2018

Motivation and Sociodemographic Factors in Organized Physical Activity Events

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Walden University
2018

Abstract

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MS, Wayne State University, 2011

BA, Michigan State University, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

Walden University

August 2018

Abstract

Adult physical activity is important for prevention of chronic diseases and to minimize health issues; therefore, the motivational influences of sociodemographic variables on participation in organized physical activity events warrant an investigation. The purpose of this quantitative study was to investigate differences in motivational influences between various sociodemographic variables as related to physical activity events in organized settings. The theoretical framework that guided this research study consisted of the theory of reasoned action (TRA), and the health belief model (HBM). The TRA was applied to study the intention of health behavior, while the HBM was used to investigate individuals' motivation to engage in organized physical activity events. A cross-sectional study design in which an online survey consisting of the 40 item Physical Activity and Leisure Motivation Scale was used to collect data from adults who participated in an organized 5K or 10K running or walking event. The inferential statistical tests of the independent *t* test, one-way ANOVA, and ordinal logistic regression were used to determine the statistical relationships. The main research finding suggested that 6 motivational influences showed statistically significant relationship with organized physical activity events, which consisted of others' expectations ($p = .025$), competition/ego ($p = .001$), appearance ($p = .001$), affiliation ($p = .034$), mastery ($p = .001$), and psychological condition ($p = .002$) as it relates to their age group and gender. The research findings may be used to influence engagement in future organized physical activity events by understanding the sociodemographic variables relating to participation rates that may result in increased physical activity behavior within the community.

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Dedication

This dissertation is dedicated to my future husband, who has stood by my side and encouraged me throughout this journey. I thank you for your support, kind words of wisdom and encouragement, and laughter when I most needed it. I also dedicate this to my parents, my twin sister, and my family and friends. Thank you for your support and words of encouragement throughout this process. Lastly, I would like to dedicate this to my four-legged beloved dog, Piper. I thank her for the countless hours that she spent curled-up next to me while I completed my dissertation.

Acknowledgments

I would like to express my sincerest appreciation to all the individuals who have assisted me in the completion of this research study. Specifically, my chair and committee member, Dr. McDoniel and Dr. Dunn. I appreciate the support and guidance that you both have given me. I would not have been able to complete this milestone without your expertise and knowledge guiding me. Lastly, Justin Craig at RUNDetroit. I thank you for your dedication and commitment to the running community, and the support that you have provided for my research.

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Chapter 1: Introduction to the Study

Introduction

Engaging in the recommended amount of physical activity is recognized as an essential component for an individual's overall health, including in the primary and secondary prevention of chronic and noncommunicable diseases (Knight, Stuckey, Prapvessis, & Petrella, 2015). Since the U.S. Surgeon General released a report regarding the extensive health benefits of physical activity in 1996, there has been a stance to raise awareness about physical activity and increase community interventions (Centers for Disease Control and Prevention [CDC]. 2011). However, approximately 21% of U.S. adults meet both the aerobic and anaerobic physical activity guidelines (CDC, 2016). To help improve physical activity engagement rates, various community interventions and public health stances have been implemented (CDC, 2016). Communities have incorporated interventions to improve the physical activity rates, which have consisted of individuals engaging in running, walking, and biking activities (CDC, 2016; Torcat, McCray, & Durden, 2015). Public health recommendations have influenced some individuals to participate in organized running, walking and biking events (Bell & Stephenson, 2014; Getz & McConnell, 2014; LaChausse, 2006; Piirtola et al., 2016).

Researchers have studied motivational influences that drive participation in organized physical activity events (Eagleman & Tyler, 2011; Getz & McConnell, 2014; LaChausse, 2006). However, despite current research, there is not a clear understanding of sociodemographic factors in organized physical activity events (Eagleman & Tyler, 2011; Getz & McConnell, 2014; LaChausse, 2006). This research study helps to provide

an understanding of the motives that influence participation in organized running, walking, and biking events in relation to sociodemographic factors.

This chapter entails the background of the study, problem statement, purpose of the study, research questions, and the theoretical framework which will lay the foundation and guide this research study. The remaining portion of the chapter consists of essential definitions of key terms, nature of the study, assumptions, limitations, scope and delimitations, and significance of the study.

Background

The link between physical activity and physical health has been recognized in an extensive track of prior research (Brymer & Davids, 2016; CDC, 2015; Reiner et al., 2013). Adults who actively engage in the recommended amount of aerobic physical activity are at lower risk for heart disease, stroke, type 2 diabetes, depression, and some cancers; inactive adults have higher mortality and morbidity incidence rates (Brymer & Davids, 2016; CDC, 2015; Reiner et al., 2013). Individuals who are physically active can gain a range of physical, emotion, social and psychological benefits, which indicates it is imperative to motivate individuals to actively engage in physical activity (Brymer & Davids, 2016; Reiner et al., 2013).

Increasing participation in physical activity among adults is a priority in public health, and specific guidelines have been established by public health and health professional organizations (CDC, 2015; Knight et al., 2015). According to the Physical Activity Guidelines for Americans, adults aged 18 years and older should spend at least 150 minutes per week engaging in moderate to intense aerobic physical activity (CDC,

2015; Knight et al., 2015). Yet, it was reported that 23.7% of U.S. adults do not adhere to any aerobic physical activity, and 50.2% adults actively meet the recommended aerobic physical activity guidelines (CDC, 2014). To help meet recommended aerobic physical activity guidelines, some adults actively participate in organized running, walking, and biking events (Bell & Stephenson, 2014; LaChausse, 2006; Torcat et al., 2015).

Participation in organized running, walking, and biking events are among the most prevalent organized races in the United States (Bell & Stephenson, 2014; LaChausse, 2006; Running USA, 2016). Out of all the running and walking distance events, the 5K and 10K road race distance accounts for 52% of the overall participation rate, with an average of 8.8 million individuals participating (Running USA, 2016). Further, 1,239 adult men and women were surveyed about the type of cycling race they preferred and their motivation to participate, which resulted in 65% of respondents favoring road cycling as their preferred race (LaChausse, 2006). To help understand the motivation that influences participation in organized physical activity events, researchers have explored the motivational influences in participation rates in organized running, walking and biking events (Bell & Stephenson, 2014; LaChausse, 2006; Torcat et al., 2015).

Previous researchers have studied the motives that drive participation in running, walking, and biking events, which suggests further research should be conducted between diverse populations and the motivation with social desirability in organized events (Bell & Stephenson, 2014; Torcat et al., 2015). Specifically, ethnicity is not often collected during organized physical activity events, and researchers have not examined the trends

among various racial groups as it relates to their motivational influence to participate in organized running, walking, and biking events (Getz & McConnell, 2014; Torcat et al., 2015). While education level has been studied in physical activity and data collected regarding participation in running, walking, and biking events, the focus has not included education level in relation to the motivation in organized physical activity events (Giardina et al., 2009; Piirtola et al., 2016; Running USA, 2016). Prior researchers have studied role of motivational influences in biking between genders, but was limited to understanding the role between other sociodemographic factors as well as an understanding of the motivational variance between other organized physical activity events (LaChausse, 2006). Though previous researchers have provided an understanding of motives to participate in organized physical activity events, they were limited to defined demographic regions, specific organized events, or gender only races that consisted of smaller populations (Bell & Stephenson, 2014; Eagleman & Tyler, 2011; Eagleman, 2013; Getz & McConnell, 2014; Torcat et al., 2015). Prior research also did not consider the motivational variance between organized physical activity events (Bell & Stephenson, 2014; Eagleman & Tyler, 2011; Eagleman, 2013; Getz & McConnell, 2014; Torcat et al., 2015).

In addition to analyzing physical activity motivations, researchers have also examined the role that motivates adults to be physically active through the Physical Activity and Leisure Motivation Scale (PALMS) (Molanorouzi, Khoo, & Morris, 2015). The PALMS was developed by Dr. Tony Morris and Dr. Helen Rogers to measure physical activity motivation in adults (Zach et al, 2012). The 5-point Likert scale

measures eight different intrinsic and extrinsic motivational factors which influence participation in physical activity. These consist of competition and ego, physical condition, appearance, others' expectations, affiliation, namely mastery, enjoyment, psychological condition, and physical condition (Zach et al., 2012). With validation of the PALMS in previous studies, researchers have an understanding of the motivational influences in physical activity among adults (Molanorouzi et al., 2015; Zach et al., 2012). Molanorouzi, Khoo, and Morris (2015) found that motivation between age and gender was related to competition, ego, appearance, and physical condition in physical activity events when analyzed utilizing the PALMS. Further, prior researchers also found that motivation was related to psychological and social between runners, walkers, and bikers, but research was limited to age and gender between the sociodemographic variables (Lugh, Parr, & Geurin, 2016; Getz & McConnell, 2014; Zach et al., 2015). Due to the limited research between sociodemographic variables of age, race, gender, and education level in organized physical activity events, this study addresses this research gap.

Given the significance of physical activity has in relation to the health and prevention of chronic and noncommunicable diseases, there is a need to understand how to motivate adult individuals to participate in organized physical activity events for future interventions and organized physical activity events (Knight et al., 2015; Molanorouzi et al., 2015). Researchers have not specifically examined the motivational influences in the variation between organized running, walking, and biking events in relation to various sociodemographic factors.

Problem Statement

Despite researchers addressing the motivational influences that drive participation in physical activity, there is no known research study that evaluates the sociodemographic factors, specifically related to adult age groups, gender, race, and education level within defined organized physical activity event (Bell & Stephenson, 2014; Eagleman & Tyler, 2011; Eagleman, 2013; Egil et al., 2011; Getz & McConnell, 2014; ; Goodsell, Harris, & Bailey, 2013; LaChausse, 2006; Molanorouzi, Khoo, & Morris, 2015; Piirtola et al., 2016; Torcat, McCray, & Durden, 2015). Given prior research, it is suggested that in order to develop better physical activity interventions Given the importance of physical activity in adults to prevent diseases and minimizes health issues, the motivational influence that drives individuals to participate in organized physical activity events in an important topic. Therefore, research is needed to understand the motives that influence participation in the variation between organized running, walking, and biking events in relation to sociodemographic factors between adult age groups (age 18 years and older), race (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other), gender, and education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree).

Purpose of Study

The purpose of this study was to quantitative investigate if there is a difference between adult age groups, race, gender, and education level in individuals' motivational influence to participate in organized 5K and 10K running, walking, and biking events.

The independent variables consisted of organized running, walking, and biking events. Other independent variables consisted of adult age groups (age 18 years and older), race (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other), gender, and education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree). The dependent variables consisted of motivational influence. Data collection of quantitative data consisted of conducting surveys for evaluation of what drives motivational influences in organized physical activity events between the four sociodemographic factor variables. The implications from this research study may provide positive social change by providing evidence to increase participation in adult individuals in future organized physical activity events.

Research Questions and Hypotheses

The following research questions and hypotheses provided the framework regarding how the research evaluated the four sociodemographic variables within this research study as they relate to the variation between organized 5K and 10K running, walking, and biking events.

Research Question 1: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders (Male and Female)?

$H_0$1: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to

participate in organized 5K and 10K running, walking, and biking events between genders.

H_a1: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders.

Research Question 2: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups (age 18 years and older)?

$H_0 2$: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

$H_a 2$: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

Research Question 3: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races

(American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other)?

$H_0$3: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

H_a3: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

Research Question 4: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree)?

$H_0$4: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

H_a4: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

Theoretical Foundation

The study was guided by the tenets of health belief model (HBM) and theory of reasoned action (TRA). In an effort to comprehend adult individuals' values and beliefs about their health behaviors, the HBM was applied (Rosenstock, 1974). The HBM was originally established as a systematic model to provide an explanation and predict individuals' health behavior, and then revised to include the motivational influence as it relates to achieving a specific health behavior (Rosenstock, 1974).

To help predict and explain health behaviors in individuals, the HBM aims to understand specific belief patterns as behavior is influenced by general health values and health beliefs as they relate to specific health threats, and perceived beliefs about health consequences (Rosenstock, 1974; Knight et al., 2015). The HBM provides insight about individuals' willingness to engage in a specific health behavior due to their perception about achieving a particular health goal (Knight et al., 2015). The HBM was applied in this research study and may provide insight to individuals' motivation to engage in organized 5K and 10K running, walking, and biking events in relation to their personal health outcomes.

In addition to utilizing the HBM, Ajzen and Fishbein's Theory of reasoned action (TRA) was also used in executing the proposed study (Fishbein & Ajzen, 2010). Assessing motivation has been attested to the TRA, which has become the most widely used motivation theory within physical activity research (Bell & Stephenson, 2014; Fishbein & Ajzen, 2010). The TRA helps to explain individuals' social behavioral intention as it relates to three constructs that consist of their attitude, perceived behavioral

control, and subjective norm (Bell & Stephenson, 2014; Eagleman & Tyler, 2011; Fishbein & Ajzen, 2010). Thus, applying the constructs results in an individual's behavioral beliefs and attitude regarding a specific behavior (Fishbein & Ajzen, 2010).

To help guide an individual's motivational understanding, the TRA understands outcomes or attributes in relative to executing that behavior given the individual's normative beliefs (Fishbein & Ajzen, 2010). The TRA was applied in this research study by predicting individuals' behavioral health beliefs that understands their motivation and intention to participate in the variation between organized 5K and 10K running, walking, and biking events (Bell & Stephenson, 2014; Eagleman & Tyler, 2011). Therefore, the TRA aimed to comprehend an individual's motivational intention, which are influenced by their perceived norms, behavioral control and attitude (Bell & Stephenson, 2014; & Ajzen, 2010).

Definition of Key Terms

The following is a list of the following common terms that were commonly used throughout this research study.

Aerobic physical activity: Endurance activity in which the body's large muscle groups move in a recurrent manner for a sustained duration to improve cardiovascular health (CDC, 2015).

Extrinsic motivation: Engaging in aerobic physical activity due to the outcome, or contributory reasons that are separate from the activity (Teixeria et al, 2012).

Intensity: The volume of work or effort that is required to execute physical activity (CDC, 2015).

Intrinsic motivation: Engaging in aerobic physical activity due to its inherent satisfactions (Teixeria et al, 2012).

Moderate-intensity aerobic activity: aerobic physical activity that raises an individual's heart rate to an extent that is performed at 3.0 to 5.9 times the intensity of rest when measured on an absolute scale (CDC, 2015).

Motivational influence: The energy and direction behind the actions of an individual as it relates to their needs and desires that impact their behavior (Molanorouzi, Khoo, & Morris, 2015).

Organized physical activity events: 5 kilometer and 10 kilometer road race running, walking, and biking events that have been certified to produce an event course that accurately represents the measured distance (Bell & Stephenson, 2014; Running USA, 2016).

Physical activity: Engaging in skeletal muscular contraction, which results in bodily movement that increases energy expenditure and improves health (CDC, 2015).

Physical Activity and Leisure Motivation Scale (PALMS): a 5 point Likert scale from 1 (strongly disagree) to 5 (strong agree) that measures eight different intrinsic and extrinsic motivational factors to understand adult participation in physical activity (Molanorouzi, Khoo, & Morris, 2015; Zach et al, 2012).

Vigorous-intensity aerobic activity: aerobic physical activity that raises an individual's heart rate hard and fast to an extent that is performed at 6.0 or more times the intensity of rest when measured on an absolute scale (CDC, 2015).

Nature of Study

This research study was a quantitative cross-sectional survey design. A quantitative study was a suitable methodology for the objective of this research in order to understand the statistical significance in the variation between organized 5K and 10K running, walking, and biking events in relation to the four sociodemographic variables (Bell & Stephenson, 2014; Eagleman, 2013; Eagleman & Tyler, 2011; LaChausse, 2006; Molanorouz, Khoo, & Morris, 2015; Zach et al., 2015). The intent of this research study was to address an understanding of the motivational influences in adult individuals by performing a cross-sectional survey to collect quantitative data, which provided a pragmatic systematic approach in conducting an ordinal logistic regression, one-way ANOVA, and independent *t* test between the hypotheses variables (Bell & Stephenson, 2014; Eagleman, 2013).

Online cross-sectional survey participant recruitment consisted of emailing participants in organized 5K and 10K running, walking, and biking events during race registration and post-race. Further, recruitment also consisted of posting a recruitment invitation to a social media platform. The demographic location for participant recruitment was in the state of Michigan, within Macomb, Oakland, and Wayne Counties (Detroit tricounty area). Data analysis was collected from organized 5K and 10K running, walking, and biking events within the Detroit tricounty area in order to understand the true motivational influence and variation in organized physical activity events in relation to sociodemographic factors.

The 40 item PALMS Likert scale was applied to collect data pertaining to intrinsic and extrinsic motivational factors in organized running and walking events in adults between sociodemographic factors (Zach et al, 2012). Appendix A provides more information about the PALMS. The independent variables were organized 5K and 10K running, walking, and biking events, adult age groups (age 18 years and older), race (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other), gender, and education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree). The dependent variable is motivational level. Descriptive and inferential statistics were conducted through SPSS to analyze the data between the independent and dependent variables through the application of an ordinal logistic regression, one-way ANOVA, and independent *t* test (Bell & Stephenson, 2014; Eagleman, 2013).

Assumptions, Limitations, Scope & Delimitations

Assumptions

This research study assumed that the data collection method of the primary data is reliable, valid, and a measurable method in this research study. Further, this research study is based on the assumption that organized 5K and 10K physical activity events were within the Detroit tricounty area. This leads to the assumption that participants of the organized physical activity events were residing within the surrounding areas of the Detroit tricounty areas. In addition, another assumption included that individuals who participated in the survey did answer the questions honestly and accurately to the best of their knowledge.

Limitations

Within a research study, there are limitations that may arise that addresses the weakness within the study (Bell & Stephenson, 2014). The reliance of participant recruitment to participate in an online survey may pose a limitation. This is primarily due to conducting an online survey that may result in a lower response rate of participants (Bell & Stephenson, 2014). However, this was addressed by increasing the probability of the sample size to a sufficient size for the population. An additional limitation that may pose within this research study is the reliability of the answers retrieved from the survey responses. While the focus of this research study was a cross-sectional study to address the variations in organization physical activity events between sociodemographic factors, it does not analyze the long-term implications. To address this limitation, future studies should consider utilizing a longitudinal design to collect data over a period of time to analyze the motivational variances.

Scope and Delimitations

The intent of this research study was to understand the motivational influence between the variations of organized physical activity events between sociodemographic factors. To achieve the intent of the research, the primary data collection consisted of retrieving the variation of motivational influences between sociodemographic variables data through online surveys. The delimitation of this research study may limit the results to organized running, walking, and biking events. Further, public health officials and community leaders that are not intervening with an organized physical activity event, this research would not be applicable to them.

Significance for Social Change

The significance from this research may provide a comprehensive understanding for public health officials to influence engagement with future organized physical activity events that consist of organized 5K and 10K running, walking, and biking events. Research have suggested that by conducting future research to help understand what drives participation within organized physical activity events in different populations is important to better learn how to motivate and influence individuals to engage in future physical activity events (Lough, Pharr, & Geurin, 2016). The implications for which adult individuals to stay motivated to engage in the recommended amount of physical activity has staggering health impacts and improved prevalence rates (Brymer & Davids, 2016; CDC, 2015; Reiner et al., 2013).

Insights from this research may also provide guidance regarding how to reach out to various age groups, genders, races, and education levels to influence participation for future organized physical activity events and interventions within communities. Given the significance of the perceived potential health risks that are associated with inactivity, adult individuals' health behaviors may change (Rosenstock, 1974). In addition to public health officials benefiting from this research, community physical activity groups may also find this study informative. Race directors, and running, walking, and biking group leaders within the community may benefit from these research findings to increase future participation rates in organized running, walking, and biking events (Bell & Stephenson, 2014; Lough et al., 2016). These research findings may also motivate individuals to become physically activity within their community, which may influence positive social

change regarding physical activity awareness within the community and increase participation in future organized physical activity events.

Summary and Transition

This chapter introduced how insights from this research study may provide an understanding of how motivational influences differ between organized 5K and 10K running, walking, and biking events in adult individuals in relation to sociodemographic factors and contributed to filling the current gap in literature. Prior research indicates there is not a clear understanding regarding the different sociodemographic factors that drives participation within organized physical activity events, and therefore, which this research study addresses (Bell & Stephenson, 2014; Eagleman & Tyler, 2011; Eagleman, 2013; Egil et al., 2011; Getz & McConnell, 2014; Goodsell, Harris, & Bailey, 2013; Molanorouzi, Khoo, & Morris, 2015; Piirtola et al., 2016; Torcat, McCray, & Durden, 2015).

Further, this chapter presented the theoretical foundation and research questions that guided this research study and the significance of this study. The implications for positive social change has the potential to influence participation in future organized physical activity events by understanding the motivational variances in adult individuals (Bell & Stephenson, 2014; Lough, Pharr, & Geurin, 2016).

In Chapter 2, insight will be provided about the current literature regarding the role of motivation in physical activity events in relation to running, walking, and biking events, and with greater detail of the sociodemographic factors in physical activity. Further, a deeper insight of Ajzen and Fishbein's TRA and Hochbaum, Rosentock, and

Kegel's HBM will be explored in Chapter 2. Chapter 3 will provide a detailed analysis of the methodology that will be used for data collection within the targeted population and demographics, along with the validity and reliability of the quantitative instruments.

Chapter 2: Literature Review

Introduction

This chapter contains literature pertaining to the motivational influences between sociodemographic factors in organized running, walking, and biking events. In this chapter I also address the theoretical foundation that guided this research study in relation to the sociodemographic variables and organized physical activity events. Lastly, I also address the subject with regards to the specific sociodemographic factors of age groups, gender, race, and education level.

There are various factors that are thought to contribute to the motivational influence in organized physical activity events. These factors consist of social desirability, family, competition, health, personal challenge, physical activity level, and affiliation (Bell & Stephenson, 2014; Eagleman, 2013; Eagleman & Tyler, 2011; Egil et al., 2011; Getz & McConnell, 2014). Researchers have indicated that motivational influence differs across age, gender, race, and education level, but has not been explored in relation together in organized running, walking, and biking events (Eagleman, 2013; Eagleman & Tyler, 2011; Egil et al., 2011; Getz & McConnell, 2014; Molanorouzi, Khoo, & Morris, 2015). To help provide a more comprehensive understanding of the role that motivational influence plays in organized physical activity events, the sociodemographic variables between age groups, race, gender, and education level have been addressed in this research study. I employed Ajzen and Fishbein's TRA, and Hochbaum, Rosenstock, and Kegel's HBM to examine and help provide an understanding in the motivational influence between sociodemographic variables

(Rosenstock, 1974; Fishbein & Azjen, 2010). The role of these theories pertained to individuals' underlying health behaviors and perceptions that influence their motivation to participate in organized physical activity events (Rosenstock, 1974; Fishbein & Azjen, 2010).

This research study explored the research purpose from the individual perspectives of running, walking, and biking participants in organized 5K and 10K events within the Detroit tricounty area. Individuals who participated in an organized physical activity event provided a deeper perspective regarding their motivational influence to participate in organized events. In considering the various sociodemographic variables that were collected, this research study aimed to understand the differences in the motives to participate between the organized physical activity events and variables.

Previous research studies have focused primarily on the motivational influence in specifically defined physical activity events that were limited within physical activity events, populations, and sociodemographic factors. From the basis of literature retrieved, researchers were similar in their results and that motivational participation in organized physical activity events were significantly related to family, health, experience for personal challenge, and physical activity level (Eagleman, 2013; Eagleman & Tyler, 2011; Egil et al., 2011; Getz & McConnell, 2014; Lough, Pharr, & Geurin, 2016; Piirtola et al., 2016). For example, Lough et al. (2016) highlighted that individuals were influenced and motivated to participate in organized running and walking events that stemmed from social-peers, family, and their health. Getz and McConnell (2014)

identified that individuals participating in biking events were significantly motivated by personal challenge and physical activity level.

Motivational perceptions to engage in organized physical activity events spans across various influential factors dependent upon the individual and type of activity (Molanorouzi et al., 2015). Research highlighted the motivational influences of competition and physical condition differed between genders, and physical expectations among adult age groups based upon the physical activity event, but did not explore these factors within organized events (Egil et al., 2011; Molanorouzi, Khoo, & Morris, 2015). While some research was limited to physical activity events, other research explored specific organized physical activity events, but were limited within sociodemographic variables.

Although there is literature pertaining to the motivational influences in physical activity events between specific sociodemographic variables, there is not a comprehensive understanding about the role between the various sociodemographic variables amongst age groups, gender, race, and education level in organized running, walking, and biking events. This research study aimed to fill this research gap by analyzing the sociodemographic variables collectively in organized running, walking, and biking events. The sociodemographic variables will be investigated as they relate to the motivational influence in the defined organized 5K and 10K physical activity events. Research findings may provide guidance and direction for public health and community officials regarding how to motivate individuals between various age groups, gender, race, education to participate in future organized physical activity events. In addition to

community officials benefiting from this research, local race directors, and physical activity group leaders may benefit from this research to understand how to increase future participation rates (Bell & Stephenson, 2014; Lough, Parr, & Geurin, 2016).

Literature Research Strategy

Research regarding current literature was conducted through MEDLINE, CINAHL, ProQuest Health & Medical Conditions, PubMed, and PsycINFO databases directly through the Walden University Library. Additional databases to retrieve literature included Google Scholar search engine and ProQuest were used. Databases within the Walden University Library provided peer-reviewed articles from various research journals that were subscription-based journals. Other databases that included Google Scholar and ProQuest provided articles were retrieved from professional resources and peer-reviewed journals.

To retrieve appropriate literature, various key words were used alone and concurrently that included *running, run, walking, walk, biking, bike, cycling, races, motivational influence, motives, motivation, physical activity, exercise, organized, exercise, 5K, 10K, races, sociodemographic, age, education level, age, age groups, race, gender, Health belief model, and Theory of reasoned action.* From the retrieved research articles, I also conducted reviews of appropriate references that served as a resource for additional literature. In order to retrieve the most current literature, I limited my search to peer-reviewed articles with a publication date ranging from 2013 to 2017. However, the date restrictions were modified and lifted to account for retrieving the most appropriate literature regarding the theoretical foundations.

Theoretical Foundation

The theoretical framework that guided this research study consisted of social behavioral systems Ajzen and Fishbein's Theory of reasoned action (TRA), and Hochbaum, Rosenstock, and Kegel's Health belief model (HBM) (Fishbein & Ajzen, 2010; Rosenstock, 1974). The TRA was applied to understand the intention of behavior, while the HBM was used to predict health behavior (Fishbein & Azjen, 2010; Rosenstock, 1974). The HBM and TRA provided the foundation for this research study by helping to explain individuals' motivation in relation to personal health outcomes and social behavioral intention to engage in organized physical activity events (Fishbein & Ajzen, 2010; Rosenstock, 1974).

Theory of Reasoned Action

The concept of motivation was a challenging construct to explore by researchers, and early development of theories that involved motivation were either insignificant or weak (Fishbein & Ajzen, 2010). However, by applying the concept that individual attitudes could demonstrate behavior, this was a predictive concept that was accepted, but not empirical tested (Bell & Stephenson, 2014; Fishbein & Ajzen, 2010). In 1980, Ajzen and Fishbein tested this concept and developed the Theory of reasoned action, which is now one of the most widely used theories applied to motivation and physical activity (Fishbein & Ajzen, 2010).

The concept of the TRA applies the intentions and behaviors of an individual to three basic concepts; attitude towards the behavior, perceived subjective norm, and perceived behavioral control (Fishbein & Ajzen, 2010). The individual's attitude towards

a behavior results from their behavioral beliefs, while perceived subjective normative beliefs are developed from their peer surrounding expectations about performing that behavior (Fishbein & Ajzen, 2010). Given the attitude and subjective normative beliefs, this then leads to an individual's perceived behavioral control, which stems from their belief about their capabilities to performing that behavior (Fishbein & Ajzen, 2010). When combined together, an individual may engage in a specific behavior, given their intentions will result as an outcome of that behavior (Fishbein & Ajzen, 2010). Thus, if an individual's attitude and subjective norms are strong, and have a positive correlation with perceived behavioral control, then the individual is more likely to engage in that specific behavior (Fishbein & Ajzen, 2010). An individual's perception and behavioral control adds positive influence to the TRA, while intention can be viewed as precursor of behavior (Fishbein & Azjen, 2010).

The TRA has been verified as a notable theory that has been applied in research relating to motivation and physical activity, but previous research studies have also found that it's a significant predictor in organized physical activity events. The application of the TRA's model has been significant in understanding the underlying motivational influences amongst individuals in organized physical activity events (Bell & Stephenson, 2014; Brickell, Lange, & Chatzisarantis, 2010; Ries, Granados, & Galarrage, 2009). Previous research has found the TRA as a significant predictor of exercise behaviors (Brickell, Lange, & Chatzisarantis, 2010). Ries, Granados, and Galarrage (2009) argue the TRA concepts of attitude and perceived control is a significant predictor of individuals' motivation to engage in physical activity. Further, Bell and Stephenson

(2014) found their findings to be consistent with previous findings, and that attitudes and subjective norms of runners predicted motivation and participation in organized 5K running events.

The TRA was applied to provide guidance regarding an individual's attitude and subjective norms that drives their perceived behavioral control as it relates to their motivation influences in organized physical activity events. See Figure 1. The four sociodemographic variables were applied to the TRA constructs that encompassed attitudes, subjective norms, perceived behavioral control, intention, and actual behavioral control, which correlated to understand the motivational influence that drives behavior in organized physical activity events. The concept of the TRA suggested in this research study that an individual's attitude about participating in an organized physical activity event will suggest in favor or against the action (Fishbein & Ajzen, 2010). Thus, the focus was to understand the primary motivational influence between the four sociodemographic variables related to attitude. In conjunction with attitude, perceived subjective norms and behavioral control may result in the intention of participating in an organized physical activity event (Fishbein & Ajzen, 2010).

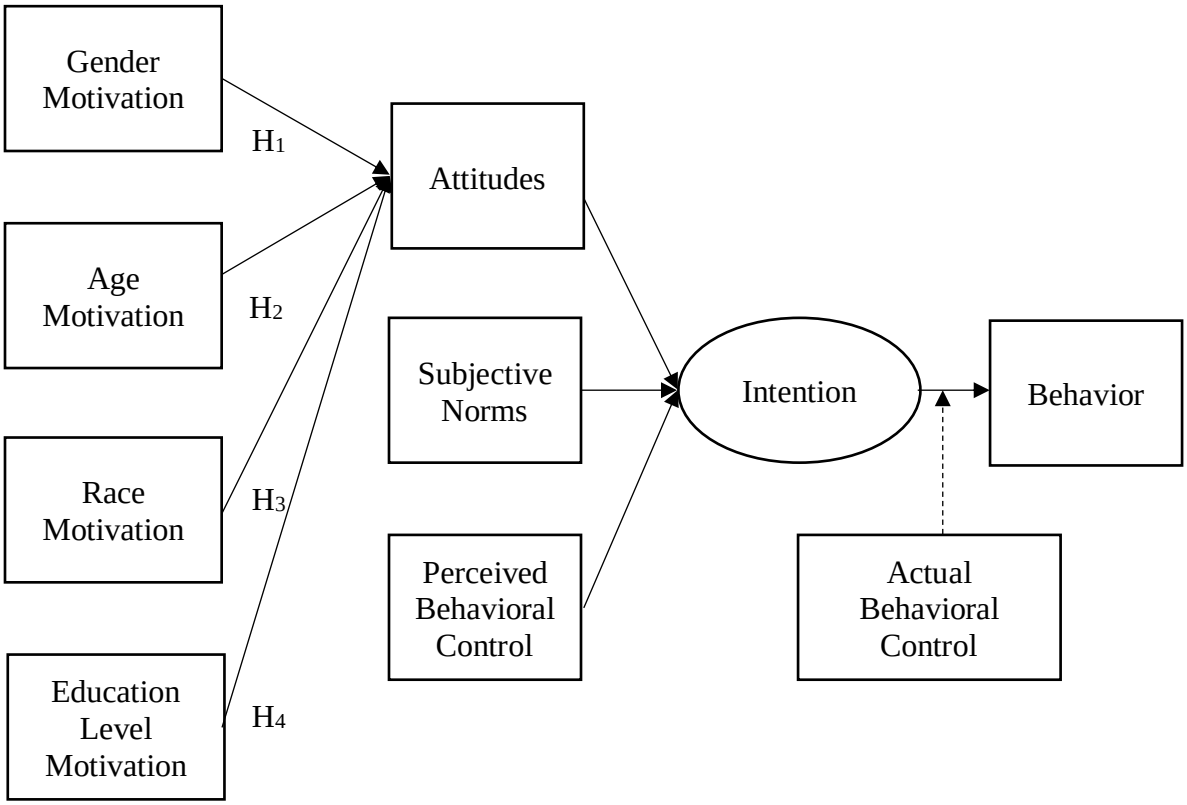

Figure 1. Theory of reasoned action conceptual framework applied to organized physical activity events between sociodemographic variables utilizing the PALMS as permission was received.

Health Belief Model

The HBM was originated in 1952 by the theories of Godfrey Hochbaum, Stephen Kegels, and Irwin Rosenstock to implement a systematic method to explain and predict individuals' health behavior (Rosenstock, 1974). The origins of the HBM focused primarily on health behaviors and its relationship regarding individuals' practices and

utilization of health care and services (Rosenstock, 1974). The theory of the HBM was influenced from Kurt Lewin and his theories stemming around an individual's perception that influences whether to engage or not to engage in a specific action (Rosenstock, 1974). The reasoning the HBM was put into practice was due to the increasing concern that individuals were not engaging in proper preventive health care and services (Rosenstock, 1974). While the HBM was originally intended to prevent health behaviors, it has evolved to encompass motivation for specific health behaviors to help understand the differences between health concerns and overall health behavior (Jones et al., 2015; Rosenstock, Strecher, & Becker, 1988).

The underlying basis of the HBM predicts specific health-related behaviors in regards to individuals' beliefs (Rosenstock, 1974). Individual health beliefs and behaviors are understood by six underlying constructs that lay the foundation of the HBM (Rahmatic-Najarkolei et al., 2015). The six constructs work together in order to predict an individual's engagement in a specific health behavior, such as an individual's perceived susceptible to a health concern, which leads to the perception that health concern has a moderate severity to their life, and taking action would be beneficial by not decreasing their susceptible to the health concern that would not encompass further psychological barriers (Rosenstock, 1974). This then leads to an individual's motivation that is stemmed from their perception, modifying behaviors, and cues to action (Jones et al, 2015; Rosenstock, 1974). Resulting in their self-efficacy, which encompasses an individual's perceptions of their capability to execute a specific action that is needed to fulfill the

intended outcome (Jones et al., 2015; Rahmatic-Najarkolei et al., 2015). Together, these six constructs of the HBM aim to predict health behavior in individuals.

Perceived susceptibility. Perceived susceptibility refers to an individual's perception of the likelihood, or susceptibility, to a specific health condition or disease (Rosenstock, 1974; Rosenstock, Strecher, & Becker, 1988). On one end of the spectrum, an individual may believe they are highly susceptible to contracting a health disease (Rosenstock, 1974). An individual may also take a stance they are moderately susceptible, relating to their statistical chances of the health disease ever happening (Rosenstock, 1974). On the other end of the spectrum, an individual may be in complete denial of ever contracting the health disease (Rosenstock, 1974). Overall, an individual's perceived susceptibility is related to their perception of their subjective risks to a health disease or concern (Rosenstock, 1974; Rosenstock, Strecher, & Becker, 1988).

Perceived seriousness. This is referred to an individual's perceptions about the seriousness of the health condition or disease (Rosenstock, 1974; Rosenstock, Strecher, & Becker, 1988). There are various levels regarding the degree of perceived seriousness one can express, which stems from both the emotional response about the health issue and the barriers, or difficulties the individual may encounter if the health concern is contracted (Rosenstock, 1974). Further, perceived seriousness and susceptibility are strongly cognitive related due to one's knowledge about the health issue (Rosenstock, 1974).

Perceived benefits. Based upon an individual's beliefs about reducing the impact of contracting a health issue and essential prevention, this will influence an individual's direction to take action (Rosenstock, 1974; Rosenstock, Strecher, & Becker, 1988). An

individual's beliefs are related to the effectiveness of the action, along with influences that can be triggered from social norms (Rosenstock, 1974).

Perceived barriers. While an individual may believe and understand the benefits to reducing a specific health issue, they may also display negative responses that could result in barriers preventing them to take action (Rosenstock, 1974; Rosenstock, Strecher, & Becker, 1988). The characteristics of the barriers to action could range from financial, inconvenient, unpleasant, or pain that leads someone to not take action (Rosenstock, 1974). If an individual was ready to engage in the health behavior and the perceived barriers were weak, the individual may respond and still take action (Rosenstock, 1974). However, if the perceived barriers were strong and outweighed the individual's perceptions of the benefits, then the individual will not likely take action (Rosenstock, 1974).

Cues to action. Based upon an individual's level of perceived susceptibility and seriousness, this results in the individual triggering their self to act (minus the barriers) (Rahmatic-Najarkolei et al., 2015; Rosenstock, Strecher, & Becker, 1988). Thus, the level of susceptibility and seriousness are combined together to create an energy that allows an individual to act upon it, provided there is a path of action (Rahmatic-Najarkolei et al. 2015; Rosenstock, Strecher, & Becker, 1988).

Self-efficacy. It is an individual's perception of their capabilities to execute the action to prevent a health concern (Rahmatic-Najarkolei et al., 2015). Thus, an individual's self-efficacy perception is their belief they can successfully fulfill the action, given any barriers (Jones et al., 2015; Rosenstock, Strecher, & Becker, 1988).

The combination of these six underlying factors of the HBM manifests into a response from the individual (Rosenstock, 1974; Rosenstock, Strecher, Becker, 1988). It is important to understand the underlying concepts of the HBM that influences motivation within an individual to act upon their own health and to engage in physical activity. Previous research studies verified the HBM as a useful model to describe healthy physical activity behavior, and have linked the HBM to motivation and physical activity (Ar-yuwat et al., 2013; Kasser & Kosma 2012; Rahmatic-Najarkolei et al., 2015). Rahmatic-Najarkolei, Tavafian, Fesharaki and Jafari (2015) argue that perceived severity and barriers of a health disease could affect physical activity behavior. These arguments are consistent with other researchers, who have found that perception of barriers impacts perceived benefits and the motivation to engage in physical activity (Ar-yuwat et al., 2013; Kasser & Kosma 2012). Further, the strongest predictor of an individual to engage in physical activity was self-efficacy, which is consistent in previous research findings (Ar-yuwat et al., 2013; Kasser & Kosma 2012; Rahmatic-Najarkolei et al., 2015).

Applying the HBM provided guidance about predicting health behavior in regards to the perceived perceptions of motivation that stems from runners, walkers, and bikers who participate in organized physical activities. See Figure 2. The HBM was applied to predict the health behaviors between the four sociodemographic variables by understanding the differences between the perceptions of individual's that influences them to engage in an organized physical activity event. The concept of the HBM in this research study helps to understand the differences between four sociodemographic variables in relation to their predictive health behaviors.

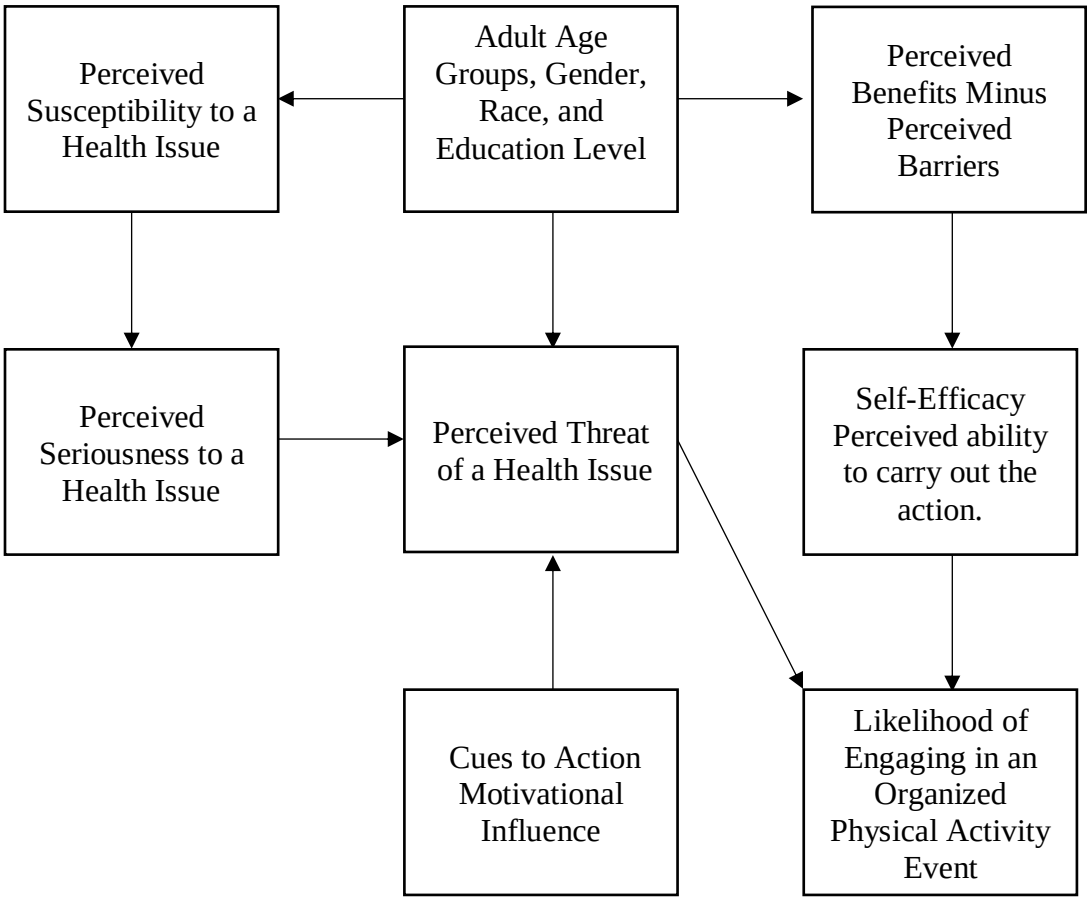

Figure 2. Health belief model conceptual framework applied to organized physical activity events between sociodemographic variables utilizing the PALMS as permission was received.

Defining Motivation in Organized Physical Activity Events

Tenebaum and Eklund (2007) defined the concept of motivation as "the hypothetical construct used to describe the internal and/or external forces that produce the initiation, direction, intensity, and persistence of behavior" (p. 59). Motivation is a key aspect in influencing individuals to engage in organized physical activity events

(Tenebaum & Eklund, 2007). Individuals are motivated to participate in an activity due to satisfying their own needs (Tenebaum & Eklund, 2007). Motivation is related to the intrinsic and extrinsic factors that influence an individual's motivational level to participate in physical activity events (Tenebaum & Eklund, 2007). Intrinsic motivation is referred to as participating in a physical activity event for an individual's pleasure and satisfactory needs while participating in it (Tenebaum & Eklund, 2007). Extrinsic motivation is referred to as participating in a physical activity to complete the activity such as, even though an individual may choose to participate in an activity, they are not participating for pleasure (Tenebaum & Eklund, 2007). The concept of motivation has been applied widely amongst physical activity events, and specifically to understand the rationale behind organized sport participation.

Past researchers have assessed the motivational aspect in relation to various organized running, walking, and biking events. Zach, Xia, Armon, Choresh, and Tenebaum (2015) applied the Motivation of Marathoners Scale to understand the motivation between genders amongst distance runners. The results revealed that motivation to engage in running stemmed from various psychological and social needs, which encompassed self-esteem, coping, recognition, affiliation, disease prevalence and longevity, general health, competition, and personal goal achievement (Zach et al., 2015). The concept of motivation has also been applied to 5K organized running and walking events (Bell & Stephenson, 2014; Eagleman & Tyler, 2015). The results were consistent among previous research studies, which indicated that motivation was related to altruism, competition, physical fitness, and self-esteem (Bell & Stephenson, 2014; Eagleman &

Tyler, 2015). Further, Lugh, Parr, and Geurin (2016) analyzed the motivation aspect of runners and walkers in 10K road races. Not only were their results consistent with previous research studies, but they revealed that four main aspects were associated with participation in organized running events that included family, health, experience, and empowerment (Lugh, Parr, & Geurin, 2016). Research has displayed that 5K and 10K organized running races have been studied extensively, but limited research has analyzed the difference in motivation between runners and bikers. Motivation was found to be related to personal challenge, and the demanding aspect of both running and biking between men and women (Getz & McConnell, 2014).

While several research studies have assessed the motivation of running, walking, and biking within organized races, the variation of their motivational scales have differed and the comparison between events are limited. In an attempt to assess motivation in physical activity, researchers and sport psychologists have developed specific motivation scales. Particularly, the Physical Activity Leisure Motivation Scale (PALMS) is adaptable to various physical activity events and captures (Zach et al, 2012). The PALMS has been applied in previous research to understand the differences between the intrinsic and extrinsic motives the influences participation in physical activity events (Molanorouzi, Khoo, & Morris, 2015; Zach et al, 2012). Motivation was analyzed between age and gender in physical activity events, which revealed the motivation aspects of completion, ego, appearance, and physical condition were related to gender, while affiliation, enjoyment, expectations, and psychological condition were related to age (Molanorouzi, Khoo, & Morris, 2015). Given the validity that previous research has

displayed, and the content of the scale that is applicable to this research, the PALMS was utilized (Molanorouzi, Khoo, & Morris, 2015; Zach et al, 2012).

In the context of this research study and in order to understand the rationale behind the motivational aspect that influences participation in organized physical activity events, there was a need to understand the underlying individual intrinsic and extrinsic motives between the sociodemographic variables. Past research has not analyzed the combination of age, gender, race, and education level in organized physical activity events in relation to motivation utilizing the PALMS. By studying the four sociodemographic variables collectively and applying the PALMS, this contributed to the scientific research community by providing a better understanding between the motivational influences to increase participation in future organized physical activity events between.

Literature Review Relating to Sociodemographic Variables

Researchers have explored various sociodemographic variables in context to organized physical activity events. Systematic reviews have been conducted to analyze the motivational factors that drives participation in physical activity. A positive relationship between motivation and physical activity has been consistent amongst research studies and indicates that intrinsic motives consist of self-esteem, reduce health issues, and competition that drives short-term participation, while extrinsic motives consist of social peers, family, and weight management or appearance influences long-term participation (Teixeira et al., 2012). This systematic review is consistent with

additional research studies relating motivation between sociodemographic variables in organized physical activity events.

The motivational differences between age groups to participate in organized physical events have been explored and results were consistent amongst various physical activity events. Research conducted by Rowe, Shilbury, Ferkins, and Hinckson (2016) found that women who participated in organized biking events were motivated to participate due to competition, self-esteem, confidence, and social environment. Other research has been conducted to examine the differences between age and gender motivations that influences participation in organized physical activity (running and walking) events (Molanorouzi, Khoo, & Morris, 2015). The primary aspects of other's expectations, affiliation, and enjoyment contributed to age amongst participants in organized running and walking events (Molanorouzi, Khoo, & Morris, 2015). Further, research conducted by Egil, Bland, Melton, and Czech (2011) analyzed physical activity motivation factors between age sex, and race amongst college students. Research results indicated that motivational influences differed between all the sociodemographic variables and were significantly related to affiliation, health pressures, and ill-health avoidance (Egil et al., 2011). Specifically, in age, participants who were over the age of 20, their motivation was related to affiliation, while under 20 years of age, motivation was related to health pressure and ill-health avoidance (Egil et al., 2011).

The sociodemographic variable gender has been extensively researched in organized physical activity events. Eagleman (2013) found that motivation participation in organized running events that encompassed only females was a result from enjoyment,

encouraging each other, competition, and empowerment. An understanding of the motivation to participate in organized walking and running events found that motivational factors were related to emotional coping, self-esteem, affiliation, weight management, general health, reduce disease prevalence, competition, and personal goals (Zach et al., 2012). Research relating motivation to leisure physical activity events found that males were motivated to participate in physical activity primarily due to intrinsic factors that included strength, positive health, and enjoyment; whereas females were motivated due to extrinsic factors that included weight management and appearance (Egil et al., 2011). Research analyzing the motivation difference between organized physical activity events found that competition, ego and physical condition were contributed to gender (Molanorouzi, Khoo, & Morris, 2015).

Race has been explored in organized walking and biking events, which found that African Americans were motivated to engage in activity due to their confidence, knowledge and self-esteem (Torcat, McCray, & Durden, 2015). Motivational factors to engage in physical activity were studied between race, but were limited to a defined age group of college students (Egil et al., 2011). Results indicated that there were 10 significant motivation factors relating to race, with top results indicating that Caucasian individuals were motivated due to stress management, enjoyment, and weight management, African American individuals were motivated due to health pressures and ill-health avoidance, and others were motivated due to social recognition, weight management, and ill-health avoidance (Egil et al., 2011).

Education level has been researched extensively in relation to leisure time physical activity and research findings have been consistent, there is a not a strong understanding of the impact education level has in organized physical activity events (Willis et al., 2015). However, research has analyzed education level and physical activity, and there was a statistically significant correlation (Piirtola et al., 2016). Individuals who have a higher education level were related to participating in higher levels of leisure physical activity, which indicated that education has an independent role in physical activity level that was demonstrated through a cross-sectional analysis (.95, 95% CI 0.93, 0,96) (Piirtola et al., 2016). A multivariate analysis was also conducted to understand the trend over time and found the results to be consistent, and given increase in education decreased the likelihood for being physically active (OR 0.95 in 1981, OR 0.96 in 1990, and OR 0.97 in 2011) (Piirtola et al., 2016). While past research has provided a basis of the correlation between education and physical activity, it is limited regarding the impact of education level in relation to motivation in individuals to participate in organized physical activity, which this research study aimed to address this research gap.

While various sociodemographic variables have been researched extensively, and a consistent finding is understood between motivation and physical activity, research has not addressed age groups, race, gender, and education level collectively between multiple organized physical activity events. To build-upon existing literature and to demonstrate the motivational influences collectively between the four sociodemographic variables,

this research study addresses this in relation to organized running, walking, and biking events to fill this research gap.

Summary

There is a consistent relationship between motivation and physical activity, which have found motivational levels to be strong predictors of physical activity engagement (Teixeira et al, 2012). The underlying motivational influences between various sociodemographic factors in organized physical activity events have been explored in past research, but researchers have not addressed the sociodemographic variables collectively and compared them between different organized physical activity events. Further, research is limited regarding education level in organized physical activity events, and it has not addressed the motives between sociodemographic variables in organized running, walking, and biking events. For the purposes of this study, it is interesting to determine the possible differences in individuals' motives to participate in organized physical activity events as it relates to their age, gender, race, and education level.

This research study focused on the motivational influences between adult age groups, gender, race, and education level in organized physical activity events. Specifically, this study explored the intrinsic and extrinsic motivation influences that support an individual's rationale to participate in organized running, walking, and biking events by applying the PALMS. Ajzen and Fishbein's TRA and Hochbaum, Rosenstock, and Kegel's HBM helped to guide this research study and clarify the motivational influences between the four sociodemographic variables, along with an understanding

pertaining to individuals' decision to participate in the activity in relation to their health (Fishbein & Azjen, 2010; Rosenstock, 1974). Prior research revealed that both the HBM and TRA are reliable predictors to understand exercise behavior, as well as to analyze the motivational influences in physical activity (Ar-yuwat et al., 2013; Bell & Stephenson, 2014; Brickell, Lange, & Chatzisarantis, 2010; Kasser & Kosma 2012; Rahmatic-Najarkolei et al., 2015; Ries, Granados, & Galarrage, 2009).

This research study aimed to fill the existing research gap by examining the specific motivational influences among adult individuals who participate in organized running, walking, and biking event; specifically, between the four sociodemographic variables collectively. By analyzing the four sociodemographic variables, this research study helps to provide an understanding regarding the motivational factors that influences participation in organized physical activity events. In Chapter 3, the study design methodology that entails the study population, data collection and data analysis techniques are provided.

Chapter 3: Research Method

Introduction

In this quantitative study I addressed the motivational influences amongst the four sociodemographic variables consisting of age, gender, race, and education level in adults between organized physical activity events. This study aimed to fill the research gap that was noted in the literature review. In order to address this, research questions were formulated to establish a basis to identify the research gaps in the existing literature. Evaluating the sociodemographic variables as they relate to specific organized physical activity events may help to comprehend the underlying motivational influences between adult individuals.

This chapter will provide an understanding of the research design and method of the quantitative study. This quantitative research design encompassed a detailed description of the statistical approach to analyze the research questions in order to determine the sociodemographic difference between organized physical activity events. In addition to the research and methodology aspects presented in this chapter, participant recruitment, population sampling, appropriate data collection method, and instrument measures are addressed. I discussed PALMS in further detail in regard to the questionnaire used for data collection (Molanorouzi et al., 2014). The collected data were analyzed through statistical analyses, which is described in further detailed and utilized as a basis to address the research questions. Lastly, I discuss the validity and reliability of the instruments that were utilized, along with any ethical considerations.

Research Design and Approach

This cross-sectional quantitative study entailed an online survey through Survey Monkey in conjunction with an ordinal logistic regression, one-way ANOVA, and independent *t* test between the independent and dependent variables. The purpose of the online survey was to evaluate the underlying motivational influences in organized physical activity events between the four sociodemographic variables. Data was collected through the PALMS questionnaire that was developed with the intent for use in various health spectrums to understand and measure motives in physical activity (Molanorouzi, Khoo, & Morris, 2014). The inferential statistical test of the ordinal logistic regression, one-way ANOVA, and independent *t* tests were used to determine if there were any statistically significant relationships or differences between the independent and dependent variables. The statistical software, SPSS was used to analyze the descriptive and inferential statistics. These statistical methods were chosen due to the validity and reliability of the analyses in previous research studies (Bell & Stephenson, 2014; Chen & Tsuchiya, 2016; Eagleman & Tyler, 2011; Egil et al., 2011; Getz & McConnell, 2014; Lough, Pharr, & Geurin, 2016; Molanorouzi, Khoo, & Morris, 2014; Zach et al., 2015). In addition, the ordinal logistic regression helped to predict the motivational influence as it relates to participating in organized physical activity events, as prior research utilizing the PALMS incorporates the statistical analysis with a regression analysis (Chen & Tsuchiya, 2016).

Once initial data analyses were conducted, data was then analyzed and evaluated in relation to the underlying motivational influences between adult individuals. This

study design was intended to answer the research questions stated herein, which was achieved through the addressed statistical analyses.

The motivational influences between adult individuals was assessed through an online survey platform. A main concern with the research design was the length of the 40 item PALMS questionnaire. While the questions did require minimal time, the initial view and length of the survey could have deterred some individuals from answering. Once data was collected, any results that were not within the required sociodemographic variables or incomplete data were removed. The primary focus of this research study was to evaluate the possible motivational influences between the four dependent variables in relation to the independent variables, and it's pertinent that data collected represented the required sociodemographic variables (e.g., age groups, gender, race, and education level). Any incomplete survey data was analyzed separately, as long as the sociodemographic variable information meet the criteria. If any results were produced with incomplete survey data, these results were compared to the initial population results.

Research Methodology

The purpose of this quantitative study was to examine the possible motivational influences between sociodemographic variables in organized physical activity events. The objective of this research study was to evaluate the role and extent to which motivation correlates with between age, gender, race, and education level between organized 5K and 10K running, walking, and biking events. By knowing the extent and nature of the possible relationship between motivation and the four sociodemographic

variables, this may help to provide an understanding in the relationship it influences participation in organized physical activity events.

This intended quantitative research method was an appropriate research method due to the possible relationship between the variables that were measured and researched. In addition to a quantitative method being appropriate, past research has demonstrated this as an applicable research method to test the hypotheses and to test the independent and dependent variables (Bell & Stephenson, 2014; Eagleman & Tyler, 2011; Egil et al., 2011; Getz & McConnell, 2014; Lough, Pharr, & Geurin, 2016; Molanorouzi, Khoo, & Morris, 2014; Zach et al., 2015). Thus, in health science research, quantitative research enables researchers to study and test the statistical value of variables to determine the possible significance of the relationship between variables, which is the objective of this research study (Bell & Stephenson, 2014). Applying a quantitative method was suitable a method because it allowed this research study to obtain data to fulfill the purpose and objective for this study. In addition to fulfilling the purpose and the objective, a quantitative method provided the need for this research study to obtain data to appropriately examine the theoretical hypotheses.

Study Population and Sampling

The target population for this quantitative research study were adult individuals registered for an organized 5K or 10K running, walking, or biking event within Macomb, Oakland, or Wayne County (Metro Detroit tricounty area) Michigan. The sampling procedure entailed purposeful sampling. In order to ensure that participants met the demographic criteria, purposeful sampling was used. Purposeful sampling helped to

ensure that participants within the research study represented the targeted population (Bernard, 2012). The participant data requirements consisted of adult individuals ages 18 years and older, and registered for an organized 5K or 10K running, walking, or biking event within the Metro Detroit tricounty area

The first step in the sampling process involved determining an appropriate sample size by using the statistical power analyses program G*Power 3.1.9.2 software. G*Power is a statistical analyses tool that computes estimated effect and samples sizes for various statistical tests, including independent *t* test, ordinal logistic regression, and one-way ANOVA (Faul et al., 2007; Field, 2013). G*Power was utilized to determine an appropriate 5K and 10K running, walking, and biking sample size.

For research question one, a priori power analysis was conducted that assumed an effect size (*f*= .5), a= .05, which indicated that a minimum sample size of 176 participants was needed in organized running, walking, and biking events between genders to achieve a power of .95, (see Figure 3). Taking into consideration the possible risk of data loss through incomplete responses, over recruiting by 30% is taken into consideration. Therefore, a target sample size of 229 was needed for research question one for this research study to ensure that an adequate representation of the targeted population.

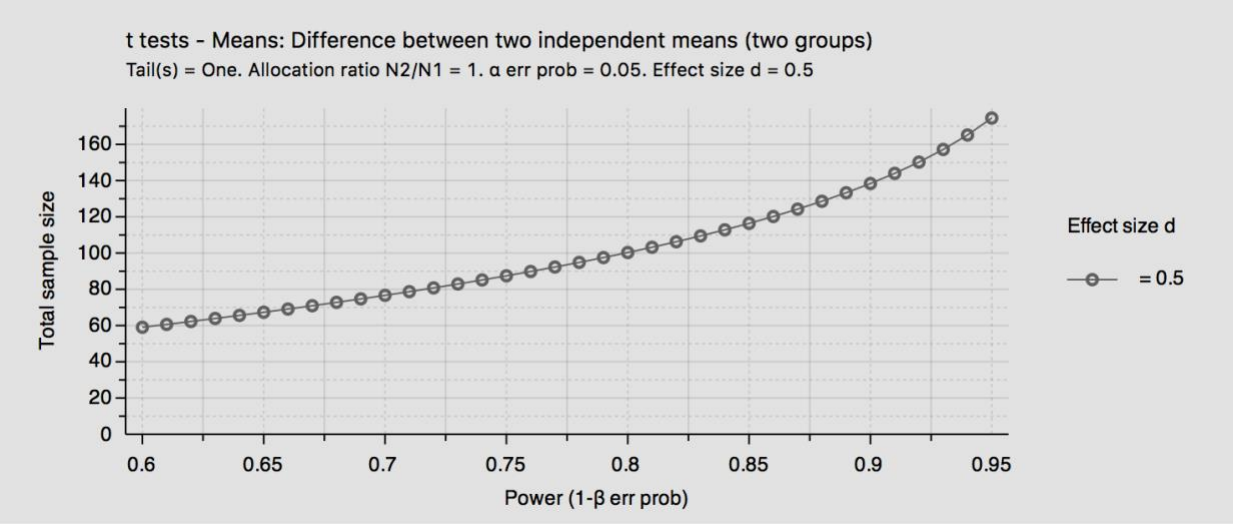

Figure 3. Power as a function of sample size for running, walking, and biking events in relation to gender.

For research question two, a priori power analysis was conducted that assumed an effect size (*f*= .15), a= .05, which indicated that a minimum sample size of 277 participants was needed in organized running, walking, and biking events between adult age groups to achieve a power of .80, (see Figure 4). Taking into consideration the possible risk of data loss through incomplete responses, over recruiting by 30% is taken into consideration. Therefore, a target sample size of 360 was needed for research question two for this research study to ensure that an adequate representation of the targeted population.

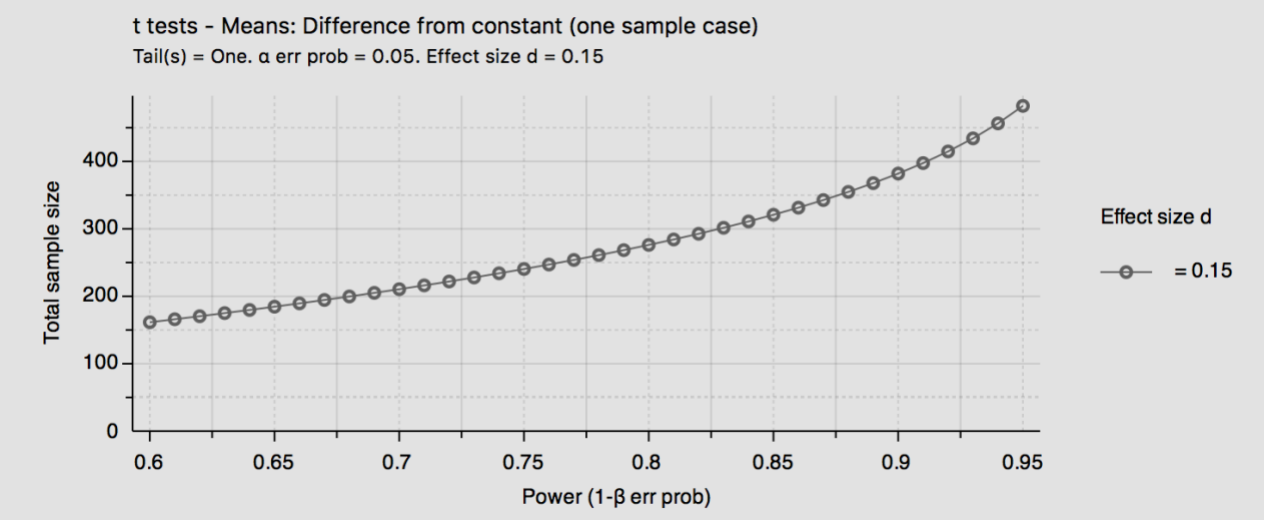

Figure 4. Power as a function of sample size for running, walking, and biking events in relation to adult age groups.

For research question three, a priori power analysis was conducted that assumed an effect size (f = .5), a = .05, which indicated that a minimum sample size of 102 participants was needed for in organized running, walking, and biking events between race to achieve a power of .80, (see Figure 5). Taking into consideration the possible risk of data loss through incomplete responses, over recruiting by 30% is taken into consideration. Therefore, a target sample size of 133 was needed for research question three for this research study to ensure that an adequate representation of the targeted population.

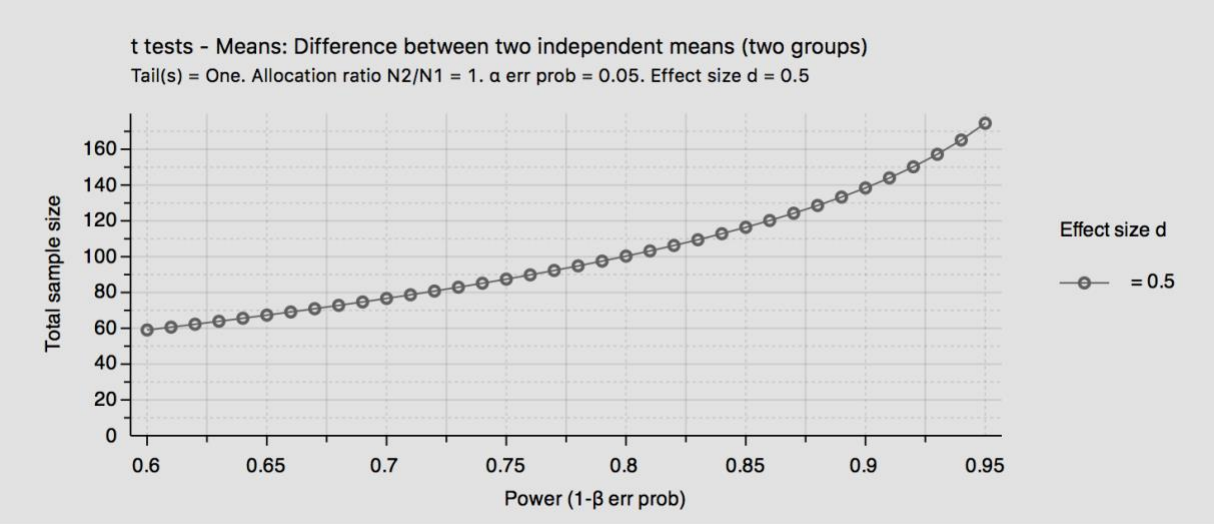

Figure 5. Power as a function of sample size for running, walking, and biking events in relation to race.

For research question four, a priori power analysis was conducted that assumed an effect size (*f* = .15), a= .05, which indicated that a minimum sample size of 277 participants was needed in organized running, walking, and biking events between education level to achieve a power of .80, (see Figure 6). Taking into consideration the possible risk of data loss through incomplete responses, over recruiting by 30% is taken into consideration. Therefore, a target sample size of 360 was needed for research question four for this research study to ensure that an adequate representation of the targeted population.

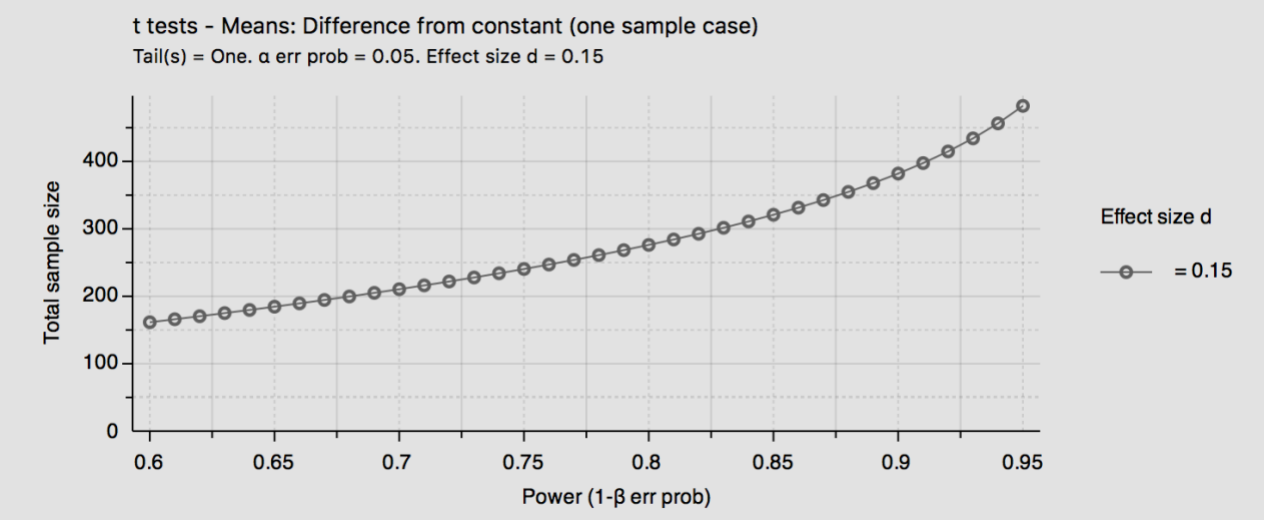

Figure 6. Power as a function of sample size for running, walking, and biking events in relation to education level.

Based on the priori power analysis that was conducted for each individual RQ, it is assumed that a total sample size of 360 participants was required in order to understand if there is a statistical difference in the RQs. The sample size assumed a 30% margin of error in case some participants did not fully complete the survey. To increase the validity of the RQs, utilizing an accurate sample size of the population would increase the assumption of a true premise and to determine the statistical significance of each RQ (Frankfort-Nachmias & Nachmias, 2015).

Data Collection

Data collection methods for participant recruitment consisted of enlisting participants from various 5K and 10K organized running, walking, and biking events during online race registration. Participant recruitment for 5K and 10K organized running and walking events was coordinated through RUNDetroit events. RUNDetroit is an

independent running store in Detroit Michigan that hosts various organized and certified running and walking events for residents within the tricounty area, which was this study's target population. Participant recruitment for organized 5K and 10K biking events was coordinated through the local biking communities that RUNDetroit coordinates. Once an individual completed their registration for an organized physical activity event, they were prompted with the option to provide their e-mail address to participate in the research study. Participants were contacted via e-mail to complete an online survey through Survey Monkey. If an individual agreed to participate in the study, they were able to click on the survey link and they were prompted with an informed-consent form to consent their participation. Once the individual acknowledged the informed-consent to participate in the research study, they were then prompted with the 40 item PALMS questionnaire.

In addition to notifying potential participants via e-mail, the information about the research study and survey was posted on a social media platform (e.g. Facebook) for the specific organized physical activity event. The message was shared to the social media page for participant recruitment contained a brief explanation of the study, along with a hyperlink to the survey that consisted of the following, Appendix C.

Once data was obtained from the survey, respondents that were relevant to this research study were used for the data analyses. Data was then transferred directly from the online survey into SPSS to conduct the descriptive and inferential statistics. Data analyses was then conducted to answer the research questions presented.

Research Questions & Hypothesis

The following research questions and hypotheses were used to provide the framework to conduct this research to evaluate the four sociodemographic variables (age groups, gender, race, and education level) in relation to organized 5K and 10K running, walking, and biking events.

Research Question 1: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders (Male and Female)?

$H_0$1: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders.

H_a1: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders.

Research Question 2: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups (age 18 years and older)?

$H_0$2: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

H_a2: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

Research Question 3: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other)?

$H_0$3: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

H_a3: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

Research Question 4: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education

level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree)?

$H_0$4: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

H_a4: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

Data Analysis

By design, these findings from this quantitative cross-sectional survey study may help to answer the presented research questions by applying the PALMS survey questionnaire to obtain responses from participants. The data that was received from participants was used to provide information for data analysis for the research questions.

The data that retrieved from participants were reflected from the dependent and independent variables, and survey data. The independent variables consisted of organized running, walking, and biking events, which were entered as nominal data in SPSS. The other independent variables consisted of physical activity distance (5K, 10K, or both 5K and 10K), adult age groups (age 18 years and older), race (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other), gender (Male, Female, and Do not define myself with a gender), and education

level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree). Age groups, gender, physical activity event, and physical activity distance were entered as nominal data, and race and education as ordinal data into SPSS. Survey data was obtained from the PALMS questionnaire, the dependent variable is motivational level, which was then entered as ordinal data into SPSS.

Table 1.

Independent Variable Physical Activity Event, Nominal Data Scale

Independent Variable	Scale
Running	1
Walking	2
Biking	3

Table 2.

Independent Variable Physical Activity Distance, Nominal Data Scale

Independent Variable	Scale
5K	1
10K	2
Both, 5K and 10K	3

Table 3.

Independent Variable Gender, Nominal Data Scale

Independent Variable	Scale
Male	1
Female	2
Do not define myself with a gender	3

Table 4.

Independent Variable Age Group, Nominal Data Scale

Independent Variable	Scale
18-29	1
30-39	2
40-49	3
50-59	4
60-69	5
70+	6

Table 5.

Independent Variable Race, Ordinal Data Scale

Independent Variable	Scale
American Indian or Alaska Native	1
Asian	2
African Americans	3
Native Hawaiian or Other Pacific Islander	4
White	5
Other	6

Table 6.

Independent Variable Education Level, Ordinal Data Scale

Independent Variable	Scale
High School Diploma/GED	1
Some College	2
Associate's Degree	3
Bachelor's Degree	4
Graduate Degree	5

Table 7.

Dependent Variable Motivational Level, Ordinal Data Scale

Dependent Variable	Scale
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Descriptive statistics were conducted to examine the sample demographics, and to obtain an analyses for applicable research questions. Running descriptive statistics analyses, along with frequencies and percentages for each categorical variable, were appropriate methods to use due to the capacity to compare and analyze large amounts of data to various applicable categories (Bell & Stephenson, 2014; Field, 2013).

Research Question 1

Research Question 1: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders (Male and Female)?

$H_0$1: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to

participate in organized 5K and 10K running, walking, and biking events between genders.

H_a1: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders.

To examine research question one, and the hypothesis of focus, this research study conducted an independent *t* test between each independent variable (running, walking, and biking events) and gender (Male and Female). Conducting an independent *t* test between the independent variables were appropriate, as it may help to understand the possible significant relationship or difference between each variable and gender (Bell & Stephenson, 2014; Field, 2013). To examine the interaction between motivational influence and the independent variables consisting of organized physical activity and gender, an ordinal logistic regression was conducted. An ordinal logistic regression may help to predict the motivational level of individuals as it relates to their gender and organized physical activity event (Field, 2013). Further, the ordinal logistic regression was chosen because prior research has been conducted utilizing the PALMS to understand the motivational influence to participate in physical activity through regression analysis statistical analysis (Chen & Tsuchiya, 2016).

Research Question 2

Research Question 2: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to

participate in organized 5K and 10K running, walking, and biking events between age groups (age 18 years and older)?

$H_0$2: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

H_a2: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

To examine research question two, and the hypothesis of focus, this research study conducted a One-Way ANOVA between each independent variable (running, walking, and biking events) and age groups (age 18 years and older). Conducting a One-Way ANOVA between the independent variables were appropriate, as it may help to examine the possible significant relationship or difference between each variable and age group (Bell & Stephenson, 2014; Field, 2013). To examine the interaction between motivational influence and the independent variables consisting of organized physical activity and age groups, an ordinal logistic regression was conducted. Regression analysis has been used in prior research to understand the motivational influence in physical activity while utilizing the PALMS, which an ordinal regression analysis may help to predict the motivational level of individuals as it relates to their age group and organized physical activity event (Chen & Tsuchiya, 2016; Field, 2013).

Research Question 3

Research Question 3: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other)?

$H_0$3: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

H_a3: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

To examine research question three, and the hypothesis of focus, this research study conducted a one-way ANOVA between each independent variable (running, walking, and biking events) and race (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other). Conducting a one-way ANOVA between the independent variables were appropriate, as it may help to examine the possible relationship or difference between each variable and race (Bell & Stephenson, 2014; Field, 2013). To examine the interaction between motivational influence and the independent variables consisting of organized physical activity and race, an ordinal logistic regression was conducted. Regression analysis has been used in prior research to understand the motivational influence in physical activity while utilizing

the PALMS, which an ordinal regression analysis may help to predict the motivational level of individuals as it relates to their race and organized physical activity event (Chen & Tsuchiya, 2016; Field, 2013).

Research Question 4

Research Question 4: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree)?

$H_0$4: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

H_a4: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

To examine Research Question 4, and the hypothesis of focus, this research study conducted a one-way ANOVA between each independent variable (running, walking, and biking events) and education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree). Conducting a chi-square test and one-way ANOVA between the independent variables were appropriate, as it may

help to examine the possible relationship or difference between each variable and education level (Bell & Stephenson, 2014; Field, 2013). To examine the interaction between motivational influence and the independent variables consisting of organized physical activity and education level, an ordinal logistic regression was conducted. Regression analysis has been used in prior research to understand the motivational influence in physical activity while utilizing the PALMS, which an ordinal regression analysis may help to predict the motivational level of individuals as it relates to their education level and organized physical activity event (Chen & Tsuchiya, 2016; Field, 2013).

Validity and Reliability

Validity of a research study provides an accurate representation of what was intended to be measured, and if the research measured represents the intended scope of the research (Glanz, Rimer, & Viswanath, 2015). The validity of this research was assessed based on the construct, which encompassed the research questions and hypotheses. To help ensure the scope of the research questions were measured appropriately, the validity of the data collection methods is equally important. To make sure this research studies measured the intended motivational aspects as intended, utilizing the PALMS questionnaire was a valid and reliable instrument (Molanorouzi, Khoo, & Morris, 2014; Zach et al., 2012).

The research method and design presented posed some threats to external and internal validity. A threat to the external validity regarding generalizing the results of this study to other populations may exist. Since this is a cross-sectional study, this limits the

ability to make casual inferences. Due to the specific organized physical activity events and distances, generalizing these results to other populations may not be applicable because of the specificity of the variables. However, it may be feasible to generalize these results and extend them to other organized 5K and 10K running, walking, and biking events.

A threat to internal validity may also pose a threat if there is a statistical relationship between the independent and dependent variables because the data collected from the survey was self-reported. The variables were self-reported, which may influence some individuals to answer differently depending on their surroundings, which is referred to as the Hawthorne effect (McCambridge, Witton, & Elbourne, 2014). The Hawthorne effect explains an individual's behavior response when they are aware they are being assessed for their performance (McCambridge, Witton, & Elbourne, 2014). Thus, an individual may provide an inaccurate response to better represent them to avoid being their character being perceived as negative (McCambridge, Witton, & Elbourne, 2014). However, to minimize the threat to internal validity, incorporating multiple running, walking, and biking events may help to reduce this.

Ethical Considerations

This research design and method takes into account the various ethical considerations, including utilizing information from adult participants. Within this research study, the overall health, privacy, and safety of adult individuals were taken into account, along with involved risks from obtaining information and data from the online survey. There was no identifiable information obtained from individuals participating in

the study, which helped to protect the identity and privacy of the individual. Upon receiving data from individuals and to de-identify participants, each participant did receive a corresponding numeric (10 digit) unique identifier (UID) that was assigned anonymous through Survey Monkey. This helped to not only protect each participant's identity, but to help safeguard their information and data. Further, since the security of data is critical, ensuring data storage was a key component. To ensure data was not lost or corrupted, and was secured, data was stored through a password protected and seamless external hard drive (AirPort Time Capsule) that was set-up to automatically back-up data on a daily basis. The external hard drive also streamed together with the cloud to ensure data was safely backed-up, in the unforeseen event something was to happen to the physical piece of the hard drive.

This research study was designed to not pose any or minimal psychological and/or emotional risk to an individual participating in the study. Since the survey was conducted online, assessing if a participant is experiencing any personal reactions was difficult (American Psychological Association, 2009). To minimize any emotional harm or an unpleasant experience, by utilizing the standard PALMS questionnaire that has been shown to be a reliable research method was the standard data collection method (Molanorouzi, Khoo, & Morris, 2014; Zach et al., 2012). All individuals were presented with a standard disclaimer that required to obtain their informed-consent by clicking on 'agree' before being prompted to enter the survey. Any individual participating in the survey was also informed that they have the ability to withdrawal their participation at any time during the survey. Further, before completing the initial survey, individuals

were informed about the nature of the study and how their results would be utilized. In order to carry-out this research study ethically, this study did acknowledge and address the presented ethical considerations to minimize any emotional harm to participants.

Summary

The methodology presented in this chapter reflects a study design that was used to answer the stated research questions. This research design aimed to potentially understand the motivational influences between adult sociodemographic variables in organized physical activity events. This was assessed through a cross-sectional survey comprised of the 40 item PALMS questionnaire for data collection. In conjunction with the presented research design, the procedures for participant recruitment were presented within this chapter and were within appropriate ethical standards for the administration of the survey. Upon participant recruitment and survey completion, data collected was analyzed through SPSS statistical software to ensure accurate and predictable analyses. Once data was analyzed and interpreted, it provided insight regarding the motives between the sociodemographic variables amongst organized physical activity events. Knowledge and implications that were obtained from this research study may be used to provide information for future organized physical activity event organizers.

Chapter 4: Results

Introduction

Incorporating the recommended amount of aerobic activity on a daily basis is important for overall health, as well as preventing primary and secondary chronic and noncommunicable diseases (Knight et al., 2015). Due to the various health implications that physical activity has, this has influenced some individuals' motivation to stay physically fit and participate in various organized physical activity events, such as organized running, walking, and biking events (Bell & Stephenson, 2014; Getz & McConnell, 2014; LaChausse, 2006; Piirtola et al., 2016). With an increase in participation rates amongst organized physical activity events, researchers have sought to better understand the motivational influences in organized physical activity events (Eagleman & Tyler, 2011; Getz & McConnell, 2014; LaChausse, 2006). Despite current research, there is not a clear understanding amongst various sociodemographic factors in relation to organized physical activity events (Eagleman & Tyler, 2011; Getz & McConnell, 2014; LaChausse, 2006).

Prior research has addressed the motivational influence in relation to organized physical activity events, but none have focused on a comprehensive understanding between various sociodemographic variables. Given the importance of physical activity in adults to prevent chronic diseases and minimize health issues, the motivational influences of sociodemographic variables on participation in organized physical activity events warrant an investigation. The purpose of this quantitative study was to investigate differences in motivational influences between various sociodemographic variables as

related to physical activity events in organized settings. This research study included an analysis of the sociodemographic variables consisting of adult age groups, gender, race, and education level that were registered for a 5K or 10K organized running or walking event within the Metro Detroit tricounty area. Due to the timing that data collection occurred for this research study, biking data was not obtained as data collection for the organized events occurred between October 30, 2017 and December 11, 2017. During this time period, no organized biking events within the research study parameters were occurring. Walden University's approval number to obtain data collection for this research study is 10-27-17-0440830.

The research questions and hypotheses of this study focus on the differences between the motivational influence and sociodemographic factors in organized physical activity vents. The research questions and hypotheses are listed below.

Research Question 1: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders (Male and Female)?

$H_0$1: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders.

H_a1: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to

participate in organized 5K and 10K running, walking, and biking events between genders.

Research Question 2: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups (age 18 years and older)?

$H_0$2: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

H_a2: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups.

Research Question 3: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other)?

$H_0$3: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

H_a3: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races.

Research Question 4: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree)?

$H_0 4$: There is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

$H_a 4$: There is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level.

In this chapter, I will present the results from the analyses described in Chapter 3. First, I will outline the data collection procedures, followed by the data cleaning process. The chapter will then entail a descriptive statistical analyses of the targeted population. Lastly, I will present the results of the main statistical analyses organized by each research question.

Data Collection

The data collection process for this quantitative cross-sectional research study required participants to complete an online survey through Survey Monkey who were registered for an organized 5K or 10K running and walking event. Due to the time of the year, organized biking event data was not obtained for this study, no organized biking events were scheduled during the late fall and winter months when data collection was occurring. Data collection started October 30, 2017 and ended December 11, 2017, which consisted of 43 days. Once a participant was registered for an organized event, they were either emailed the survey link to voluntarily complete it through RUNDetroit or could access the survey link through a Social Media post from RUNDetroit. Once a participant voluntarily agreed to the informed consent, they were prompted to complete the online survey. If a participant did not agree to the informed consent, they were not prompted with the survey. The survey consisted of two parts; the first part contained non-identifiable sociodemographic information, and the second part consisted of a Likert scale to measure motivational influences, which was the Physical Activity and Leisure Motivation Scale (PALMS) (Zach et al., 2012). Based upon the survey submissions, Survey Monkey reported the survey took approximately 4 minutes and 26 seconds to complete.

From the prior analysis that was conducted in chapter three, the sample required a minimum of 277 participants to complete the survey. 477 individuals responded to the survey. Data was exported from Survey Monkey into SPSS, version 21 for review. Data was reviewed and coded to the corresponding variables as outlined in chapter three.

Outliers were assessed using Tabachinck and Fidell's (2013) guidelines, which consisted of z-scores that were generated and analyzed values ±3.29. Once outliers were accounted and partial responses removed, this resulted in 281 individuals completing the survey. The number of participants included 87 males, and 195 females for a total of 281 individuals (Table 8).

Table 8

Sample Size

		n
Sample	Total Sample Obtained	477
	Partial Responses Removed	195
	Outliers Removed	1
	Total Samples Left for Evaluation	281

Descriptive Statistics

Frequencies and percentages are shown for the sociodemographic variables including adult age groups, gender, education level, and race, in relation to physical activity. Table 9 through Table 13 represents all corresponding frequencies and percentages of the sociodemographic characteristics, as well as the frequencies in relation to physical activity. The largest proportion of the sample were from organized running events (n = 251, 89.4%), 5K distance (n = 140, 49.6%) and were females (n = 195, 69.4%). Most participants were 40-49 years of age (n = 98, 34.9%), had a Bachelor's Degree (n = 117, 41.6%), and were White (n = 231, 82.2%).

Table 9

Frequencies and Percentages of Physical Activity Events

		Total		Running		Walking	
		n	%	*n*	%	*n*	%
Event	Running	251	89.4	-	-	-	-
	Walking	30	10.6	-	-	-	-
	Total	281	100	-	-	-	-
Distance	5K	140	49.8	110	43.8	30	100
	10K	90	32.0	90	35.9	0	0
	Both	51	18.2	51	20.3	0	0
	Total	281	100	251	100	30	100

Table 10

Frequencies and Percentages of Gender

		Total		Running		Walking	
		n	%	*n*	%	*n*	%
Gender	Male	86	30.6	74	29.5	12	40
	Female	195	69.4	177	70.5	18	60
	Total	281	100	251	100	30	100

Table 11

Frequencies and Percentages of Age Groups

		Total		Running		Walking	
		n	%	*n*	%	*n*	%
Age	18-29	26	9.2	25	9.9	1	3.3
	30-39	78	27.8	72	28.7	6	20
	40-49	98	34.9	90	35.9	8	26.7
	50-59	61	21.7	49	19.5	12	40
	60-69	16	5.7	13	5.2	3	10
	70-79	2	.7	2	.8	0	0
	Total	281	100	251	100	30	100

Table 12

Frequencies and Percentages of Race

		Total		Running		Walking	
		n	%	*n*	%	*n*	%
Race	American Indian	1	.4	1	.4	0	0
	Asian	10	3.5	8	3.2	2	6.7
	African American	30	10.7	24	9.6	6	20
	Native American	0	0	0	0	0	0
	White	231	82.2	209	83.3	22	73.3
	Other	9	3.2	9	3.5	0	0
	Total	281	100	251	100	30	100

Table 13

Frequencies and Percentages of Education Level

		Total		Running		Walking	
		n	%	*n*	%	*n*	%
Ed Level	Diploma/GED	11	3.9	9	3.6	2	6.7
	Some College	43	15.3	36	14.3	7	23.3
	Associate's Degree	19	6.8	12	4.8	7	23.3
	Bachelor's Degree	117	41.6	105	41.8	12	40
	Graduate Degree	91	32.4	89	35.5	2	6.7
	Total	281	100	251	100	30	100

Results

Results for each statistical test are displayed by corresponding research questions. The following statistical analyses entail the independent *t* test, one-way ANOVA, and ordinal logistic regression tests. Further, the frequencies for each of the PALMS as they relate to motivational influence and sociodemographic are presented. These tests were conducted in order to measure the significance of the relationship between sociodemographic variables and motivational influence.

Research Question 1

Research Question 1: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to

participate in organized 5K and 10K running, walking, and biking events between genders (Male and Female)?

The most frequent variables are displayed for the motivational level in relation to gender as they were assessed on the 8 point, 40 item Physical Activity and Leisure Motivation Scale (PALMS) Likert scale, which consists of mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego. Table 14 represent the frequencies for each of the 8 points that display their corresponding items on the PALMS, 1= strongly disagree to 5= strongly agree. In the frequencies of motivational level as assessed utilizing the PALMS, individuals most common response was related to enjoyment (n = 140).

Table 14

Frequencies of PALMS Likert Scale: Motivational Level

Variable		1	2	3	4	5
		n	*n*	*n*	*n*	*n*
Mastery	Getter better at an activity	13	41	49	66	105
Physical Condition	I will be physically fit	70	39	27	43	96
Affiliation	Talk with friends while exercising	24	51	27	61	87
Psychological Condition	Stress release	20	36	39	54	126
Appearance	Lose weight, look better	59	22	35	45	110
Others' Expectations	To manage a medical condition	22	34	40	47	73
Enjoyment	It makes me happy	20	23	22	67	140
Competition/Ego	Compete with others around me	31	34	46	41	84

1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

An independent *t* test was performed to assess whether these variables differed by gender (see Table 15). Conducting an independent *t* test between physical activity and gender may help to understand the possible significant relationship or difference (Bell & Stephenson, 2014; Field, 2013). Before conducting the independent *t* test, the assumption of normality was met and was conducted through the homogeneity of variance, which assumes the variables are independent of each other (Field, 2013). The Levene's Test for

Equality of Variance tested for homogeneity of variance. In the Levene's Test for Equality of Variance, the F statistic compares the variances of organized physical activity events between genders. The variance is .074, which is $p>.05$, indicating the variances can be assumed equal.

The mean difference between organized physical activity events and genders is .10238. The 95% interval is -.07343 for lower and .27819 for upper; this is a wide range, which suggests there is a relationship in the type of organized physical activity event and gender. Further, since $p = .253$, which indicates there is not a statistical difference between organized physical activity events and gender.

Table 15

Independent t Test Between Gender and Physical Activity

			Levene's Test		*t* Test		95% C.I.	
		M Dif.	F	Sig.	*T*	*p*	Lower	Upper
Variable	Gender	.10238	3.227	.074	1.146	.253	-.07343	.27819

An ordinal logistic regression was conducted to determine the relationship between motivational influence and gender. Conducting an ordinal logistic regression may help to predict the motivational level of individuals as it relates to their gender and organized physical activity event (Field, 2013). Further, it may help to provide insight

whether the independent variable has a statistically significant effect on the dependent variable (Field, 2013).

In order for the ordinal logistic regression to be conducted, the following assumptions were conducted. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds model with varying location parameters, $x^2(3) = 5.026$, $p = .170$. In determining multicollinearity, this was assessed by using the variance inflation factor (VIF) values. The tolerance values were below 1.0 and the VIF values were below 10, indicating the assumptions were met (see Table 16). I controlled for covariates of motivational influence and gender using dummy coding when appropriate.

An ordinal logistic regression was performed with proportional odds to determine the effect of the PALMS variables (mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego) on gender. The odds ratio of the dependent variable mastery versus males and females is .875 95% CI [-.137, .803], is not statistically significant X^2 (1) = 1.929, $p = .165$. The odds ratio of the dependent variable physical condition versus males and females is .994 95% CI [-.344, .575], is not statistically significant X^2 (1) = .244, $p = .622$. The odds ratio of the dependent variable affiliation versus males and females is .892 95% CI [.039, 1.009], is statistically significant X^2 (1) = 4.493, $p = .034$. The odds ratio of the dependent variable psychological condition versus males and females is .796 95% CI [-1.302, -.293], is statistically significant X^2 (1) = 9.599, $p = .002$. The odds ratio of the dependent variable appearance versus males and females is .962 95% CI [-.760, .172], is not statistically

significant X^2 (1) = 1.528, p = .216. The odds ratio of the dependent variable others' expectations versus males and females is .875 95% CI [-1.12, -.073], is statistically significant X^2 (1) = 5.003, p = .025. The odds ratio of the dependent variable enjoyment versus males and females is .943 95% CI [-.839, .117], is not statistically significant X^2 (1) = 2.192, p = .139. The odds ratio of the dependent variable competition/ego versus males and females is .818 95% CI [-.372, .607], is not statistically significant X^2 (1) = .220, p = .639.

Table 16

Ordinal Logistic Regression PALMS on Gender

						95% CI		Collinearity	
		Wald	df	Sig.	β	Upper	Lower	Tol.	VIF
Variable	Mastery	1.929	1	.165	.875	-.137	.803	.979	1.022
	Phy. Cond.	.244	1	.622	.994	-.344	.575	.940	1.064
	Affiliation	4.493	1	.034	.892	.039	1.009	.884	1.131
	Psych. Cond.	9.599	1	.002	.796	-1.302	-.293	.935	1.069
	Appearance	1.528	1	.216	.962	-.760	.172	.988	1.012
	Others' Exp.	5.003	1	.025	.875	-1.12	-.073	.862	1.030
	Enjoyment	2.192	1	.139	.943	-.839	.117	.971	1.030
	Comp/Ego	.220	1	.639	.818	-.372	.607	.880	1.136

Research Question 2

Research Question 2: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups (age 18 years and older)?

The most frequent variables are displayed for the motivational level in relation to age groups as they were assessed on the 8 point, 40 item Physical Activity and Leisure Motivation Scale (PALMS) Likert scale, which consists of mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego. Table 17 represent the frequencies for each of the 8 points that display their corresponding items on the PALMS, 1= strongly disagree to 5= strongly agree. In the frequencies of motivational level as assessed utilizing the PALMS, individuals most common response was related to enjoyment (n = 140).

Table 17

Frequencies of PALMS Likert Scale: Motivational Level

Variable		1	2	3	4	5
		n	*n*	*n*	*n*	*n*
Mastery	Getter better at an activity	13	41	49	66	105
Physical Condition	I will be physically fit	70	39	27	43	96
Affiliation	Talk with friends while exercising	24	51	27	61	87
Psychological Condition	Stress release	20	36	39	54	126
Appearance	Lose weight, look better	59	22	35	45	110
Others' Expectations	To manage a medical condition	22	34	40	47	73
Enjoyment	It makes me happy	20	23	22	67	140
Competition/Ego	Compete with others around me	31	34	46	41	84

1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

A one-way ANOVA test was conducted to assess the relationship between the organized physical activity and adult age groups as it may help to understand the possible significant relationship or difference between each variable (Bell & Stephenson, 2014; Fields, 2013). Prior to performing the one-way ANOVA, I assessed the assumptions of ANOVA. The first assumption verified to see if there were any significant outliers. The skewness statistics assumed the assumption of an outlier with a skewness value of a -1,

which suggested that outliers may be present. A box plot was then generated, which there was 1 identified outlier (value 7) in the data as assessed by inspection for values greater than 1.5 box-lengths from the edge of the box, which was removed (Figure 7).

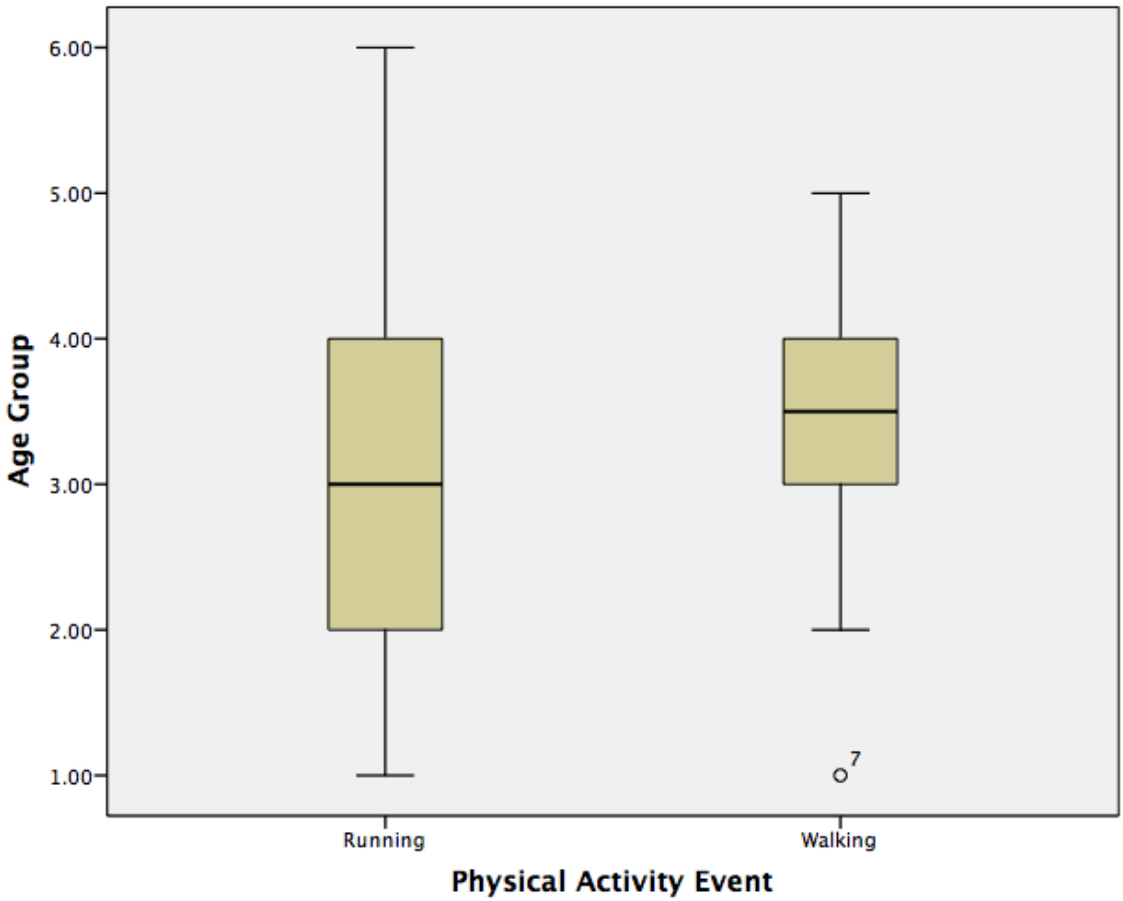

Figure 7 Box plot between organized physical activity events and adult age groups.

The next assumption assumed the variables were normally distributed through the Shapiro-Wilk test for normality. The organized physical activity events were normally distributed for running and walking, as there were no biking event data, as assessed by the Shapiro-Wilk test (p >.05). The homogeneity of variance of the sample was assessed

applying the Levene's Test for Equality of Variance (p= .866), which indicated that equality of variances could be assumed for each variable.

Participants were classified into 2 different physical activity variables, running (n = 251), walking (n = 29). Descriptive statistics demonstrated the relationship between age variables and physical activity event by 8 different age groups 18-29 years (n = 26), 30-39 years (n = 78), 40-49 years (n = 98), 50-59 years (n = 61), 60-69 years (n = 16), 70-79 years (n = 2), 80-89 years (n = 0), 90+ years (n = 0). As shown in Table 18, there is a statistically significant difference between organized physical activity events and age groups as determined by a one-way ANOVA (F (1, 279) = 5.856, p = .016).

Table 18

One-Way ANOVA Physical Activity and Age Groups

		SS	df	*MS*	F	Sig.
Variable	Between Groups	6.611	1	6.611	5.856	.016
	Within Groups	314.969	279	1.129		
	Total	321.589	280			

An ordinal logistic regression was conducted to determine the relationship between motivational influence and age groups. Conducting an ordinal logistic regression may help to predict the motivational level of individuals as it relates to their age group and organized physical activity event (Field, 2013). Further, it may help to provide insight whether the independent variable has a statistically significant effect on the dependent variable (Field, 2013).

In order for the ordinal logistic regression to be conducted, the following assumptions were conducted. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds model with varying location parameters, $x^2(5) = 5.683$, $p = .338$. In determining multicollinearity, this was assessed by using the variance inflation factor (VIF) values. The tolerance values were below 1.0 and the VIF values were below 10, indicating the assumptions were met (see Table 19). I controlled for covariates of motivational influence and age groups using dummy coding when appropriate.

An ordinal logistic regression was performed with proportional odds to determine the effect of the PALMS variables (mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego) on age groups. The odds ratio of the dependent variable mastery versus age groups is .737 95% CI [-19.24, -17.04], is statistically significant X^2 (1) = 933.715, $p = .001$. The odds ratio of the dependent variable physical condition versus age groups is .958 95% CI [-1.97, 3.32], is not statistically significant X^2 (1) = .249, $p = .618$. The odds ratio of the dependent variable affiliation versus age groups is .956 95% CI [-3.369, 1.92], is not statistically significant X^2 (1) = .290, $p = .591$. The odds ratio of the dependent variable psychological condition versus age groups is .968 95% CI [-1.47, 3.88], is not statistically significant X^2 (1) = .778 $p = .378$. The odds ratio of the dependent variable appearance versus age groups is .880 95% CI [18.33, 20.33], is statistically significant X^2 (1) = 1426.61, $p = .001$. The odds ratio of the dependent variable others' expectations versus age groups is .916 95% CI [-20.52, -18.19], is statistically significant X^2 (1) = 1069,54, p

= .001. The odds ratio of the dependent variable enjoyment versus age groups is .964 95% CI [-2.365, 3.083], is not statistically significant X^2 (1) = .067, p = .796. The odds ratio of the dependent variable competition/ego versus age groups is .938 95% CI [-19.44, -17.24], is statistically significant X^2 (1) = 1069.65, p = .001.

Table 19

Ordinal Logistic Regression PALMS on Age Groups

						95% CI		Collinearity	
		Wald	df	Sig.	β	Upper	Lower	Tol.	VIF
Variable	Mastery	933.715	1	.001	.737	-19.24	-17.04	.979	1.021
	Phy. Cond.	.249	1	.618	.958	-1.97	3.32	.935	1.070
	Affiliation	.290	1	.591	.956	-3.369	1.92	.886	1.128
	Psych. Cond.	.778	1	.378	.968	-1.47	3.88	.935	1.069
	Appearance	1426.61	1	.001	.880	18.33	20.33	.987	1.013
	Others' Exp.	1069.54	1	.001	.916	-20.52	-18.19	.865	1.156
	Enjoyment	.067	1	.796	.964	-2.365	3.083	.969	1.032
	Comp/Ego	1069.65	1	.001	.938	-19.44	-17.24	.880	1.136

Research Question 3

Research Question 3: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other)?

The most frequent variables are displayed for the motivational level in relation to race as they were assessed on the 8 point, 40 item Physical Activity and Leisure Motivation Scale (PALMS) Likert scale, which consists of mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego. Table 20 represent the frequencies for each of the 8 points that display their corresponding items on the PALMS, 1= strongly disagree to 5= strongly agree. In the frequencies of motivational level as assessed utilizing the PALMS, individuals most common response was related to enjoyment (n = 140).

Table 20

Frequencies of PALMS Likert Scale: Motivational Level

Variable		1	2	3	4	5
		n	*n*	*n*	*n*	*n*
Mastery	Getter better at an activity	13	41	49	66	105
Physical Condition	I will be physically fit	70	39	27	43	96
Affiliation	Talk with friends while exercising	24	51	27	61	87
Psychological Condition	Stress release	20	36	39	54	126
Appearance	Lose weight, look better	59	22	35	45	110
Others' Expectations	To manage a medical condition	22	34	40	47	73
Enjoyment	It makes me happy	20	23	22	67	140
Competition/Ego	Compete with others around me	31	34	46	41	84

1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

A one-way ANOVA test was conducted to assess the relationship between the organized physical activity and race as it may help to understand the possible significant relationship or difference between each variable (Bell & Stephenson, 2014; Fields, 2013). Prior to performing the one-way ANOVA, I assessed the assumptions of ANOVA. The first assumption verified to see if there were any significant outliers. Skewness statistics

assumed the assumption of no significant outliers with no outside values of -1 and 1, which would suggest the assumption of outliers to be met.

The next assumption assumed the variables were normally distributed through the Shapiro-Wilk test for normality. The organized physical activity events were normally distributed for running and walking, as there were no biking event data, as assessed by the Shapiro-Wilk test (p>.05). The homogeneity of variance of the sample was then assessed by applying the Levene's Test for Equality of Variance (p= <.005), which indicated that normality could not be assumed for each variable. The homogeneity of variance violated was violated with a sufficient sample size. Therefore, a Bonferroni adjustment was applied, which reduced the alpha level p = .0167, and homogeneity was assumed (p = .099).

Participants were classified into 2 different physical activity variables, running (n = 251), walking (n = 30). Descriptive statistics demonstrated the relationship between physical activity event variables and race by 6 different race variables American Indian or Alaska Native (n = 1), Asian (n = 10), African American (n= 30), Native Hawaiian or Other Pacific Islander (n = 0), White, (n = 231), or Other (n = 9). As displayed in Table 21, there is a statistically significant difference between organized physical activity events and race as determined by a one-way ANOVA (F (1, 279) = 4.020, p = .046).

Table 21

One-Way ANOVA Physical Activity and Race

		SS	df	*MS*	F	Sig.
Variable	Between Groups	2.973	1	2.973	4.020	.046
	Within Groups	206.316	279	.739		
	Total	209.288	280			

An ordinal logistic regression was conducted to determine the relationship between motivational influence and race. Conducting an ordinal logistic regression may help to predict the motivational level of individuals as it relates to their race and organized physical activity event (Field, 2013). Further, it may help to provide insight whether the independent variable has a statistically significant effect on the dependent variable (Field, 2013).

In order for the ordinal logistic regression to be conducted, the following assumptions were conducted. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds model with varying location parameters, $x^2(4) = 6.378$, $p = .173$. In determining multicollinearity, this was assessed by using the variance inflation factor (VIF) values. The tolerance values were below 1.0 and the VIF values were below 10, indicating the assumptions were met

(see Table 22). I controlled for covariates of motivational influence and race using dummy coding when appropriate.

An ordinal logistic regression was performed with proportional odds to determine the effect of the PALMS variables (mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego) on race. The odds ratio of the dependent variable mastery versus race is .892 95% CI [-.319, 2.056], is not statistically significant X^2 (1) = 2.053, p = .152. The odds ratio of the dependent variable physical condition versus race is .892 95% CI [-3.11, .026], is not statistically significant X^2 (1) = 3.715, p = .054. The odds ratio of the dependent variable affiliation versus race is .797 95% CI [-2.04, .652], is not statistically significant X^2 (1) = 1.012, p = .312. The odds ratio of the dependent variable psychological condition versus race is .856 95% CI [-.453, 2.126], is not statistically significant X^2 (1) = 1.615 p = .204. The odds ratio of the dependent variable appearance versus race is .925 95% CI [-2.23, .662], is not statistically significant X^2 (1) = 1.130, p = .288. The odds ratio of the dependent variable others' expectations versus race is .902 95% CI [-2.67, .540], is not statistically significant X^2 (1) = 1.696, p = .193. The odds ratio of the dependent variable enjoyment versus race is .936 95% CI [-1.517, 1.202], is not statistically significant X^2 (1) = .051, p = .821. The odds ratio of the dependent variable competition/ego versus race is .896 95% CI [-1.920, .782], is not statistically significant X^2 (1) = .681, p = .896.

Table 22

Ordinal Logistic Regression PALMS on Race

						95% CI		Collinearity	
		Wald	df	Sig.	β	Upper	Lower	Tol.	VIF
Variable	Mastery	2.053	1	.152	.892	-.319	2.05	.973	1.028
	Phy. Cond.	3.715	1	.054	.892	-3.11	.026	.937	1.067
	Affiliation	1.012	1	.312	.797	-2.04	.652	.885	1.131
	Psych. Cond.	1.615	1	.204	.856	-.453	2.12	.927	1.079
	Appearance	1.130	1	.288	.925	-2.23	.662	.987	1.013
	Others' Exp.	1.696	1	.193	.902	-2.67	.540	.861	1.162
	Enjoyment	.051	1	.821	.936	-1.51	1.20	.970	1.031
	Comp/Ego	.681	1	.409	.896	-1.92	.782	.878	1.139

Research Question 4

Research Question 4: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education

level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree)?

The most frequent variables are displayed for the motivational level in relation to gender as they were assessed on the 8 point, 40 item Physical Activity and Leisure Motivation Scale (PALMS) Likert scale, which consists of mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego. Table 23 represent the frequencies for each of the 8 points that display their corresponding items on the PALMS, 1= strongly disagree to 5= strongly agree. In the frequencies of motivational level as assessed utilizing the PALMS, individuals most common response was related to enjoyment (n = 140).

Table 23

Frequencies of PALMS Likert Scale: Motivational Level

Variable		1	2	3	4	5
		n	*n*	*n*	*n*	*n*
Mastery	Getter better at an activity	13	41	49	66	105
Physical Condition	I will be physically fit	70	39	27	43	96
Affiliation	Talk with friends while exercising	24	51	27	61	87
Psychological Condition	Stress release	20	36	39	54	126
Appearance	Lose weight, look better	59	22	35	45	110
Others' Expectations	To manage a medical condition	22	34	40	47	73
Enjoyment	It makes me happy	20	23	22	67	140
Competition/Ego	Compete with others around me	31	34	46	41	84

1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

A one-way ANOVA test was conducted to assess the relationship between the organized physical activity and adult education level as it may help to understand the possible significant relationship or difference between each variable (Bell & Stephenson, 2014; Fields, 2013). Prior to performing the one-way ANOVA, I assessed the assumptions of ANOVA. The first assumption verified to see if there were any significant

outliers. There were no outliers in the data as assessed by the skewness statistics that had no outside values of -1 and 1, which would suggest the assumption of outliers to be met.

The next assumption assumed the variables were normally distributed through the Shapiro-Wilk test for normality. The organized physical activity events were normally distributed for running and walking, as there were no biking event data, as assessed by the Shapiro-Wilk test (p>.05). The homogeneity of variance of the sample was assessed applying the Levene's Test for Equality of Variance (p = .644), which indicated that equality of variances could be assumed for each variable.

Participants were classified into 2 different physical activity variables, running (n = 251), walking (n = 30). Descriptive statistics demonstrate the relationship between physical activity event variables and education level variables by 5 different education level variables High School Diploma/GED (n = 11), Some College (n = 43), Associate's Degree (n = 19), Bachelor's Degree (n = 117), Graduate Degree (n = 91). As displayed in Table 24, there is a statistically significant difference between organized physical activity events and education level as determined by a one-way ANOVA (F (1, 280) = 11.605, p = .001).

Table 24

One-Way ANOVA Physical Activity and Education Level

		SS	df	*MS*	F	Sig.
Variable	Between Groups	14.900	1	14.900	11.605	.001
	Within Groups	358.238	279	1.284		
	Total	373.139	280			

An ordinal logistic regression was conducted to determine the relationship between motivational influence and education level. Conducting an ordinal logistic regression may help to predict the motivational level of individuals as it relates to their education level and organized physical activity event (Field, 2013). Further, it may help to provide insight whether the independent variable has a statistically significant effect on the dependent variable (Field, 2013).

In order for the ordinal logistic regression to be conducted, the following assumptions were conducted. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds model with varying location parameters, $x^2(4) = 2.783$, $p = .595$. In determining multicollinearity, this was assessed by using the variance inflation factor (VIF) values. The tolerance values were below 1.0 and the VIF values were below 10, indicating the assumptions were met

(see Table 25). I controlled for covariates of motivational influence and education level using dummy coding when appropriate.

An ordinal logistic regression was performed with proportional odds to determine the effect of the PALMS variables (mastery, physical condition, affiliation, psychological condition, appearance, others' expectations, enjoyment, and competition/ego) on education level. The odds ratio of the dependent variable mastery versus education level is .965 95% CI [-.271, -728], is not statistically significant X^2 (1) = .803, p = .370. The odds ratio of the dependent variable physical condition versus education level is .958 95% CI [-.650, .420], is not statistically significant X^2 (1) = .178, p = .673. The odds ratio of the dependent variable affiliation versus education level is .905 95% CI [-.704, .338], is not statistically significant X^2 (1) = .473, p = .492. The odds ratio of the dependent variable psychological condition versus education level is .969 95% CI [-.431, .616], is not statistically significant X^2 (1) = .120 p= .729. The odds ratio of the dependent variable appearance versus education level is .936 95% CI [-.582, .422], is not statistically significant X^2 (1) = .098, p = .755. The odds ratio of the dependent variable others' expectations versus education level is .964 95% CI [-.541, .581], is not statistically significant X^2 (1) = .005, p = .944. The odds ratio of the dependent variable enjoyment versus education level is .942 95% CI [-3.60, .680], is not statistically significant X^2 (1) = .363, p = .547. The odds ratio of the dependent variable competition/ego versus education level is .945 95% CI [-.598, .450], is not statistically significant X^2 (1) = .077, p = .945.

Table 25

Ordinal Logistic Regression PALMS on Education Level

						95% CI		Collinearity	
		Wald	df	Sig.	β	Upper	Lower	Tol.	VIF
Variable	Mastery	.803	1	.370	.965	-.271	.728	.980	1.020
	Phy. Cond.	.178	1	.673	.958	-.650	.420	.941	1.063
	Affiliation	.473	1	.492	.905	-.704	.338	.884	1.132
	Psych. Cond.	.120	1	.729	.969	-.431	.616	.935	1.070
	Appearance	.098	1	.755	.936	-.582	.422	.987	1.013
	Others' Exp.	.005	1	.944	.964	-.541	.581	.860	1.163
	Enjoyment	.363	1	.547	.942	-.360	.680	.969	1.032
	Comp/Ego	.077	1	.781	.945	-.598	.450	.881	1.135

Data Management

Data was managed in a confidential and secured manner in this study. The participants' data of this study was not compromised. Data collected will comply with Walden's IRB preservation of data. This will entail all research data collected will be

observed for a period of five years, as well as secured in a separate airport time capsule (locked) in the home office, and in a secured cloud of the researcher.

Summary

This results of the analysis pertaining to Research Question 1 were not significant, as there were no significant differences between organized physical activity events and gender $p = .253$. In relation to motivational influence in Research Question 1, enjoyment ($n = 140$) was the most frequent motivational influence on the PALMS. The statistical analysis of the ordinal regression analysis found that gender was significant in affiliation ($p = .034$), psychological condition ($p = .002$), and others' expectations ($p = .025$), and not significant in mastery ($p = .165$), physical condition ($p = .622$), appearance ($p = .216$), enjoyment ($p = .139$), and competition/ego ($p = .639$), between gender and organized physical activity events.

The results of the analysis pertaining to Research Question 2 were statistically significant between organized physical activity events and adult age groups ($F (1, 279) = 5.856$, $p = .016$). In relation to motivational influence in Research Question 2, enjoyment ($n = 140$) was the most frequent motivational influence on the PALMS. The statistical analysis of the ordinal regression analysis found that age groups were significant in mastery ($p = .001$), appearance ($p = .001$), others' expectations ($p = .001$), and competition/ego ($p= .001$), and not significant in physical condition ($p = .618$), affiliation ($p = .591$), psychological condition ($p = .378$), and enjoyment ($p = .796$) between adult age groups and organized physical activity events.

The results of the analysis pertaining to Research Question 3 were statistically significant between organized physical activity events and race (F (1, 279) = 4.020, p = .046). In relation to motivational influence in Research Question 3, enjoyment (n = 140) was the most frequent motivational influence on the PALMS. The statistical analysis of the ordinal regression analysis found that race was not significant in all motivational influences, which included mastery (p = .152), physical condition (p = .054), affiliation (p = .312), psychological condition (p = .204), appearance (p = .288), others' expectations (p = .193), enjoyment (p = .821), and competition/ego (p = .896) between race and organized physical activity events.

This results of the analysis pertaining to Research Question 4 were statistically significant between organized physical activity events and education level (F (1, 280) = 11.605, p = .001). In relation to motivational influence in Research Question 4, enjoyment (n = 140) was the most frequent motivational influence on the PALMS. The statistical analysis of the ordinal regression analysis found that education level was not significant in all motivational influences, which included mastery (p = .370), physical condition (p = .673), affiliation (p = .492), psychological condition (p = .729), appearance (p = .755), others' expectations (p = .944), enjoyment (p = .547), and competition/ego (p = .945) between education level and organized physical activity events.

In the following chapter, I will discuss the results in further details, along with a discussion of the strengths and limitations of this research study. I will also provide recommendations for future research.

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

The purpose of this research study was to investigate whether if there is a difference between adult age groups, race, gender, and education level in individuals' motivational influence to participate in organized 5K and 10K running and walking events. The study aimed to, if any, the statistical significance in the variation between organized 5K and 10K running and walking events in relation to the four sociodemographic variables. The results of this research study displayed a better understanding of the motivational influence in relation to organized physical activity events between various sociodemographic factors from prior research studies (Eagleman & Tyler, 2011; Getz & McConnell, 2014; LaChausse, 2006). Chapter 5 provides a summary of the results of this research study and an interpretation of the findings. The interpretations of the findings include a comparison of this study along with prior research that encompasses motivational influences in organized physical activity events between sociodemographic factors. Limitations of this study are presented, along with a discussion for future research and implications for social change.

The research sample consisted of 281 participants who were registered for an organized 5K or 10K walking or running event within the Metro Detroit tricounty area (Macomb, Oakland, or Wayne County) with data collection starting October 30, 2017 and ended December 11, 2017. No participant recruitment occurred from a 5K or 10K biking event, as no organized biking events were scheduled during the late fall and winter 2017 months when data collection was occurring. Participant physical motivational

influence was collected using the Physical Activity and Leisure Motivation Scale (PALMS). The PALMS is a 5 point Likert scale that was developed to specifically measure physical activity motivational levels that assess eight intrinsic and extrinsic motivational factors that influences participation in physical activity (Zach et al., 2012). Participant PALMS and demographic data were collected from an online survey through Survey Monkey.

Ordinal logistic regression analysis was completed to analyze the data between motivational influence in the organized physical activity events and the sociodemographic factors. Independent *t* test and one-way ANOVA tests were employed to analyze the data between the organized physical activity events and sociodemographic factors. The TRA and the HBM were the theoretical framework for this research. The effects of the independent and dependent variables used in this research study were explored and the results of the data indicated some of the findings were significant, whereas others were not.

Interpretation of Findings

Finding 1: Research Question 1

Research Question 1: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between genders (Male and Female)?

The first research finding resulted from the statistical analysis of the independent *t* test that indicated that among the sample of 281 participants, gender was not a significant

predictor of participation in an organized physical activity event $p = .253$. The participation rate amongst females were 69.4% ($n = 195$), compared to 30.6% males ($n = 86$). In the organized physical activity events, the research findings indicated there was a 70.5% ($n = 177$) participation rate in runners, compared to 60% ($n = 18$) in walkers. While compared to men, 29.5% ($n = 74$) were runners, and 40% ($n = 12$) were walkers. This resulted in female runners ($n = 177$) having the highest participation rate.

These research findings are consistent with Eagleman, 2013 findings in participation rates in organized 5K and 10K running and walking events, which indicate females have a higher participation rate (55% participation rate in females, compared to 45% in males) in organized physical activity events. Further, other prior research also indicates that female participation was significantly higher in organized running trail events (Getz & McConnell, 2014). However, overall motivational physical activity levels, based on running and walking activity, in females have demonstrated a slight overall decline in participation, with a decrease by .5 percentage points per year in adults when compared to males (Casperson, Pereira, & Curran, 2000; Molanorouzi, Khoo, & Morris, 2015). Results from this research study, along with prior studies can indicate that motivational influence to participate in physical activity events, running and walking, are significantly higher in women.

The motivational influence research findings were consistent with prior research, as motives for participation in organized physical activity events vary between type of activity and sociodemographic variable (Molanorouzi, Khoo, & Morris., 2015). Thus, the motivational influence research findings clearly suggested that there is a statistically

significant relationship between gender in organized physical activity events and motivational influence as it relates to affiliation (p= .034), psychological condition (p= .002), and others' expectations (p = .025). While there is not a significant relationship in the motivational influence in mastery (p = .165), physical condition (p = .622), appearance (p = .216), enjoyment (p = .139), and competition/ego (p= .639), between gender and organized physical activity events. There is therefore a relationship between motivational influence and gender as it relates to an individuals' affiliation, psychological condition, and others' expectations to participate in an organized 5K or 10K running or walking event.

In addition to these research findings, these align with prior research and that other notable findings from prior research which indicate that motivation is relative to one's health and social peers, which aligns with others' expectations (Bell & Stephenson, 2014; Lough, Pharr, & Geurin, 2016). To expand, Bell & Stephenson's research suggests that participation in 5K organized running and walking events are significantly related to motivation stemming from health and social affiliation (2014). Health and social affiliation motivation resulted by appealing to individuals with varies abilities, which encompasses moderate to new runners and walkers' participating in a 5K event (Bell & Stephenson, 2014). Further, research conducted in organized a 10K running and walking event suggested that a key determinant that influences motivation to participate in an event stems from health and social peers (Lough, Pharr, & Geurin, 2016). Social peers encompassed family and socializing agents (friends), which individuals participating in the race described as a tool to motivate each other to participate (Lough, Pharr, & Geurin,

2016). Additionally, gender and motivational influence was assessed on the PALMS in another research study, which also indicated that appearance and affiliation were significant predictors of motivation to participate in an organized physical activity event (Molanorouzi, Khoo, & Morris., 2015). However, these research findings also suggested that mastery, competition/ego, and physical condition were significant predictors of gender and motivational influence to participate in an organized physical activity event (Molanorouzi, Khoo, & Morris., 2015).

Given prior research, these results from RQ1 in this research study, there is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running and walking events between genders. It can be suggested that the relationship between gender and motivation to participate in organized physical acidity events in relation to others' expectations and affiliation can be related to an individual motivated to participate stemming from expectations of their social peers. To expand, others' expectations and affiliation encompasses various intrinsic factors that involves social peer (friends and family influence), and health motivation that directly influences motivation to participate an organized physical activity event. Whereas psychological condition encompasses various intrinsic factors of coping with stress and the ability to cope with stress. Lastly, these motivational influences in organized physical activity events higher in women, as women are significantly more motivated to participate in organized physical activity events.

Finding 2: Research Question 2

Research Question 2: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between age groups (age 18 years and older)?

This research study discovered that age group was a significant predictor of participation in an organized physical activity event ($F (1, 279) = 5.856$, $p = .016$). The highest participation rate was 34.9% ($n = 98$) from the 40-49 years old age groups. Runners were also the highest to participate in the 40-49 years old age group with 35.9% ($n = 90$) participation rate, but walkers were most prominent in the 50-59 years old age group with 40% ($n = 12$) participation rate. These research findings were also consistent with prior research analyses, as the average age of a participant in an organized physical activity event were between the ages of 40-49 years old (Bell & Stephenson, 2014; Eagleman, 2013). While research has indicated that physical activity patterns decline as individuals age, prior research aligns with these research findings by suggesting that the average age of individuals participating in an organized running event is 46 years of age (Molanorouzi, Khoo, & Morris, 2015; O'Keefe et al., 2012). Overall, the research findings indicated that individuals who participate in a 5K or 10K running event are more likely to be between the ages of 40-49 years old, 35.9% ($n = 90$), and individuals who participate in a 5K or 10K running event are more likely to be between the ages of 50-59 years old, 40% ($n = 12$).

The statistical analysis of the ordinal regression analysis suggests that there is a statistically significant relationship between age groups in organized physical activity events and motivational influence as it relates to mastery (p = .001), appearance (p = .001), others' expectations (p = .001), and competition/ego (p = .001). While there is not a significant relationship in the motivational influence in physical condition (p = .618), affiliation (p = .591), psychological condition (p = .378), and enjoyment (p = .796). There is therefore a relationship between motivational influence and age groups as it relates to an individuals' mastery, appearance, others' expectations, and competition/ego to participate in an organized 5K or 10K running or walking event.

These research findings in the subscales between motivational influence and age groups that utilized the PALMS scale were consistent with research findings in the motives for adult individuals to participate in a physical activity event (Molanorouzi, Khoo, & Morris, 2015). Intrinsic motivational factors have suggested to be significantly related between age and physical activity as it relates specifically to mastery, appearance competition/ego, and others' expectations (Molanorouzi, Khoo, & Morris, 2015). These intrinsic motivation factors suggest that as age increases, the intrinsic motivation factors to participate in the physical activity persist for longer, which then individuals reported higher levels of motivation for the physical activity event (Molanorouzi, Khoo, & Morris, 2015).

Given prior research, these results from RQ2 in this research study, there is a statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K

and 10K running and walking events between age groups. It can be suggested that the relationship between age groups and motivation to participate in organized physical acidity events in relation to mastery and competition/ego can be related to intrinsic motivation. To expand, as individuals age, with the average age of 40-49 years old, they are more motivated to excel and master the event that is influenced by mastery, which can also be related to work harder and outperform others that is influenced by competition/ego. Further, appearance and others' expectations in relation to age can be related back to an individual's motivation to stay in shape, which can be influenced from their social peers and health.

Finding 3: Research Question 3

Research Question 3: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events between races (American Indian or Alaska Native, Asian, African American, Native Hawaiian or Other Pacific Islander, White, and Other)?

The research findings found that race was a significant predictor of participation in an organized physical activity event ($F (1, 279) = 4.020$, $p = .046$). The findings indicated that White participants, 82.2% ($n = 231$) had the highest participation rate, followed by African Americans 10.7% ($n = 30$), Asian 3.5% ($n = 10$), Other 3.2% ($n = 9$), and American Indian .4% ($n = 1$). Specifically, 83.3% ($n = 209$) runners and 73.3% ($n = 22$) walkers where White. Overall, the research findings indicated that individuals who participate in a 5K or 10K organized running or walking event were more likely to be

White 82.2% (n = 231). Prior research is consistent with these findings, as White individuals are more motivated to participate in physical activity events, followed by African Americans (Egil et al., 2011; Torcat, McCray, & Durden, 2015).

The statistical analysis of the ordinal regression indicates that there is not a significant relationship between race in organized physical activity events and motivational influence as it relates to mastery (p = .152), physical condition (p = .054), affiliation (p = .312), psychological condition (p = .204), appearance (p = .288), others' expectations (p = .193), enjoyment (p = .821), and competition/ego (p = .896), between race and education level in organized physical activity events. These research findings indicate that more research needs to be conducted to understand the motivational influences that drives participation in organized physical activity events and race. By understanding the motives that influence participation in physical activity events is critical for the development of interventions to increase higher levels of engagement (Zach et al., 2015).

These research findings relating to motivational influence and race in organized physical activity events utilizing the PALMS are the first to be conducted, as prior research has not been conducted to understand the relationship between motivation and race utilizing the PALMS. However, other research has suggested that White individuals were motivated to participate in physical activity events relating to stress management, enjoyment, and weight management (Egil et al., 2011). Whereas African Americans were motivated relating to health pressures and ill-health avoidance, social recognition, weight management, and ill-health avoidance (Egil et al., 2011). Conversely, these research

findings were limited by using a different motivation scale and encompassed all physical activity events.

Given prior research, these results from RQ3 in this research study, it can be suggested that the relationship between race and motivation to participate in organized physical acidity events is statistically higher amongst White and African American individuals. As the research demonstrates, there is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running and walking events between races. No significant relationship between motivation could be suggested from the research data, which could indicate that race is not a significant predictor of motivation to participate in an organized physical activity event. However, since this is the first research to be conducted between race and motivation utilizing the PALMS, more research is needed to reconfirm these results.

Finding 4: Research Question 4

Research Question 4: Is there a statistical difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running, walking, and biking events by education level (High School Diploma/GED, Some College, Associate's Degree, Bachelor's Degree, Graduate Degree)?

The last sociodemographic variable in this research study indicated that education level was a significant predictor of participation in an organized physical activity event ($F(1, 280) = 11.605$, $p = .001$). The research findings revealed that participation rates were

highest amongst individuals who hold a Bachelor's Degree at 41.6% (*n* =117), followed by a Graduate Degree at 32.4 (*n* = 91), Some College at 15.3% (*n* = 43), Associate's Degree at 6.8% (*n* =19), and Diploma/GED at 3.9% (*n* = 11). Further, 41.8% (*n* = 108) of runners have a Bachelor's Degree, and 40% (*n* =12) walkers have a Bachelor's Degree. Overall, the research findings indicated that individuals who participate in a 5K or 10K running or walking event were more likely to have an education level pertaining to a Bachelor's Degree, 41.6% (*n* =117). These research findings are consistent with prior research, as individuals who have a higher education level were related to participating in higher levels of leisure physical activity, which indicated that education has an independent role in physical activity level that was demonstrated through a cross-sectional analysis (.95, 95% CI 0.93, 0,96) (Piirtola et al., 2016; Willis et al., 2015). Further, a multivariate analysis was conducted in prior research to understand the trend over time and found the results to be consistent, and given increase in education decreased the likelihood for being physically active (OR 0.95 in 1981, OR 0.96 in 1990, and OR 0.97 in 2011) (Piirtola et al., 2016). However, prior research does not have a strong understanding of the impact education level has in organized physical activity event, specifically in running and walking events.

The statistical analysis of the ordinal regression indicates that there is not a significant relationship between education level in organized physical activity events and motivational influence as it relates to mastery (p = .370), physical condition (p = .673), affiliation (p = .492), psychological condition (p = .729), appearance (p = .755), others' expectations (p = .944), enjoyment (p = .547), and competition/ego (p = .945) between

education level in organized physical activity events. These research findings indicate that more research needs to be conducted to understand the motivational influences that drives participation in organized physical activity events in education level. By understanding the motives that influence participation in physical activity events is critical for the development of interventions to increase higher levels of engagement (Zach et al., 2015). These research findings relating to motivational influence and education level in organized physical activity events utilizing the PALMS are the first to be conducted, as prior research has not been conducted to understand the relationship between motivation and education level utilizing the PALMS. Further, past research is limited regarding the significant of education level has in relation to the motivational influence in organized physical activity events. However, prior research studies do suggest that individuals are more likely to engage in physical activity with a higher education level, but there is not a clear understanding between the motivation and education level (Piirtola et al., 2016; Willis et al., 2015).

Given prior research, these results from RQ4 in this research study, it can be suggested that the relationship between education level and motivation to participate in organized physical acidity events is statistically higher amongst individuals who have a Bachelor's Degree. As the research demonstrates, there is no statistically significant difference in the motivational influence when measured on the Physical Activity and Leisure Motivation Scale (PALMS) to participate in organized 5K and 10K running and walking events by education level. No significant relationship between motivation could be suggested from the research data, which could indicate that education level is not a

significant predictor of motivation to participate in an organized physical activity event. However, since this is the first research to be conducted between education level and motivation utilizing the PALMS, more research is needed to reconfirm these results.

Overall, the research findings indicated that individuals who participate in a 5K or 10K running event are more likely to be motivated by others' expectations, competition/ego, appearance, affiliation, mastery, and psychological condition as it relates to their age group and gender. Specifically, others' expectations were the most significant motivational influence in relation to the sociodemographic variables of gender (p = .025), and age (p = .001). These research findings are in concord with other research studies, which have reported that motivational levels influenced participation in an organized running or walking event that stemmed from social-peers, family, and their health, which aligns with others' expectations on the PALMS scale (Lough, Pharr, & Geurin, 2016; Molanorouzi, Khoo, & Morris., 2015; Zach et al., 2015).

Further, these research findings are applied to the theoretical theories used to help guides this research study. The Health belief model (HBM) provides insight to an individuals' motivation to engage in an organized physical activity event (Knight et al., 2015). The PALMS sub-scale others' expectations were the most significant predictor of motivational influence in relation to age groups and gender. Others' expectations entail a measurement of an individual's health (to manage a medical condition), social peers, and recommendations from their physician (Molanorouzi, Khoo, & Morris., 2015). Therefore, this can be related back to the HBM by understanding that motivational influence to

engage in an organized physical activity can be related to their perception of their health and influence from their social peers.

Additionally, the Theory of reasoned action helps to explain an individuals' social behavioral intention to participate in an organized physical activity event as it relates to their attitude, perceived behavioral control, and subjective norms (Fishbein & Ajzen, 2010). Relating the TRA to motivational influence through an individual's health beliefs can be applied to the motivational influence of others' expectations. An individual may be more inclined to participate in an organized physical activity event if their belief is that it will benefit their overall health; which research indicates that motivation influence to participate is influenced from others' expectations. This can be related to the results from this research, which suggest that others' expectations, gender (p= .025), and age (p= .001), are the most significant predictors of motivation to influence participation in organize physical activity events.

Limitations of the Study & Recommendations

This research study was limited to only participants who participated in a 5K or 10K organized running or walking event within the Metro Detroit area, which includes Macomb, Oakland, and Wayne County. Participants of the population were limited to the two organized physical activity events (running and walking), which did limit the participant recruitment and survey responses due to not obtaining data from other physical activity organized events. Due to the specific requirements of the sampling that consisted of location, distance and type of organized physical activity event, purposeful sampling was used. Purposeful sampling helped to ensure that participants met the

demographic criteria and represented the targeted population (Bernard, 2012). As a result of the purposeful sampling, the population of the participant recruitment of this research study was limited to a defined geographical location in Metro Detroit, along with a specific organized physical activity event, which the results of this study should not be generalized beyond a similar population that meet this research criterion.

This research study results showed that age groups, race, and education level were strong predictors of participating in an organized 5K or 10K running or walking event in the Metro Detroit area. Further, the research also showed that motivation to participate in an organized 5K or 10K running or walking event in the Metro Detroit area was predicted by others' expectations, competition/ego, appearance, affiliation, mastery, and psychological condition, and strongly predicted by others' expectations. While these research findings are significant for this population, consequently, further research is recommended in various geographical areas and research timing in order to understand the motivational influences between various populations that drives participation in organized physical activity events. Research was conducted between October 30, 2017 and December 11, 2017, which was at the end of the season for organized 5K and 10K running and walking events. This also limited data collection to running and walking events, which did not allow data collection to be obtained from biking events. Timing of the year when research is conducted for this type of research is critical, as organized physical activity events are dependent upon the season. Further, individuals may display different motivational influences dependent upon the weather and temperature, which could impact participation levels in organized physical activity events. The development

of individuals' motivational level to predict future participation in physical activity events between sociodemographic factors is needed for future interventions and physical activity events (Knight et al., 2015; Molanorouzi, Khoo, & Morris, 2015).

The sample size for this research study used a power of .95 that resulted in a medium effect and sample size requirement, which it is possible that a larger number of participants than the one used in this research may have produced different outcomes than the ones indicated in this study. If the criteria for this research study covered a broader geographical area, then a larger sample size may have provided a more diversified population than the one recruited for this research study. As such, generalizations from this research study can only pertain to other populations with similar characteristics or the population within this research study. In order to understand motivational influences within a more diverse population in relation to sociodemographic variables, future research should be considered using various demographic locations to recruit a more diverse population.

It is critical to understand an individual's motivational influence that drives their participation to engage in physical activity, which can help with the development of increasing engagement for future interventions and participation rates in organized physical activity events (Zach et al., 2015). Thus, a better understanding of the specific sociodemographic variables of race and education level as it relates to motivational influence is needed in order to understand the full sociodemographic aspects of various populations.

Further, this research study was a cross-sectional method, which limits the ability to make causal assertions. This is due to the primary limitation of cross-sectional research studies, as such studies should be viewed carefully when referenced due to the characteristics of the population, time the study was conducted, and criteria for the study (Solem, 2015). Applying a longitudinal study in future research would provide researchers with the ability to asses an individuals' motivational influence to participate in organized physical events over time.

Lastly, participants' motivational influence variable was assessed using a self-reported scale, the PALMS, which were not observed nor examined. With self-reported items, participants of the study could have misreported their responses due to misunderstanding of a question or not thoroughly reading questions in order to finish the survey at a faster rate. Further the PALMS has been used in prior research but it has encompassed various organized physical activity events with limited sociodemographic factors and location (Molanorouzi, Khoo, & Morris, 2014; Zach et al., 2012). Specifically, prior studies have confirmed the validity of the PALMS by assessing the differences between age and gender in the motivational influences in organized physical activity events (Molanorouzi, Khoo, & Morris, 2015; Zach et al., 2012). The present study expands on the sociodemographic factors in relation to defined organized physical activity events. Applying the PALMS to a larger population in other geographical locations, and with various data collection throughout the organized running and walking season, could provide better insight regarding the motivation between the sociodemographic variables to participate in organized physical activity events.

Implications for Social Change

The results of this research study offer several implications for social change by providing evidence to increase participation in adult individuals in future organized physical activity events. Prior research indicates that by conducting research to help understand what motivates participation within organized physical activity events in different populations is important to better learn how to influence individuals to engage in future physical activity events (Lough, Pharr, & Geurin, 2016). By knowing the underlying motivations of individuals between various age groups, genders, race, and education levels in organized physical activity events is essential to influence participation for future physical activity events and interventions within communities. Specifically, this research study indicated that age groups and gender are motivated by others' expectations, which encompasses an individual's health and managing a medical condition, which could help public health practitioners promote community interventions through health promotion associated with organized physical activity events. Health promotion strategies can correlate to others' expectations, as this relates to intrinsic motivation that can motivate an individual to participate in an organized physical activity event because they can internally understand the health benefits from it. Thus, the significance of the perceived potential health risks that are associated with inactivity, adult individuals' health behaviors may change (Rosenstock, 1974).

Other implications from this research study may help community physical activity groups and race directors to help increase participation rates amongst organized physical activity events. Results from this study could be used by knowing what

sociodemographic variables are associated with individuals who are more likely to participate in an organized physical activity events, opposed to who are likely not to engage. Particularly, since higher participation rates resulted from females, who were White, held a Bachelor's Degree, and were between the ages of 40-49 years old, these individuals are already more inclined to participate in an organized physical activity event. Reaching out to individuals with lower participation rates stemming from other sociodemographic variables may help to increase participation rates from various demographics. Race directors, and running and walking group leaders within the community may benefit from these research findings to increase future participation rates in organized running and walking events (Bell & Stephenson, 2014; Lough, Pharr, & Geurin, 2016). These findings may also motivate individuals to become physically activity within their community, which may influence positive social change regarding physical activity awareness within the community and increase participation in future organized physical activity events.

Conclusion

In conclusion, this study expands an understanding of the motivational influences in organized 5K and 10K physical activity events between sociodemographic variables through a cross-sectional survey design. This results of this research study indicated that individuals who participated in a 5K or 10K running event are more likely to be motivated by others' expectations, competition/ego, appearance, affiliation, mastery, and psychological condition as it relates to their age group and gender. Specifically, others' expectations were the most significant motivational influence in relation to the

sociodemographic variables of gender and age groups. While motivational influence was the core of this research study, other major findings emerged from the sociodemographic analysis surrounding participation rates and organized physical activity events. The results of this research study suggest that White females who held a Bachelor's Degree and were between the ages of 40-49 years old were more likely to engage in a running event.

Further, this research study adds value to the existing literature pertaining to the use of HBM and TRA, specifically, as it relates to understanding an individuals' motivational influence to participate in an organized 5K or 10K running or walking setting. The HBM provides an understanding that motivational influence to engage in an organized physical activity stems from others' expectations that can be related to their perception of their health and influence from their social peers. Whereas the TRA can be applied that an individual may be more inclined to participate in an organized physical activity event due to others' expectations if their belief it will benefit their overall health. Overall, implications from this research study may help to provide evidence needed for future interventions and participation in organized physical activity events.

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Appendix A: Physical Activity Leisure and Motivation Scale (PALMS)

Sub-Scale	40-Item
Mastery	Improve existing skills
	Do my personal best
	Obtain new skills/activities
	Maintain current skill level
	Get better at an activity
Physical condition	It keeps me healthy
	It helps maintain a healthy body
	It helps maintain physical health
	It improves cardiovascular fitness
	I will be physically fit
Affiliation	Be with friends
	Do activities with others
	Enjoy spending time with others while doing exercise
	Talk with friends while exercising
	Do something in common with friends
Psychological condition	Because it acts as a stress release
	It's a better way of coping with stress
	It helps me relax
	To take my mind off other things
	It helps me to get away from pressure
Appearance	Improve appearance
	Improve body shape
	Define muscles, look better
	Maintain trim, toned body
	Lose weight, look better
Others' expectations	It was prescribed by doctor, physiotherapist
	To manage a medical condition
	I get paid to do it
	I can earn a living
	People tell me I need to
Enjoyment	I have a good time
	It is fun
	I enjoy exercising
	It is interesting
	It makes me happy

(*table continues*)

Sub-Scale	40-Item
Competition/Ego	Perform better than others
	Be more fit than others
	Work harder than others
	Be best in the group
	Compete with others around me

Appendix B: Social Media Message

Voluntary adult participants (ages 18 years and older) are being recruited for a public health dissertation research study. The research study is exploring the motivational influences in adult individuals that participate in organized 5K and 10K running, walking, and biking events between age groups, gender, race, and education level. Your voluntary participation will involve a brief online survey that will take approximately 10 minutes to complete. To ensure confidentiality and privacy, there will be no self-identifying information disclosed.

If you are interested in participating in the research study and for more information, please click on the following link that will prompt you with an Informed Consent Form to review in full detail regarding the research study before starting the survey.

Link: https://www.surveymonkey.com/r/phdresearchstud

Appendix C: Consent Physical Activity and Leisure Motivation Scale

Dear Dr. Tony Morris & Dr. Helen Rogers,

I am a doctoral student from Walden University writing my dissertation tentatively titled "The Role of Motivation in Organized Physical Activity Events Between Socio-demographic Factors" under the direction of my dissertation committee chaired by Dr. Scott McDoniel and Dr. Patrick Dunn.

I would like your permission to reproduce to use the Physical Activity and Leisure Motivation Scale (PALMS) survey instrument and tables in my research study. I would like to use and print your survey under the following conditions:

- I will use this survey only for my research study and will not sell or use it with any compensated or curriculum development activities.
- I will include copyright statement on all copies of the instrument (if applicable).
- I will send my research study and copy of reports and articles that make use of these survey data promptly to your attention.

If these are acceptable terms and conditions, please indicate so by replying to this email with your formal approval.

Sincerely,

Katy Gozalka

Doctoral Candidate

Expected date of completion 12/31/2018

Permission obtained and received from Dr. Helen Rogers on 8/26/2017