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Step It Up Macks Creek, MO: A Community Walking Program

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An Abstract of the Scholarly Project by
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Physical inactivity is a major risk factor for chronic disease. Despite goals, guidelines and interventions physical inactivity continues to rise. Rural residents are at even higher risks of sedentary lifestyles highlighting the need for research and interventions focusing on this particular population.

The purpose of this study was to develop a community walking program to create an environment of favorable health resources in a rural area of mid-Missouri. The walking program provided residents with an educational meeting followed by a five week walking intervention that evaluated participants step counts to determine if the community walking program increased physical activity of the participants.

A demographic questionnaire, step count log and program evaluation from fifteen community members was analyzed. The results found a statistical difference in the average step count during the intervention when compared to baseline. Furthermore, participants provided positive feedback in the program evaluation survey. The research results suggest community walking programs can provide rural residents with knowledge and a tool to increase physical activity.

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INTRODUCTION

Statement of the Problem

Physical inactivity is one of the leading risk factors for death worldwide (World Health Organization, 2018). Physical activity can improve an individual's health, increase their years of life, decrease their risk of heart disease and cancer, control their weight and improve their academic achievements, yet, so many Americans continue to be physically inactive (Centers for Disease Control and Prevention, [CDC], 2018). In fact, only one in five adults meet the physical activity guidelines of 150 minutes of physical activity per week (CDC, 2018). Unfortunately, while goals, guidelines and charts have been set in place, inactivity continues to increase, begging the question of how to navigate our population towards healthful choice living.

Physical inactivity is unevenly distributed across the United States due in part to age, gender and residence. Physical activity decreases with age. Women are found to be more inactive when compared to men (Whaley & Haley, 2008). Rural residents are at increased risk of living sedentary lifestyles. Factors that put rural residents at risk of inactivity include limited access to exercise facilities, lower income, less education and

not as much information regarding benefits of physical activity (Chrisman, Nothwehr, Yang, & Oleson, 2015).

Rural residents have additional challenges to physical activity when compared to their urban counterparts. Interventions must be carefully targeted to these individuals. Walking is the most prevalent method of physical activity (Adams, Burns, Forehand, & Spurlock, 2015). Walking is free, easily accessible, has low risk for injury, does not require special equipment and the intensity and time is self-regulated (Adams et al., 2015).

Our nation is suffering from the sedentary lifestyles of its residents. Policymakers, health professionals, and communities must work together to address the problem and create societies of knowledgeable active residents. To overcome our nationwide epidemic of inactivity we need our American people to step up and be the change.

Significance of the Study

The Step It Up initiative explored the impact of public health nursing in a rural area where inactive lifestyles promote sedentary-related diseases. This study measured the effectiveness of involvement and improvement of physical activity to a population in rural America. If proven effective, this could institute a new aspect of healthcare in rural settings, particularly to prevent non-communicable diseases to the average American. Public healthcare nurses need to explore all avenues of prescribing good health to all people. The healthcare professionals of our current generation need an even greater focus on the pandemic of inactivity to combat our sedentary state by promoting healthy changes for all people.

The lack of physical activity can have lifelong consequences on individuals, families, communities and the nation. Sedentary and physically inactive lifestyles are risk factors for premature death, heart disease, cancer, diabetes, obesity, hypertension, depression, falls and osteoporosis (Healthy People 2020, 2018). About 10% of premature deaths have been associated with inadequate levels of physical activity (Department of Health & Human Services, 2018). These diseases lead to family burdens, increase the need for health care services among the community and increase healthcare spending. It has been estimated that annual healthcare costs of physical inactivity reach $117 billion (Department of Health & Human Services, 2018).

The increase in sedentary lifestyles has led to global actions for promotion of physical activity. Although physical inactivity is a worldwide problem, it only takes the work of one person to promote change. Nurse practitioners are well-versed in patient education, health promotion and the need for physical activity. The first program for nurse practitioners was developed in 1967 with the goal of expanding the role of the public health nurse to meet the healthcare needs of the rural population (Kippenbrock, Lo, Odell, & Buron, 2017). Therefore, nurse practitioners have the unique ability to recognize the problem of physical inactivity and bring change to his/her rural individual patients and entire community.

Purpose

Physical inactivity has created significant health threats to our population. Community health providers are searching for the best way to inspire their communities toward more active lifestyles. Research indicates that rural residents have limited healthful community resources increasing their risk of physical inactivity. This study

includes the development of a community walking program which helps to create an environment of favorable health resources. Step counting is an increasingly popular trend that allows people to easily keep a log, achieve goals and create friendly competitions. By utilizing a simple step counting tool, groups have found new motivation for creating and maintaining healthier levels of activity. The purpose of this project was to provide rural residents of mid-Missouri with a community-based walking program to promote a positive change in physical activity levels. The project evaluated step counts to determine if the community walking program increased physical activity and provided knowledge and motivation to the participants.

Theoretical Framework

Nancy Milio's (1976) framework for prevention was used as a guide for this research study due to the correlations between community resources and healthful living. This framework includes concepts for communities and population focused care. Milio (1976) challenged that a main determinant for unhealthful behavior choice is a lack of knowledge and resources. Milio (1976) suggests that most people will make the easiest choice available. Following this theory, it can be determined that creating an environment for healthful living requires favorable community resources.

While health education has been a nationwide focus for some time, we continue to struggle with obesity and the recommended amount of physical activity. As Milio's framework notes, most health education assumes that if people know what is healthful they will do it, and yet health professionals themselves suffer the same odds of inactivity as an uninformed American adult. If knowledge truly correlates to action then health providers would be the healthiest of all. Acknowledging the lack of results from

knowledge gained we determine that ease and accessibility do influence decision making. The healthcare field has the responsibility to not only educate, but to also empower people to succeed in healthful living.

With physical inactivity being the fourth risk factor for mortality worldwide, according to the World Health Organization (WHO), there is significant interest in primary prevention, health education and lifestyle changes (as cited in Andrade, Barry, Litt, & Petry, 2014). Milio offers six propositions for enhancing health promoting life patterns or discouraging health damaging habits.

The propositions are as follows:

1. The health status of populations is the result of deprivation and/or excess of critical health-sustaining resources. For example, third world countries are more susceptible to infectious disease due to the lack of safe food, water and shelter. The wealthiest countries are suffering from diseases related to too much food and accidents from too fast of transportation.
2. Behavior patterns of populations are a result of habitual selection from limited choices, and these habits of choice are related to: (a) actual and perceived options available and; (b) beliefs and expectations developed and refined over time by socialization, formal learning, and immediate experience. This proposition refers to the typical routine and behaviors which are no longer consciously made. When applied to consumers, this is a point where new health information and knowledge can change an individual's choices.
3. Organizational behavior sets the range of options available to individuals for their personal choice-making. For example, policies regarding taxes or laws prohibiting

marijuana sets options available to populations concerning the ease with which a person may or may not choose them.

4. The choice-making of individuals at a given point in time concerning potentially health-promoting or health-damaging selections is affected by their effort to maximize valued resources. Therefore, choice is related to their personal resources such as self-awareness, knowledge, money and time, etc. and community resources such as distance or location, food, housing, health services, etc.
5. Social change may be thought of as changes in patterns of behavior resulting from shifts in the choice-making of significant numbers of people within a population. Therefore, for life-style patterns to change in numbers sufficient to affect the incidence of major diseases, health-promoting options must be available more readily than health-damaging ones.
6. Health education, as the process of teaching and learning health-supporting information can have little significantly extensive impact on behavior patterns, that is, on personal choice-making of groups of people, without the easy availability of new, or newly-perceived alternative health promoting options for investing personal resources. In other words, making people knowledgeable is not enough. The individuals also must be provided with access to health-promoting options. (Milio, 1976, pp. 436-437)

This framework for prevention was chosen because these propositions serve as a guideline for the necessary requirements to provide changes in a rural community. Residents of the selected community require education and readily available

resources in order to make the lifestyle changes necessary to increase their physical activity.

Project Questions

This study answers the following project questions.

- What are the demographics of the participants?
- What were the participants' perceptions of the community walking program?
- What were the average number of steps that the participant completed each week?
- Is there a statistical difference in step counts from the baseline to intervention?

Key Terms

- Activity tracker – "a wearable device or a computer application that records a person's daily physical activity, together with other data relating to their fitness or health" (Oxford Dictionary, 2019).
- Built environment – "includes all of the physical parts of where we live and work and influences a person's level of physical activity" (CDC, 2018).
- Community – "a unified body of individuals: such as
    - the people with common interest living together within a larger society
    - a body of persons of common and especially professional interests scattered through a larger society
    - a body of persons or nations having a common history or common social, economic, and political interest
    - an interacting population of various kinds of individuals (such as species) in a common location" (Merriam Webster, 2019).

- Physical activity – “a general term for any sort of muscular effort but especially the kind intended to train, condition, or increase flexibility of the muscular and skeletal systems of the body” (Taber’s Cyclopedic Medical Dictionary, 2005).
- Residents – “living in a place for some length of time” (Merriam Webster, 2019).
- Rural – “of or relating to the country, country people or life, or agriculture” (Merriam Webster, 2019).
- Sedentary lifestyle – “a lifestyle involving little exercise, even of the least strenuous type” (Taber’s Cyclopedic Medical Dictionary, 2005).
- Walk – “to move along on foot: advance by steps” (Merriam, Webster, 2019).

Logic Model

The logic model for this project was developed to visualize the development, activities and goals of this walking program. The researcher developed a community walking program for residents of a rural community in mid-Missouri.

The short term goals were to motivate participants and for participants to complete the program. Medium term outcomes include increasing physical activity of participants and increasing awareness and knowledge. The long term goal is to see a decrease in sedentary-related diseases. The long term goals were unable to be assessed due to time limitations.

The assumptions of this model are that participants will be honest in their step count, they will answer questionnaires to the best of their ability and the pedometers will accurately record step counts. External factors are the barriers including a lack of

participants who complete the study and the weather permitting outdoor walking. The logic model for Step It Up Macks Creek, MO can be found in figure 1.

Summary

Insufficient physical activity is costing our society; it is a contributing factor to decreased average lifespan and increased national healthcare spending. Ultimately, changing lifestyle habits is in the hands of the individual, but as healthcare providers we can assist patients in recognizing the problem and establishing how to make health generating choices easier. Individuals, local communities and healthcare team members can work together to offer support to Step It Up for positive lifestyle modifications.

Step It Up Macks Creek, MO: A community walking program

Figure 1

Inputs	Outputs		Outcomes – Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
DNP Student	Walking Program Kick-Off with educational presentation	DNP Student	Motivation of the residents	Increase in physical activity measured through step count	Increase of physical activity among community
Time		Macks Creek Residents	Completion of walking program		Decrease of sedentary related diseases
Participants/Macks Creek Residents	Informed Consent			Increased knowledge of importance of physical activity among community residents	
Irene Ransom School of Nursing	Demographic Questionnaire				
Southwest Fire District Center	Walking Log				
Pedometers	Group Walk				
	Program Evaluation				

Assumptions

- Participants will be honest in their reported step count
- Participants will answer questionnaires to the best of their ability
- Pedometers will accurately monitor/record step count

External Factors

- Lack of particpants/residents to complete the study
- Weather permitting outdoor walking

CHAPTER II

LITERATURE REVIEW

Introduction

The advancement of technology has drastically impacted our form of locomotion and transformed human beings from walkers to riders and sitters. Our sedentary lifestyles have led to increased noncommunicable disease and even death. A review of literature was performed to gain knowledge about how society is walking today. This review of literature covers the evolution, benefits, barriers, and motivators of walking, as well as the effects a physical environment plays on the level of activity, while also exploring similar walking intervention programs that have been completed.

History of Walking

Walking has been the primary mode of locomotion until recent years. In the last hundred years, walking has become increasingly limited. A brief look through history can portray the evolution from walking to sitting and riding.

In 1674 the first paving stones were placed in America, but this was far from today's roadways (Amato, 2004). Slowly, there was increased use of horses and carriages which was the beginning of the sitting and riding behaviors. The industrial revolution brought the development of roads, railroads, bridges, sewage systems and sidewalks.

Upper- and middle-class individuals flocked to the suburbs creating a further distance from home and work and an increase in wheeled traffic (Amato, 2004).

During the late 19th century and early 20th century, educators and reformers became interested in physical education and training which was motivated by the belief that a nation should be composed of strong and healthy citizens (Amato, 2004). Educators first focused on posture, then building strength and improving coordination.

Throughout the 20th century automobiles were becoming mass-produced giving Americans the opportunity to ride in their own car (Amato, 2004). Improved designs in the home such as running water and gas furnaces continued to decrease the need for walking. Communities filled with elevators, escalators and parking garages. The 21st century led to more automobiles and travel by wheels. By this time, the car had replaced walking as the normal pace of movement (Amato, 2004). Today, walking is viewed as an activity rather than a necessity. The importance of walking to our health has drawn the attention of researchers.

Benefits of Walking

The decreased physical activity of current daily life has placed people at an increased risk of physical and mental health disease. In response, researchers are exploring why we should be active, who should be active and how we can become active. Walking is often referenced as a form of physical activity and leisure time. It has become the focus of many national physical activities and guidelines (Gordon-Larsen, Hou, Sternfeld, Lewis, Jacobs, & Popkin, 2009).

Walking is reported to be the most popular form of physical activity (Hart, 2009; Siegel, Brackbill, & Heath, 1995). It has also been shown to be as prevalent among

people with low family income as those with a high family income (Siegel et al., 1995). Walking is inexpensive, easily accessible and does not require expensive facilities or clothing (Soroush, Ainsworth, Belyea, Poortvliet, Swan, Walker, & Yngve, 2013). Walking can be done at a variety of intensities and speeds making it a great activity for beginners or advanced individuals (Soroush et al., 2013). It can be the perfect activity for sedentary people but is also vigorous enough for competitive athletes (Hart, 2009). Walking is an ideal start-up activity with a low risk for injury.

Many physiological benefits are related to walking and physical activity. These include, but are not limited to, muscle strength, cardiovascular health, weight control, improved lipids, improved glucose and insulin, increased bone density, lower risk of dementia and cancer (Hart, 2009).

One benefit of walking is to reduce disease. In a prospective cohort study, the relationship between physical activity and breast cancer was examined (Hart, 2009). The U.S. Radiologic Technologists cohort was composed of 45,631 women. Researchers found the greatest risk reduction for the development of breast cancer was among women who walked or hiked greater than 10 hours per week (Hart, 2009). A study performed by Hu et al. (1999) examined the relationships of walking and diabetes. The Nurses' Health Study included more than 70,000 female nurses who did not have diabetes at baseline. The researchers found that the pace of walking correlated with the risk of development of type 2 diabetes (Hu et al., 1999). Those with faster paced walking had a lower risk of diabetes. The risk of diabetes was also lower in those who engaged in 2.5 hours or more of brisk walking per week (Hu et al., 1999). The association of stroke and walking has also been evaluated. Women aged 40-65 were studied to see if walking was related to a

decreased risk of stroke. The study found women who were consistently active had a lower risk of stroke (Hart, 2009).

Another benefit of walking is weight control. One of the first studies to explore the independent effects of walking on long term weight control was completed with middle aged men and women over a 15-year period. This study was further strengthened by the sample size of nearly 5,000 people. Walking was found to have independent protective effects on weight gain (Gordon-Larsen et al., 2009). Increased frequency of walking is accompanied by a reduced weight gain, weight loss and weight maintenance over young to middle adulthood (Gordon-Larsen et al., 2009). A six-month pedometer-based community intervention study explored the association between walking and blood pressure. During the first month, participants averaged 12,256 steps per day. Their steps per day decreased over the six-month period which is consistent with many pedometer-based interventions. During the first month of the study, participants' enthusiasm was likely at its highest, stressing the importance of continuous support and motivation throughout the entire program. By the completion of the intervention participants averaged 8,586 steps per day. Despite the decrease in step count they still noted a significant change in systolic and diastolic blood pressure (Soroush et al., 2013).

Psychological benefits have also been noted with walking. Walking is associated with wellbeing and has noted benefits of positive affect and pleasant feelings (Ettema & Smajic, 2015). A six-week walking intervention was performed among inactive rural adults to describe in depth experiences of commencing and maintaining a walking routine (Seekamp, Dollman, & Gilbert-Hung, 2016). One theme that emerged was the benefits from walking, particularly on mental health. All participants described mental health

benefits from walking and although physical benefits were noted, they were experienced at a lesser degree (Seekamp, Dollman, & Gilbert-Hunt, 2016). In a different study, a workplace 100-day 10,000-step challenge explored the benefits of walking on depression, anxiety and stress. Despite the number of steps achieved by the participants, psychological benefits were seen. Among participants, stress levels improved by 8.9%, depression by 7.6% and anxiety by 5.0%. This reinforces the benefits of exercise on mental health and wellbeing (Hallam, Bilsborough, & Courten, 2018).

Barriers to walking

Although there are notable benefits of walking, barriers also arise that often inhibit the population from walking and physical activity. In a study by Seekamp, Dollman, and Gilbert-Hunt (2016), participants provided feedback to their experience with a walking intervention. One theme that emerged was the challenge of finding time to walk. Other activities such as working, housework, community activities and family responsibilities demanded participants' time and was considered a higher priority by the participants (Seekamp et al., 2016; Perry et al., 2008). Some participants described small modifications of daily life such as parking the car further from the store entrance to increase their activity (Seekamp et al., 2016). Another barrier to walking is chronic illness. During a 12-week walking program some women reported flare-ups of their chronic illness particularly diabetes or exacerbations of chronic pain such as arthritis (Perry et al., 2008). Their sporadic involvement hindered them from developing a walking routine. The same women faced challenges resuming walking after they had a break from illness or injury, in fact, it was more difficult to re-establish a routine than it had been to start the routine (Perry et al., 2008).

Some barriers are specific to populations and individuals. The lack of access to convenient facilities and the lack of safe environments in which to be active are noted (Whaley & Haley, 2008). For example, rural adults face typical barriers such as time, but also face challenges of access, scarcity of resources and lack of transportation systems (Whaley & Haley, 2008).

Motivators to walking

Walking programs have explored ways to motivate participants to step it up. Many interventions are organized as group programs. Group participation creates a sense of commitment, accountability and provides support to the surfacing barriers (Perry et al., 2008). Many women reasoned that being in a group felt less selfish because they were not just doing something for themselves, but they were also helping others (Perry et al., 2008). Group programs also allow for social interaction and the development of new friendships.

Several studies show that pedometers are also a motivator to walking (Seekamp et al., 2016; Shaw, Fenwick, Baker, McAdam, Fitzsimons, & Mutrie, 2011). The pedometer is a tool which provides accountability of participants which may decrease after a research study or required reporting period (Seekamp et al., 2016). Step count among participants also correlates with progress of participants. The personal challenge of seeing a step count and having a goal can make the activity more fun and game-like (Perry et al., 2008). Within the same study, participants began to feel the health benefits of walking within weeks of initiating the program. Feelings of fatigue were replaced with energy and they also noted improved moods and strength (Perry et al., 2008). In contrast, some participants reported mood changes such as frustration and irritability on days they did

not walk (Perry et al., 2008). As the program progressed, participants began running, climbing stairs and walking uphill without gasping for air (Perry et al., 2008).

Physical Environment

In response to the high rate of physical inactivity, a recent focus has been on the built environment and how it can encourage or discourage activity. Rural residents have poorer overall health than their urban counterparts raising the question of the role of the physical environment and activity level (Whaley & Haley, 2008). Studies have shown neighborhood characteristics are enhancers but not determinants for physical activity (Chuo, Guangqing, & Jackson, 2015). Factors associated with increased walking include access to pedestrian and bicycle paths, parks and recreational facilities, aesthetics and safety (Chuo et al., 2015).

Several qualitative studies have examined perceptions of the environment and walking. The safety of an environment is one component that encourages' people to walk outside. Road safety is considered an issue by approximately two-thirds of participants which is in line with studies on urban literature (Cleland, Hughes, Thornton, Squibb, Venn, & Ball, 2015). Rural residents often cite an aspect of safety which urban residents do not. Visibility at night and street lighting is noted as an issue in rural environments (Cleland et al., 2015). Interestingly, personal safety relating to crime and violence was not considered an issue for most participants which is the opposite of reports in urban areas (Cleland et al., 2015). Rural residents have additional unique safety concerns, including risks related to injury due to uneven surfaces, loose gravel and snakes during summer months (Cleland et al., 2015).

The functionality of the environment also is a key factor for walking and physical activity. A study by Alfonzo and colleagues found that areas with high percentages of sidewalks had increased adult walking rates (Chuo et al., 2015). In rural environments, lack of sidewalks is frequently identified as a barrier to walking (Chrisman et al., 2015; Cleland et al., 2015). Other aspects include flat terrain and connectivity with other destinations. In literature on urban areas, common destinations included shops, schools, parks and cafes, but these were not identified by rural residents (Cleland et al., 2015).

Access to locations appropriate for physical activity is also limited in rural environments. Despite gender or area, many rural participants reported limited locations to be active has an impact on their physical activity (Cleland et al., 2015). Rural residents highlight the importance of shared use space which could accommodate families, children, dog owners, elderly and mobility-impaired people (Cleland et al., 2015). Throughout the literature, results show that infrastructure such as sidewalks, traffic safety and destinations are greater indicators for physical activity than the aesthetics of the environments (Boarnet, Forsyth, Day, & Oakes, 2011).

Community Walking Programs

The increased prevalence of noncommunicable diseases related to physical inactivity has led to several interventions and studies to increase physical activity levels. Community walking programs are popular interventions due to the low cost and ability to reach participants at all fitness levels. Most of the literature supports walking interventions and increased physical activity levels (Ball, Abbott, Wilson, Chisholm, & Sahlqvist, 2017; Fitzsimons, Baker, Gray, Nimmo, & Mutrie, 2012; Haines, Davis, Rancour, Robinson, Neel-Wilson, & Wagner, 2007; Marigliano, Stewart Fahs, &

Ludden, 2016; Nyrop, Cleveland, & Callahan, 2012; Shaw et al., 2011). One study noted a 104% increase in the number of minutes walking over the baseline at one year, although most of the studies indicate only an approximate 20% to 30% improvement (Fitzsimons et al., 2012; Haines et al., 2007; Nyrop et al., 2012). Studies also highlight improved physical and mental health (Haines et al., 2007; Hallam et al., 2018; Marigliano et al., 2016; Soroush et al., 2013). Many walking programs incorporate pedometers to measure step counts among participants. These studies show the feasibility of pedometers and the motivation they provide participants (Seekamp et al., 2016; Shaw et al., 2011).

In contrast, fewer studies have indicated that there were not significantly improved levels of physical activity among their participants after walking programs were introduced (Baba, Oliveira, Silva, Vieira, Cerri, Florindo, & Oliveira, 2017; Kamada, Kitayuguchi, Inoue, Ishikawa, Nishiuchi, Okada, & Shiwaku, 2013). A walking program completed in a disadvantaged area used an intervention group and control group for comparison (Baba et al., 2017). The intervention group included meeting five times per week, over a 6 month period, where each session consisted of supervised physical activity and educational sessions. Although there were increased levels of physical activity post intervention and at a six month follow up, they were not statistically significant when compared to the control group (Baba et al., 2017). The control group was visited three times during the program. These participants completed questionnaires reflecting on their health behaviors and used pedometers for a one-week period. Although the control group did not receive supervised physical activity and educational sessions, the three visits, self-reflection and pedometers may have provided enough motivation to

participants of the control group to give an altered step count. Therefore, this study is limited by the control group (Baba et al., 2017).

Practice Guidelines for Physical Activity

This study aimed to increase physical activity of community residents through a community walking program. Healthy People 2020 has an objective to improve the health, fitness and quality of life by increasing physical activity levels of Americans (Healthy People 2020, 2019). These objectives are designed by the Federal government as an agenda for building a healthier nation and stem from significant health threats of the nation. Guidelines for physical activity have been established by the Department of Health and Human Services. This is the first publication of national guidelines for physical activity and was developed in 2008, then modified in 2018. The Federal advisory committee is composed of prestigious researchers in the fields of physical activity, health and medicine (Department of Health & Human Services, 2018). These experts performed a robust analysis of the available scientific literature for guidance about the amount and type of physical activity necessary to maintain and improve overall health, reduce the risk, or even prevent, chronic diseases (Department of Health & Human Services, 2018).

The published guidelines serve as a great tool for health professionals, especially community health providers, who are implementing physical activity programs and policies. The main idea of the publication is that physical activity over months and years can produce long term health benefits (Department of Health & Human Services, 2018). The publication divides these guidelines into population groups. See Table 1 for a summary of key guidelines.

Table 1
Key Guidelines for Physical Activity Recommendations

Age Group	Recommendation
Preschool-Aged Children	• Should be physical active throughout the day to enhance growth and development
Children and Adolescents	• 60 minutes or more of moderate to vigorous physical activity daily
Adults	• 150 minutes to 300 minutes a week of moderate intensity or 75 minutes to 150 minutes a week of vigorous intensity aerobic physical activity • Muscle strengthening activities 2 or more days per week
Older Adults	• Multicomponent physical activity that includes balance training, aerobic and muscle-strengthening activities • When unable to do 150 minutes of moderate intensity aerobic activity a week they should be as physically active as their abilities and conditions allow
Pregnant and Postpartum Women	• 150 minutes or more of moderate intensity aerobic activity a week
Adults with Chronic Conditions or Disabilities	• If able, 150 minutes to 300 minutes a week of moderate intensity or 75 minutes to 150 minutes a week of vigorous intensity aerobic physical activity • Muscle strengthening activities 2 or more days per week • If unable to meet these guidelines, they should engage in regular physical activity according to their abilities and should avoid inactivity

Note. Data for key guidelines for physical activity recommendations from the Department of Health & Human Services (2018).

For the purpose of this project, the researcher focused on the key guidelines for adults. The recommendations are for 150 minutes of moderate intensity aerobic activity each week. As a person moves toward 300 minutes a week health benefits become more extensive. Research has not identified an upper limit of total activity, above which

additional health benefits cease to occur (Department of Health & Human Services, 2018). According to these guidelines, it is preferred that physical activity is spread throughout the week to reduce the risk of injury and excessive fatigue (Department of Health & Human Services, 2018).

Conclusion

The literature review has highlighted the benefits, barriers and motivators of walking and reviewed current guideline recommendations for the amount and type of physical activity individuals should achieve. There has been a wide assortment of studies completed, yet we still battle physical inactivity and suffer the related negative outcomes within our communities. The continuation of research can assist health care providers and communities to partner in creating healthful lifestyle habits to combat our sedentary culture.

CHAPTER III

METHODOLOGY

Introduction

This chapter will discuss the design for this research study. It will also describe the sample population, instruments used, procedure and statistical analysis. The American Council on Exercise provides a guide titled "Walk This Way" for developing community walking programs which was utilized for design ideas in this project. The project's aim was to develop and provide a walking program to a community of rural residents in mid Missouri in order to promote positive changes to their physical activity levels. The participants were expected to record their daily step counts to determine if the program increased their physical activity. The participants also completed a program evaluation to determine if they experienced increased knowledge and motivation and have a desire for additional community programs designed to increase physical activity.

Project Design

A quasi-experimental, mixed methods design was the basis for this study. A convenience sample of community residents was used to gather quantitative data related to daily step counts of program participants. Participants completed a program evaluation to assess the program utilizing a five-point Likert scale. The first Wednesday in April is

National Walking Day which served as the programs educational meeting and registration. The intervention included a six-week period where participants were offered encouragement via social media and weekly group walks to encourage support and participation. The educational presentation, group walks and encouragement via social media were the same for all participants. The independent variable was the community walking program. The dependent variable was the step count of participants.

Sample

The participants of this study consisted of a convenience sample of community residents age eighteen and older in a rural community of mid-Missouri. Prior to the intervention, community awareness and recruitment began with advertisement at the two local convenience stores, the public library, a Facebook event page limited to community residents, and Instagram posts. Participation was voluntary for all participants.

Participants' rights were protected throughout this project. Prior to beginning data collection, approval from the Pittsburg State University Institutional Review Board was sought. The participants engaged in the study on a voluntary basis and could withdraw from the study at any time. All participants were over the age of eighteen years and did not include prisoners, disabled or physically ill individuals. There were no anticipated risks to the participant during the study. The questionnaires and step count log were coded by a four-digit number for confidentiality. The voluntary consent form (Appendix A) was kept in a locked box during the study and was shredded upon completion of the walking program.

Inclusion criteria included:

- Self-reported Macks Creek, MO resident
- Age 18 and over
- Sign a consent of voluntary participation
- Fluent in English
- Possess the ability to ambulate independently

Exclusion criteria included:

- Residents under 18 years of age
- Refusal to sign voluntary consent
- Incomplete registration
- Inability to ambulate independently
- Inability to read or write in English

Instrumentation

Instruments for this study consist of a demographic questionnaire, a step count log, and a program evaluation form. The demographic questionnaire (Appendix B) was designed to gather data on age, gender, level of education and employment. This demographic data was kept confidential, is only identifiable by a four-digit code, and does not include any personal identifiers such as participant's name.

Each participant was asked to complete the provided count step log (Appendix C) by recording their step count each day. Week one of the program was used as a baseline step count. Week two through six was utilized for the intervention.

Upon completion of the six week walking program participants completed a program evaluation form (Appendix D) designed to assess the intervention. The

questionnaire was designed by the researcher but stemmed from suggestions on the Partnership for Prevention website produced by Centers for Disease Control and Prevention. One question was designed to evaluate knowledge gained from the program. Three questions were developed to evaluate techniques for motivating participants and the final question examined the desire for additional community programs to boost physical activity. This questionnaire can guide improvements to the walking program and the desire for additional community physical activity interventions. This questionnaire utilized a five-point Likert scale.

Procedure

All studies performed at Pittsburg State University must be reviewed by the Institutional Review Board (IRB). After reviewing the checklist of human subjects, it was determined that the study would require an expedited review. Prior to data collection, IRB approval was submitted. After IRB approval was granted, the researcher began recruiting and advertising for potential participants. Upon verbal consent from management, a walking program poster was hung at the two local convenience stores and public library outlining details about the upcoming community walking program. Social media, Facebook and Instagram, were also be utilized as a tool for awareness and recruitment of participants.

The community walking program commenced on National Walking Day, April 3, 2019, with an educational PowerPoint presentation. This was held in the classroom of the Southwest Fire Department with permission from the Fire Chief. Registration included the completion of the educational presentation, signing of the voluntary consent form and completion of the demographic questionnaire. Participants were distributed packets

including best practices for safe and effective walking, handouts for stepping up their walking routine, and tips to incorporate walking into their daily routine. These handouts are provided by the American Council on Exercise Walking Toolkit.

Participants were also provided activity trackers, donated by Garmin, and step count logs. Data collection began on April 27, 2019. The first week, April 27-May 3, was utilized to determine a baseline step count. The community walking program kicked off with a group walk on Saturday, May 4, 2019. Weekly group walks were conducted to encourage support and participation, but participants were not required to participate in group walks. Group walks were held each Saturday at the Macks Creek Community Park May 4-June 8th.

Participants who attended Saturday group walks were eligible for incentives through local donations. The first prize was presented on Saturday, May 4, 2019. All participants who attended the group walk were entered in a drawing and the winner was drawn at random. The first prize presented was a Bluetooth body weight scale. The following Saturday's prize, adjustable ankle weights, was to be awarded on May 11, 2019 to the participant with the highest weekly step count. The second group walk was cancelled due to inclement weather. On May 18th, 2019 walking accessories, including a hat, socks and sunscreen, were drawn at random from participants who attended that week's group walk. An Under Armour gift card of a $50 value was awarded to the participant with the lowest weekly step count on Saturday, May 25, 2019. The following Saturday's prize, a one-hour facial, was presented to the participant who had attended the most group walks. In the case that there was a tie, eligible participants were to be entered and drawn at random. The final prize was awarded at the last group walk on Saturday,

June 8, 2019 to the participant with the overall highest step count. The final prize included four tickets to a show at Main Street Music Hall in Osage Beach, MO.

The data collection concluded on June 7, 2019. Participants were asked to bring their step count logs and program evaluation to the final group walk on June 8, 2019. After completion of the study all forms were shredded.

Data Analysis

The data was analyzed in two parts using Microsoft Excel and SPSS. Descriptive statistics was utilized to analyze the demographic results and program evaluation responses.

A paired sample *t*-test was used to determine the difference between the baseline and consecutive weeks. Alpha of .05 was used to determine statistical significance.

Plan for Sustainability

Sustainability of this project is a key factor to decrease the number of adults who are physically inactive and improve health outcomes of communities. A literature review within public healthcare has identified core concepts for a program's sustainability which include political support, funding stability, partnerships, organizational capacity, program evaluation, program adaptation, communications, public health impacts and strategic planning (Schell, Luke, Schooley, Elliott, Herbers, Mueller, & Bunger, 2014). This community walking program was the first of its kind for this rural town. It will serve as a guide for additional community health plans and can provide a base knowledge for community support, funding stability and partnerships. Feedback from the program evaluation will be utilized as a stepping stone for future community wellness initiatives.

CHAPTER IV

RESULTS

Introduction

The data being analyzed comes from the results of a demographic questionnaire, step count log and program evaluation. The walking program began with an informational meeting where the benefits of walking and a description of the study was provided. The intervention began with participants recording their baseline step count for one week followed by a five week walking program. Each Saturday, group participants were invited to attend a group walk. At the final group walk participants were asked to provide their step count log and program evaluation survey. The results for this study were gathered from 15 participants who completed the study in its entirety.

Demographics

The demographic questionnaire was used to gather data on age, gender, education level and employment status. Descriptive statistics were used to analyze the demographic questionnaire.

The majority of the participants, 7 (46.6%), were in the age group 31-40. Four participants (26.6%) were in the age category of 41-50. Three participants (20%) were between the ages of 21-30 and one participant (6%) was in the age category of 61-70.

There were no participants who represented the age categories of 18-20, 51-60 or 71 and older.

The study was primarily made up of female participants. There were 12 females (80%) and three males (20%). The education level of participants included six with a high school diploma or GED (40%), three with a trade or vocational training (20%), three with an associate degree (20%), one with a bachelor's degree (6%), one with a master's degree (6%), and one responded as other (6%). Thirteen of the participants work full time (86.6%). One participant is a homemaker (6.6%) and one participant is retired (6.6%). There were no participants who work part time or were unemployed.

Table 2. Demographics

	Frequency	Percent
Gender		
Male	3	20.0
Female	12	80.0
Age		
18-20	0	0.0
21-30	3	20.0
31-40	7	46.6
41-50	4	26.6
51-60	0	0.0
61-70	1	6.0
71 or older	0	0.0
Education		
High School Diploma or GED	6	40.0
Trade/vocational training	3	20.0
Associate degree	3	20.0
Bachelor's degree	1	6.0
Master's degree	1	6.0
Other	1	6.0
Employment Status		
Full time	13	86.6
Part time	0	0.0
Homemaker	1	6.6
Retired	1	6.6
Unemployed	0	0.0
Other	0	0.0

Program Evaluation Survey

Participants were provided an evaluation at the introductory meeting and asked to complete and return the survey upon completion of the walking program. The survey explored participants' perceptions of the walking program using a five point Likert scale. Descriptive statistics was used to analyze the data. The mean and standard deviation was used for each of the survey questions. The participant's mean response was strongly

agree to agree on all questions. There was no major difference in variability of the Likert responses as indicated by the standard deviations.

Table 3. Likert Survey

	Mean	Std. Deviation
The step count log kept me accountable and motivated to walk.	4.87	.352
The PowerPoint presentation increased my knowledge on the benefits of walking.	5.00	.000
Incentives kept me motivated.	4.67	.816
Group walks kept me motivated and involved.	4.60	.910
If offered, I would participate in another community program to boost physical activity.	4.80	.775

Note. Results derived from a 5-point Likert scale, in which: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree.

Step Count Log

Data from the step count log was analyzed using SPSS. The mean step count and standard deviation was determined for each week. Paired sample t-test were used to determine the mean difference in step counts from week one to consecutive weeks and from baseline (week one) to the Step It Up initiative (week two-six). The paired sample t-test also evaluated for a significant difference in step counts from baseline to the intervention. Alpha of .05 was used to determine statistical significance.

Table 4. Step Count Statistics

	N		Mean	Std. Deviation
	Valid	Missing		
weekone	15	0	43071.6000	18844.92776
weektwo	15	0	50660.7333	20089.56894
weekthree	15	0	50022.6000	21123.99129
weekfour	15	0	50410.8000	18383.75719
weekfive	15	0	53806.6667	20731.46393
weeksix	15	0	52302.8667	19004.71016

The mean step count for week one, baseline, was 43071.60. The mean step count for week two was 50660.73, 50022.60 for week three, 50410.80 for week four, 53806.66 for week five and 52302.86 for week six.

Table 5. Paired Sample *t*-test

Paired Samples Test							
		Paired Differences			t	df	Sig. (2-tailed)
		Mean Difference	Std. Deviation	Std. Error Mean			
Pair 1	Weekone – Weektwo	-7589.13333	9802.84109	2531.08269	-2.998	14	.010
Pair 2	Weekone – weekthree	-6951.00000	9371.27640	2419.65316	-2.873	14	.012
Pair 3	Weekone – weekfour	-7339.20000	10543.62628	2722.35260	-2.696	14	.017
Pair 4	Weekone – weekfive	-10735.06667	15656.53961	4042.50114	-2.656	14	.019
Pair 5	Weekone – weeksix	-9231.26667	13447.91557	3472.23687	-2.659	14	.019
Pair 6	Weekone - Avertwosix	-8369.13333	9498.35975	2452.46594	-3.413	14	.004

1. Ho: There is no difference between the steps taken in the baseline and week two.
    a. Decision: The probability (p =.010) calculated with the test statistic (t=-2.998) is less than alpha (.05), so the null hypothesis is rejected. There is a statistical difference between the steps in the baseline and week two. On average the participants took 7589.13 more steps in week two than week one.
2. Ho: There is no difference between the steps taken in the baseline and week three.
    a. Decision: The probability (p=.012) calculated with the test statistic (t=-2.873) is less than alpha (.05), so the null hypothesis is rejected. There is a statistical difference between the steps in the baseline and week three. On average the participants took 6951.00 more steps in week three than week one.
3. Ho: There is no difference between the steps taken in the baseline and week four.
    a. Decision: The probability (p=.017) calculated with the test statistic (t=-2.696) is less than alpha (.05), so the null hypothesis is rejected. There is a statistical difference between the steps in the baseline and week four. On averaged the participants took 7339.20 more steps in week four than week one.
4. Ho: There is no difference between the steps taken in the baseline and week five.
    a. Decision: The probability (p=0.19) calculated with the test statistic (t=-2.656) is less than alpha (.05), so the null hypothesis is rejected. There is a statistical difference between the steps in the baseline and week five. On

average the participants took 10735.06 more steps in week five than week one.

5. Ho: There is no difference between the steps taken in the baseline and week six.
    a. Decision: The probability (p=0.19) calculated with the test statistic (t=-2.659) is less than alpha (.05), so the null hypothesis is rejected. There is a statistical difference between the steps in the baseline and week six. On average the participants took 9231.26 more steps in week six than week one.
6. Ho: There is no difference between the steps taken in the baseline and the average of weeks two thru six.
    a. Decision: The probability (p=.004) calculated with the test statistic (t=-3.413) is less than alpha (.05), so the null hypothesis is rejected. There is a statistical difference between the steps in the baseline and weeks two thru six. On average the participants took 8369.13 more steps during weeks two thru six than week one.

Summary

Chapter four has reviewed the findings of the demographic questionnaire, program evaluation and the step count log. The data shows positive perceptions to the community walking program and statistically significant difference in step counts during the walking program when compared to baseline. The findings support the use of a community walking program to increase physical activity in a rural town of mid-Missouri. The survey responses also reveal an interest in additional community programs to boost physical activity.

CHAPTER V

DISCUSSION

Relationship of Outcomes to Research

The purpose of this study was to provide rural residents of mid-Missouri with a community based walking program to promote positive changes in physical activity levels. Participants recorded their daily step count for six weeks. Week one was utilized for baseline, and the Step It Up initiative included a weekly group walk during weeks two through six. Descriptive statistics from the demographic questionnaire offered data on selected characteristics of the participants.

Majority of the participants (46.6%) were in the age group of 31-40. Four participants (26.6%) were in the age group 41-50, three (20%) in the group 21-30 and one (6%) participant was in the age category of 61-70. There were no participants in the age category of 18-20, 51-60 or 71 and older. Adults in rural areas have a median age of 51 which is older when compared with residents in urban areas (United States Census Bureau, 2016). Nearly two thirds of the study participants were forty or younger which may be explained by the census of this particular community. The average age of a Macks Creek resident is 30.8 years with 64% of the town being less than forty years old (United State Census Bureau, 2017).

The low number of older adults being in the walking program is congruent with the literature. While walking is the preferred mode of exercise for the older adult population, most of the literature focuses on young and middle-aged groups (Shun-Ping et al., 2009). It is estimated that 31 million adults 50 or older are physically inactive (CDC, 2019). It is possible this study is a true reflection of the lack of physical activity in older adults.

In this project, 80% of the participants were female and 20% were male. This is congruent with other walking programs where participants were selected on a volunteer basis (Andrade et al., 2014; Baba et al., 2017; Chrisman et al., 2015; Fitzimons et al., 2012). Throughout the literature review, community walking programs seemed to have a higher number of female participants and studies focused on female only programs (Adams et al., 2015; Marigliano et al., 2016). This is likely a result of the findings which show women being more inactive when compared to men (Whaley & Haley, 2008).

The education level of participants also paralleled the literature. Six of the fifteen participants (40%) were educated at the high school level, three had a trade or vocational training, and three had an associate degree. There was only one participant with a bachelor's degree and one with a master's degree. One participant responded "other." In other words, 80% of the participants had reached no higher than an associate degree for their formal education. This is representative of rural towns. Census data comparing rural and urban areas show rural residents are less likely to have obtained a bachelor's degree or higher when compared to urban residents (United States Census Bureau, 2016).

In this study, thirteen participants (80%) work full time. One participant was a homemaker and one was retired. Most studies throughout the literature do not assess for employment status but instead, evaluate income level.

The program evaluation utilized Likert scale responses to assess for the perceived knowledge gain, techniques for motivating participants and the desire for additional community programs to boost physical activity levels. The results found that on average, participants agreed or strongly agreed to the all survey questions. This questionnaire is unique to this study and was developed by the researcher to help guide the development, implementation and desire of future physical activity programs in this community. Few quantitative studies included post intervention surveys however, many studies focused on qualitative data and the vast majority of responses regarding participant satisfaction are positive (Babe et al., 2017; Ball et al., 2017; Haines et al., 2007; Seekamp et al., 2016).

The step count log was used by participants to record their daily step count. Week one was the baseline and week two through six was the intervention. The results show a statistical difference between the steps in the baseline and week two through six. On average, participants took 8369.13 more steps during the intervention than baseline. The results of this study are similar to the results found throughout the literature (Ball et al., 2017; Fitzsimons et al., 2012; Haines et al., 2007; Marigliano et al., 2016; Nyrop et al., 2012; Shaw et al., 2011). Community walking programs seem to be effective for a variety of reasons. Literature highlights the ease, feasibility, motivation and social factors for participants (Ettema & Smajic, 2015; Perry et al., 2008; Seekamp et al., 2016; Shaw et al., 2011; Soroush et al., 2013).

Observations

Overall, the community walking program was a success. Participants increased their average step counts and many were disappointed to see it come to an end. Week three of the walking program had the lowest average step count. It is questioned if this is related to the weather as week three held the second group walk which was cancelled due to inclement weather. The researcher also questions if respondents truthfully answered the program evaluation survey. Many participants chose “strongly agree” on all five statements. It is possible that they fell into a response set. Participants also might have misinterpreted the survey as a grade for the researcher and felt they were helping the researcher’s course grade.

Evaluation of Theoretical Framework

Nancy Milio’s framework for prevention was relevant to this study. Milio challenged that unhealthy behaviors are related to a lack of knowledge and resources while suggesting that most people will make the easiest choice available. The walking program began with an educational meeting discussing the health benefits of walking. It followed with a walking program which included Saturday morning group walks. The study results are in agreement with Milio’s framework. When participants were provided education and a local program for boosting physical activity, step counts increased.

Evaluation of Logic Model

The logic model was developed with hopes of meeting long term goals and changes which include increased physical activity among the community and a decrease in sedentary related diseases. This project was intended to meet the short term goals of motivating residents and completion of the walking program. Results from the program

evaluation survey show motivation was provided by the walking program. Fifteen of twenty three people (65%) attended the mandatory educational meeting and completed the walking program. The project was also intended to meet medium term goals of increased physical activity of participants and increasing participants' knowledge of the importance of physical activity among community residents. The study results show a statistically significant increase in step counts during the Step It Up walking program when compared to baseline. All respondents strongly agreed the PowerPoint presentation increased their knowledge on the benefits of walking. The community walking program met the short and medium goals for this project. Additional community programs to boost physical activity can aid in meeting long term goals.

Limitations

This study had several limitations. The participants were selected through convenience sampling. The residents who chose to participate may already be more interested in physical activity than those who did not participate. The size and location also limit the generalization. This study only included fifteen participants and applied to only one rural town in mid-Missouri. Community awareness was provided through social media and posters at two local convenience stores and the public library. Residents may have been unaware of the program, especially if they do not utilize social media or do not visit local convenience stores.

The program evaluation survey utilized a five point Likert scale. There were no negative statements to determine if respondents fell into a response set. The validity of the program evaluation was also limited due to two double barreled questions. If repeating the study, alternative instruments would be used for community awareness to

attempt reaching more residents and questions on the Likert response survey would be worded differently to allow for better results.

Implications for Future Projects

The study results showed a positive change in physical activity, measured by step counts, among participants. A community walking program can get people moving with a low cost to the community or its participants. Future research utilizing a larger sample may further assess the effectiveness of community walking programs.

A related issue that needs exploration is the promotion and recruitment of such programs. It is important to reach all community members to get the most people moving. This study used social media and posters at local convenience stores and the public library for community awareness however, most people who attended came due to word of mouth. Another consideration would be to measure the success of mailing fliers to all residents with a local address.

It would also be of interest to perform a follow up study to evaluate long term results. Studies could assess a step count of the program participants and also could look at longer term walking programs. Do participants maintain their walking routines after walking programs have concluded? If the walking program would have continued for a year, would participants lose interest? The long term results of walking programs also need to be explored to determine if there is an ideal duration for communities.

Implications for Practice

This study was comparable to previous studies with findings that community walking programs are an effective way to increase physical activity among residents. Rural residents lack the access and conveniences of urban areas putting them at increased

risk for sedentary related diseases. The health risks of physical inactivity are so prevalent that researchers and the Federal government are making an agenda to improve health, fitness and quality of life by increasing physical activity levels of Americans.

The first program for nurse practitioners was developed with the goal of expanding the role of the public health nurse to meet the healthcare needs of the rural population (Kippenbrock et al., 2017). The nursing community should serve as advocates and role models for their own communities with the end goal of boosting physical activity among residents and decreasing sedentary related disease. Community walking programs are a simple and inexpensive method which can be easily organized. It is hoped that nurses will desire to promote positive health changes in their own communities by developing and implementing similar health programs.

Conclusion

Across our country rural residents suffer the increased risks of sedentary related diseases. An excellent way to bridge this gap of inactivity toward healthy lifestyle habits is to provide more community walking and education programs. Community health providers should trial walking programs in their own districts to get their patients and residents to Step It Up!

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APPENDIX

APPENDIX A

Informed Consent

Name: _____
Date: _____

You are being asked to participate in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully and ask the researcher if there is anything that is not clear or if you need additional information.

Dear Participant,

I am a student of the Doctor of Nursing Practice program at Pittsburg State University. In partial fulfillment of the program I am completing a scholarly project in which I will evaluate the outcomes of a community walking program. To evaluate outcomes, I will be assessing your daily step count over a six-week period.

The walking program begins with an educational presentation and instructions for participation. Those who participate will be asked to sign this form of Informed Consent and complete a demographic questionnaire. Throughout this program, you will be asked to record your daily step count on the provided form. The participant should begin recording their step count on April 27, 2019 and complete the log by June 7, 2019. It should be returned to the researcher by June 8, 2019. The program will also involve weekly group walks but are not mandatory for participation.

Your participation is voluntary, and you are free to withdraw at any time. There are no requirements for your step count and your level of activity will be based upon your discretion. As a result of this walking program you may or may not have benefits to your physical or general health. There are also risks of injury including, but not limited to, muscle aches and pains. As a participant you choose to pursue this program and assume personal liability for any injuries incurred.

Information obtained will be kept confidential and shredded upon completion of the study. By signing below, you are authorizing that your results may be used anonymously for study purposes, the program has been explained, you have no further questions and are personally responsible for your health and safety.

Sincerely,

Amy Butler, MSN, FNP

Participant Signature: _____

APPENDIX B

Demographic Questionnaire

What is your age?

- ☐ 18-20
- ☐ 21-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-60
- ☐ 61-70
- ☐ 71 or older

What is your gender?

- ☐ Male
- ☐ Female

What is your highest level of education?

- ☐ Some high school, no diploma
- ☐ High school graduate, diploma or GED
- ☐ Trade/vocational training
- ☐ Associate degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Other

What is your employment status?

- ☐ Full time employment
- ☐ Part time employment
- ☐ Homemaker
- ☐ Retired
- ☐ Unemployed
- ☐ Other

APPENDIX C

Step Count Log

APPENDIX D

Program Evaluation Survey

Please respond to each question below	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The step count log kept me accountable and motivated to walk.					
The PowerPoint presentation increased my knowledge on the benefits of walking.					
Incentives kept me motivated.					
Group walks kept me motivated and involved.					
If offered, I would participate in another community program to boost physical activity.					

To Be Completed By June 8, 2019