*

Lastly, one unforeseen resource identified by the peer educator was a need for her to have a third-party person contact or resource to help link participants up with medical attention if needed. She described an experience with one participant who had severe health problems, who also did not have a working kitchen, only a deep fryer to cook food in. This man's health problems were so severe, "it was painful to see him walk and he looked like he was near the point of passing out." As a peer educator, currently, the only thing she was able to do was recommend that he should see doctor about his health problems; she is limited in that she cannot follow up with the doctor herself or coordinate an appointment with someone more specialized to help with his individual diet needs (e.g., registered dietitian). Thus, there is a need for peer educators to have some type of a resource and/or referral system in place to help with those clients who *really* need individualized health care and dietary assistance.

> PE: *"Some type of resource or third-party person] is definitely needed to help link participants up with medical attention for any of those who might need it, instead of [a peer educator] just verbally telling them that 'they should contact their physician.' Because sometimes you can refer them there but that doesn't automatically mean he or she is going to follow through with contacting their doctor. Sometimes they are actually going to need their hand held to get them to their doctor or to get the help they need."*

Perspectives and Opportunities to Improve Maintenance

After the core program sessions led by the PE, the lay leader shared that the program participants started an ongoing nutrition support group, which met once after the initial program had ended. However, the pastor was not at that group meeting, so interest fizzled out and a second meeting has not been scheduled or pursued yet. Several ideas were shared by the church lay leader on how to maintain the program after the PE completed the 6-core sessions. The lay leader recommended having a follow-up program curriculum with resources and materials for a church member to lead monthly (or semi-regular) maintenance sessions, which could be tailored to fit a 30, 60, or 90-minute session time frame window. Having a "few packages on the back end" for the community themselves to have and use to lead maintenance sessions once the peer educator completes her 6-weeks of classes. She also expressed how useful it would be to have someone at the church trained to lead those follow-up sessions, to have a church liaison to have ongoing communication with the PE, and to have a few initial post-program meetings with the PE, trained church leaders and the liaison to review curriculum materials and get further assistance or training from the PE if necessary. Some of the ideas about specific content that would be useful to have in the post-core/maintenance curriculum are described below. The integration of religious and spiritual themes, such as opening group prayer, scripture readings reinforcing behavior change topic and closing prayer for participant's goals, are prominent themes of the post-core support group class structure presented by the lay leader.

> Lay leader: *"Similarly, on the back end, perhaps coming up with a way a support group might be structured. So, [a group session including] things like opening prayer, then some scripture resources. Then follow scripture up with a group check in – "what are your successes? what are your goals?" ...and then maybe a little presentation by somebody in the group focused on a [food-related topic] with some scripture reinforcing from spiritual standpoint as why it's important to be physically healthy. Then finish with a closing prayer, sharing and praying for the everyone's goals; for example, [pray] that someone could go from drinking 3 to 2 sodas a day. ...And maybe have someone write down and email everyone's goals to the group so everyone can have them to pray over the next month. So, we're prayer partners for everyone's specific nutrition or exercise goals."*

DISCUSSION

Study Limitations

Several key limitations are apparent from this research study. The largest limitations were having one small church setting with no comparison church, a small sample size of program participants, and survey limitations. Although outcomes from this study provided useful information to help inform future initiatives between SNAP-Ed extension agents, peer educators and FBOs in Virginia, the findings from this one church cannot be generalized across all churches throughout the state of Virginia. A goal of this project was to follow the CBPR principles by ensuring the church and community partners had equal input in decisions made regarding the surveys used. This goal was achieved in some areas, but in doing so, it limited an ability to get a broader picture of the health policies, environment and health interests of the church and its congregants by using the shortened MHIS and FCA tools. Furthermore, a key limitation from the researchers' standpoint is that neither the MHIS or FCA tools have been tested for validity and/or reliability; therefore, it is difficult to determine whether or not findings from these tools are indeed of value and of use for the field. Despite these survey-related limitations, their results were still helpful to inform the planning and implementation of HE/PA policy and environmental changes in the church, and to tailor changes to best fit the interests and needs of the faith community.

With regards to MHIS surveys, as previously mentioned the surveys are available for public use on the FFESMM website. The study was completed in 2017, and in 2018, faithful families published a newer version of both the FCA and MHIS tools. A key difference in the new and old surveys is their method of measurement. Responses from the MHIS and FCA used in the current study were in a 'yes,' 'no' or 'not sure' response format; whereas the new tools are scored in a points system using more informative categories (e.g., 'no,' 'not yet, but interested in doing this,' 'not yet, but working on it,' yes, or 'not sure'). The new format of the FCA and MHIS tools is much more meaningful to researchers and community organizations working with FBOs because it takes into consideration real-world factors, such as identifying where progress is being made (but not yet completed) in regards to PSE-changes "in progress" in a faith community.

Several other, lesser known barriers and limitations occurred throughout the study. Most important and influential was the issue of staff turnover. The SNAP-Ed agent from the Eastern Shore area left her position to go back to school right before the start of the program. Up until that point in the partnership, her main role was to facilitate the development and implementation

of PSE changes in the church. Once she left, the graduate student from Virginia Tech, who also lived across the state, took on the SNAP-Ed agent's role and assisted with the development of the PSEs, which received positive feedback from the church leaders. However, being located far apart prevented the student from physically visiting the church and working with leaders and congregants there to assist with institutionalizing those PSE changes. This geographic limitation prevented all of the PSE changes from being completely institutionalized by the time the follow-up stakeholder interviews and FCA were conducted.

Another study limitation was that partners from VCE did not fully utilize all of the resources and materials available through the FFEEMM curriculum to help guide program planning, recruitment, implementation, lay leader training efforts and maintenance sessions. Rather, program resources utilized came primarily from the ESMM curriculum, which is very similar with several overlapping curriculum components, but it does not focus on the lay leader training and maintenance planning component as heavily as the Faithful Families curriculum. Furthermore, the SNAP-Ed agent previously shared an additional project role of hers would be to train a lay leader to lead/deliver some of the maintenance sessions. At the time of the project, nobody had filled her position within VCE, therefore there was no one available to pursue this training. Unfortunately, the lay leader expressed personal interest in being one of those persons trained during her interview. Thus, these barriers concerning program maintenance might have been prevented completely or at least mitigated, had there been staff to assist the church.

The final limitation came from having only one primary stakeholder involved with the program from the church (the lay leader), who was responsible for facilitating various program components. The church pastor was involved in the program – he was one of the main partners, he participated in all six core lessons, and attended both the pre/post lunch and celebration events. His primary role was to represent the church, help make scheduling decisions and be a supportive role model for others by partaking in all the program events and sessions. His overall goal was essentially to be a gatekeeper and personal champion for other congregants. All other aspects for handling, facilitating and coordinating project events and maintenance sessions was said to be the primary responsibility of the church lay leader. While the lay leader was still effective in motivating, communicating and encouraging participants to maintain involvement during the program, participants interest fizzled out quickly after. The lay leader described a need for having at least one or more person take on the leadership role with her (as "co-leaders")

to assist in keeping the health ministry and maintenance session group meetings going and helping to hold others accountable for attending those sessions. As described previously, once the pastor missed a maintenance session, the group did not have any follow up sessions. Within the entire church, the Caucasian lay leader is one of two congregants who are not African American. Throughout her interview, she stressed the importance of having a culturally appropriate person to lead the sessions (e.g., an "African American who wasn't super skinny") as a primary way to engage and keep participants involved. Only having herself facilitate the group, was likely the reason meetings and other parts of the program slowly fell through the cracks.

Conclusions and Implications for Research and Practice

This case study provided various key perspectives and opportunities for examining the role that a faith community plays in shaping their food policies and practices to promote health and well-being. First, the MHIS and FCA were both useful tools for identifying salient health interests of congregants, in addition to resources available at the church to help identify and pursue PSE changes targeting health behavior changes at an organizational level. The adapted 6-session ESMM program was successfully implemented and demonstrated positive changes in several nutrition and physical activity-related habits and behaviors in a short amount of time. Involving a culturally appropriate peer educator to lead nutrition education sessions was of utmost relevance and importance for future initiatives. Additionally, having pastor leadership, buy-in, support and role modeling healthy behaviors were described as important characteristics and components for faith-based health programming efforts.

Future research and practice opportunities should utilize the newest versions of the FCA and MHIS tools and should test their validity and reliability, in order to inform other researchers on their appropriateness, strength and consistency for use in this field of research.
Based on feedback from interviewed stakeholders and experiences of the graduate student partner, a stronger effort and attention with these types of partnerships should be focused on gaining initial and upfront congregational support and buy-in for a program, making sure all recruitment and program materials are culturally appropriate before being shared with congregants, and establishing a health ministry to oversee program and PSE-related activities.

A health ministry would be an invaluable asset for promoting group and church accountability and help to improve sustainability and growth of the program. More attention

should be focused on identifying specific strategies for institutionalizing PSEs with more checkup and follow-through from the end of the community partner. A PSE workgroup tied in with a church's health ministry team would be a useful approach for strategizing resources and timeline for PSE changes to be implemented. Having the responsibility for implementing these changes with an entire group, rather than just one or two community and church partners, would further empower congregants and increase accountability to better promote changes. A health ministry can also help to identify and equip an appropriate and influential key leader with resources and training materials to support additional and improve sustainability opportunities. Finally, partnering with other churches in the area that have existing relationships can also support more project growth and potential for resource sharing to better promote health on a larger scale in the community.

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Chapter 6. Conclusions and Implications

Among health researchers and practitioners, religion is gaining recognition as an important social factor and determinant of health, and religious institutions (FBOs) are gaining recognition as valued settings for delivering health promotion initiatives that have a greater ability to reach a larger proportion of populations suffering disproportionate burdens of obesity and it's related conditions.[1,2] Despite the large and exponentially growing body of literature describing FBO programming initiatives, a critical component of this field of research has been ignored. Specifically, exploratory research to better understand how academic sectors can partner with FBOs and adapt programs to promote the health of faith communities in the most meaningful and culturally appropriate ways in order to advance the dissemination of evidence-based programs into communities with the most need. The findings from each part of this dissertation research collectively addressed the following knowledge gaps and provided: 1) a deeper understanding of the organizational and individual-level barriers faced by academic (VCE) sector partners when considering FBO partnerships, 2) a better understanding of assessment methods and strategies to identify health-related PSEs, interests and opportunities of congregations for engaging in health promotion activities, and 3) a greater knowledge of the cultural and contextual factors influencing the buy-in, institutionalization and sustainability of health promotion programs and PSE changes taking place in a FBO serving a limited income population. Formative research with agent and peer educator stakeholders representing VCE, church pastors, lay leaders and congregants, along with evidence from the literature review, contributed to these overall conclusions and suggestions for future research opportunities.

Future Research Considerations

The unique aspect of faith-based health promotion interventions is that they can be adapted to fit a variety of populations, races, and religious sectors using culturally appropriate and meaningful strategies. Despite the fact that most published reviews and studies in this field have targeted African American faith settings and populations, the literature review from this dissertation revealed several faith-based HE/PA health promotion interventions expanding across a variety of races, ethnicities and populations. Given the deep connection of faith in Latino populations, it is hypothesized that Catholic FBOs serving Latinos will be the next largest

growing faith sector and population targeted in published faith-based health research, second to African Americans. Within this expanding field, researchers must take caution in how these partnerships are approached and how academic partners can better work with FBOs in their respective communities in ways that facilitate mutual growth, respect and trust. Along this line, adhering to principles of CBPR should first and foremost be considered as a core component and backbone for academic-FBO partnerships and programming initiatives. Key aspects of these participatory approaches should include: building relationships on a foundation of mutual trust and respect, working cooperatively to establish mutually beneficial goals, having shared decision-making power, involving multiple indluential key stakeholders from the FBO community throughout the entire process of planning and delivering health programs, and leveraging resources available at FBOs to build capacity and empower congregations to sustain a given program. Second, peripheral, socio-cultural and constituent-involving strategies must be utilized and applied to make programs more culturally meaningful for individual faith communities. Lastly, rather than reinventing the wheel and developing new HE/PA health promotion interventions, future research should focus on reporting culturally appropriate strategies used for adapting evidence-based curricula to fit the social, cultural and organizaitonal needs and interests of individual faith communities. With such variability in cultural practices and beliefs among faith denominations and given the growing body of literature, more information is needed to identify relevant culturally appropriate strategies and considerations for use in the real world, as they relate to specific faith sectors, denominations and populations.

Implications for VCE Stakeholders

Formative research from VCE SNAP-Ed agent interviews reported in this dissertation highlighted a need for education, training opportunities and resources for staff to use in the field when working with FBOs. Agents collectively expressed barriers related to identifying low-income SNAP-Ed eligible faith communities, and several shared a personal lack of comfort and unfamiliarity of other religious cultural beliefs and food practices. Based on these primary study findings, it is a recommendation that a workshop with VCE leaders stakeholders should take place to: 1) strategize opportunities and best approaches for SNAP-Ed agents to identify FBOs serving low income popuations, and 2) coordinate and link inter-organizational resources within VCE that would help to provide nutrition education resources to other interested FBOs that do

not serve a predominantly low-income population (which would not qualify for free SNAP-Ed programming). It is also recommended that this type of workshop be followed up with a statewide training for VCE staff (agents, peer educators, etc.) to disseminate the strategies identified from the stakeholder workshop. Additionally, an agent training of this nature should include an educational component focused on improving cultural awareness and understanding of various faith sectors to help overcome personal barriers that may hinder agents pursuing FBO partnerships, along with CBPR approaches to improve the readiness and capacity for extension and FBO partnerships to carry out and sustain nutrition education programming initiatives.

Agents also identified a need for resources for adapting evidence-based nutrition education curricula to fit the cultural and spiritual characteristics and needs of different faith denominations. For a nutrition education curriculum, agents might find it useful to have resources such as religious scriptures that align with a specific behavior change topic or biblical stories that relate to a health nutrition, activity or behavior change topic. To expand on the findings from this dissertation, formative research should be conducted with stakeholders from various religious sectors and faith denominations to identify spiritually relevant strategies, scriptures and stories related to various health behavior topics utilized in nutrition education programming components (such as portion control, mindfulness, focusing on eating a variety of colorful fruits and vegetables, etc.). A result of this type of formative research would then lead to the development a toolkit of culturally appropriate strategies VCE staff could use to tailor evidence-based nutrition education curricula to better fit the spiritual beliefs of FBOs from diverse denominational backgrounds. A toolkit for adapting health programs to better fit the social, behavioral and religious-related (surface and deep structure) cultural characteristics for different faith sectors would contribute significantly to this field and help further overcome FBO partnership barriers.

Considerations for FBO Health Assessments

Lessons learned from faith community health assessments revealed two primary considerations for future exploratory work. First, it was evident the content of the member health and interest surveys should be reviewed with a lay leader and adapted to best fit the culture, language, and the current policies, programs and practices within a faith community. Spending time with lay leaders on the front to gain a deeper understanding of the activities, schedules,

Bible study groups and outreach ministiries of the individual FBO would help to guide ways for adapting MHIS questions to better fit the FBO setting and culture. Second, it was clear that the adapted FCA and MHIS tools did not provide the researcher with a deep enough understanding about cultural and religious health perceptions of the congregation. It would be useful during the leader FCA to have an open discussion about previous attempts, successes and failures as they relate to health, nutrition or physical activity type programs, along with a discussion about how congregants might perceive healthy/unhealthy behaviors, and how those behaviors relate to their religious beliefs and practices. Just as there is no one-size-fits all approach to faith-based health promotion efforts, there should not be a one-size-fits all approach to assessment methods. Future formative research to identify strategies for adapting FCA and MHIS tools to better understad these deeper contextual factors and perceptions of health as they relate to individual FBO's practices and beliefs would be extremely appropriate, timely and useful for this field.

Final Thoughts and Conclusions

Collective evidence from this dissertation has led to the conclusion that more careful attention needs to be paid to developing a deeper understanding and appreciation for the unique cultural characteristics of FBOs. Education, training initiatives, and resources are useful and necessary tools to better promote these partnerships with academic and faith sectors. However, the time spent in the field working alongside church leaders and congregants made it evident that academic partners must have a presence within a FBO community to truly understand how to best serve the community, and provide them with the necessary support and tools to empower FBOs to promote health within their congregations. Researchers must go beyond cultural awareness, competence and sensitivity, to explore strategies to better cultivate cultural humility within the context of academic and faith-based partnerships.[3]

Researchers/agents partnering with FBOs should make attempts to get involved with the FBO community beyond the scope of the project itself, by attending a church service or function. Researchers should also get feedback from FBO stakeholders about the cultural appropriateness of program resources and educational materials to identify adaptations to make intervention materials more attractive to congregants.[4] This level of involvement will help build a stronger foundation of trust, respect and co-learning amongst partners, which are key components of CBPR projects.[5]

To conclude, this exploratory dissertation research has contributed to the field by describing relevant opportunities for academic sectors to partner with FBOs using participatory approaches that are believed to improve and increase readiness and build capacity for partners to carry out and sustain health programs and initiatives within faith communities. Results across all parts of this dissertation yielded information that helped to identify and prioritize strategies to promote FBO partnerships within the organization of VCE, and helped generate questions that merit further investigation to identify specific culturally relevant strategeis for promoting health in FBOs. There is a great promise and potential working with FBOs to promote health in meaningful and sustainable ways. A hope for this dissertation research is that it will lead to future initiatives and opportunities to identify culturally appropriate strategies to empowering faith communities to live out healthier, more productive lives, and to reduce rates of obesity and obesity-related chronic diseases.

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APPENDICES

Appendix A. Description of studies included in the literature review

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
Adams et al., 2015[1]					
159 overweight AA congregants from 13 AA churches in SC; 80% female, ~55 y	CBPR, SEM, PEN-3 cultural identity model, SCT, TTM; Participatory approach	Group (church-level) RCT 12-weekly group sessions on healthy diet, PA and stress reduction lifestyle intervention (cooking classes, tips for increasing PA and reducing stress, tracking weight and blood pressure), plus 9-monthly booster sessions to reinforce topics	3 lay health leaders from each church facilitated study, recruitment, reminders for clinical assessments, and led the intervention	FP: (no spiritual components described)	Moderate (11/16) BMI, body fat %, C-reactive protein*, waist-to -hip ratio*
Arredondo et al., 2015[2]					
437 adult Latina churchgoers from 16 Roman Catholic churches (predominantly Latino) in San Diego, CA; 100% female, ~44 y	MI, SEM Collaborative approach	Group (church-level) RCT 2-year multi-level (individual, interpersonal, organization & environment) PA intervention: Family Night kickoff event, 3-6 group PA classes/wk (walking, cardio or strength), monthly handouts with schedule of PA classes, 1 MI phone call every 3-4 months (5 total) to discuss/encourage PA	2-3 promotoras / church trained to implement program activities: PA classes, MI calls, church fair, PA environment changes	FB: group prayer, Bible verses related to health, priest encouraging PA and class attendance during mass	High (20/24) Accelerometer-assessed MVPA (min/day)*, self-reported use of behavioral strategies for PA*, and sleep (hrs/night)*
Arriola et al., 2016[3]					
258 adult church members from 6 churches in rural South GA; 82% female, ~47.8 y	Map of Adaptation Process, Longest Health Policymaking Model; Collaborative approach	Pre/post (1 group) 12-mo Policy and Environmental changes to promote healthy eating and PA in church, including: committing to always offer healthy foods and drinks, limit/eliminate unhealthy foods and drinks when meals are served, and increasing access to PA facilities and spaces	Church implemented policy and environmental changes with help from technical assistance staff (no details about who at church was responsible for implementing)	FP: (no spiritual components described)	Moderate (12/16) Perceived: increase in healthy food served at church, positive changes in nutrition environment and intentions to use PA facilities at church
Baltic et al., 2015[4]					
664 overweight adult church members from 28 Christian churches (many denominations) in 15 rural Appalachian counties across 5 states; 70.7% female, 55.7 y	CBPR, SEM, SCT; Participatory approach	Group (church) randomized trial 12-month multi-level diet/PA included: interactive church-tailored website, pedometers, online diet/PA tracking, nutrition guides, individualized goal setting, monthly educational sessions (topics on eating healthy and increasing PA, material often tailored to seasons or holidays); personal 'reward points' collected for partaking in various intervention components	1+ trained "church navigator"/church facilitated intervention; trained 'interventionist' from local community helped develop wellness plans, set, discuss, monitor goals; plus online components	FP: (no spiritual components described)	Moderate (19/24) Weight, BMI, F/V intake (servings/day)*
Boltri et al., 2008[5]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
26 AA adults at high-risk for T2DM from 1 Baptist church in urban southeastern city; 58% female, ~52 y	SCT, Social Support; Conventional approach	Pre/post pilot (1 group) 1-year group-based modification of lifestyle balance diabetes prevention program (DPP) targeting diet/PA, 16 interactive sessions delivered over 4 months (60-90 min each), peer support	Volunteer medical personnel with diabetes prevention experience trained on goals of DPP, how to use curriculum and how to lead group sessions	FB: group prayer, usually deacon or minister-led	Moderate (11/16) Weight*, BMI*, BP*, and FG*
Bopp, Fallon, & Marquez, 2011[6]					
50 adult Latino congregants from 3 Roman Catholic churches near Manhattan, KS; 61.8% female, ~42.5 y	No theory described; Participatory approach	3 Group (church-level) RCT Educational materials promoting health benefits of PA; an 8-week team walking contest promoting social support; health fair providing hands-on educational opportunities for PA.	Priest-appointed church member organized intervention activities. No training.	FB: biblical scriptures, references to patron saints reinforcing messages; priest speaking from pulpit	Low (12/24) Knowledge of benefits of PA & PA recommendations; Program Barriers & Intervention Activity Awareness
Bopp et al., 2009[7]					
72 AA adult church members from 6 AME churches in SC; 79% female, ~52.5 y	SCT, TTM, CBPR, train-the-trainer model Participatory approach	Quasi-experimental Weekly group sessions included PA education, group PA aerobics or walking, health, PA and nutrition related homework	Facilitators from churches given all program materials and trained to deliver program to church members	FB: Use of scripture relative to topic, group prayer and pastor support	Moderate (19/24) BP, BMI*, WC*, fasting blood glucose, PA self-efficacy, social support*, self-regulation, depression, PA & diet behaviors
Bowen et al., 2009[8]					
2175 adult churchgoers from 40 churches (many denominations) in urban Seattle, WA; 85.5% female, ~54 y	Social Learning Theory, TTM for behavior change; Collaborative-Participatory approach	Group (church-level) RCT 9-month nutrition intervention: motivational messages, dietary change mailings, church print advertisements, social activities, interpersonal support, and 4-6 healthy eating group sessions (handouts, tips, recipes, and take-home activities aimed to lower fat & increase F/V intake), lasting 30-60 min	Healthy Eating Coordinators facilitated group sessions/discussions, tracked various intervention activities on weekly basis	FB: Bible study, group support of healthy dietary changes	Moderate (19/24) Self-reported Fat intake behaviors*, Fiber intake* and Servings of F/V per day*
Brewer et al., 2017[9]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
37 AA adult congregants from 3 small AA churches in urban Rochester, MN 70.3% female, ~51.7 y	SCT, Health Belief, Community Mobilization, American Heart Association's "Life's Simple 7" framework, CBPR, PRECEDE-PROCEED; Participatory approach	Pre-post feasibility study 16-wk long (8 bi-weekly group sessions) CVD prevention program, each 90 min session included: interactive lectures, videos on CVD health topics, cooking demos, exercise classes and group discussion/sharing of testimonies about lifestyle change, along with a culturally-tailored program manual, educational booklet and cookbook	Education sessions delivered primarily by Mayo Clinic health professionals and staff (cardiologists, general internists, a registered dietitian and certified culinary chef); Pastor-identified liaisons from congregations worked with researchers to plan and implement all program aspects	FB: pastors wrote personal letters to each participant with spiritually-motivated messaging, each session opened with prayer	High (13/16) Cardiovascular health knowledge*, self-reported health, self-efficacy, family support
Cooper, King, & Sarpong, 2015[10]					
21 overweight AA women congregants from 1 Christian church; 100% female	Faith Community Nursing Standards of Practice guidelines; Participatory approach	Single group pre-post 12-week group exercise and program, met 2x/week. One hour/week of nutrition education using eat healthy be active community workshops. One hour/week of group PA sessions	Volunteer PA instructors from church or community led didactic portion.	FB: Biblical scripture tied to spiritual, physical & emotional care for one's health	High (130/16) Increased knowledge of PA recommendation
Cowart et al., 2010[11]					
11 predominantly female adults from 6 AA churches in low-income inner-city area of Syracuse, NY	Information-Motivation-Behavioral skills model, train-the-trainer model; Participatory approach	Single group pre-posttest 12-weekly group sessions including nutrition and PA education, aerobic exercises, and Share 'N' Praise group discussion about nutrition and PA related obstacles and successes	Pastor appointed Lay Health Advocates were trained	FB: pastoral support, involvement and role modeling, pastor preaching health from pulpit	Low (7/16) Self-reported weight loss, quality of life, eating habits, cooking habits
Davis-Smith, 2007[12]					
9 AA adults from 1 AA church in rural GA; 70% female	SCT; Participatory approach	Pre-post pilot 6 weekly group sessions focused on diet and PA education, adapted from group lifestyle balance DPP curriculum	1 trained volunteer healthcare professional	FB: group prayer at beginning and ending of each session	Moderate (12/16) Weight* and BMI*
Dodani & Fields, 2010[13]					
40 overweight AA church goers from 1 semi-urban Baptist church, Augusta, GA; 85% female, ~46 y	CBPR, SCT, SEM; Participatory approach	Pilot feasibility study 12 weekly group nutrition/PA education sessions adapted from group lifestyle balance DPP intervention, targeting nutrition and PA behavior changes	12 sessions delivered by 4 trained health advisors (nurses) from church, appointed by pastor	FB: scripture-based health references, pastor tied scriptures to health in services, group prayer	Moderate (10/16) % weight loss
Duru, Sarkisian, Long, & Mangione, 2010[14]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
62 AA women aged 60+ from 3 churches, mostly AA (Catholic, AME, and SDA) in Los Angeles, CA	SCT; Conventional approach	Group (church-level) RCT 8 weekly group sessions: 45 min discussion, lectures, goal setting, scripture readings & pedometer competition; plus 45 min group PA sessions	Research assistant or certified fitness instructor	FB: group prayer, weekly scripture readings	High (23/24) Weight, Steps walked/week*, Systolic BP*
Gutierrez et al., 2014[15]					
183 overweight AA and Latino churchgoers from 15 churches in urban Bronx-Harlem, NY; 88% female, aged 45-64 y	CBPR, Social Support; Participatory approach	Pre-post evaluation 12-week bilingual DPP, weekly group sessions include: 1-hr of nutrition education (information on dietary guidelines, portion sizes, healthy cooking, and relationship between spirituality and healthy behaviors) and 1-hr low-impact cardiovascular exercises	2 local consultants (Christian, nutrition / diabetes background, 1 fluent in Spanish) facilitated nutrition education part; 2 bilingual fitness trainers led PA sessions	FB: Bible-based teachings to encourage healthy lifestyles	Moderate (12/16) Weight*, BMI*, Knowledge*, attitudes, behaviors for healthy eating / PA, Health-related QoL, PA frequency and duration
Harmon et al., 2014[16]					
23 AA adult churchgoers from 2 AA Baptist churches in SC; 69% female, ~61 y	CBPR, SCT; Participatory approach	Quasi-experimental (2-group) delayed control 8-month nutrition intervention: weekly & monthly individual nutrition ed. sessions (increase F/V intake, lower fat, cooking skills, recipe changes), plus church environment changes (healthy potluck events, modified healthier church meals)	Classes led by various guest speakers with expertise on diet and health, food safety, social support, and starting a community garden	FB: Pastor, wife, and FBO leader support, involvement/ and healthy behavior modeling	Moderate (19/24) Self-reported F/V intake, Weight
Ivester et al., 2010[17]					
41 overweight/ obese adults, (97.5% white) from United Methodist Church in rural Advance, NC; 65.9% female, ~53 y	Social Support; Conventional Approach	Single group pre-posttest 8-week diet/PA program, weekly coaching sessions: diet counseling (calorie reduction, increase fiber, polyphenol, omega-3 and 6 fatty acid intake) group exercise, group discussion and support; daily diet/PA tracking	Program led by research team	FB: mutual support, encouragement, and prayer to make their bodies healthy	Moderate (12/16) Weight, BMI, WC*, self-reported wellness* and quality of life*
Kennedy et al., 2005[18]					
40 overweight AA church members from 1 rural AA church near Baton Rouge, LA; 93% female, ~44 y	MI; Collaborative approach	Randomized, no control group 6 monthly group meetings: nutrition and PA education and goal setting, self-monitoring, and group discussion	2 trained church members with some background in health education	FP: (no spiritual components described)	High (21/24) Weight*, BMI*, self-reported PA*, BP
Kim et al., 2008[19]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
73 AA congregants from 3 AA churches (AME, Holiness, and Pentecostal) in rural NC; 71% female, ~54.1 y	CBPR, Lay Health Advisor Model, TTM, SCT, Social support models; Participatory approach	Quasi-experimental 2-group (delayed control) pre-post test 8 week group intervention meetings including: a learning module, a review of the previous week's topic, physical activity session with an exercise tape, bible study, and prayer	Lay leaders recruited by WORD leadership team from churches. Conducted 10 hours of training in content related to nutrition, behavioral strategies for healthy weight and social support	FB: weekly prayer bible study pertaining to health	Moderate (18/24) Weight*, BMI, Waist-Hip circumferences, Self-reported PA*, % Calories from fat, and F/V intake
Krukowski, Lueders, Prewitt, Williams, & West, 2010[20]					
34 overweight Caucasian churchgoers from 1 Roman Catholic church in small city of AR; 71% female, ~48.5 y	SCT, social support and self-efficacy; Collaborative approach	Cluster randomized pilot study 16 weekly one-hour group sessions (adapted from DPP), including: goal setting, problem solving, and daily self-monitoring/tracking of calorie intake and aerobic PA; weekly weigh-ins and self-monitoring feedback; social support activities	graduate student with expertise in obesity interventions led group sessions, helped set initial diet/PA goals, and gave weekly feedback on participants self-monitoring and goal progress	FB: group prayer, Catholic text references, scripture in PA journal, priest support & sharing testimonies at mass	High (21/24) Weight*, adherence to self-monitoring diet/PA, and perceived benefit from sessions*
Martinez, Arredondo, & Roesch, 2013[21]					
143 churchgoing Latina adults from a Catholic church in urban San Diego, CA area; 100% female, ~43 y	SEM, self-efficacy & social support, Promotora model; Collaborative approach	Longitudinal single-group study sample 6-month group-based social and environmental PA intervention: daily group walks (60-minutes long) at moderate-intensity level of PA, weekly aerobics classes at church, content developed in english and spanish, church built environment changes (mapping out and creating walking paths)	Promotora (lay health advisor) led daily group walks, promoted physical and spiritual well-being through educational and faith-based messages and prayer during walks	FB: group prayer, spiritual/faith-tailored health messages, PA promoted during sermons	High (14/16) Self-reported Leisure-time PA and self-efficacy for PA
Resnicow et al., 2004[22]					
1022 AA adult churchgoers from 15 predominantly AA churches across U.S. (CA, GA, NC, SC, DE, and VA); 74.4% female, ~50.6 y	MI, Self-determination theory, SCT (self-efficacy); Collaborative approach	Cluster randomized-effectiveness trial 6-month dietary intervention included a kick-off health fair and group nutrition education sessions (cooking classes, recipe modification, spiritually tailored health messages), plus 2 individual MI counseling phone calls	Lay counselors (church members) trained by research staff to deliver MI calls, education sessions and cooking classes	FB: Spiritually tailored health motivational messages	High (22/24) Self-reported F/V intake, Fat intake*, motivation to eat F/V*, Social Support*, and Efficacy to eat F/V*
Resnicow et al., 2005[23]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
Adult AA church goers from AA churches in urban Atlanta, GA region; 76.2% female, ~46.3 y	MI; Participatory approach	3 Group (church-level) Cluster Randomized design 1-year long multicomponent intervention including health screening and feedback, exercise video, cookbook, pedometer, project newsletters, 'walking with God' audiotape, and MI phone calls addressing F/V intake and PA	Trained MI counselors (Masters or Doctoral level psychologists) conducted phone calls, church liaisons helped with recruitment/ retention, coordinated church activities	FB: materials incorporated spiritual messages and biblical scriptures	High (22/24) Self-reported F/V intake, minutes of moderate to vigorous PA/day, BMI, BP
Sattin et al., 2016[24]					
604 overweight adult AA churchgoers from 20 AA churches in Augusta (Richmond County), Georgia	SCT, CBPR; Participatory approach	Single-blinded, cluster randomized (church-level) community trial FB adaptation of Group Lifestyle Balance DPP composed of: 12-weekly group sessions focused on calorie/fat restriction, encouraging PA, goal setting, problem solving and stimulus control, followed by 6-montly "booster" sessions; materials tailored culturally relevant AA graphics and quotes	Church health advisors, trained by certified co-investigator, delivered weekly and monthly core and booster group sessions	FB: scriptures incorporated into curriculum content and group sessions	High (22/24) Weight*, FPG, PA
Sbrocco et al., 2005[25]					
10 overweight AA adult churchgoers from 2 predominantly AA churches in urban Washington, D.C. area; 100% female, ~44.3 y	Behavior Choice Treatment (BCT), Decision-making model; Conventional approach	Quasi-experimental, pre-posttest 13 weekly group sessions, including initial 2-wk long eating plan to model new behavior changes; additional sessions included computerized self-monitoring PA/diet, goal setting, individualized feedback, and encouragement to walk, and set goal to promote adoption of reasonable maintainable behavior changes	Research team: a clinical psychologist led and 2 graduate students helped co-lead	FP: (no spiritual components described)	Moderate (12/16) Weight*, BMI, self-reported PA (PA min /session)*, self-reported calorie/ fat intake, decreased overeating* and increase dietary restraint
Sbrocco, Osborn, Clark, Hsiao, & Carter, 2012[26]					
19 overweight female AA adult churchgoers from AA churches in Washington D.C. area; ~40.4 y	TTM; Conventional approach	Quasi-experimental; pre/post design 13-weekly (90 min/wk) behavioral weight management group sessions (participants tracked diet/PA "as-is" for 2-wks prior to group sessions); intervention components included: diet/PA tracking for first 11 wks, focus on moderate calorie intake, increased F/V intake, exercising 30+min/day most days, and examining/altering attitudes toward eating and exercise	Group sessions led by clinical psychologist and a psychology doctoral student	FP: (no spiritual components described)	Moderate (12/16) % Weight loss by self-reported SoC group (contemplators*, actors and maintainers), BMI, SoC progression physical fitness (VO2max)
Schwingel, Galvez, Linares, & Sebastiao, 2016[27]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
34 older Latina churchgoers from 1 large Roman Catholic church in urban Chicago area; 100% female, ~64 y	TTM, SCT, RE-AIM, Promotora model; Collaborative approach	Quasi-experimental, single group pre-posttest 9-month long behavioral lifestyle change program, including: individual meetings (action planning with promotora), 6 monthly ed. workshops (healthy eating, PA & stress management), home assignments, and motivational phone calls (24 weekly + 6 biweekly)	3 trained promotoras (Latina women active in the church) helped to recruit participants, facilitate individual meetings, educational workshops and motivational calls)	FB: Catholic teachings tailored to health, Catholic saint & scripture references, group prayer	High (13/16) Accelerometer assessed MVPA (min/week), F/V intake, fried foods intake*, depression*, stress management
Tang, Nwankwo, Whiten, & Oney, 2014[28]					
13 AA churchgoers at high risk for T2DM from an AA church in Ann Arbor, MI; 73% female, ~60 y	SCT, Peer-led model; Approach unknown	Pre-post pilot feasibility study 20 week-long intervention, included: 6 core peer led group sessions over 8 weeks, plus 6 biweekly telephone support calls including: nutrition/PA education, goal setting, food/PA tracking, and exercise demonstrations	6 trained Peer Lifestyle Coaches nominated by church pastor	FP: (no spiritual components described)	High (13/16) Weight, % Weight change, WC*, Cholesterol*, BP*, Fat intake*, Self-reported PA*
Tettey et al., 2017[29]					
199 AA adult churchgoers at risk for CVD from 14 churches in NYC (AME, Baptist, Episcopal, Full Gospel, SDA, Presbyterian); most female	SCT (self-efficacy & reciprocal determinism); Collaborative approach	Pre-post pilot study 12-weekly group classes related to cardiovascular health education; supplemented with 30-60 min group exercise before or after class, healthy meal preparation and stress management workshops, and a community resource mapping exercise; behavioral strategies included goal setting	Trained lay health educators (church wellness ministers and pastors) recruited participants, delivered the 12-week program, and conducted pre-/post-assessments	FB: incorporated biblical scriptures related to health messages	High (13/16) Weight*, WC*, BMI*, BP*, and cardiovascular disease knowledge*
Thompson, Berry, & Hu, 2013[30]					
41 AA adolescent girls from 2 large suburban AA churches in North Carolina; ~14.2 y	Theory of Reasoned Action; Approach unknown	Single-group pre-posttest 12 weekly group sessions, including: 30 min culturally relevant PA education and discussion, plus 30 min of high energy aerobics dance class	Certified aerobics instructor and Trained research staff	FB: spiritual themes and discussions guided by Proverbs 22:6 bible verse	High (14/16) BP, BMI, Fitness, Self-reported PA, attitudes, self-efficacy, intention, social / family support for PA*
Trost, Tang, & Loprinzi, 2009[31]					
105 elementary aged children Sunday school attendees (multi-racial/ethnic) from 4 churches (2 large, 2 small) in KS; 51% female, ~8.4 y	No theory described; Conventional approach	Group-randomized pre-post control 4-lesson (4-week) PA curriculum implemented during regularly scheduled Sunday school classes, along with 3 family devotional activities to reinforce learning activities from Sunday school, promote parental support for PA and PA outside of Sunday school	Trained volunteer Sunday school teachers and children's ministry coordinators implemented and delivered curriculum	FB: religious themed lessons tied-in PA during Sunday school	High (20/24) Pedometer-assessed MVPA (steps/min)*, self-reported PA, parent support for PA, TV screen time*
Turner, Sutherland, Harris, & Barber, 1995[32]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
343 churchgoers and community members from 4 AA churches in rural North FL; 68% female, (no age data)	Planned Approach to Community Health Program Model, PRECEDE model; Participatory approach	Quasi-experimental, pre/posttest Church-tailored cardiovascular health promotion activities targeting church setting / environment, including: fashion show, weekly PA classes, monthly "Gospelsize" exercise classes, healthy cooking presentations, monthly health Sundays, direct health instruction seminars, and/or establishment of health clubs	Peer facilitators disseminated various health education, guided by the help of the Health Advisory Council	FB: gospel-themed exercise classes, church pastor/leader support,	Low (8/16) BP*, consumption of: high salt foods*, desserts, pork, red meat*, fried foods, eggs, increase f/v, fish, chicken, self-reported PA
Tussing-Humphreys, Thomson, Mayo, & Edmond, 2013[33]					
403 AA adult church members from 8 rural AA southern churches in lower MS Delta counties; 69% female, ~46.5 y	TTM Stages of Change, Social support; Collaborative approach	Quasi-experimental, cluster (church-level) treatment assignment 6-month diet and PA intervention, including: monthly peer-led educational sessions designed to increase self-efficacy and decisional balance for making healthy diet and PA changes, plus a self-directed 'Walking with Jesus' pedometer program	Lay church volunteers helped deliver program with intervention staff	FB: health-scripture from pulpit, faith-based PA program, healthy food covenant displayed at church	High (21/24) Self-reported F/V intake*, Diet quality* and PA*
Villablanca et al., 2009[34]					
Adults at high risk for CVD from 32 faith and community-based sites across U.S.	TTM Stages of Change, SCT (self-efficacy, social support), Community Engagement Model; Collaborative approach	Longitudinal cohort from pre/post-educational intervention Group-based CVD prevention: (8 counseling/ education sessions (90-120 min long) over 4 months, plus 4-6 maintenance sessions over 3 months); focus on increasing knowledge, self-efficacy and awareness to improve PA, weight, and other CVD risk factors (smoking, diet, BP)	1 trained 'site leader' per faith-community recruited/enrolled participants, and delivered group intervention sessions with other health professionals to assist throughout	FP: (no spiritual components described)	Moderate (11/16) BMI, BP*, self-reported change in TTM Stages of Change category*
Walker et al., 2015 [35]					
20 adult churchgoers from a non-denominational multicultural Christian church in Phoenix, AZ; 85% female, ~52.5 y	Spiritual Framework of Coping; Conventional approach	Quasi-experimental single group pre-posttest 8 weeks long, including: 4 weekly group sessions (90 min of education and discussion on spiritual, mental & physical health, pedometer use and PA tracking), plus 4 weekly follow-up telephone calls	Lead research investigator knowledgeable of theory and biblical foundations and trained research staff, delivered sessions and phone calls	FB: prayer, spiritual tailored messages, mind-body-spirit bible scriptures	High (13/16) Weight, F/V Intake, BP, Religious coping methods
Washington, Weed, & Vardaman, 2015[36]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
21 AA church goers from 1 predominantly AA church in Alabama; 61.9% female, ranged 19-64 y	No theory/model described; Conventional approach	Pre-posttest pilot study 8-week PA program: 2 group meetings (at start/end of program), plus internet-based PA sessions in which participants reviewed 6 websites (1 site/week) to educate and promote PA, along with weekly encouraging texts and verbal reminders during bible study	Project coordinator delivered group pre/post sessions; rest of intervention delivered via Internet	FP: (no spiritual components described)	Moderate (11/15) self-reported: moderate PA, vigorous PA and walking, sitting-time
Webb, & Bopp, 2017[37]					
44 inactive Christian clergy members participating in web-based study; 58% male, ~49.3 y	SCT (intrapersonal and interpersonal constructs); Conventional approach	2-group RCT (wait-list control) Web-based PA intervention: 12-weekly lessons on PA & nutrition ed., goal-setting & self-monitoring, stress-management and role modeling; each topic format involved: interactive health presentation, behavior-change strategies, narratives related to topic, and encouragement to reflect/pray on specific Bible verses; final 6 lessons focus on ways clergy can impact church environment	Interactive presentations delivered online via teaching platform developed by researchers	FB: topic-specific Biblical narratives, scriptures tied into topics, and prayer	High (21/24) Self-reported MVPA, accelerometer-assessed sedentary time* and moderate PA time (min/week)*, self-efficacy* and outcome expectations* for PA
White, 2011[38]					
106 primarily Caucasian older adults from 11 FBOs (10 Christian, 1 Jewish), mostly rural ND and MN; 92.5% female, ~68.3 y	No theory or models described; Collaborative approach	Cross-sectional study from ongoing (10+ y) project Ongoing PA/Health Ed. program; group-based classes offered at least 1x/week, format includes: 1) mind (CVD prevention, nutrition/PA, stress management), 2) body (light/moderate PA), and 3) spirit (devotional/religious discussion)	Trained parish nurses and lay leaders deliver all aspects of intervention, including: group discussion, education, PA, and devotional	FB: religious scriptures, readings and themes tailored by each faith setting	Moderate (16/24) Flexibility, lower body strength, dynamic balance, and self-reported quality of life
Whitt-Glover, Hogan, Lang, & Heil, 2008[39]					
87 AA inactive churchgoers from 4 AA churches in suburban North Carolina; 89% female, ~52 y	SCT; Collaborative approach	Single group pre-posttest pilot study 8 group sessions delivered over 3 months, including: 30 min group PA plus 60 min discussion on behavioral strategies to increase PA, goal setting, social support, time management, and weekly incentives	2 trained AA female group leaders from outside church led group sessions; certified PA instructors delivered PA; and a church-appointed liaison trained to continue program	FB: prayer, content from theological perspective focused on caring for body as God's temple	Moderate (12/16) Steps walked/day*, Self-reported minutes/week of moderate & vigorous PA*
Wilcox et al., 2007[40]					

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
571 adult AA churchgoers from 20 AME churches in South Carolina	CBPR, TTM, SEM; Participatory approach	2-group (delayed control) RCT Faith-Based PA initiative included: PA signage posted in church and in bulletins, Praise aerobics, walking programs, Exercise CD, Quarterly newsletters, 8-week volunteer led PA program, encouragement of policy changes to include healthy food and PA at church events	2+individuals per church trained on how to deliver 8-week program and implement additional program components	FB: Spiritual and religious components integrated into PA promotion messaging	High (21/24) PA participation, Meeting PA recommendations, Readiness for PA changes
Wilcox et al., 2013[41]					
1257 AA adult church members from 74 AME churches; 24.3% female; ~54.1 y	SCT, CBPR, SEM, structural ecological model; Participatory approach	Group RCT (delayed control group) 15-month PA and HE intervention targeting organizational and environmental changes at church-level	FAN committee: pastor, pastor-appointed health director (FAN coordinator), and a cook; trained to deliver various intervention components	FB: Pastor preaching about PA & HE from pulpit	High (21/24) PA*, F/V*, Fat Intake, Fiber Intake, Blood Pressure
Woods et al., 2013[42]					
106 AA adults from 5 Christian churches in urban metro-Denver, CO, 73% female	CBPR; Participatory approach	Group (church-level) randomized pilot study 8 week group-based program delivered 2x/week, including: 60 minutes of nutrition/PA ed, goal setting, social support; 30 min group exercise class	Hired Registered Dietitian led nutrition and PA educational workshops; fitness specialist delivered PA classes	FB: health messages connected to biblical/spiritual tenants	High (20/24) Weight*, BMI*, body fat percent*, physical fitness step test*
Yanek, Becker, Moy, Gittelsohn, & Koffman, 2001[43]					
529 AA women at 18 urban churches (Baptist, AME, Roman Catholic, & United Methodist) inner city Baltimore, MD; 100% female, ~53.6 y	Social Learning Theory, Community Action and Social Marketing Model; Participatory approach	Group (church-level) randomized pilot study 1-year program including: initial kickoff retreat, followed by weekly group sessions covering nutrition education, cooking demos, PA sessions	First 20 weekly sessions led by AA female health educators from study; trained female lay leaders from churches delivered following sessions, assisted with recruitment and coordinated activities	FB: group prayer, scripture-tied health messages, church newsletters bulletins, praise music used in PA	High (21/24) Weight*, WC*, Systolic BP*, Self-reported energy expenditure, Decreased energy (kcals)*, fat*, and sodium* intake
Young & Stewart, 2006[44]					
196 AA church goers from 11 predominantly AA churches in Maryland (9 in Baltimore City, 2 in Baltimore County); 100% female, ~48.3 y	SCT (self-efficacy, social support and modeling); Collaborative approach	Prospective, group-random trial 6-month group exercise intervention (1-hr class/week) with individualized PA plans, assessing cardiovascular risk factor status, and monthly newsletters; behavioral components included: group discussions on PA, self-efficacy, self-management skills, goal-setting, social support and modeling	Certified AA aerobics instructors from community led PA classes and served as role models for participants; church volunteers trained program to continue PA classes	FB: gospel-themed exercise classes, group prayer	High (21/24) Self-reported PA prevalence, cardio fitness, BMI, BP, efficacy, social support for PA*, health-related QoL

Author, Setting & Participants	Theories & Approaches	Study Design & Intervention Description	Intervention Delivery	Faith-Based Components	Study Quality & Health Outcomes
Table Key/Abbreviations: PA=physical activity, HE=healthy eating, CBPR=community-based participatory research, SCT=social cognitive theory, SEM=social ecological model, TTM=trans-theoretical model, RE-AIM=reach, effectiveness, adoption, implementation and maintenance, F/V=fruit and vegetable, WC=waist circumference, AA=African American, AME=American Methodist Episcopal, SDA=Seventh Day Adventist, CVD=cardiovascular disease, T2DM=type 2 diabetes, MVPA=moderate to vigorous-intensity physical activity, *=significant changes described					

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Appendix B. SNAP-Ed agent recruitment email script

We want to talk to current and previous SNAP-Ed Agents and/or NOI's about their perspectives towards partnering with faith-based organizations. Our purpose is to find out about your previous experiences and/or potential interest in partnering with faith organizations to deliver health programming in communities. We plan to use the information to better understand ways to develop and strengthen these partnerships with a shared goal of improving the health of communities.

Participants we are seeking include current and previous SNAP-Ed agents, and NOI's with Virginia Cooperative Extension. This project has two components; the first is a one-on-one telephone interview and the second part of the project is an online survey. The purpose of the phone interview is to get your individual input on this topic so we can get a deeper understanding of your experiences and future directions. Interviews will be done by phone at a mutually available time if that is convenient for the participant. The online survey will ask you questions about your own personal affiliations and involvement with faith organizations in your community.

The topics that we will discuss include:

- Your current or previous role(s) with VCE as a SNAP-Ed Agent or NOI
- Your previous experiences with faith organizations in your community to deliver health-related programming
- Your future interest in partnering working with faith organizations
- Obstacles and Facilitators related to partnering with faith communities
- Ways to help improve partnerships with faith-based organizations from your perspective

The discussion will last about 45 to 60 minutes, and the survey will last about 10 minutes.

Please note:

The telephone interview and online survey serve two main purposes: first, to contribute to research, and second, to inform future FNP initiatives. Some of the research-related questions may contain personal questions that don't seem important or relevant for the FNP component. Your participation is voluntary, and if you decide to participate it isn't necessary to answer all of the questions in the interview and survey.

The interview and survey are both part of a research study. Results may be published. No names or identifying information will be shared in these reports. The discussion will be audio recorded. Participation is confidential and voluntary.

If you are interested in participating in this study, please contact Kimberlee Kinney or one of the investigators:

Kathy Hosig (Principal Investigator); khosig@vt.edu; (540) 231-6637
Kimberlee Kinney (Co-Investigator); skim13@vt.edu; (423) 504-6927
Elena Serrano (Co-Investigator); serrano@vt.edu; (540) 231-3464

Appendix C. SNAP-Ed agent participant implied consent form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Information and Implied Consent Form for Participants in Research Projects Involving Human Subjects

Title of Project: Perspectives toward partnering with faith organizations for health programming

Investigator(s): Kathryn Hosig (PI), PhD, MPH, RD	**khosig@vt.edu / (540) 231-6637**
Name	E-mail / Phone number
Elena Serrano, PhD	**serrano@vt.edu / (540) 231-3464**
Name	E-mail / Phone number
Kimberlee Kinney, PhD Student	**skim13@vt.edu / (423) 504-6927**
Name	E-mail / Phone number

I. Purpose of this Research Project

The purpose of this research project is to find out about your experiences and/or potential interest in partnering with faith organizations to deliver health programming in communities. This study involves two components: the first part includes a one-on-one telephone interview to get your individual input on this topic, the second part involves a complementary online questionnaire, which asks about your affiliations and involvement with faith organizations in your community.

II. Procedures

Participation in this project is completely voluntary. Should you agree to participate, your commitment to this project will involve the completion of one audio-recorded telephone interview and one online survey. The interview should take about one hour, and online survey about 10 minutes. I will be audio taping the session because I don't want to miss any of your comments.

III. Risks

Participation in this study poses minimal risk. In order to minimize this risk, you may skip or refuse to answer any question(s) that you wish to during the telephone interview. Although the results will be used to inform future FNP programs, no identity or personal information will be shared with FNP administration. Audio recordings could be used to identify participants if the listener knows the participant. To minimize this risk, only Dr. Hosig and Kimberlee Kinney will have access to original data files, and Dr. Serrano will only view desensitized data. At the completion of the research, the survey and interview data will be deleted from the researcher's computer and hard copy surveys shredded and discarded.

IV. Benefits

No promise or guarantee of benefits has been made to encourage you to participate.

V. Extent of Anonymity and Confidentiality

We will assign a participant number to you, which will take place of your name on the interview transcripts and for all analyses and reports. These responses will be kept in a

secure location to ensure confidentiality. The interview will be audio recorded using a digital audio recording device. The audio files generated from these recordings will be uploaded on a password secured computer to ensure confidentiality. All identifiable information about you will be destroyed at the earliest opportunity following completion of the study. It is possible that the Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
There will be no compensation for participating in this study. Participation is completely voluntary and will have no affect on your job if you decide not to participate. If you decide to stop the interview at any time, you may do so without any penalty.

VII. Freedom to Withdraw
It is important for you to know that you are free to withdraw from this study at any time without penalty. You are free not to answer any questions that you choose or respond to what is being asked of you without penalty. Please note that there may be circumstances under which the investigator may determine that a subject should not continue as a subject. Should you withdraw or otherwise discontinue participation, you will be compensated for the portion of the project completed in accordance with the Compensation section of this document.

VIII. Questions or Concerns
Should you have any questions about this study, you may contact one of the research investigators whose contact information is included at the beginning of this document. Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

IX. Participants' Responsibilities
Your participation in this study is voluntary. By reading this document and providing verbal consent to participate in the study, you agree to: a) participate in an 45 to 60 minute interview, that is audio recorded, regarding your insights working with Faith Organizations; b) complete the survey; and c) participate in follow-up communication to ensure your perspective is accurately represented in the final report.

X. Permission
I have read the Implied Consent Form and conditions of this project. I have had all my questions answered by one of the investigators listed below. I hereby acknowledge the above and wish to participate in the interview and survey. I understand that agreement and participation in the survey and interviews acts as voluntary consent.

Appendix D: Virginia Tech IRB study approval letter (#15-963)

Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE: November 18, 2015

TO: Dr. Kathryn Hosig, Kim Saunders, Elena L Serrano

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires July 29, 2020)

PROTOCOL TITLE: Perspectives Toward Partnering with Faith Organizations for Health Programming

IRB NUMBER: **15-963**

Effective November 18, 2015, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 5,6,7**
Protocol Approval Date:	**November 18, 2015**
Protocol Expiration Date:	**November 17, 2016**
Continuing Review Due Date*:	**November 3, 2016**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Appendix E. Agent perspectives telephone interview script

INTRODUCTION.

I want to thank you for taking the time to talk with me today about your work in Virginia and with Faith-Based organizations. My name is Kimberlee. I'm a graduate student in the Department of Human Nutrition, Foods and Exercise at Virginia Tech working with the Family Nutrition Program. Today I'd like to ask you a few questions about your experience working with faith-based organizations to deliver health programming in your community and explore any potential interest in doing so in the future.

Today's interview will be fulfilling dual purposes. The first purpose is to examine FNP's work with faith-based organizations with the overall goal to inform future initiatives with FNP. The second purpose is to help answer research questions for us about forming meaningful partnerships with faith-based organizations for public health purposes. I'd like to capture feedback from your perspective as a FCS SNAP-Ed agent, in order to better understand how to start partnerships and programs with faith organizations in the community. I'll also be asking you questions about your own personal affiliations and involvement with faith organizations. Overall, you should expect the interview to take less than one hour. First, I'd like to start off by talking about your role and rights as a participant in this study by reading aloud the informed consent, allow time for your questions, then obtain your verbal consent if you wish to continue on with this interview.

OBTAIN IMPLIED CONSENT.

[read implied consent form verbatim, collect verbal consent, then begin recording interview]

BEGIN INTERVIEW.

Before we begin, I just want to assure you that there are no right or wrong answers. We want you to provide your honest opinions (even if you feel that they may differ from others), because your input is very important to us. Any comments or feedback you give me will have no impact or influence on your job performance evaluation. And remember, you don't have to talk about anything you don't want to, and you may end the interview at any time. You can choose not to answer any questions that you do not wish to answer.

In just a moment, I'll begin recording the interview in order to make sure our notes accurately reflect what you say; once the recording has been transcribed, it will be erased. Lastly, let me remind you that your name will never be identified as a respondent when we analyze the data or report any results from our discussions to maintain your confidentiality.

Do you have any questions before I start recording? [test the sound quality first, then begin recording].

Thanks for joining me today; it is _____ [say date aloud] at _____ [time] in the morning/afternoon.

If you would, please say aloud the participant number that was assigned to you.

PART I: AGENT BACKGROUND INFORMATION

I'd first like to start out with a few questions about you so I can get a better understanding of how you see your role in the community and know more about your past experience serving as a facilitator and/or educator. I also want to highlight that this interview will be serving dual purposes: first, to contribute to research and second, to inform future FNP initiatives. Some of the research-related questions may contain personal questions that don't seem important or relevant for the FNP component.

1. First, can you tell me what your role is with Virginia Cooperative Extension (VCE), and which counties and/or cities you currently serve?
2. How long have you been employed as a SNAP-Ed Agent and/or NOI? (Probe for estimated date of employment (MM/YYYY) to be more specific)

3. Before beginning your current position, had you previously worked in any other areas within Cooperative Extension?
    a. If so, can you describe your previous experience(s)? (Probes: roles, duties, length of time in previous position(s), location (if different from current), or reason for changing positions)
4. In addition to what you've already told me, do you have any other previous experience with community programming roles? This doesn't have to be affiliated with Virginia Cooperative Extension, it can be any type of community programming. (Probes: some examples may include delivering programs, planning &/or developing projects, events or curricula, evaluating programs in communities, conducting environmental or policy assessments, involvement with a community coalition or task force partnership, etc….)
    a. If so, describe.
5. I'd like to get a feel for how well you know your community. You mentioned you're serving _____ (county/city described in Q#1). Are you originally from this area?

    IF SO:

    a. Are you actively involved in <u>your</u> community? – Probes: do you serve on a board, coalition, or organization, hold a leadership position, volunteer with organizations or on certain community projects/events?

    IF NOT:

    b. If not, how long have you lived here? ____ How familiar or actively involved are you with your community?

Thanks for answering these questions. Now I'll move on to the second part of this interview to learn more about your experiences working with faith-based organizations.

<u>PART II: AGENT EXPERIENCE & INTEREST WITH FAITH PARTNERSHIPS & PROGRAMMING</u>

6. Do you have any previous experience working with faith organizations in your community? (Specify if it is in their current or a previous community)

    IF NOT:

    a. Are you familiar with the different religious groups or faith-communities in your area?
    b. What outcomes do you see as possible from a partnership (with FBOs in the community you serve)? Probes: in what ways do you see yourself working/partnering with faith-organizations?

    IF SO:

    a. What faith organization(s) did you work with?
    b. How did you work with them? / What was your role? (Probes: Did you plan or host an event? Did you develop or deliver a program with them?)

    FOR EACH PROGRAM/PROJECT THEY DESCRIBE; ASK THE FOLLOWING:

    c. What program(s) were offered (e.g. specific name of program; or topic area)?
    d. What population did the program target (adult, youth, or families)?
    e. What type(s) of programming was it? (Probes: was it a one time, ongoing program? describe the subject matter or curriculum?)
    f. How was the program delivered (e.g., was it delivered with them or at their facilities)?
    g. Would you consider the program "faith-based" or a "faith-placed" program? When I say the word: faith-based, it means that the FBO was engaged throughout the planning & delivery of a program and that the program itself (e.g., content) holds true to the values, beliefs or religious tenants of the FBO, which means it could have a scripture verse, prayer, or other spiritual component in the program lessons or messages. Alternatively, the term "Faith-placed" simply means that the program is already developed, then delivered in a faith-setting, without using a participatory approach or having a faith component to the content.

h. How did the partnership(s) initially develop? Or how did you first begin to work with the faith organization(s)?
i. How long has there been a partnership(s)? Has it been sustained?
j. Thinking about this specific partnership/project; what were some of the strengths or assets (if any), and barriers or challenges you encountered with it (if any)?
   Describe Strengths/Assets; and Barriers/Challenges:
k. What outcomes do you see as possible for this type of partnership (with FBOs in the community you serve)?

PART III: AGENT INTEREST WITH FAITH PARTNERSHIPS & PROGRAMMING

In this last set of questions, I'd like to ask more about your interest moving forward with FBO partnerships and programming.

1. What opportunities, if any are available for partnering or working with [additional] FBOs in your area?
2. From your experience & perspective what type of barriers or challenges have you faced (or might you encounter) when partnering, working with, or sustaining a faith-based partnership for health programming:
3. And what type of facilitators have helped (or would help) when partnering, working with, or sustaining faith-based partnerships for health programming?
4. In order to develop and sustain a successful partnership with FBOs in your community, from your perspective; what approach might work to reach FBOs? &/or work with FBOs? (Probes: calling 1 church at a time, developing a community board with various partner churches, partnering with existing assembly's or partnerships that FBOs are already part of such as the Southern Baptist Association)
5. What resources would be needed to deliver the program (e.g., curriculum, incentives, staff, lay leaders, training, etc)?
6. Are there any subgroups or populations you would (or would not) be interested in working with doing programming?
7. How would you see your role fit into the partnership? (e.g., teaching the program, training lay educators, work jointly with a lay leader, providing resources and technical assistance, handling assessments, etc.)?

CLOSING QUESTIONS & STATEMENTS.

I appreciate you taking the time to answer these questions for us, your input is very important.
Is there anything else you would like to add or expand more on regarding the topics we've discussed?
[allow time for further discussion if desired]
I'll be analyzing the information you and others gave me, then drafting a report shortly thereafter. I'll be in touch with you if I have any questions or clarifications of what we talked about. Thanks again for your time & valuable feedback!

Appendix F. Agent perspectives online Qualtrics survey questions

PART 1: FAITH AFFILIATION & RELIGIOSITY

Thanks for taking the time to complete this supplemental survey. Expect it to take about 10 minutes. By proceeding, you are providing your consent to participate in this survey.

Please begin by entering you unique Participant Identification Number which has been provided to you by the researcher in advance. Enter your ID number in the space below:

_____

The following questions ask about your personal involvement with the faith-community; in order to help us understand your comfort level in working and interacting with a faith community. I understand this can be a personal subject for some. If you feel uncomfortable answering any of the following questions, please remember your responses are voluntary and you may skip any you wish.

1. In your personal life, do you consider yourself as part of a faith-community? (Clarification: Are you affiliated with any religious group or faith sector in your community?)
2. What type of faith community/religious sector do you identify yourself with?
    a. *Christian*: Methodist, Baptist, Catholic, Episcopalian, Lutheran, Non-denominational, Presbyterian, Pentecostal, other Christian (describe: _____)
    b. *Non-Christian*: Jewish, Muslim, Hindu, Buddhist, Other (describe: _____)
    c. *Unaffiliated*: Atheist, Agnostic, Other (describe: _____)
3. How often do you attend church or religious meetings?
    a. never
    b. once a year or less
    c. a few times a year
    d. a few times a month
    e. once a week
    f. more than once a week)
    g. prefer not to answer
    h. not applicable

The following questions help to understand how involved you are with your faith community.

3. Are you currently a member of your faith community's congregation?
    a. Yes, No, Prefer not to answer, Not applicable
4. Do you have a leadership role there?
    a. Yes (describe: _____), No, Prefer not to answer, Not applicable
5. Are you involved with any ministries within your faith organization (e.g., small groups, child care, Sunday school, health ministry, etc.)?
    a. Yes (describe: _____), No, Prefer not to answer, Not applicable
6. Are you involved with any ministries outside of your faith organization? (e.g., partnership on community board/coalition, interfaith food pantry involvement, or other ministry/group)
    a. Yes (describe: _____), No, Prefer not to answer, Not applicable

PART 2: COMFORT-LEVEL & READINESS

The next set of questions are to help us better understand your comfort level and readiness for working with faith organizations to deliver health programming.

7. On a scale of 1-10, where 1 means 'not comfortable at all' and 10 means 'very comfortable'; How comfortable are you working or interacting with your faith-community you identify with to deliver health programming? **Please skip to next question if you don't affiliate with a faith sector*

b. choose # score
c. Describe your reasoning for giving your score: _____

8. On a scale of 1-10, where 1 means 'not comfortable at all' and 10 means 'very comfortable'; How comfortable are you working or interacting with <u>any</u> other faith-community to deliver health programming?
    d. choose # score
    e. Describe your reasoning for giving your score: _____
9. On a scale of 1-10, where 1 means 'not comfortable at all' and 10 means 'very comfortable'; How comfortable are you working or interacting with any faith-community to deliver health programming?
    f. choose # score
    g. Describe your reasoning for giving your score.

10. From your perspective/experiences, which factors are the most important to you when/if partnering with faith-based organizations to deliver health programming in your community?
    Please select your <u>top 5 most important</u> factors from the list below:
    h. shared values & principles
    i. compatible climate
    j. mutually beneficial & committed partnership
    k. effective leadership of partners
    l. appropriate & influential partners
    m. partners have complementary competencies/skills
    n. partners have adequate resources to carry out project
    o. partners have congruent, aligning goals
    p. having transparent communication between partners
    q. having conflict resolution in place
    r. having shared, equal power among partners

<u>PART 3: INTEREST IN FAITHFUL FAMILIES ESMM</u>

We are going to describe a program to you and then get your feedback:

Faithful Families Eating Smart and Moving More (Faithful Families) is a practice-tested health promotion intervention that promotes healthy eating and physical activity in communities of faith. The Faithful Families curriculum is co-taught by nutrition and physical activity educators and trained lay leaders from faith communities in small group sessions. Lay Leaders bring the spiritual elements into each session, through discussion questions and "Thinking it Through" prompts in each lesson. Faithful Families can be used by any faith community.

The Faithful Families program addresses the problem of overweight and obesity by promoting healthy eating and physical activity through implementation of research-based policies, programs and environmental changes. Faith communities that participate in Faithful Families will:

1. Offer one Faithful Families class with nine sessions
2. Implement one policy change and
3. Implement one environmental change

Resources for the program include a 9-session Faithful Families curriculum and the *Eating Smart and Moving More Planning Guide for Faith Communities.* The curriculum includes everything needed to implement the program, including ready-to-use PowerPoint slides and scripts for the nine-session series, a Lay Leader Training Guide and evaluation tools. Additionally, the kit includes Move More activities, recipes and faith-based discussion questions for each lesson. The Faithful Families program is currently being offered in North Carolina through local health departments and the North Carolina Cooperative Extension Service. Due to it's growing interest and recognition across North Carolina, the Faithful Families program curriculum is now being provided for other agencies and states to use who are interested in adopting the program in their region.

As a SNAP-Ed agent working to implement Faithful Families in your community, your role would be acting as the nutrition/physical activity educator and responsibilities might include: a) recruiting faith communities; b) working

with the faith leader (minister, pastor, rabbi, imam, etc.) to identify and recruit lay leaders; c) training lay leaders to carry out the project; d) teaching five of the nine nutrition/physical activity education lessons with the lay leaders, e) maintaining weekly communication with the lay leaders; f) partnering with the lay leaders to conduct assessments and surveys; and g) working with both the faith leader and the lay leaders to ensure that policy and environmental changes related to physical activity and nutrition are adopted.

11. Based on what you just learned about the faithful families program, would you be interested in working with faith organizations (filling the role of a nutrition/physical activity educator) to implement this program in your community? Please select and describe your answer below.
    s. Yes (describe: _____); No (describe: _____); Not sure (describe: _____)

PART 4: DEMOGRAPHICS

You're just about finished…just a few demographics questions about you.

12. In what year were you born?
    t. Select from dropdown list
13. What is your sex?
    u. Male / Female
14. What race do you identify with?
    v. White/Caucasian; African American; Asian; Native American; Pacific Islander; Other (describe)
15. Are you Hispanic or Latino?
    w. Yes; No; Not sure

Thanks for answering these questions! We appreciate your valuable input!

Appendix G. Faith community letter of support template

____ (date)

Mrs. Kimberlee Kinney, PhD Candidate
Department of Human Nutrition, Foods & Exercise
Virginia Tech | 327 Wallace Hall, Blacksburg, VA 24061

Dear Mrs. Kinney:

We at _____ (church name) are committed to the overall health and well-being of our congregation, and would like to provide a healthy environment for our church family. Therefore, I _____(name of lead pastor), am writing on behalf of _____ (church name) to give our support for participating in the research study led by Kimberlee Kinney. We agree to participate with an understanding our church will potentially receive up to $50 in Kroger gift cards as compensation for participating in the following two study components:

1. Identify a lay leader to participate in completing a Faith Community Assessment questionnaire in person with the help of a research team member; which will be used to identify available resources and policies to support healthy food and activities in our church setting. The lay leader should be familiar of the various programs, resources and facilities at the church. We will be compensated with a $25 Kroger gift card for assisting in this component.
2. Assist in recruiting all adult congregants/regular attenders, on behalf of the research team, to participate in completing a Member Health & Interest Survey. This one-time, anonymous survey can be completed by paper *or* in an online survey format at a mutually agreed upon time and location. Our church will be compensated with a $25 Kroger gift card for assisting in this component.

Although there is no monetary value, we also understand that Mrs. Kinney will share a report of the compiled results from the Member Health & Interest Surveys and Faith Community Health Assessment with our leadership as part of this study. This report will highlight main health habits and interests of our congregation, and identify resources available to promote a healthier church environment. Additionally, we are aware that all potential survey participants will be asked to provide their consent to participate for each component of the research study, and in doing so, their results would likely be published in Mrs. Kinney's dissertation or in a journal article.

Sincerely,

_____ (name of lead pastor/reverend)

Appendix H. Virginia Tech IRB study approval letter (IRB #16-252)

VirginiaTech

Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE: December 4, 2017

TO: Elena L Serrano, Kim Pardo, Susan Chen

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)

PROTOCOL TITLE: Faith Congregation Health Assessments of the NRV

IRB NUMBER: **16-252**

Effective December 4, 2017, the Virginia Tech Institution Review Board (IRB) approved the Amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 5,7**
Protocol Approval Date:	**September 15, 2017**
Protocol Expiration Date:	**September 14, 2018**
Continuing Review Due Date*:	**August 31, 2018**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Appendix I. FBO email recruitment script and MHIS recruitment script language

NRV FAITH COMMUNITY ASSESSMENTS – FBO EMAIL/PHONE RECRUITMENT SCRIPT

Hello. My name is Kimberlee, I'm a Virginia Tech graduate student from the Department of Human Nutrition, Foods & Exercise and currently work with Virginia Cooperative Extension. I am (calling/emailing) because I'm interested in learning more about ways we can partner with local faith communities around the New River Valley to provide resources for promoting healthy eating and physical activity. Specifically, we'd like to learn how your congregation practices healthy eating and physical activity, and gauge your interest in pursuing programs or healthy policy changes by surveying a lay leader and adult congregants about these topics. These surveys are also part of my graduate research, and results may be published in a dissertation or journal article, but no names or identifying information of faith communities or their members would be reported.

If interested we'd work with someone from leadership to participate in two main study components:

> 1.) The first component is a Faith Community Health Assessment: a one-time in-person questionnaire completed by a lay leader a member of our research team, which should take about 40-60 minutes to complete. Its purpose is to identify resources, policies and practices available to support healthy food and activity choices at (insert church name). We would work with you to identify and recruit a lay leader to participate who is knowledgeable of (church name's) and the various activities and ministries (church name) is involved in. (Church Name) would be given a $25.00 Kroger gift card as a thank you for your help with this first component.
>
> 2.) The second component is a Member Health and Interest Survey: a one-time brief survey would be shared with as many members/regular attenders from your congregation to complete (a minimum of 3). Its purpose is to get information about their health habits and interests, which can help identify potential avenues you may want to pursue to promote healthy eating/activity opportunities at your church. The surveys should take about 5-10 minutes to fill out and submit, they can be completed in paper or online at a date/location convenient for you (e.g., before, during or after services or a church gathering, or shared in an online format via survey web link if preferred). We would work with your lead pastor/reverend to coordinate a time and location for us to recruit and share surveys with congregants. Your church will be given an additional $25.00 Kroger gift card as a thank you for assisting us in these recruitment efforts.

After both parts are finished, we'll compile the results into a report highlighting the main health habits and interests of your congregation, and share a copy with your leader(s). At this point, if (church name) is interested in establishing a health ministry, pursuing a program or policy changes to help your congregation make healthier food and activity choices, we can connect you with people and resources from Virginia Cooperative Extension that can help with these things.

Participation is confidential and voluntary. If (church name) is interested in participating in this research study, you would first need to provide a letter of support (a template will be provided) describing your agreement to participate in the research and understanding that your faith community would be compensated $25.00 for completing each of the two study components described above, for a total of up to $50.00 in Kroger gift cards. These gift cards are a thank you for your time and support, and their intent is to be used towards purchasing food/beverage items for a future gathering/function for your congregation.

If you are interested in participating or have more questions:

> Please contact Kimberlee Kinney or an investigator listed below:
> Kimberlee Kinney (Co-Investigator); skim13@vt.edu; (423) 504-6927
> Elena Serrano (Primary Investigator); serrano@vt.edu; (540) 231-3464

If you are not interested in participating:

Would you mind sharing any reasoning why? This feedback will help us when planning for future programs with local faith communities. Describe reason(s) below:

_____

_____

Would you consent to allow us to use this feedback for research purposes and potentially be used for publishing in a dissertation and/or journal article? We would not share any identifiable information about you/your church, only the feedback about reasons for not participating.

☐ Yes, I do consent to share my feedback. ☐ No, I do not consent to share my feedback.

Thank you very much for your time, consideration & feedback!

MEMBER HEALTH & INTEREST SURVEY – RECRUITMENT SCRIPT LANGUAGE

**Modify layout as needed to fit into church bulletin or insert, announcement or email to congregation*

We Want to Learn About the Health Interests of Your Church

Kimberlee Kinney, a Virginia Tech graduate student in the Department of Human Nutrition, Foods, and Exercise is doing a research study to learn about the nutrition and physical activity environments and resources available at different faith communities around the New River Valley area. Part of this overall study is to learn more about the health habits and interests of adult congregants from (insert church name) using a short anonymous survey, in order to potentially identify programs and/or healthy policy changes that best fit the interests of your congregation. Results from the surveys will be put into a report and shared with your church's leader (**Optional text: leadership team or congregation – depending on who church decides to share with*), published in Kimberlee's dissertation and/or a journal article.

We are inviting as many adult members or regular attenders from (name of church) to participate.
If you're interested, here's what you need to know:

What's the purpose of this research study and what types of questions are in the survey?

- To learn about the food/physical activity resources available at (church), as well as the habits and interests of your congregation by participating in completing a brief survey
  - The questions are about your eating and physical activity habits and interest in supporting various types of programs or policies that would promote a healthier congregation
- To contribute to the dissertation research of a graduate student – which is to find opportunities to support partnerships with faith communities for promoting health

Who can participate and what are the risks?

- Anyone over 18 years old who is a member or regular attender of (church name) can participate
- Participation is voluntary and anonymous. It may be possible to determine your identity from your survey responses, depending on the number of participants, as a summary of results will be shared with your church leader (*Optional text include: leadership team or other congregants – based on who the church wishes to share report with*)

If I'm interested, what do I have to do?

- Complete a brief survey (about 5-10 minutes long) which will be shared with you [**Choose 1 of the two text options:* in paper/via email on _____ (time/date) at _____ (location) ***OR*** via Qualtrics online survey website, using the following link: insert survey web link here)]
- You will have time to review the survey information and contents before consenting to participate
- **Text if using paper survey*: Submit your completed survey to our research team when you're finished

Will I be compensated for my time?

- There is no compensation

Who will see my survey results?

- Your church leader(s) will get a report highlighting the overall health habits and interests
- Results will also be used for publishing in Kimberlee's dissertation and/or a journal article.

If you have any questions about this project, please contact:
Kimberlee Kinney at (423)504-6927 or skim13@vt.edu

MEMBER HEALTH & INTEREST SURVEY– RECRUITMENT SCRIPT LANGUAGE *WITH GIFT CARD RAFFLE

**Modify layout as needed (where noted throughout in parentheses) in order to fit into church bulletin insert, announcement or email to congregation.*

We Want to Learn About the Health Interests of Your Church

This (email/bulletin announcement) is being (shared/sent) to you on behalf of the research team. Kimberlee Kinney, a Virginia Tech graduate student in the Department of Human Nutrition, Foods, and Exercise is doing a research study to learn about the nutrition and physical activity environments and resources available at different faith communities around the New River Valley area. Part of this overall study is to learn more about the health habits and interests of adult congregants from (insert church name) using a short anonymous survey, in order to potentially identify programs and/or healthy policy changes that best fit the interests of your congregation. Results from the surveys will be put into a report and shared with your church's leader (**Optional text: leadership team or congregation – depending on who church decides to share with*), published in Kimberlee's dissertation and/or a journal article.

We are inviting as many adult members or regular attenders from (name of church) to participate.
If you're interested, here's what you need to know:

What's the purpose of this research study and what types of questions are in the survey?

- To learn about the food/physical activity resources available at (church), as well as the habits and interests of your congregation by participating in completing a brief survey
    - The questions are about your eating and physical activity habits and interest in supporting various types of programs or policies that would promote a healthier congregation
- To contribute to the dissertation research of a graduate student – which is to find opportunities to support partnerships with faith communities for promoting health

Who can participate and what are the risks?

- Anyone over 18 years old who is a member or regular attender of (church name) can participate
- Participation is voluntary and anonymous. It may be possible to determine your identity from your survey responses, depending on the number of participants, as a summary of results will be shared with your church leader (*Optional text include: leadership team or other congregants – based on who the church wishes to share report with*)

If I'm interested, what do I have to do?

- Complete a brief online survey (about 5-10 minutes long) which will be shared with you [**Choose 1 of the two text options:* in paper on _____ (time/date) at _____ (location) ***OR*** online through Qualtrics online survey website, using the following link: insert survey web link here)]
- You will have time to review the survey information and contents before consenting to participate
- **Text if using paper survey*: Submit your completed survey to our research team when you're finished

Will I be compensated for my time?

- You are not guaranteed compensation for your time. However, if you decide to participate, you will have an opportunity to enter in for a raffle/giveaway for a $25 Kroger gift card following completion of your survey. One adult participant from _____ (insert church name) will be randomly selected on ____ (date) to receive the gift card. If every adult from _____ (church) participates in the survey, the odds of winning the gift card would be 1 in ___ (current # of adult members from participating church), based off the current number of adult congregants at your church. [***Optional Language**: ***If using online survey***: Following completion of the online survey, you will be redirected to a link where you will have an option to enter your contact name and email address for a chance to win the Kroger gift card, and notified on ___ (date) if you have been selected as a winner; ***OR** ***If using paper survey***: After completion of your survey, you will have an option to receive a raffle ticket which will be used to randomly select a gift card recipient winner after surveys have been completed on ____ (date).]

Who will see my survey results?

- Your church leader(s) will get a report highlighting the overall health habits and interests
- Results will also be used for publishing in Kimberlee's dissertation and/or a journal article.

If you have any questions about this project, please contact:
Kimberlee Kinney at (423)504-6927 or skim13@vt.edu

Appendix J. FBO lay leader faith community assessment informed consent

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Information and Implied Consent Form for Participants in Research Projects Involving Human Subjects

Title of Project: Faith Congregation Health Assessments of the New River Valley
Investigator(s): Kimberlee Kinney, PhD Student: skim13@vt.edu; (423) 504-6927
Elena Serrano, PhD: serrano@vt.edu; (540) 231-3464
Susan Chen, MS Student: schen518@vt.edu

I. Purpose of this Research Project
The purpose of this research project is to better understand the nutrition and physical activity environment and policies of faith congregations in the New River Valley region of SW Virginia. This overall study involves two parts: the first part is a one-time survey with a lay leader of your faith congregation to learn about the current environment, practices and policies available to promote healthful eating and/or physical activity behaviors at your congregation; the second part involves a survey of several (3 or more) congregants from your faith community to learn about their health habits and interests in various programs and topics around eating healthy and being more physically active within the context of the church community. This portion of the study will only involve the first part – completing a questionnaire with a lay leader to assess the environment, practices and policies currently in place to promote healthful eating and/or activity. Results of this overall research project will be shared with church leadership as part of a larger report highlighting the main resources available, and congregant member's interests in partaking in various nutrition or physical activity-related topics. Additionally, results may be published and used in a dissertation and/or journal article.

II. Procedures
Participation in this project is voluntary. If you agree to participate, your commitment will involve: (1) completing a questionnaire in-person with a member of our research team at a time and location at your church that is convenient to you (which should take about 40-60 minutes to complete); and (2) participating in any follow-up communication with our research team to clarify responses and ensure any input is reflected accurately.

III. Risks
Participation poses minimal risk. In order to minimize this risk, you may skip or refuse to answer any question(s) that you wish to during our survey interview. Although the results will be used to examine the role that faith communities may play in food and physical activity policies and practices, no identity or personal information will be shared that could identify you, your faith community as a whole or your members. At the completion of the research project, all hard copies of survey data will be shredded and discarded, and any electronic survey data files online or on a computer will be deleted/removed.

IV. Benefits
Findings from this survey will be used to evaluate churches capacity and interest to partake in health and wellness programs and/or policy changes; based on their interests, needs and available resources. This information may enhance your churches' ability to actively develop and launch health and wellness programs independently or in collaboration with other community groups. No promise or guarantee of benefits has been made to encourage you to participate.

V. Extent of Anonymity and Confidentiality
We will assign a unique participant number to you, which will take place of your name and church name on the surveys and for all reports. Surveys and reports will be kept in a secure location to ensure confidentiality. All identifiable information about you and your church will be destroyed at the earliest opportunity following completion of the study. It is possible that the Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
There will be no compensation for participating in this study.

VII. Freedom to Withdraw
It is important for you to know that you are free to withdraw from this study at any time without penalty. You are free not to answer any questions that you choose or respond to what is being asked of you without penalty. Please note that there may be circumstances under which the investigator may determine that a subject should not continue as a subject. Should you withdraw or otherwise discontinue participation, you will be compensated for the portion of the project completed in accordance with the Compensation section of this document.

VIII. Questions or Concerns
Should you have any questions about this study, you may contact one of the research investigators whose contact information is included at the beginning of this document. Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the Virginia Tech IRB, at irb@vt.edu or (540) 231-3732.

IX. Participants' Responsibilities
Your participation in this study is voluntary. By providing written consent to participate in the study, you agree to: a) participate in one-time questionnaire given in an interview format by a member of our team; and b) participate in any necessary follow-up communication to ensure your input is accurately represented in the final report.

X. Permission
I have read the Informed Consent Form and conditions of this project. I have had all my questions answered by one of the investigators listed below. I hereby acknowledge the above and wish to participate in the survey. I understand that by signing this form I consent to participate.

_____	_____	_____
Church Leader Participant Name (print)	(signature)	Date
_____	_____	_____
Investigator Name (print)	(signature)	Date

Appendix K. MHIS implied consent script templates with/without incentive

FAITH COMMUNITY MEMBER HEALTH AND INTEREST SURVEY

*Project Description and Consent to Participate *NO RAFFLE*

You are invited to participate in a research study done by Kimberlee Kinney, a graduate student in the department of Human Nutrition, Foods and Exercise, to learn about the nutrition and physical activity environments and resources available at different faith communities around the New River Valley area. Part of this overall study is to learn more about the health habits and interests of adult congregants from (insert church name) using this short anonymous survey, in order to potentially identify programs and/or healthy policy changes that best fit the interests of your congregation. Results from surveys will be put into a report and shared with your church's leader(s) (**Optional text: leadership team or congregation – depending on who church decides to share with*), published in Kimberlee's dissertation and/or a journal article.

Participation is voluntary and requires submitting the attached survey, which should take about 5-10 minutes to complete. This survey is anonymous so you will not be contacted in the future about it, and there is no compensation for participating. Participation involves very little risk to you. It may be possible to determine your identity from your survey responses, depending on the number of participants, as a summary of results will be shared with your church leader(s*) (**Optional text: leadership team or other congregants – based on who the church wishes to share report with*). The benefits, however, will help provide valuable information about the health interests of your congregation, in order to guide changes and ideas for promoting a healthier faith community as a whole.

By completing and submitting this survey to the researchers, you are providing consent to participate. You do not have to participate if you do not want to, and you may skip any question(s) you wish.

Our research team is happy to answer any questions you might have about this project. If you have further questions, you may contact Kimberlee Kinney by phone at (423)504-6927 or by email at skim13@vt.edu.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, you may contact the Virginia Tech IRB at irb@vt.edu or (540) 231-3732.

Turn the page to begin…

FAITH COMMUNITY MEMBER HEALTH AND INTEREST SURVEY

*Project Description and Consent to Participate *WITH RAFFLE INCENTIVE*

You are invited to participate in a research study done by Kimberlee Kinney, a graduate student in the department of Human Nutrition, Foods and Exercise, to learn about the nutrition and physical activity environments and resources available at different faith communities around the New River Valley area. Part of this overall study is to learn more about the health habits and interests of adult congregants from (insert church name) using this short anonymous survey, in order to potentially identify programs and/or healthy policy changes that best fit the interests of your congregation. Results from surveys will be put into a report and shared with your church's leader(s) (**Optional text: leadership team or congregation – depending on who church decides to share with*), published in Kimberlee's dissertation and/or a journal article.

Participation is voluntary and requires submitting this survey, which takes about 5-10 minutes to complete. The survey is anonymous, you will not be contacted in the future about your responses. There is no guaranteed compensation for participating. However, at the end of the survey you will have an opportunity to enter your name into a drawing for one $25 Kroger gift card; one winner from your church will be randomly selected on _____ date and notified at that time. If every adult congregant from your church participates in the survey and raffle, the odds of winning the gift card would be 1 in ___ (# of adult members) chances.
It may be possible to determine your identity from your survey responses, depending on the number of participants, as a summary of results will be shared with your church leader(s*) (**Optional text: leadership team or other congregants – based on who the church wishes to share report with*). The benefits, however, will help provide valuable information about the health interests of your congregation, in order to guide changes and ideas for promoting a healthier faith community as a whole.

By completing and submitting this survey to the researchers, you are providing consent to participate. You do not have to participate if you do not want to, and you may skip any question(s) you wish.

Our research team is happy to answer any questions you might have about this project. If you have further questions, you may contact Kimberlee Kinney by phone at (423)504-6927 or by email at skim13@vt.edu.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, you may contact the Virginia Tech IRB at irb@vt.edu or (540) 231-3732.

Turn the page to begin…

Appendix L. Faith community assessment and environmental audit checklist

Faith Community Health Assessment & Environmental Audit

SURVEY INFORMATION

Church/FBO Name: _____ FBO Study ID#: _____
Address: _____
Website: _____
Lay Leader contact (name/number): _____

Observer: _____ Survey date/time: _____

SURVEY GUIDELINES

This survey asks about opportunities for physical activity and healthy eating. For each item, please:

1. Mark whether or not the item is present in the church or on the church property (yes/no).
2. If present, mark whether or not the item is usable (yes/no) and whether or not it is in good condition (yes/no).
3. Finally, use the spaces provided to note any additional comments you may have.

When rating the available items for physical activity and healthy eating, please use the following definitions:

- **Present:** Items should only be marked as present if they are currently at the church and are kept/stored there most of the time (e.g., a grill or sports equipment that is brought in by a church member for a special event would not be considered present).
- **Usable/Functional:** everything necessary for use is present (e.g., appropriate pieces, electrical connection) and nothing prevents use (e.g., equipment is functioning as it should, items are accessible to members)
- **Good condition:** looks clean and maintained (e.g., fully functioning parts, minimal rust, no graffiti)

Upon arrival, use a script similar to the one below when introducing yourself to the person responsible for walking you through the church:

"My name is _____, I'm a graduate student at Virginia Tech. Thank you so much for meeting with me, I am so grateful for the time you're taking out of your day to help with this! Today I'm here to view features of your church and ask some questions about related to healthy eating and physical activity resources and programs. I also have a few questions about the characteristics and demographics of your church/FBO. If there is a question you don't know off hand, but would be able to find out, you can just let me know at a later time.

For the first part, I'd like to walk through different areas of the church with you and ask questions along the way. I want you to know there are no right or wrong answers, and I don't expect for your church to have every item I ask about from my list. Do you have any questions for me before we begin?" *(Wait for response)*

I have a list of items and features to look for. Some I can probably see myself and others I might need your help with. As I go through my list, I'll ask you about any of those items I'm not sure about..."
First, I'd like to take a look at some features related to physical activity inside the church. Do you have a fellowship hall or indoor space/area that is used (or could be used) for physical activity? If so, can you please take me there?" *(Walk with them)*

Start going through items in Section PA: "Opportunities for Physical Activity"

OPPORTUNITIES FOR PHYSICAL ACTIVITY (PA1 – 3)

PA1: Which items are available inside the church to encourage physical activity?

Item	Is it present?		Is it usable?		Is it in good condition?	
Fellowship hall/room that could be used for PA?	Yes	No	Yes	No	Yes	No
Notes:						
Free weights or rubber exercise/resistance bands	Yes	No	Yes	No	Yes	No
Notes:						
Foam or yoga rubber mats (for stretching)	Yes	No	Yes	No	Yes	No
Notes:						
Stationary exercise machines (treadmills, stair climbers)	Yes	No	Yes	No	Yes	No
Notes:						
Activity/aerobic equipment (jump ropes, hula hoops, Frisbees)	Yes	No	Yes	No	Yes	No
Notes:						
Active gaming equipment (Wii Fit) or exercise videos (Zumba)	Yes	No	Yes	No	Yes	No
Notes:						
TV, DVD player or VCR (for viewing exercise videos)	Yes	No	Yes	No	Yes	No
Notes:						
Stereo/sound system (CD player, speakers)	Yes	No	Yes	No	Yes	No
Notes:						
Sports sets/equipment (basketball, volleyball)	Yes	No	Yes	No	Yes	No
Notes:						
Bicycles/tricycles/roller skates/scooters/skateboards	Yes	No	Yes	No	Yes	No
Notes:						
Stairwells or staircases	Yes	No	Yes	No	Yes	No
Notes:						
Signage encouraging use of stairs	Yes	No	Yes	No	Yes	No
Notes:						
Other indoor items (*please explain*)	Yes	No	Yes	No	Yes	No
Notes:						
Other indoor items (*please explain*)	Yes	No	Yes	No	Yes	No
Notes:						

PA2: Which items are available outside the church to encourage physical activity?

Item	Is it present?		Is it usable?		Is it in good condition?	
Walking trail outside… If so, describe condition/signage	Yes	No	Yes	No	Yes	No
Notes:						
Ball fields or tennis courts?	Yes	No	Yes	No	Yes	No
Notes:						
Open green space? (e.g., soccer field)	Yes	No	Yes	No	Yes	No
Notes:						
Playground equipment (jungle gym, swings)	Yes	No	Yes	No	Yes	No
Notes:						
Signage encouraging walking or other outdoor PA	Yes	No	Yes	No	Yes	No
Notes:						
Other outdoor items (*please explain*)	Yes	No	Yes	No	Yes	No
Notes:						

PA3: What types of programs and policies are available to support physical activity?

Has your church/FBO organized or provided any type of exercise class or walking groups (adults or youth) in the past 12 months? *If so, describe type & population.*	Yes	No sure	Not
Notes:			
Has your church organized or supported a sports team (adults or youth) in the past 12 months?	Yes	No sure	Not
Notes:			
Do you have any guidelines incorporating physical activities into children/youth gatherings (Sunday school, youth group)?	Yes	No sure	Not
Notes:			
Has church leadership promoted PA in sermons, announcements/talks, or in written material (in bulletin, church website)?	Yes	No sure	Not
Notes:			
Has youth (or church) leadership promoted PA to children/youth groups through posted information, education in the past 12-months?			
Notes:			

Additional Comments/Notes:

"Next, I'd like to see some of the church features related to food and food preparation. Do you have a kitchen in the church? If so, can you please take me to that area?" *(Begin going through following sections with them and ask if they can show you the items they say are present, but are not visible. Even if there is no kitchen, they may still have a fridge, microwave, etc. that you will want to capture.)*

OPPORTUNITIES FOR HEALTHY EATING (HE1-HE4)

HE1: Which of the following food preparation items are available at the church?

Item	Is it present?		Is it usable?		Is it in good condition?	
Refrigerator	Yes	No	Yes	No	Yes	No
Notes:						
Freezer (specify if separate or a deep freezer)	Yes	No	Yes	No	Yes	No
Notes:						
Oven	Yes	No	Yes	No	Yes	No
Notes:						
Stovetop or portable burners(s) (specify # of portable burners)	Yes	No	Yes	No	Yes	No
Notes:						
Sink	Yes	No	Yes	No	Yes	No
Notes:						
Dishwasher	Yes	No	Yes	No	Yes	No
Notes:						
Microwave	Yes	No	Yes	No	Yes	No
Notes:						
Serving station	Yes	No	Yes	No	Yes	No
Notes:						
Indoor flat top grill, stationary or portable (e.g., Panini press)	Yes	No	Yes	No	Yes	No
Notes:						
Outdoor grill	Yes	No	Yes	No	Yes	No
Notes:						
Countertops	Yes	No	Yes	No	Yes	No
Notes:						
Tables/seating (indoor and outdoor)	Yes	No	Yes	No	Yes	No
Notes:						
Deep fat fryer	Yes	No	Yes	No	Yes	No
Notes:						
Healthy cookbooks (e.g, low-fat, healthy, light, or diet on cover)	Yes	No	Yes	No	Yes	No
Notes:						
Vegetable, herb or fruit garden (indoor or outdoor)	Yes	No	Yes	No	Yes	No
Notes:						
Visible signage promoting healthy eating/fruits & vegetables	Yes	No	Yes	No	Yes	No
Notes:						
Visible signage promoting food handling/food safety guidelines	Yes	No	Yes	No	Yes	No
Notes:						
Private room/area for women to breastfeed or express milk	Yes	No	Yes	No	Yes	No
Notes:						
Other (*please explain*)	Yes	No	Yes	No	Yes	No
Notes:						

Additional Comments/Notes:

HE2: Which of the following best describes the kitchen(s) in the church? *(answer yes or no for all)*

Commercial kitchen (e.g., large industrial cooking stations and appliances large enough for restaurant/cafeteria use)	Yes No
Standard kitchen (e.g., refrigerator, freezer, oven, stovetop, sink, microwave and countertops similar to a home kitchen)	Yes No
Kitchenette (e.g., refrigerator, microwave, and/or sink similar to a break room)	Yes No

Additional Notes:

"Some churches also have areas where they sell food or drinks. Does your church have any vending machines, vending boxes (a box that holds snacks for cash purchases), and/or a concession stand where food or drinks are regularly sold?" (not just at infrequent events)

Are vending machines, boxes, or concessions containing food or drinks available?	Yes No

If Yes: "Can you please show them to me?" *(complete HE3a & HE3b by observation only)*
If No: Mark 'No' and continue to section HE-4

HE3a: Does the church have <u>food</u> available for purchase?

Are vending machines, boxes, or concessions containing <u>food</u> available at the church?	Yes No
If so, are there any guidelines as to what foods can be sold?	Yes No
Notes:	

If the church has vending machines, boxes or concessions containing <u>food</u>, circle the availability of each item below and write an "X" under its location:

Snacks	Is it available?	Vending machine	Vending box	Concession
Chips* (regular)	Yes No	□	□	□
Chips* or pretzels (low-fat/baked)	Yes No	□	□	□
Tortilla or other whole grain chips	Yes No	□	□	□
Popcorn	Yes No	□	□	□
Crackers/Chex Mix (regular)	Yes No	□	□	□
Crackers/Chex Mix (whole grain/low sodium)	Yes No	□	□	□
Cookies/snack cakes/pastries	Yes No	□	□	□
Cookies and baked goods (low-fat)	Yes No	□	□	□
Fruits or vegetables (dried/fresh)	Yes No	□	□	□
Granola/cereal bars	Yes No	□	□	□
Nuts/trail mix	Yes No	□	□	□
Candy	Yes No	□	□	□
Other food:	Yes No	□	□	□

***Note:** *chips = potato chips, doritos, etc (not whole grain)
Additional Comments/Notes:

HE3b: Does the church have <u>beverages</u> available for purchase?

Are vending machines, boxes, or concessions containing <u>beverages</u> available at the church?	Yes No
If so, are there any guidelines as to what drinks can be sold?	Yes No
Notes:	

If the church has vending machines, boxes or concessions containing beverages, circle the availability of each item below and write an "X" under its location:

Beverages	Is it available?	Vending machine	Vending box	Concession
Water	Yes No	□	□	□
Milk (whole or 2% include flavored)	Yes No	□	□	□
Milk (fat free or 1%, include flavored)	Yes No	□	□	□
Fruit drinks (less than 100% real juice)	Yes No	□	□	□
Fruit or vegetable juice (100% real juice)	Yes No	□	□	□
Sports drinks (regular)	Yes No	□	□	□
Sports drinks (low/no calorie)	Yes No	□	□	□
Iced tea, lemonade or other drink (sweetened)	Yes No	□	□	□
Iced tea, lemonade or other drink (unsweetened)	Yes No	□	□	□
Soda (regular)	Yes No	□	□	□
Soda (diet)	Yes No	□	□	□
Energy drinks (regular)	Yes No	□	□	□
Energy drinks (low/no calorie)	Yes No	□	□	□
Other drinks:	Yes No	□	□	□

Additional Comments:

HE-4. Programs and policies to support healthy eating

Does your church/FBO have any healthy guidelines for meals served at functions? (e.g., fruits/vegetables, limiting sugary drinks/foods, low fat/sodium items, water available, etc.)	Yes	No	Not sure
Notes:			
Does your church have any healthy food or drink guidelines for items served during regular children/youth gatherings and/or events? (e.g. during Sunday school, youth group)	Yes	No	Not sure
Notes:			
Does your church have or host a farmer's market or CSA (produce share program) on site?	Yes	No	Not sure
Notes:			
Does your church have a shared or community garden space on-site? …If so, who uses it? And is it available for children/youth to use?	Yes	No	Not sure
Notes:			
Has leadership promoted healthy eating in a sermon/talk, or in written material (bulletins, signage, church website, etc.) over the past 12 months?	Yes	No	Not sure
Notes:			
Has your church organized or supported any type of nutrition-related classes or groups in the past 12 months (e.g., bible studies, weight loss groups, cooking classes)?	Yes	No	Not sure
Notes:			
Has leadership promoted healthy eating during any children/youth group activities in the past 12-months? *If so, describe*.	Yes	No	Not sure
Notes			
Has leadership recommended that healthy foods be offered to children/youth group activities in the past 12-months? *If so, describe*.			
Notes:			

Additional Comments:

"I have one last section to go through to ask you some general background information questions about the church/FBO makeup and characteristics about health and wellness infrastructures the church may have in place."

GC1: General Health and Wellness Characteristics, Policies & Infrastructure

Does your church/FBO have "health" as part of its creed or mission statement?	Yes	No	Not sure
Notes:			
Does your church have an active health team, ministry or committee?	Yes	No	Not sure
Notes:			
Does your church have a person appointed to be responsible for health-related activities?	Yes	No	Not sure
Notes:			
Has your church sponsored or served in a health fair during the past 12 months?	Yes	No	Not sure
Notes:			
Do any members currently represent the church by serving on a local community health coalition or committee (e.g., fitness/nutrition council)?	Yes	No	Not sure
Notes:			
Do any members of your church include health professionals (nurses, doctors, dentists, nutritionists, etc.) If so, about how many and what type of professionals?	Yes	No	Not sure
Notes:			
Has your church surveyed members on health issues in the past 12 months?	Yes	No	Not sure
Notes:			

Additional Comments/Notes:

This last section involves questions that you may/may not know the answers to, or that you don't feel comfortable answering. In addition to learning more about the general demographic makeup of your faith community, a secondary purpose for including the following demographic questions is to help determine wither or not your congregation would be eligible for receiving some type(s) of nutrition education programming at no cost to you. I'd just like to remind you that you are allowed to skip/refuse to answer any questions that you wish.

GC2: General FBO Information and Demographics

Faith sector/denomination: _____

What is your role at the church/FBO?

__ Pastor/Priest/Rabbi/Imam __ Deacon/Elder __ Member

__Other, describe: _____

About how many members are in the church/FBO: _____

What is the racial makeup of the FBO? **In percentages, must total 100*

____ % African American/Black ____ % American Indian ____ % Asian American

____ % Caucasian/White ____ % Other, *describe*:

_____

What is the ethnic makeup of the FBO? **In percentages, must total 100*

____ % Hispanics ____ % Non-Hispanics

What percent of the FBO is male/female? **must total 100*

_____ % Male _____ % Female

What is the age distribution of your FBO? **describe as percentage or ratio (& convert to % later)*

_____ 0 – 5 years _____ 6 – 17 years _____ 18 – 64 years _____ 65+ years

To the best of your knowledge, would you say that <u>greater than</u> or <u>less than</u> half (50%) of your congregation comes from limited/low income households (e.g., eligible or participating in SNAP/Food Stamps or WIC, or obtaining food from food banks)?

_____ > 50% low-income _____ < 50% low-income

Closing Statement and Notes:

"Thank you so much for taking your time to go through this with me.

For next part of this project I'll have some of your church members volunteer to fill out a survey (online or in-person) to learn more about their habits and interests in these areas. Once those are completed, I'll put it put those results into a report for your leadership to have. In the report, I'll also match congregants' main interests with resources currently available at your church (identified in this survey) and share some opportunities your church may want to pursue to help create a healthier faith community and environment!"

As we wrap up today, are there any questions you have about the survey, things you'd like to add to it, or any questions moving forward?

Additional Comments/Notes:

Appendix M. Congregant member health and interest survey

YOUR EATING & PHYSICAL ACTIVITY HABITS

Think about your eating habits over the past few months to help you answer the following 3 questions. Mark the response that best describes you:

1. On average, about how many servings of fruit (fresh/frozen/canned) did you eat each day?
   **Hint: 1 serving = 1 medium fruit (such as apple or banana) or ½ cup chopped fruit*
   ___ 5 or more ___3 - 4 ___2 or less

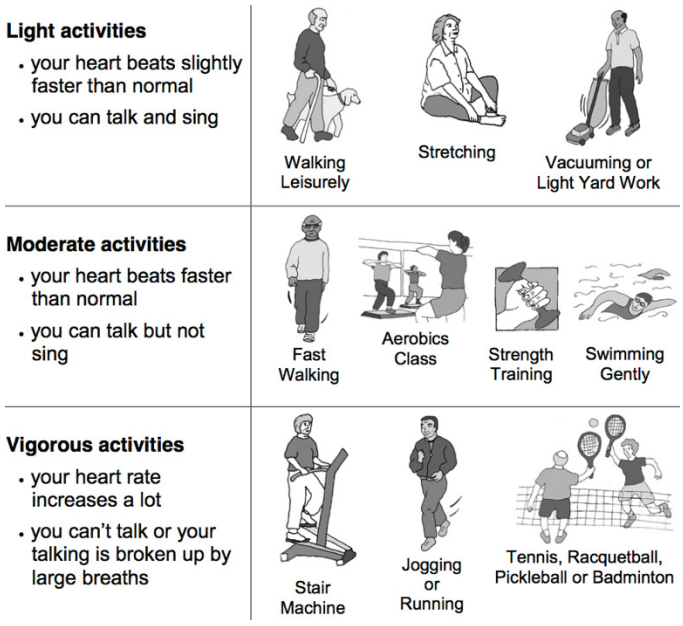
2. On average, about how many servings of vegetables (fresh/frozen/can) did you eat each day?
   **Hint: 1 serving = 1 cup raw salad greens or ½ cup fresh or cooked vegetables*
   ___ 5 or more ___3 - 4 ___2 or less

3. About how many regular sodas (**not diet**) or glasses of sweet tea did you drink each day?
   ___ Less than 1 ___1 - 2 ___3 or more

---

*The next set of questions asks about the amount of physical activity you do and the intensity (or how hard you work) when you are doing those physical activities. Circle a response for each statement below (right) which best describes the **type and amount of activities you regularly do**. The images below can be used as a guide showing examples of the different intensity levels:*

Physical Activity Intensity Levels:



	Circle:
I rarely or never do any physical activities.	Yes No
I do some light or moderate physical activities, but not every week.	Yes No
I do some light physical activity every week.	Yes No
I do moderate physical activities every week, but less than 30 minutes a day or 5 days a week.	Yes No
I do vigorous physical activities every week but less than 20 minutes a day or 3 days a week.	Yes No
I do 30 minutes or more a day of moderate physical activities, 5 or more days a week.	Yes No
I do 20 minutes or more a day of vigorous physical activities, 3 or more days a week.	Yes No

YOUR HEALTHY EATING INTEREST

Read each statement and check a response that best describes your interests:

		Yes	No	Maybe or Not Sure
1.	I am interested in learning more about healthy food choices.	☐	☐	☐
2.	I am interested in learning how to incorporate fruits and vegetables into my diet.	☐	☐	☐
3.	I am interested in learning about healthier food choices and portions to help manage my weight.	☐	☐	☐
4.	I am interested in participating in 'tasting' or 'cooking' events to sample or learn how to prepare healthy foods.	☐	☐	☐
5.	I am interested in having healthy snacks available in our faith community.	☐	☐	☐
6.	I am interested in having healthy meals served in our faith community.	☐	☐	☐
7.	I am interested in learning how to grow vegetables and fruits in a community garden.	☐	☐	☐
8.	I would like our faith community to offer classes on healthy eating.	☐	☐	☐

YOUR PHYSICAL ACTIVITY INTEREST

Read each statement and check a response that best describes your interests:

		Yes	No	Maybe or Not Sure
9.	I am interested in learning more about the benefits of physical activity and how it can influence my health.	☐	☐	☐
10.	I am interested in increasing my physical activity level.	☐	☐	☐
11.	I am interested in walking to increase my physical activity level.	☐	☐	☐
12.	I am interested in participating in team activities.	☐	☐	☐
13.	I would like to see more places to be physically active in our faith community.	☐	☐	☐

	Yes	No	Maybe or Not Sure
14. I would like our faith community to offer regular classes on physical activity.	☐	☐	☐

INTEREST & DELIVERY IN OTHER HEALTH TOPICS

Read each statement and check a response that best describes your interests:

	Yes	No	Maybe or Not Sure
15. I would like to receive health information that I can read, listen to or watch on my own.	☐	☐	☐
16. I would like to participate in health activities before services.	☐	☐	☐
17. I would like to participate in health activities after services.	☐	☐	☐
18. I would like to participate in health activities like physical activity breaks or healthy food tastings during regularly scheduled faith community events.	☐	☐	☐
19. I would like for our leaders to talk about healthy eating and physical activity in sermons, bible/small group studies, messages or other talks.	☐	☐	☐
20. I would like to see health information in our bulletins, newsletters and on bulletin boards.	☐	☐	☐
21. I would like our faith community to incorporate and/or promote healthy eating for children & youth during their regular gatherings (e.g., Sunday school, youth group).	☐	☐	☐
22. I would like our faith community to incorporate and/or promote physical activity for children & youth during their regular gatherings (e.g., Sunday school, youth group).	☐	☐	☐

Use the space below to share any comments, interests, or details related to the topics in this survey:

_____

_____

_____

_____

Thank you so much for your sharing your valuable time & feedback!

Appendix N. Virginia Tech IRB study approval letter (IRB #17-113)

VirginiaTech

Office of Research Compliance
Institutional Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE: June 26, 2017

TO: Elena L Serrano, Kim Kinney

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires January 29, 2021)

PROTOCOL TITLE: Examination of Factors Influencing the Acceptability of a Faith-Based Nutrition and Physical Activity Program

IRB NUMBER: **17-113**

Effective June 26, 2017, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 5,6,7**
Protocol Approval Date:	**June 26, 2017**
Protocol Expiration Date:	**June 25, 2018**
Continuing Review Due Date*:	**June 11, 2018**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Appendix O. FNP program recruitment flyer

Eat Smart·Move More

Virginia Cooperative Extension • Family Nutrition Program

With the

Family Nutrition Program

Join us for a free program to inspire healthy living

- Amaze your family with fun and easy meals you can prepare in minutes
- Make simple changes in your diet and feel great
- Save money at the grocery store
- Prepare fruits and veggies your family will love
- Make new friends and share ideas
- Get motivated to move more

Call me to sign up

Recieve fun gifts at every meeting

- Recipes and nutrition tips
- Measuring cups and spoons
- Vegetable Scrub Brush
- Instant-read thermometer
- Refrigerator thermometer
- Water bottle
- Exercise DVD
- Exercise Stretch band to use at home

Virginia Cooperative Extension
Virginia Tech • Virginia State University

www.eatsmartmovemoreva.org

The U.S. Department of Agriculture (USDA) is an equal opportunity provider and employer. This material is partially funded by USDA's Supplemental Nutrition Assistance Program – SNAP. The Supplemental Nutrition Assistance Program (SNAP) provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact your county or city Department of Social Services or to locate your county office call toll-free: 1-800-552-3431 (M-F 8:15-5:00, except holidays). By calling your local DSS office, you can get other useful information about services. This material was partially funded by the Expanded Food Nutrition Education Program, USDA, NIFA.

Appendix P. Member health and interest survey implied consent cover page

Faith Community Member Health and Interest Survey Consent

You are invited to participate in a survey, put together by a research team from Virginia Tech. The purpose is to learn more about the health and health interests of your faith community, and this survey will help give information about the types of changes your congregation can make to promote healthy lifestyles. Results will be collected and shared with your church leader. Additionally, you have an option to participate by sharing your survey results to be used for a graduate student's research project at Virginia Tech, which could be published in a journal or dissertation.

Any adult member or regular attender from your church is eligible to partake in this survey. Participation is voluntary and anonymous and only requires filling out the attached survey; which should take about 10 minutes to complete. Since it's anonymous, you will not be contacted in the future about it. As a thank you for your time, you will receive a $10.00 gift card for completing this survey and sharing your responses for use as part of a student's research project. There is very little risk in participating. The benefits will help to guide changes that will promote healthy lifestyles in your faith community based off of your shared interests. It is important to note that your decision to participate will have no effect on your relationship with your church. We are happy to answer any questions you have about this project. If you have any questions about the project in general, please contact Kimberlee Kinney by phone at (423)504-6927, or by Email skim13@vt.edu .

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

Thank you for taking your time to read and consider this!

Please check one of the options below to let us know how you would like to participate:

__ Yes, I agree to participate and give permission to share my anonymous survey responses with both my church leader and with the student to use as part of her graduate research project to be published.

__ No, I do not wish to participate and share my anonymous survey responses for the purpose of the student's research; I only wish to share them with my church leader.

Research Team Contacts

Kimberlee Kinney, PhD Student
Co-Investigator
(423)504-6927 | skim13@vt.edu

Elena Serrano, PhD
Principle Investigator
(540)231-3464 | serrano@vt.edu

Appendix Q. ESMM program pre/post survey consent cover page

Pre/Post Program Survey Consent Form

As a participant in the Eat Smart, Move More Program, you are invited to share some of your responses from the entry and exit surveys with a student from Virginia Tech; to be used for a student's research project, and published in a dissertation and/or journal article. The purpose of her research is to learn more about how this program can help in making changes to eat healthier and be more physically active.
The information you're being asked to share would include the following questions from the Entry/Exit forms:

1) your demographics (e.g., age, sex, race/ethnicity, education),
2) the foods you eat,
3) your physical activity habits,
4) your preferences for social media and electronic resources, and
5) your goals/successes from the class.

None of your personal identifiable information from the surveys (such as your name, address, email, phone number, and people you live with) would be shared with the student for research. There is very little risk in participating. The benefits may help to learn more about how well this program helps people change their eating and physical activity habits.

We will be happy to answer any questions you have about this project. If you have any questions, you can contact Kimberlee Kinney by phone at (423)504-6927, or by Email skim13@vt.edu .

Should you have questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

Thank you for taking your time to read and consider this!

Please check one of the options below to let us know if you would like to participate:

__ Yes, I consent to participate and I give permission to share the information from my entry and exit surveys that's listed above for the students' research project.
__ No, I do not wish to share these survey responses for the purpose of research; I only wish to share them with Virginia Cooperative Extension.

Appendix R. Church leader FCA and stakeholder interview consent form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Information and Implied Consent Form for Participants in Research Projects Involving Human Subjects

Title of Project: Examination of Factors Influencing the Acceptability of a Faith-Based Nutrition and Physical Activity Program

Investigator(s): Kimberlee Kinney, PhD Candidate: skim13@vt.edu; (423) 504-6927
Elena Serrano, PhD: serrano@vt.edu; (540) 231-3464

I. Purpose of this Research Project
The purpose of this research project is to better understand the nutrition and physical activity environment and policies of your faith community, and to get feedback from you about the processes, strengths, obstacles, lessons learned, and usefulness surrounding various components of the overall ESMM program your congregation has participated in. This study involves two parts: the first part is a survey completed at two time points to find out more about your current environment, practices and policies available to promote healthful eating and/or physical activity behaviors; the second part involves a one-time audio recorded interview that will take place after completion of the ESMM program. Results of this study may be published and used in a dissertation.

II. Procedures
Participation in this project is voluntary. If you agree to participate, your commitment to this project will involve: (1) filling out the Faith Community Assessment survey, completed two times (at the beginning and end of the ESMM program) with a member of our research team, and should take about 10-20 minutes to complete; and (2) participate in a one-time audio-recorded interview to gain perspectives and feedback regarding various aspects of this project, which should take about 30-45 minutes to complete.

III. Risks
Participation in this study poses minimal risk. In order to minimize this risk, you may skip or refuse to answer any question(s) that you wish to during the survey or interview. Although the results will be used to examine the role that faith communities may play in food and physical activity policies and practices, no identity or personal information will be shared that could identify you or your faith community. At the completion of the research project, all hard copies of survey data will be shredded and discarded, and any information related to the study will be deleted from the researcher's computer.

IV. Benefits
Findings from this survey will be used to evaluate the health-related resources, interests, and needs of your faith community that can be used to promote healthy lifestyles. Interview results will help identify strengths, assets and barriers relative to the partnership and processes that took place when participating in the ESMM program. This information will help to identify some of the best practices for partnering with faith organizations to deliver these types of programs, and will help guide and inform future partnerships and initiatives with faith communities to ensure greater success. No promise or guarantee of benefits has been made to encourage you to participate.

V. Extent of Anonymity and Confidentiality

We will assign a unique participant number to you, which will take place of your name and church name on the surveys and for all reports. Reports will be kept in a secure location to ensure confidentiality. All identifiable information about you and your church will be destroyed at the earliest opportunity following completion of the study. It is possible that the Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
There will be no compensation for participating in this study. If you decide to stop the survey or interview at any time, you may do so without any penalty.

VII. Freedom to Withdraw
It is important for you to know that you are free to withdraw from this study at any time without penalty. You are free not to answer any questions that you choose or respond to what is being asked of you without penalty. Please note that there may be circumstances under which the investigator may determine that a subject should not continue as a subject. Should you withdraw or otherwise discontinue participation, you will be compensated for the portion of the project completed in accordance with the Compensation section of this document.

VIII. Questions or Concerns
Should you have any questions about this study, you may contact one of the research team members whose contact information is included at the beginning of this document.
Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

IX. Participants' Responsibilities
Your participation in this study is voluntary. By providing written consent to participate in the study, you agree to: a) participate two paper surveys given by a member of our team before and after completion of the ESMM program; b) participate in a one-time interview to discuss your perspectives on various aspects of this project; and c) participate in any necessary follow-up communication to ensure your thoughts and input is accurately represented in any report.

X. Permission
I have read the Informed Consent Form and conditions of this project. I have had all my questions answered by one of the investigators listed below. I hereby acknowledge the above and wish to participate in the survey. I understand that by signing this form I consent to participate.

_____	_____	_____
Church Leader Participant Name (print)	(signature)	Date
_____	_____	_____
Investigator Name (print)	(signature)	Date

Appendix S. VCE SNAP-Ed peer educator stakeholder interview consent form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Information and Implied Consent Form for Participants in Research Projects Involving Human Subjects

Title of Project: Examination of Factors Influencing the Acceptability of a Faith-Based Nutrition and Physical Activity Program
Investigator(s): Kimberlee Kinney, PhD Candidate: skim13@vt.edu; (423) 504-6927
Elena Serrano, PhD: serrano@vt.edu; (540) 231-3464

I. Purpose of this Research Project
The purpose of this research project is to find out about your experiences in partnering with a faith organization to deliver health programming, and get feedback from you about the processes, strengths, obstacles, lessons learned, and usefulness surrounding various components of the overall ESMM program you helped to deliver. This study involves a one-on-one in-person interview to get your individual input on this topic. Results may be published and used in a dissertation research project.

II. Procedures
Participation in this project is voluntary. Should you agree to participate, your commitment to this project will involve the completion of one audio-recorded interview. The interview should take about 30-45 minutes and will be completed with a member of our research team. The interview will be audiotaped so we don't miss any of your comments.

III. Risks
Participation in this study poses minimal risk. In order to minimize this risk, you may skip or refuse to answer any question(s) that you wish to during the interview. Although the results will be used to inform future programming initiatives, no identity or personal information will be shared with anyone outside of the research team. At the completion of the research, the interview data will be deleted from the researcher's computer and hard copy surveys shredded and discarded.

IV. Benefits
No promise or guarantee of benefits has been made to encourage you to participate.

V. Extent of Anonymity and Confidentiality
We will assign a participant number to you, which will take place of your name on the interview transcripts and for all analyses and reports. These responses will be kept in a secure location to ensure confidentiality. The interview will be audio recorded using a digital audio recording device. The audio files generated from these recordings will be uploaded on a password secured computer to ensure confidentiality. All identifiable information about you will be destroyed at the earliest opportunity following completion of the study. It is possible that the Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
There will be no compensation for participating in this study. Participation is completely voluntary and will have no affect on your job if you decide not to participate. If you decide to stop the interview at any time, you may do so without any penalty.

VII. Freedom to Withdraw
It is important for you to know that you are free to withdraw from this study at any time without penalty. You are free not to answer any questions that you choose or respond to what is being asked of you without penalty. Please note that there may be circumstances under which the investigator may determine that a subject should not continue as a subject. Should you withdraw or otherwise discontinue participation, you will be compensated for the portion of the project completed in accordance with the Compensation section of this document.

VIII. Questions or Concerns
Should you have any questions about this study, you may contact one of the research investigators whose contact information is included at the beginning of this document. Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the VT IRB Chair, Dr. David M. Moore at moored@vt.edu or (540) 231-4991.

IX. Participants' Responsibilities
Your participation in this project is voluntary. By reading this document and providing signed, written consent, you agree to: a) participate in a one-time audio recorded interview, regarding your insights about the processes, strengths, obstacles and lessons learned surrounding various components from the ESMM program you helped to deliver; and b) participate in any necessary follow-up communication to ensure your perspective is accurately represented in our final report.

X. Permission
I have read the Informed Consent Form and conditions of this project. I have had all my questions answered by one of the investigators listed below. I hereby acknowledge the above and wish to participate in the interview. I understand that by signing this form I consent to participate.

Participant Name (print)	(signature)	Date
Investigator Name (print)	(signature)	Date

Appendix T. Congregant member health and interest survey

Eat Smart, Move More Member Health and Interest Survey

Directions: Please read each statement or question carefully and check the response that best describes you.

1.	I eat 2-3 cups of vegetables on most days.	☐ Yes	☐ No	☐ Not Sure
2.	I eat 1 1/2 to 2 cups of fruit on most days.	☐ Yes	☐ No	☐ Not Sure
3.	I drink regular (not diet) soda every day.	☐ Yes	☐ No	☐ Not Sure
4.	I am interested in learning more about healthy food choices.	☐ Yes	☐ No	☐ Not Sure
5.	I am interested in learning how to incorporate fruits and vegetables into my diet.	☐ Yes	☐ No	☐ Not Sure
6.	I am interested in learning about healthier food choices and portions to help manage my weight.	☐ Yes	☐ No	☐ Not Sure
7.	I am interested in participating in "tasting" events to sample healthy foods.	☐ Yes	☐ No	☐ Not Sure
8.	I am interested in having healthy snacks available in our faith community.	☐ Yes	☐ No	☐ Not Sure
9.	I am interested in having healthy meals served in our faith community.	☐ Yes	☐ No	☐ Not Sure
10.	How much moderate or vigorous physical activity (such as brisk walking, jogging, biking, aerobics or yard work) do you do in addition to your normal routine, most days?	☐ Less than 30 minutes	☐ 30-60 minutes	☐ More than one hour
11.	I am interested in learning more about the benefits of physical activity and how it can influence my health.	☐ Yes	☐ No	☐ Not Sure
12.	I am interested in increasing my physical activity level.	☐ Yes	☐ No	☐ Not Sure
13.	I am interested in walking to increase my physical activity level.	☐ Yes	☐ No	☐ Not Sure
14.	I am interested in participating in team activities.	☐ Yes	☐ No	☐ Not Sure
15.	I would like to see more places to be physically active in our faith community.	☐ Yes	☐ No	☐ Not Sure
16.	I would like to receive health information that I can read, listen to or watch on my own.	☐ Yes	☐ No	☐ Not Sure
17.	I would like to participate in health activities before services.	☐ Yes	☐ No	☐ Not Sure
18.	I would like to participate in health activities after services.	☐ Yes	☐ No	☐ Not Sure
19.	I would like to participate in health activities like physical activity breaks or healthy food tastings during regularly scheduled faith community events.	☐ Yes	☐ No	☐ Not Sure

20. I would like for our leaders to talk about healthy eating and physical activity in sermons, messages or other talks. ☐ Yes ☐ No ☐ Not Sure

21. I would like to see health information in our bulletins, newsletters and on bulletin boards. ☐ Yes ☐ No ☐ Not Sure

22. I would like our faith community to offer regular classes on physical activity or healthy eating. ☐ Yes ☐ No ☐ Not Sure

General Comments, Questions or Suggestions for the *Eating Smart and Moving More Program*:

Appendix U. Faith community health assessment survey

Faith Community Health Assessment Survey

Instructions: have church leader complete this survey with a research team member before and after the Eat Smart, Move More program takes place.

Faith Community Name:_____

Date of Survey: _____

Please read each statement carefully and check the response that best describes our faith community.

Section I: Health and Wellness

1. Does our faith community have an **active health team or committee?**	☐ Yes	☐ No	☐ Not Sure
2. Does our faith community have a **person appointed** to be responsible for health related activities?	☐ Yes	☐ No	☐ Not Sure
3. Has our faith community sponsored or helped sponsor a **health fair** during the past 12 months?	☐ Yes	☐ No	☐ Not Sure
4. Do any members currently represent our faith community by **serving on a community health coalition or committee** (e.g. fitness/nutrition council)?	☐ Yes	☐ No	☐ Not Sure
5. Has our faith community had a **relationship with another health, health promotion, or human services agency** to provide services to our members in the past 12 months?	☐ Yes	☐ No	☐ Not Sure

Section II: Physical Activity—Policies and Environments

6. Does our faith community have an **exercise room**?	☐ Yes	☐ No	☐ Not Sure
7. Does our faith community have any **exercise equipment** on-site?	☐ Yes	☐ No	☐ Not Sure
8. Does our faith community have a **walking trail**?	☐ Yes	☐ No	☐ Not Sure
9. Does our faith community have any **ball fields or courts**?	☐ Yes	☐ No	☐ Not Sure
10. Does our faith community have a **playground**?	☐ Yes	☐ No	☐ Not Sure
11. Does our faith community have a **policy supporting physical activity opportunities** at meetings/functions?	☐ Yes	☐ No	☐ Not Sure
12. Has leadership promoted **physical activity in a public speech or sermon** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure

Section III: Physical Activity Programs & Education

13. Has our faith community **organized or provided any type of exercise class** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure
14. Has our faith community **organized walking groups or clubs** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure
15. Has our faith community **organized or supported a sports team** for members in the past 12 months?	☐ Yes	☐ No	☐ Not Sure

16. Has our faith community specifically **promoted physical activity through posted information** in the past 12 months (e.g. bulletin board, posters, flyers, leaflets)?	☐ Yes	☐ No	☐ Not Sure
17. Has our faith community specifically **promoted physical activity in the bulletin, program or newsletter** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure

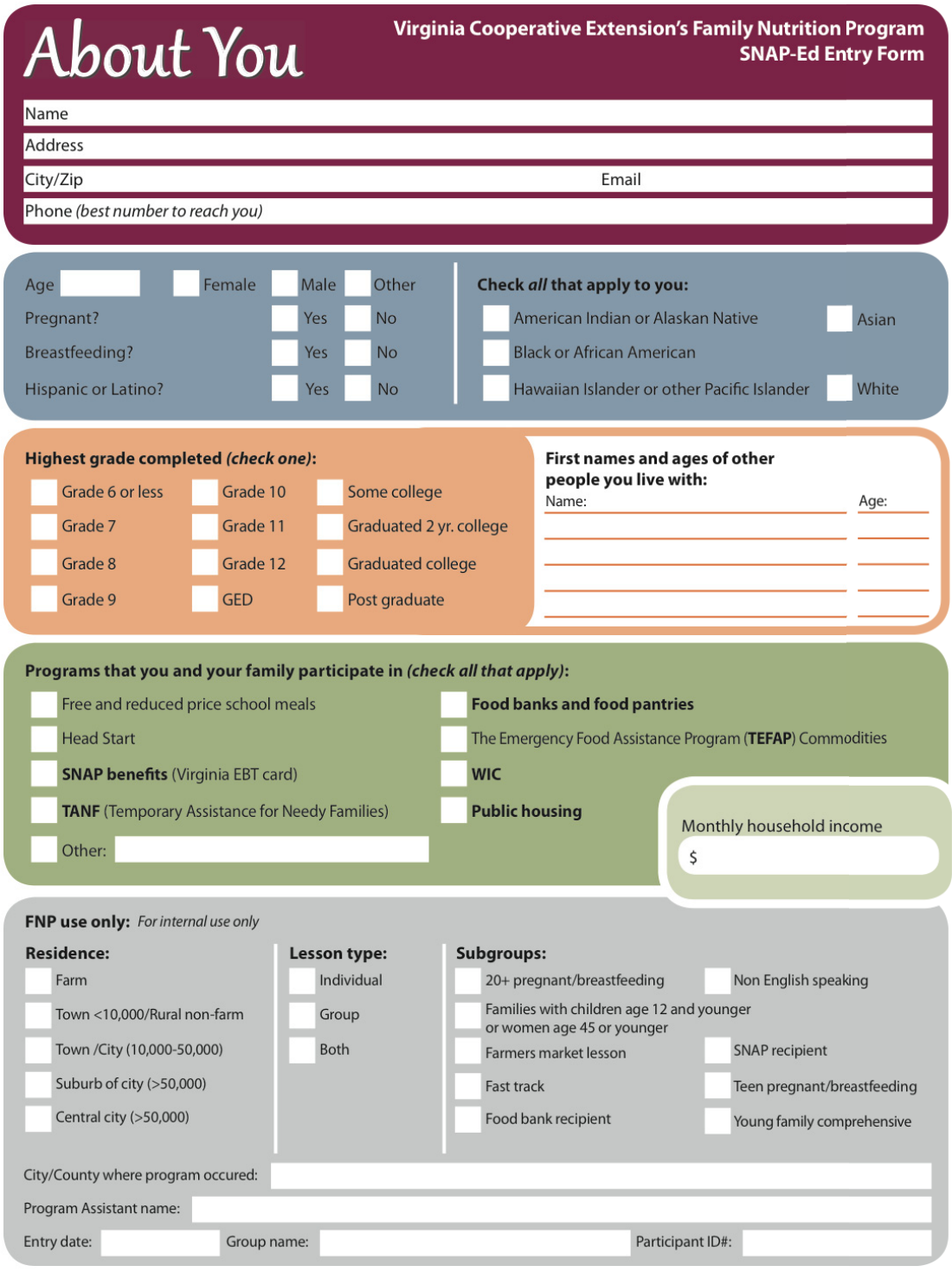
Section IV: Healthy Eating Policies and Environments

18. Does our faith community have a **kitchen or place to prepare meals?**	☐ Yes	☐ No	☐ Not Sure
19. Does our faith community have a **garden or farmer's market on-site?**	☐ Yes	☐ No	☐ Not Sure
20. Does our faith community have guidelines for faith community meals requiring that: **fruits and vegetables** be offered? **100% fruit juice** be offered? **water** be offered? **low-fat items** be offered? **low/no sugar items** be offered? **low sodium items** be offered?	☐ Yes	☐ No	☐ Not Sure
21. Has leadership **promoted healthy eating in a public speech, sermon, talk or homily** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure
22. Does our faith community have a private and comfortable **space for women to breastfeed** or express breast milk?	☐ Yes	☐ No	☐ Not Sure
23. Does our faith community have **equipment that allows for preparation of healthier food** (steamers, blenders, salad bars, etc.)?	☐ Yes	☐ No	☐ Not Sure

Section V: Healthy Eating Programs and Education

24. Has our faith community organized or provided any **healthy cooking classes** in past 12 months?	☐ Yes	☐ No	☐ Not Sure
25. Has our faith community organized or provided any **weight loss support groups** in past 12 months?	☐ Yes	☐ No	☐ Not Sure
26. Has our faith community organized or provided any other **nutrition-related classes or groups** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure
27. Has our faith community distributed any **healthy eating guides or healthy recipes** (including cookbooks) to faith community members in the past 12 months?	☐ Yes	☐ No	☐ Not Sure
28. Has our faith community promoted **healthy eating through posted information** (e.g. posters, flyers, leaflets) in the past 12 months?	☐ Yes	☐ No	☐ Not Sure
29. Has our faith community **promoted healthy eating in the bulletin, program or newsletter** in the past 12 months?	☐ Yes	☐ No	☐ Not Sure

Appendix V. SNAP-Ed pre- and post-ESMM program entry and exit forms



About You

Virginia Cooperative Extension's Family Nutrition Program
SNAP-Ed Entry Form

Name

Address

City/Zip Email

Phone *(best number to reach you)*

Age ☐ ☐ Female ☐ Male ☐ Other

Pregnant? ☐ Yes ☐ No

Breastfeeding? ☐ Yes ☐ No

Hispanic or Latino? ☐ Yes ☐ No

Check *all* that apply to you:

☐ American Indian or Alaskan Native ☐ Asian

☐ Black or African American

☐ Hawaiian Islander or other Pacific Islander ☐ White

Highest grade completed *(check one)*:

☐ Grade 6 or less ☐ Grade 10 ☐ Some college

☐ Grade 7 ☐ Grade 11 ☐ Graduated 2 yr. college

☐ Grade 8 ☐ Grade 12 ☐ Graduated college

☐ Grade 9 ☐ GED ☐ Post graduate

First names and ages of other people you live with:

Name: Age:

Programs that you and your family participate in *(check all that apply)*:

☐ Free and reduced price school meals

☐ Head Start

☐ **SNAP benefits** (Virginia EBT card)

☐ **TANF** (Temporary Assistance for Needy Families)

☐ Other:

☐ **Food banks and food pantries**

☐ The Emergency Food Assistance Program (**TEFAP**) Commodities

☐ **WIC**

☐ **Public housing**

Monthly household income

$

FNP use only: *For internal use only*

Residence:

☐ Farm

☐ Town <10,000/Rural non-farm

☐ Town /City (10,000-50,000)

☐ Suburb of city (>50,000)

☐ Central city (>50,000)

Lesson type:

☐ Individual

☐ Group

☐ Both

Subgroups:

☐ 20+ pregnant/breastfeeding ☐ Non English speaking

☐ Families with children age 12 and younger or women age 45 or younger

☐ Farmers market lesson ☐ SNAP recipient

☐ Fast track ☐ Teen pregnant/breastfeeding

☐ Food bank recipient ☐ Young family comprehensive

City/County where program occured:

Program Assistant name:

Entry date: Group name: Participant ID#:

Food and You

SNAP-Ed Entry Form

This is not a test. These are questions about the ways you plan and fix food. There are no wrong answers. Check the response that best describes how you usually do things.

1 **I always shop with a grocery list.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

2 **I eat 2 or more servings of fruit each day.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

3 **I eat 3 or more servings of vegetables each day.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

4 **When I eat grains, I eat whole grains.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

5 **I eat 2-3 servings of milk, yogurt and cheese each day.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

6 **When I eat protein, I eat lean protein.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

7 **I refrigerate or freeze foods within 2 hours after serving.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

8 **I eat low-fat foods instead of high-fat foods.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

9 **In the last year, I could not afford to eat healthy foods.**

Never ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

10 **I can get fresh fruits and vegetables.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

Physical Activity and You

SNAP-Ed Entry Form

These are questions about your physical activity. This is not a test. There are no wrong answers. Check the response that best describes how you usually do things.

11 **I walk, take the stairs, run with my kids, and take other opportunities to be physically active.**

Never ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

12 **I break up the time I spend sitting at home.**

Never ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

We will be showing you how to do some easy physical activities in FNP that should be safe and appropriate for everyone. The next few questions will help you know what level of physical activity you can do outside of class.

13 Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor? No ☐ Yes ☐

14 Do you feel pain in your chest when you do physical activity? No ☐ Yes ☐

15 In the past month, have you had chest pain when you were not doing physical activity? No ☐ Yes ☐

16 Do you lose your balance because of dizziness or do you ever lose consciousness? No ☐ Yes ☐

17 Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity? No ☐ Yes ☐

18 Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition? No ☐ Yes ☐

19 Do you know of any other reason why you should not do physical activity? No ☐ Yes ☐

If you answered yes to any of the questions from13 to 19, this is a great opportunity to talk with your healthcare provider to find the best physical activity options for you.

3

Connect with You

SNAP-Ed Entry Form

The Virginia FNP would like to ask you a few questions to better understand who we serve. There are no right or wrong answers. Your responses are important and will be used to improve what we offer to you and your community.

Social Media

Which social media sites would you prefer to use to look up or read about information to help you eat smart and move more? Check *all* that apply.

☐ Facebook ☐ Twitter ☐ YouTube ☐ Blog ☐ Pinterest ☐ Instagram ☐ Other: _____

How do you usually access your social media sites?

☐ Smartphone or tablet ☐ Home computer or laptop ☐ Public computer or laptop

Electronic Resources

What electronic resources would you recommend we develop to help you find information and support you to eat smart and move more. Check *all* that apply.

☐ Smartphone "apps" (applications) ☐ E-books ☐ Video chats ☐ Text messaging ☐ Facebook groups

☐ Online games ☐ Other: _____

What type of information would you like to learn about on the FNP's social media sites? Check *all* that apply.

☐ Recipes ☐ Healthy eating ☐ "How to" videos ☐ Physical activity tips ☐ Workout videos

☐ Tips for shopping at farmers markets ☐ Food safety information ☐ Food budgeting Information ☐ Resources for bringing healthy choices into your community ☐ Other: _____

Media release form

☐ **Yes**, I give the Virginia Cooperative Extension's (VCE) Family Nutrition Program permission and consent to allow photographs or videos to be taken of me during nutrition classes without payment to me. I further give permission and consent that any such media may be used in VCE's promotions (brochures), web site, and social media (Facebook, Twitter, etc.), and shared with other entities.

☐ **No**, I do not give the Virginia Cooperative Extension's (VCE) Family Nutrition Program permission and consent to allow photographs or videos to be taken of me during nutrition classes without payment to me. I do not give permission and consent that any such media may be used in VCE's promotions (brochures), web site, and social media (Facebook, Twitter, etc.), and shared with other entities.

Client's name (printed): _____ Date: _____

Client's signature: _____

Name of VCE Representative: _____

The U.S. Department of Agriculture (USDA) is an equal opportunity provider and employer. This material is funded by USDA's Supplemental Nutrition Assistance Program – SNAP which provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact your county or city Department of Social Services or to locate your county office call toll-free: 1-800-552-3431 (M-F 8:15-5:00, except holidays). By calling your local DSS office, you can get other useful information about services.

About You

Virginia Cooperative Extension's Family Nutrition Program
SNAP-Ed Exit Form

Name

Address

City/Zip | Email

Phone *(best number to reach you)* | ☐ Add me to the e-newsletter list

Age _____ Pregnant? ☐ Yes ☐ No

Breastfeeding? ☐ Yes ☐ No

First names and ages of other people you live with:

Name:	Age:

Programs that you and your family participate in as a result of a referral from the Family Nutrition Program *(check all that apply)*:

- ☐ Free and reduced price school meals
- ☐ Head Start
- ☐ SNAP benefits (Virginia EBT card)
- ☐ TANF (Temporary Assistance for Needy Families)
- ☐ Other: _____
- ☐ Food banks and food pantries
- ☐ The Emergency Food Assistance Program (TEFAP) Commodities
- ☐ WIC
- ☐ Public housing

Monthly household income

$

FNP use only: *For internal use only*

Exit date: _____ ☐ Fast Track # of Lessons _____ # of Sessions _____ # of Hours _____

☐ Young Comprehensive ☐ Educational Objective Met

Program Assistant name: _____

Group name: _____

Participant ID#: _____

Termination reason:

☐ Returned to school ☐ Took job ☐ Family concerns ☐ Lost contact with client

☐ Moved ☐ Lost interest ☐ Other: _____

Food and You

SNAP-Ed Exit Form

This is not a test. There are questions about the ways you plan and fix food. There are no wrong answers.
Check the response that best describes how you usually do things.

1 **I always shop with a grocery list.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

2 **I eat 2 or more servings of fruit each day.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

3 **I eat 3 or more servings of vegetables each day.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

4 **When I eat grains, I eat whole grains.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

5 **I eat 2-3 servings of milk, yogurt and cheese each day.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

6 **When I eat protein, I eat lean protein.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

7 **I refrigerate or freeze foods within 2 hours after serving.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

8 **I eat low-fat foods instead of high-fat foods.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

9 **In the last year, I could not afford to eat healthy foods.**

Never ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

10 **I can get fresh fruits and vegetables.**

No ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

Physical Activity and You

SNAP-Ed Exit Form

These are questions about your physical activity. This is not a test. There are no wrong answers.
Check the response that best describes how you usually do things.

11 **I walk, take the stairs, run with my kids, and take other opportunities to be physically active.**

Never ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

12 **I break up the time I spend sitting at home.**

Never ☐ | Sometimes ☐ | Often ☐ | Very often ☐ | Almost always ☐

13 **I plan on using the physical activity resources and videos from class at home.**

No ☐ | Yes ☐

Success and You

What goals did you meet during your FNP class?

3

Success and You

SNAP-Ed Exit Form

Please share a success story based on your time in FNP classes.

The U.S. Department of Agriculture (USDA) is an equal opportunity provider and employer. This material is funded by USDA's Supplemental Nutrition Assistance Program – SNAP which provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact your county or city Department of Social Services or to locate your county office call toll-free: 1-800-552-3431 (M-F 8:15-5:00, except holidays). By calling your local DSS office, you can get other useful information about services.

Thank you for your time!

Appendix W. Church lay leader and SNAP-Ed peer educator interview scripts

Interview Questions for Peer Educator

Goals, Objectives and Goodness of Fit

1. Looking back to the beginning of this partnership with the Church…
    a. When you first met the Reverend, what were your main goals for this partnership?
        i. Did or do you envision working with the church over a long period of time (e.g., beyond the scope of delivering the program)?
    b. What are the most important values or characteristics that you would consider essential for the success of this partnership (e.g., honest, trust-worthy, creative, risk-taker, etc.)?
    c. How important was it for you to have shared values and goals with church partners?
        i. Not important (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely important
    d. How confident do you feel that your values and goals aligned with church partners?
        i. Not confident (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely confident
    e. In what ways have your goals been met/not met, relative to this partnership and project?
    f. If given the opportunity, is there anything you would change about how you first approached this partnership? *If so, what?*

ESMM Program

2. When thinking about the ESMM program…
    a. Do you feel like the process to recruit participants worked well?
        i. What parts worked well?
        ii. What could be improved in the future?
    b. Was this your first time adapting the program to include a faith messaging component to it?
    c. How comfortable were you incorporating faith messaging into the program?
        i. *Not comfortable (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Very comfortable*
        ii. *If not comfortable*, what could have been done to make this more comfortable for you?
        iii. *If very comfortable*, why did you feel this way? (e.g., previous experience, congruent faith beliefs, etc.)
    d. Did you face any obstacles along the way when delivering the program?
        i. *If so*, describe.
    e. Can you describe any aspects (resources, assets, etc.) that helped with planning or delivering this program?

Compatible Climate – Past History & Experiences

3. Thinking about your past experiences and partnerships…Besides this partnership we've been discussing, do you have any previous experience working with faith organizations?
    a. *If so*, can you describe some of the key lessons that you have learned from your past partnerships and experiences, for example:
        i. What worked well?
        ii. What didn't work?
        iii. What (if any) challenges and/or barriers did you face?
        iv. What (if any) were the positive outcomes from these experiences?

Project & Partnership Capacity – Roles & Resources

4. Going back to the current partnership, do you feel like the roles and responsibilities for yourself and other partners were well defined from the beginning? If so, can you describe them:
    a. You:
    b. Partner 1:
    c. Partner 2:
5. How important is it to have each partner's roles and responsibilities well-defined?
    a. Not important (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely important
6. Did you have any expectations from partners that you felt weren't met? *If so, describe.*
7. Now I'd like to ask about resources…Do you feel like you and your partners were able to supply adequate resources to carry out the different parts of this project? *Ex: finances, people, equipment, and space*
    a. What resources supplied *from your end* were most useful for this project?
    b. What resources from the *partners' end* were most useful for this project?
    c. If you had a chance to do it over, what additional resources would be more beneficial if they were available?
8. Do you have any plans to…
    a. Maintain this partnership?
        i. *If so*, do you have adequate resources to do so?
        ii. Describe resources available or needed.
    b. Continue delivering the ESMM program?
        i. *If so*, do you have adequate resources to do so?
        ii. Describe resources available or needed.
    c. Continue planning/implementing PSE changes at the church?
        i. *If so*, do you have adequate resources to do so?
        ii. Describe resources available or needed.

Partnership Operations – Communication & Power

9. Thinking about communication, how would you rate the overall communication between partners throughout this project?
    a. *Poor (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Excellent*
    b. What (if anything) was useful for good communication?
    c. What (if anything) could have done to improve communication?
10. Thinking about decision making responsibilities and power distribution…From your role and perspective, how important is it for you to have shared, equal power and responsibility for decision-making amongst partners?
    a. *Not important (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Very important*
    b. *If very important*, was this accomplished?
        i. If so, how?
        ii. *If not*, what could have been done different to ensure equal, shared decision-making power?
11. Based off of the topics we've discussed regarding this project and partnership…What were some of the biggest lessons you learned throughout the processes?
    a. What were the most helpful aspects of it?
    b. What were some obstacles you ran into?
        i. How might you overcome them in the future?
    c. If you had an opportunity to do it all over again, what would you do differently

Stakeholder Interview Questions for Church Leader:

Goals, Objectives and Goodness of Fit

1. Looking back to the beginning of this partnership with ____…
    a. When you first met with them, what were your main goals for this partnership?
        i. Did or do you envision working with them over a long period of time (e.g., beyond the scope of the program)?
    b. What are the most important values or characteristics that you would consider essential for a successful partnership (e.g., honest, trust-worthy, creative, risk-taker, etc.)?
    c. How important was it for you to have shared values and aligning goals with the other partners?
        i. Not important (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely important
    d. How confident do you feel that your values and goals aligned with the other partners?
        i. Not confident (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely confident
    e. In what ways have your goals been met or not met?
    f. If given the opportunity, is there anything you would change about how you first approached this partnership? *If so, what?*

Faith Community Assessments & PSE Changes

2. When thinking about the results from faith community assessment and member health/interest surveys…
    a. Do you feel like they were useful to identify priority health interests for your congregation? (Y/N) *Why or why not?*
        i. Which aspects of the survey(s) were the most useful?
        ii. Which aspects of the survey(s) were the least useful?
    b. What else could have been done by the partners involved in this project to ensure the health priority issue is relevant to your faith community?
    c. In what ways did these results change *your understanding* of the health issues and health interests of your congregation (positive or negative)?
    d. Do you feel that completing these surveys changed any perceptions or views about their health or lifestyle habits after filling them out (positive or negative)? *How?*
3. How confident are you that the congregation's preferences have been (or will be) incorporated into the policy and/or environmental changes you have (or are) implementing?
    a. Not confident (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely confident
4. Do you think that having participants complete the surveys during a potluck event was the best way to deliver them? *If not, what could have been done to make it better?*

Compatible Climate – Past History & Experiences

5. Thinking about your past experiences and partnerships…Besides this partnership we've been discussing, do you have any previous experience working with community partners/organizations from outside your church?
6. *If so*, can you describe some of the key lessons that you have learned from your past partnerships and experiences, for example:
    a. What worked well?
    b. What didn't work?
    c. What (if any) challenges and/or barriers did you face?
    d. What (if any) were the positive outcomes from these experiences?

Project & Partnership Capacity – Roles & Resources

7. Going back to the partnership, do you feel like the roles and responsibilities for partners were well defined from the beginning? If so, can you describe them:
    a. You:
    b. Partner 1:
    c. Partner 2:
8. How important is having each partner's roles and responsibilities well defined?
    a. Not important (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Extremely important
9. Did you have any expectations from partners that you felt weren't met? *If so, describe.*
10. Now I'd like to talk about resources…Do you feel like you and your partners were able to supply adequate resources to carry out the different parts of this project? *Ex: finances, people, equipment, and space*
    a. What resources from your church were most useful for this project?
    b. What resources from the partners were most useful for this project?
    c. If you had a chance to do it over, what resources would be more beneficial if they were available?
11. Do you have any plans to…
    a. Maintain this partnership?
        i. *If so*, do you have adequate resources to do so?
        ii. Describe resources available or needed.
    b. Continue delivering the ESMM program?
        i. *If so*, do you have adequate resources to do so?
        ii. Describe resources available or needed.
    c. Continue planning/implementing PSE changes at the church?
        i. *If so*, do you have adequate resources to do so?
        ii. Describe resources available or needed.

Partnership Operations – Communication & Power

12. Thinking about communication, how would you rate the overall communication between partners throughout this project?
    a. *Poor (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Excellent*
    b. What (if anything) was useful for good communication?
    c. What (if anything) could have done to improve communication?
13. Thinking about decision making responsibilities and power distribution…From your role and perspective, how important is it for you to have shared, equal power and responsibility for decision-making amongst partners?
    a. *Not important (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) Very important*
    b. *If important*, was this accomplished?
        i. If so, how?
        ii. *If not*, what could have been done different to ensure equal, shared decision-making power?
14. Based off of the topics we've discussed regarding this project and partnership…What were some of the biggest lessons you learned throughout the processes?
    a. What were the most helpful aspects of it?
    b. What were some obstacles you ran into?
        i. How might you overcome them in the future?
    c. If you had an opportunity to do it all over again, what would you do differently?

Appendix X. Report of member and church survey results for church leaders

18 congregants completed the survey, which gave information about their current health behaviors, beliefs, and interest of your members. These results will help to plan programs, policies and changes that your members want and need the most.

Current Eating Habits

50% eating recommended 1.5-2 cups fruit/day

44% eating recommended 2-3 cups veggies/day

39% drink regular soda on most days

Interest in Healthy Eating Topics

94% want to: learn how to incorporate fruits & vegetables into their diet, learn about healthy food choices, and learn about food choices & portions to help manage weight.

89% would like to participate in "tasting" events to sample healthy foods.

83% would like to have healthy snacks available at the church, and have healthy meals served at the church.

Current Physical Activity Habits

18% are getting the *recommended* 60 minutes of physical activity on most days

35% get 30-60 minutes and **47%** get less than 30 minutes of activity on most days

Interest in Physical Activity Topics

100% want to learn about physical activity benefits and how it influences their health

94% would like to increase their physical activity level and want to see more places to be physically active at the church.

83% are interested in walking to increase their physical activity level.

61% are interested in participating in team activities.

General Interest in Classes Offered

83% would like the church to offer regular classes on physical activity and/or healthy eating.

Preferences for Receiving Health Information

89% would like to receive health information they can read, listen to or watch on their own.

83% would like…

- To see health information in church bulletins, newsletters and posted on bulletin boards.
- For their leaders to talk about healthy eating and physical activity in sermons, messages or other talks.

Scheduling & Timing of Health Activities

80% would like to participate in health activities like physical activity breaks or healthy food tastings during regularly scheduled church events.

65% would like to participate in health activities *before* services.

60% would like to participate in health activities *after* services.

Written Comments/Feedback from Congregants

"I need to exercise more and eat more healthy. But most times healthy foods are much more expensive. So maybe some help learning how to work that into my budget would be helpful as well and much appreciated. Thank you."

"I already lead a very healthy lifestyle with diet and exercise. But I can always learn more. AND I am very interested in helping my church family and the larger community develop ways of encouraging healthy living."

Next Steps for You and Your Church…

This report gives you a snapshot of your congregation's *current health* behaviors, the *types of health activities* they are most interested in participating in at the church, *how* they would like to receive health information, and *when* they would like to participate in these activities. This information is a great starting point to brainstorm ideas on ways you can incorporate health messages and activities at your church. As a leader, your support is key to encourage and help your church body with making healthy living changes. Below are a few ideas of how you can encourage and support your church:

- Enlist 2-3 people to create a health ministry at your church. A health ministry helps to identify, plan and oversee health programming efforts for your congregation. To gain the most support from your congregation is important to include influential leaders as part of the health ministry committee who are viewed as positive role models and are gifted at encouraging and supporting others, such as the first lady.
- Create policy and environmental changes to support healthy eating and physical activity. A health ministry can use this report and input from other congregants to brainstorm policy changes for making healthy eating and physical activity opportunities more readily available to the church. The ministry can work with Kimberlee to plan and put into writing 1 or 2 policy changes the church would like to make.
- Promote healthy living in bulletins, newsletters and sermons. Quote biblical writings, stories or scriptures about healthy eating, physical activities or healthy lifestyles in sermons and talks.
- Serve as a healthy role model by participating in the program and encouraging others to participate.
- Share stories or testimonies about why healthy living, eating, physical activity is important to you. Encourage others to share their stories with the congregation during Sunday services, bible study, or other church gatherings.
- Encourage and pray for the success of others making healthy living changes. Lift up and support others along their path to achieving their goals to eat healthier, become more active, or lose weight. You can pray for specific individuals during church services, or ask your congregants to encourage and pray for their success as well.

What next steps will you take?

Brainstorm and write down a few specific ways *you* can support your congregation, and the names of a couple people you would like to see serving on a health ministry committee:

Appendix Y. Church commitment to health and ministry covenant agreement

CHURCH COMMITMENT TO HEALTH

JUST AS THE CHURCH NOURISHES OUR SPIRIT – WE MUST ALSO NOURISH OUR BODIES.

"…from whom the whole body, joined and held together by every joint with which it is equipped, when each part is working properly, makes the body grow so that it builds itself up in love."
Ephesians 4:16

God has called believers to take care of our bodies physically, mentally, and spiritually.
We at (Church name) believe that church health is key to church growth. Healthy spirits need healthy bodies and minds. A healthy lifestyle can help our church body live a long life to serve God and to build and leave a lasting legacy for His kingdom.

In order to serve God and fulfill our vision to "make disciples of Jesus Christ," we have a responsibility to care for our bodies – physically, mentally, and spiritually. Therefore, ____ United Methodist Church is committed to the health and well-being of our parish.

This commitment to a healthier church will consist of:
- Offering activities that teach about healthy eating or physical activity on a monthly/bi-monthly basis
- Incorporating health messages into sermons, bible studies or talks
- Pray for, encourage and share testimonies of those making positive healthy lifestyle changes
- Policies to support healthy food choices and physical activity

"Dear friend, I pray that you may enjoy good health and that all may go well with you, even as your soul is getting along well."
3 John:2

(church name) commits to establishing and maintaining a health ministry committee to plan and manage these activities. The health ministry team will be coordinated/co-coordinated by _____ and _____.

Our mission is soul salvation (Matthew 28:19). We must also focus on our bodies.

_____
Signature of Pastor

_____
Date

CHURCH HEALTH MINISTRY COMMITTEE COVENANT

HEALTH MINISTRY COMMITTEE VISION & COVENANT

"Everybody can be great because everybody can serve… You only need a heart full of grace and a soul generated by love"
Rev. Dr. Martin Luther King Jr.

In order to serve God and fulfill our vision at (church name) to "make disciples of Jesus Christ," we have a responsibility to care for our bodies and one another's bodies. Therefore, we have established a Health Ministry committed to inspiring, empowering, and caring for the health and well-being of the congregation. The hope of this ministry to inspire and empower the congregation to lead healthier lives so that we are better equipped to go out and make disciples of Jesus Christ.

"For we are His workmanship, created in Christ Jesus for good works, which God prepared beforehand that we should walk in them."
Ephesians 2:10

Health Ministry Team Shared Responsibilities

- Identify specific health needs, interests and resources of congregation
- Work as a team to identify common goals together
- Hold regular (monthly) meetings
- Plan, coordinate and oversee health activities for church
- Engage with local community agencies or organizations to identify resources, programs and/or activities
- Getting health messages out to church members and build awareness of the health ministry and what it can do for them
- Ensuring the health-related policies are being observed
- Celebrate and recognize the success of congregants who are making healthy changes
- Pray for the health of your congregation, community and impact of this ministry on a regular basis

In 1 Corinthians 12, Paul writes "There is one body, but it has many parts. But all its many parts make up one body. It is the same with Christ...God arranged the members in the body, each one of them as he chose."

It is not up to one person of this health ministry to carry out all of these responsibilities, each member is uniquely blessed with his/her special God given gifts and talents in order to fulfill the greater vision and goals for this ministry.

By signing this covenant, I agree to serve this health ministry in the way that God has gifted me to do so, encourage my congregation to live healthier lives so that we may better serve the Lord and make disciples of all nations.

Name: _____ Signature: _____

Role: _____ Date: _____

Appendix Z. Church tobacco-free and healthy eating policies

CHURCH TOBACCO-FREE POLICY

JUST AS THE CHURCH NOURISHES OUR SPIRIT – WE MUST ALSO NOURISH OUR BODIES.

"Don't you know that you yourselves are God's temple and that God's Spirit dwells in your midst? If anyone destroys God's temple, God will destroy that person, for God's temple is sacred, and you together are that temple."
1 Corinthians 3:16-17

All members of (Church name) have a responsibility to care for their and one another's bodies as temples of God. As a church family, we believe that it is our duty to provide a healthy environment for our members.

Healthy minds and spirits need healthy bodies, healthy diets, regular physical activity, preventive medical care and a healthy environment. Therefore, we created this policy to support healthier Tobacco-Free church environment.

Effective insert date, it is the policy of (church name) to be a Tobacco-Free Church for the overall health and welfare of its members. Tobacco use will not be permitted within church buildings or anywhere on church grounds. This policy applies to all employees, members, and visitors attending events at the church. As a church we will also work to provide information about the risks of tobacco use and benefits of quitting to all church members.

(Church name) will take the following steps to ensure successful support of a Tobacco-Free church grounds policy:

- Post signs in highly visible areas inside and outside of the building, including the sanctuary, parking lot and lawn areas.
- Provide tobacco education literature and materials to church employees, members and visitors.
- Continue to remind members about the Tobacco-Free church grounds policy during announcements and in our church bulletin.

"Therefore, I urge you, brothers and sisters, in view of God's mercy, to offer your bodies as a living sacrifice, holy and pleasing to God – this is your true and proper worship."
Romans 12:1

All members of the health ministry team share the responsibility for ensuring a Tobacco-Free policy and encouraging people to observe it.

Name: _____ Signature: _____

Role: _____ Date: _____

CHURCH HEALTHY FOOD POLICY

JUST AS THE CHURCH NOURISHES OUR SPIRIT – WE MUST ALSO NOURISH OUR BODIES.

"Do you not know that your body is a temple of the Holy Spirit who is alive in you, whom you have received from God?"
1 Corinthians 6:19

All members of (Church Name) have a responsibility to care for their bodies as temples of God. As a church family, we believe that it is our duty to provide a healthy environment for our members.

Healthy minds and spirits need healthy bodies, healthy diets, regular physical activity and preventive medical care. Therefore, we created this policy to support healthier diets of our church body.

Effective insert date, it is the policy of (Church Name) to provide more nutritious foods to support the overall health and welfare of our members, by offering at least one Healthy Meal Option during church functions, meetings, events or celebrations where food is served.

"Whether therefore you eat or drink, or whatever you do, do all unto the glory of God."
1 Corinthians 10:31

A Healthy Meal Option consists of incorporating following components:

- Including fruits and vegetables, low-fat milk and dairy products, and foods made from whole grains.
- Serving water instead of sweetened tea, drinks or sodas.

All members of the health ministry team share the responsibility for coordinating healthy meal options and encouraging people to observe this policy.

Name: _____ Signature: _____

Role: _____ Date: _____