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A Mixed-Methods Study: Self-Efficacy and Barriers to Participation in Workplace Wellness Programs

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A Mixed-Methods Study: Self-Efficacy and Barriers to Participation in Workplace Wellness Programs

A Dissertation by

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Submitted in partial fulfillment of the requirements for the degree of

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March 2017

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My passion for life is what has led my trajectory. However, one cannot live with such zeal without being energized by those around them. My trajectory began with the skills, character, passion, motivation, tenacity and efficacy inculcated by my parents at a young age. Through my experiences and learnings, a desire for inquiry began and it was the inquiry scaffolded by my parents and upbringing that has made me the woman I am today.

Robb and I met in November 2014 and began our relationship with a spark. At the same time I had begun my second session of classes with the Ed.D program. His patience for what we endured together these last couple of years is something I want to commend because without his support, I could not have been as successful. Fast forward, and Robb and I are now married and starting our little family. I look forward to this next chapter and new journey together.
ABSTRACT

A Mixed-Methods Study: Self-Efficacy and Barriers to Participation in Workplace Wellness Programs

by Massiel Pérez-Calhoon

America needs a healthy workforce to sustain the country. The scourge of obesity continues to plague Americans despite government initiatives such as the Affordable Care Act and wellness programs in the workplace to combat this epidemic. However, despite initiatives to make America healthy, barriers continued to impede the nation’s health. Lack of awareness and sensitivity to what motivates individual participants versus group participants built formidable barriers to accessing all workplace employees equitably. The purpose of this study was twofold. First, the intent of this study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge. Second, the study sought to explore the relationship between efficacy and the impact on participation and engagement in an eight-week walking challenge between those who participated as a member of a team (collective efficacy) and those who participated individually (self-efficacy). A sequential explanatory mixed-methods research design was used to address the research questions, which entailed a quantitative survey followed by qualitative interviews. The population included 495 benefits-eligible employees representing Brandman University’s full-time faculty and staff from over 25 campuses throughout California, Washington, and Oregon.
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CHAPTER I: INTRODUCTION

America is in a state of urgency to control and eradicate the obesity epidemic that kills an estimated 300,000 Americans per year (Alameda 2009; Allison, Fontaine, Manson, Stevens, & VanItallie, 1999; Olshansky et al., 2005; Stein & Colditz, 2004). The government implemented a variety of national efforts and initiatives to eradicate obesity in the United States (U.S.), but nothing thus far resolved the obesity epidemic. America needs a healthy workforce to sustain the country and government initiatives proved to be ineffective with minimal outcomes to impact the pervasiveness of obesity and health-related diseases.

Government initiatives attempted to intervene in multiple ways. One salient government initiative was the Patient Protection and Affordable Care Act (PPACA), also referred to as the Affordable Care Act (ACA) of ObamaCare, which was signed into law on March 23, 2010, by President Barack Obama. This bill contained provisions that granted Americans benefits, rights, and protections and ensured more U.S. citizens had access to affordable, equitable, and quality healthcare (Koyle, 2013; Schopp, Bike, Clark, & Minor, 2015; D. R. Williams, McClellan, & Rivlin, 2010). America’s health fell under the purview of the ACA; implementation and expansion of wellness programs in the workplace as a macro-level initiative offered the nation an opportunity to improve the health and well-being of Americans and attempted to control healthcare spending (Koyle, 2013).

D. R. Williams et al. (2010) acknowledged a social responsibility for the need to create a culture of health in homes, schools, neighborhoods, and workplaces. Bandura (2004) confirmed that a collective effort to broaden perspectives toward health promotion
required multiple contributions from multiple disciplines. This study examined efficacy and the influence on health promotion from the perspective of Bandura’s (2004) social cognitive theory, which “offered both predictors and principles on how to inform, enable, guide, and motivate people to adapt habits that promoted health and reduced those that impair it” (p. 146). Therefore, Bandura’s social cognitive theory as a theoretical basis and foundation for wellness program development was found to be effective. Raising an individual’s self-efficacy increased the likelihood of exercise adherence. Additionally, understanding the predictors to exercise and the self-perceived barriers that impeded participation in active exercise were included in social cognitive theory and its mechanisms of healthful behavioral outcomes (Bandura, 1998).

Workplace wellness programs aimed to reach the masses by implementing programs and giving employees access to facilitate participation, which were found to also create a working environment that was productive and efficient (Chen et al., 2015). The Centers for Disease Control (CDC; 2016) supported this initiative through a “comprehensive set of strategies which include programs, policies, benefits, environmental supports, and links to the surrounding community designed to meet the health and safety needs of all employees” (para 2).

The prevalence of human, economic, and productivity costs of an unhealthy workforce showed detrimental outcomes for both the employee and employer; employers of higher education sought preventative alternatives to keep faculty and staff healthy, present, and on-task through workplace wellness programs (M. J. Johnson, 2014). It behooved universities and higher education environments to actively monitor employee health risk factors, chronic conditions, and needs for the development of a workplace
wellness plan in accordance with their population. Moreover, they sought a wellness program that encouraged and sustained healthy behaviors and created a workplace culture that lowered unnecessary expenditures through preventative health behaviors (Carter, Kelly, Alexander, & Holmes, 2011; Casillas, 2014). Therefore, understanding employee barriers to participation and engagement in workplace wellness programs in higher education environments begets further investigation to align future interventions with this population that result in favorable health outcomes to benefit both the employer and employee.

**Background**

Four main areas of focus related to wellness are presented in the background section of this research study. The first area covers the history of obesity in the U.S. Next, government initiatives and interventions are described. Third, Bandura’s social cognitive theory and its implications for participants’ individual and collective efficacy are explored as a theoretical framework. Finally, workplace wellness programs specifically in higher education are highlighted with attention given to barriers toward participation and cornerstone research studies.

**History of Obesity**

Americans in the 21st century-generation were the first in the history of the country predicted to die at a younger age than their parents (Olshansky et al., 2005). Changes in lifestyles and environments such as increased media influences (e.g., televisions, computers, smartphone devices, video games) promoted a sedentary lifestyle as early as the age of two (Alameda, 2009; Swick, 2006). Living and working in environments that encouraged poor choices and prevented a healthy way of life required
a structural and environmental shift that took years to engineer. To create the opposite environment and change the trajectory, Mattke et al. (2013) testified that wellness programs required environmental and structural changes that encouraged healthy lifestyles, such as sidewalks installed near the workplace, maximum use of unused storage space, and a cafeteria that labeled calories in vending machines. The government intervened by incorporating environmental changes through initiatives, yet America continued to struggle with creating health-promoting environments with successful outcomes.

**Government Initiatives**

Several publications in recent years that documented government initiatives concurred and declared obesity a prioritized commitment to solve (Morris et al., 2015; Novak & Brownell, 2012). One way to address this was with the imperative need to facilitate a health-promoting work environment. Goetzel et al. (2009) posited that “environmental changes to the workplace can achieve modest improvement in employees’ health risks including weight, and BMI [Body Mass Index] in one year” (p. 2). Novak and Brownell (2012) conceded with behavioral economists who found that “humans are heavily by default conditions in their environment” (p. 2345).

The government implemented environmental policies and programs in the last twenty years that included a broad range of equitable tools for the advancement of health objectives. The encouragement to develop “national clinical guidelines, nutrition labeling on packaged foods, education and social marketing efforts, and more recently, calorie labeling on restaurant menus and federal efforts to increase access and financing for fresh fruits and vegetables” were all government-driven initiatives (Novak &
Brownell, 2012, p. 2345). Further emphasized by Novak and Brownell (2012) was the notion that an environment created with unhealthy food thereby created an unhealthy environment and contributed to obesity in the U.S. Initiatives targeted individuals rather than a macro environmental shift toward a systems policy approach, as highlighted by the following government initiatives.

The surgeon general’s call to action. A call to action involved a science-based effort in writing to call out to those willing to engage in a national challenge. The goal was to encourage interest in solving a nation-wide public health problem.

In 2001, the Surgeon General’s first obesity-focused call to action was titled: Call to Action to Prevent and Decrease Overweight and Obesity (Novak & Brownell, 2012; Office of the Surgeon General U.S. & National Institutes of Health, 2001). In 2010, the call to action focused on The Surgeon General’s Vision for a Healthy and Fit Nation. The Surgeon General stated:

I [Regina M. Benjamin, M.D., M.B.A.] plan to strengthen and expand this blueprint for action created by my predecessor. Although we [United States] have made some strides since 2001, the prevalence of obesity, obesity-related diseases, and premature death remains too high. (Office of the Surgeon General, 2010, p. 1)

Initiatives moved forward as obesity continued to pervade the U.S. with over 78 million adults and roughly 12.5 million children and adolescents classified as overweight and obese (Ogden, Carroll, Kit, & Flegal, 2012; Wang, Beydoun, Liang, Caballero, & Kumanyika, 2008). In 2015, Americans were presented with Step It Up!, which was the Surgeon General’s Call to Action to Promote Walking and Walkable Communities.
Despite the Surgeon General’s calls to action, Americans were unable to reach their full potential because of preventable health conditions, inhibiting individuals from acquiring the healthy lifestyle habits recommended. Due to the significant findings and the prevalence of obesity, it was imperative to track obesity and its health risks as they continued to increase. The government recognized this and moved beyond the calls for action as the ACA was signed into law as another government health initiative responding to this need with a heavy emphasis on preventative measures in the workplace.

**Affordable Care Act.** The ACA included language for preventative measures related to individuals, workplaces, and communities, and provided the nation opportunities for promoting health (American Psychological Association [APA], 2010; Koh & Sebelius, 2010). The ACA focused on the promotion of wellness activities in the workplace that provided health promotion opportunities for both the employers and employees (Koh & Sebelius, 2010; Koyle, 2013; Pomeranz, 2014; Schopp et al., 2015). This government initiative involved a focus on preventable disease and workplace wellness initiatives. Implementing workplace wellness programs offered the opportunity to initiate wellness and control healthcare spending on preventable diseases. The costs associated with treating chronic diseases such as obesity, physical inactivity, Type 2 diabetes, and heart disease, which were lifestyle related and preventable, accounted for 78% of the total medical spending (Clark, 2008; Patel, 2011). Obesity-related costs also included absences from work and loss of employee productivity due to an unhealthy workforce (Rhode, 2015).
Government Initiative Ineffectiveness

Despite government efforts and the use of best practices implemented in wellness programs, these initiatives did not guarantee participation nor program effectiveness (Goetzel et al., 2011; Hopkins, 2007; Nichols, 2012; Pomeranz, 2014). Thus, research posited that despite the type of program, targeted population, budget, and incentives or strategic plans, consistency in participation remained the most substantial culprit to wellness programs (Hopkins, 2007). The ACA opened the door to workplace wellness programs; however, the following barriers were still evident: lack of time, assuage of privacy; compounding injuries, and insufficient employee interests, especially from high-risk employees (Bottles, 2015; R. L. Johnson, 2013; Meyer, Yoon, & Kaufmann, 2013; Montgomery, 2008; T. L. Roberts, 2014; Schopp et al., 2015). Honing in on what behaviors changed an environment and what best practices were required to change the mindset of employees and participants needed a theory-based approach (Gates, Brehm, Hutton, Singler, & Poeppelman, 2006). Therefore, social cognitive theory was selected as a theoretical framework for this study.

Social Cognitive Theory as a Framework for Wellness

“Social cognitive theory specifies a core set of determinants, the mechanism through which they work, and the optimal ways of translating this knowledge into effective health practices” (Bandura, 2004, p. 144). Therefore, workplace wellness was examined from the perspective of social cognitive theory for this study as it attempted to understand how to change behaviors and the social environment of employees and participants in the workplace to create health promotion and a culture of health. Efficacy, both self-efficacy and collective, were constructs of social cognitive theory.
Self-efficacy. “Self-efficacy beliefs were found to be key determinants of exercise behavior and used as a mechanism for increasing physical activity levels in individuals” (Weibull, Cumming, Cooley, Williams, & Burns, 2015, p. 478). Bandura, (1997) found four information sources of self-efficacy: (1) mastery experiences; (2) vicarious experiences, such as observing those similar to oneself manage task demands successfully; (3) social persuasion stemming from belief that one has the capabilities to succeed in given activities, and (4) cognitive assessments of physiological reactions that positively or negatively influence efficacy beliefs.

Perceived self-efficacy influenced a change in behavior from employees and participants of workplace wellness programs. “Belief in one’s efficacy to exercise control is a common pathway through which psychosocial influences affect health functioning,” (Bandura, 2004, p. 143). To further elucidate this, Kane, Marks, Zaccaro, and Blair (1996) stated, “research has supported the positive effects of self-efficacy and goal setting on performance across organizational, academic, and athletic settings” (p. 36).

Therefore, to initiate change in a larger capacity, such as an organization, one must look at employees and participants as individuals of change as well as a part of the system and a member of collective group, thus enabling change in a larger capacity.

Collective efficacy. “Collective efficacy is a group’s shared belief in its conjoint capabilities to improve a problem in the community” (Chung et al., 2009, p. 238).

Bandura’s social cognitive theory (2004) emphasized the need for public awareness and collective efficacy to change social, political, and environmental conditions that played a critical role in health promotion and public health approaches. According to seminal
researcher Bandura, (1997) collective efficacy in an exercise environment would be where people came together to exercise and their collective efficacy brought the faltering exercisers along. As such, Bandura (1997) stated collective efficacy may be a “better predictor of exercise than their [employees who exercise] individual levels of perceived efficacy” (Bandura, 1997, p. 416).

Therefore, the use of collective efficacy to change an environment and create movement toward health promotion in the workplace is one way to grow health and wellness through implemented policies and the ACA.

**Workplace Wellness Programs**

Many negative facilitators evolved into the degeneration of health among Americans in the 21st century. Despite gained knowledge and education, individuals with risks associated with weight gain and inactivity continue to struggle with an unhealthy lifestyle. Access to workplace wellness programs provided though the ACA merit further explanation in an effort to move toward a healthy workforce in America.

A study conducted at Wallace State Community College involved 110 full-time faculty and staff who participated in a survey to collect participants’ needs and interest in health-related activities to establish a wellness program. Respondents showed interest in participating in a wellness program, with a walking event or club as the most desired feature (Gurley, 1999). Additionally, Gurley (1999) found that “high levels of social support and self-efficacy as well as a positive attitude toward corporate wellness programs all raised the probability that a respondent would be a regular participant in a workplace wellness program” (p. 22). Despite the general research available, there was marked paucity of research regarding what was required to maintain a successful,
outcome-based workplace wellness program with changed behaviors that were sustainable over a lifetime. More research is needed in this area to move public health discoveries into action.

**Statement of the Research Problem**

Historically, institutions of higher education encountered barriers to participation in workplace wellness programs. Commonly reported barriers were: lack of time, assuage of privacy; compounding injuries, and insufficient employee interests; especially from high-risk employees (Bottles, 2015; R. L. Johnson, 2013; Meyer et al., 2013; Montgomery, 2008; T. L. Roberts, 2014; Schopp et al., 2015). Although a healthy and productive workforce is desirable in all sectors of business and services, researchers demonstrated an insistent need for employee wellness programs in institutions of higher education (M. J. Johnson, 2014). Furthermore, Casimano (2015) asserted that “work environments, specifically higher education settings–have limited literature regarding health promotion programs incorporating walking” (p. 27). The exhaustive literature search revealed limited studies focused on workplace walking challenges in higher education environments with individual participants versus teamed participants and the effects on efficacy to promote participation in workplace wellness programs.

Choi, Price, and Vinokur (2003) set forth a call to action, noting “empirical investigation into how group factors shape individual learning processes and outcomes has not yet been carried out” (p. 370). Given that increased self-efficacy was an intermediate outcome of individual learning, the present findings could offer some insight into how individual learning occurs in a group to address health promotion in larger numbers.
If America continues to believe that the implementation of a workplace wellness program is the panacea to the obesity pandemic, Americans will continue to struggle with the lack of participation in workplace wellness programs due to the under-researched barriers. Further research for the “development of a stronger knowledge and theory-base to guide implementation efforts could make a significant contribution to improving health promotion efforts and, perhaps ultimately, enhancing population health” (Weiner, Lewis, & Linnan, 2009, p. 302).

**Purpose Statement**

The purpose of this sequential explanatory mixed-method study was twofold. First, the intent of the study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge. Second, the study sought to explore collective efficacy and the impact on teamed participation and engagement when faced with perceived barriers in an eight-week walking challenge compared to those who participated individually.

**Research Questions**

The following three research questions guided this study.

1. What was the difference in self-efficacy between those who participated in a walking challenge as an individual compared to those who participated as a member of a team?

2. What challenges were faced by individual versus teamed participants and how were those challenges overcome?

3. What was the difference in motivation between those who participated as an individual compared to those who participated as a member of a team?
Significance of the Problem

Past research evidenced that the workplace was a prime environment to initiate a wellness program, as the workplace provided access to a large number of potential participants and offered supportive social networks for physical activities and participation (Brady, 2011; Gabel et al. 2009).

A survey was administered to approximately 52,000 employees to assess potential barriers and incentives to promote workplace wellness and found “the most commonly reported barriers were limited time available during the workday (42.5%) and before or after work (39.4%)” (Kruger, Yore, Bauer, & Kohl, 2007, p. 439). Despite government initiatives to support the advent of workplace wellness, the promulgation of health education and benefits enticing enough to engage employees to participant remained barriers; thus, “most research investigations on fitness and health have an issue with consistency of participation” (Kapp, 2011, p. 50).

Workplace wellness programs were offered by private companies; however, limited research existed on university campuses and institutions of higher education on the implementation of wellness initiatives for their employees (Casillas, 2014; M. J. Johnson, 2014). As stated by Casillas (2014), “creating a culture of health and wellness has its unique challenges” (p. 18); therefore, researching theory-based and evidence-based organizational change with wellness in the workplace is needed. According to Hill-Mey (2012), environments of higher education were ideal for developing a workplace wellness program due to the “vast health-related resources, dynamic health research disciplines, and large and diverse employee populations” (p. 37). Thus, further clarifying that “university and college campuses, which are more akin to small
communities with employees ranging from service workers to senior level faculty and administrators, also differ from traditional worksites” (Hill-Mey, 2012, p. 37). There is a need to further advance research in institutions of higher education to extend the knowledge and understand how to support diversified participants when conceiving and sustaining workplace wellness programs.

This research study intended to offer new scholarly information identifying and describing how individual and collective efficacy impacted participation and engagement when participants were faced with perceived barriers during an eight-week walking challenge offered through a workplace wellness program in a higher education setting. Addressing perceived individual and collective-efficacy within the context of participation in wellness programs added to the body of knowledge and provided a better understanding of the barriers and impediments participants and employers faced when implementing and sustaining a workplace wellness program.

Together, the recommendations from this study aimed to support the formidable challenges practitioners faced with engaging participants with health promotion initiatives in the workplace and building a culture of health promotion and a healthy workforce.

**Definitions**

For the purpose of this study, the following terms were defined to build an understanding of the research topic.

**BARSE scale.** “The Barriers Specific Self-Efficacy Scale (BARSE) is an instrumentation tool designed to tap subjects’ perceived capabilities to exercise” (McAuley, 1992, p. 71).
**Collective efficacy.** “Perceived collective efficacy is defined as a group shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment” (Bandura, 1994, p. 477).

**Fitbit.** Fitbit is a company that makes wearable fitness tracking devices that are wireless-enabled and measures data including the number of steps walked and quality of sleep. The company also uses a data dashboard to maintain stimulation and motivation for exercise and movement. The devices have several fitness uses and mobile applications (Kaewkannate & Kim, 2016).

**Group efficacy.** A group of “people [who] have to rely, at least to some extent, on others in accomplishing their tasks” (Bandura, 1994, p. 469).

**Health Enhancement Solutions.** Health Enhancement Solutions is a third party vendor that creates workplace wellness challenges for corporations, health plans, health systems, hospitals, government agencies, educational institutions, nonprofits, and other groups (Health Enhancement Systems, 2013).

**HealthTrails.** “HealthTrails is a customizable wellness program that draws on the excitement of learning about new places and people around the world. Participants travel along famous trails as they practice healthy habits” (“What is HealthTrails?” HealthTrails, 2016).

**HealthyU.** HealthyU is a monthly electronic newsletter that all Brandman University faculty and staff receive via email as part of the HealthyU workplace wellness program.
Perceived self-efficacy. “Perceived self-efficacy refers to believe someone’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3).

Self-efficacy theory. A component of social cognitive theory “which operates in concert with determinants in the theory to govern human thought, motivation, and action” (Bandura, 1994, p. 34).

Social cognitive theory. “Albert Bandura’s social learning theory, later called social cognitive theory, provides a theoretical framework for understanding and explain human behavior; the theory and braces and interactional model of causation and accords centrals to cognitive, vicarious, and self-regulatory processes” (Wulfert, 2014, para 1).


Walking challenge. A term used to spark interest in a health initiative that involves challenging oneself to walk and track one’s steps.

Wearable device. “A wearable device is a new type of technology in the form of small hardware that includes an application with tracking and monitoring fitness metrics such as distance walked or run, calories consumed… heart rate and sleep tracking” (Kaewkannate & Kim, 2016, p. 1).

Workplace wellness programs (WPWP). “A coordinated and comprehensive set of health promotion and protection strategies implemented at the worksite that includes programs, policies, benefits, environmental supports, and links to the
surrounding community designed to encourage the health and safety of all employees” (CDC, 2014, para 1).

**Delimitations**

The delimitations of this research study were:

1. Higher education participants for this study were delimited to full-time faculty and staff from Brandman University (i.e., benefits-eligible employees).
2. This study was delimited to one eight-week walking challenge that began August 29, 2016 and ended October 23, 2016.

**Organization of the Study**

The organization of this study included five chapters. Chapter I introduced relevant background information, as well as the study purpose, research questions, and significance. Chapter II provides a review of the literature including the history of obesity, government initiatives, Bandura’s social cognitive theory, and wellness programs in higher education. Chapter III explains the research design and methodology of this study, including the population and sample, instrumentation, data collection and analysis, and limitations of this research study. Chapter IV presents the data and research findings in connection to the research questions. Finally, Chapter V summarizes the research study and provides conclusions and recommendations for areas of continued advancement.
CHAPTER II: REVIEW OF THE LITERATURE

The review of literature begins with an examination of the history of obesity, followed by government initiatives and their outcomes. Next, an overview of Bandura’s social cognitive theory is discussed as related to barriers toward participation through perceived individual and collective efficacy. This chapter concludes with workplace wellness programs as an option to this pandemic in higher education settings.

History of Obesity

The human race struggled for centuries to overcome food scarcity, poverty, malnutrition, and communicable disease (Caballero, 2007). Thus, the word obesity was not found in the English language until the 17th century and furthermore, only as a descriptive literary term (Eknoyan, 2006). In the 18th century, records of obesity were found in medical writings and it was not until the 19th century that obesity changed the Western world (Eknoyan, 2006). The 20th century conceived the discipline of nutrition and in the 21st century, the incidence of obesity rose dramatically enough to be formally declared a global epidemic by the Surgeon General and the CDC (Eknoyan, 2006; Kelly, Yang, Chen, Reynolds, & He, 2008; Rhodes, 2015).

Before the Early Nineteenth Century

Obesity was traced back to prehistoric ancestors. Centuries of obesity was depicted in the arts and literature such as the stone fertility figurine, Venus Willendorf, which dated obesity back to 22,000 BC (Genné-Bacon, 2014; Stern & Kazaks, 2009). Egyptian temples predominantly displayed statues of obese men and women who symbolized wealth, fertility and power (Genné-Bacon, 2014). Previously, portrayals of obesity were rare, but became common in the upper social classes toward the end of the
17\textsuperscript{th} century and even more evident into 18\textsuperscript{th} century as a sign of wealth (Trowell, 1981). However, medical opinion was to the contrary, with first known medical writings on papyrus describing obesity as a “disease state” (Stern & Kazaks, 2009, p. 1). This gained the attention of physicians in the late 1600s and early 1700s, and it was during this period the first monographs on obesity were written. By the late 1800s the first books on obesity were published (Bray & Bouchard, 2014).

It was after the 18\textsuperscript{th} century that technological advances had a dual effect on individuals that required new forms of life adaption (Bandura, 1977). With the gradual increase of accessible unhealthy foods, lack of physical activity, and lack of skill for adaption to this unhealthy environment, it was said to be what conceived obesity (Eknoyan, 2006). Although social disapproval of obesity began in the late 18th century, it was only in the latter half of the 19\textsuperscript{th} century that obese people began to be stigmatized for aesthetic reasons, and sustained medical concern did not develop for another half-century (Eknoyan, 2006; Kersh & Morone, 2002).

\textbf{Nineteenth Century}

Obesity increasingly pervaded the American lifestyle. The timeline reflected the development of fast-food restaurants that accommodated the American way of life as early as 1921 with the first drive-in restaurant. Kentucky Fried Chicken began operation in 1930, followed by McDonald’s in the late 1940s. Burger King started operation in 1954 with Pizza Hut not too far behind in 1958. Taco Bell opened its doors in 1962, and finally Subway in 1965 (Niemeyer, 2013). The proliferation of the franchise restaurant schemes set a troubling precedent for fast food chains all over America (Schlosser, 1981). The environmental influences were detrimental to creating a healthy lifestyle as Novak
and Brownell (2012) confirmed that “a longitudinal study of adults found that those who live closer to fast food restaurants consume fast food more frequently than others” (p. 2346).

The emergence of obesity dated back to as early as the 17th century when the first use of the word obesity was traced (Eknoyan, 2006). However, it was the disparate jump in obesity prevalence in the 19th century that alarmed the medical field when in the U.S. obesity rate nearly tripled, “from 13% in 1960–1962 to 36% during 2009–2010” and then again in 1970 among children going, “from 5% in 1971–1974 to 17% in 2009–2010” (Meyer et al., 2013, p. 120). Hence, it was in the 20th century that obesity was met with public disapproval.

**Twentieth Century**

As the 20th century progressed, it became more widely accepted that the cause of obesity was the intake of energy, namely calories, over caloric expenditure or activity (Logan, 2006). The lifestyle changes of the 20th century slowly altered Americans such that the technological changes and the industrial processing of food led to a more sedentary lifestyle. Lifestyle changes spawned obesity in the 20th century, such as the spread of fast food accessibility, a culture of consumption, commuting by vehicle as way of life, participation of women in the workforce, and the advances of the information technology (IT) revolution (Eknoyan, 2006). Additionally, in the middle of this century, it was noted that “affordable, accessible, calorically dense processed foods have been a cornerstone of the American diet” (Trivedi, Fields, Mechanick, Klein, & Mechanick, 2012, p. 737). Further, by the mid-20th century, “the link between diet and health outcomes had been well established” (Kersh & Morone, 2002, p. 149). It was also not
until the 20th century that obesity was connected to mortality (Eknoyan, 2006). It was in the 20th century that the Surgeon General declared obesity as its largest challenge to confront, publicizing that “our modern environment has allowed these conditions to increase at alarming rates and become highly pressing health problems for our Nation” (Surgeon General, 2001, p. xi).

### Twenty-First Century

The emergence of obesity as one of the country’s gravest health problems was labeled as an epidemic and it was not until the 21st century that obesity was considered a major public health threat (Cooper & Gilman, 2011; Surgeon General, 2001). Obesity did not discriminate against male, female, adults, or even children as obesity rates doubled throughout the U.S. (Lavie, 2014; Swick, 2006). Obesity was a topic for centuries, which continued to spread throughout the U.S. and affected a disproportionate number of adults and children (Kadushin, 2014). The scourge of obesity as an insidious pandemic overcame Americans and the consequences were costly. In 2002, Rössner proclaimed that at the beginning of the 21st century, “more people will die from complications of over nutrition than of starvation” (p. 2). Additionally, researchers at the CDC concluded that “obesity has increased at epidemic proportions and is threatening to become the leading cause of death in the 21st century” (Swick, 2006, p. 2). Evidence showed that obesity surpassed smoking as the largest public health threat to Americans (Hurt, Kulisek, Buchanan, & McClave, 2010).

### Summary of the Historical Scourge of Obesity

With obesity on a continued rise, the economic burden included obesity and obesity-related diseases and implications. Health-related diseases placed obese
Americans in a high-risk category that included the development of a number of preventable, obesity-related disorders such as cardiovascular disease, depression, gallbladder disease, osteoarthritis, cancer, stroke, Type 2 diabetes, respiratory disorders and sometimes, even death (Goetzel et al., 2009; Kelly et al., 2008). When 50% of preventable health care expenditures proved to be tied to lifestyle choices, consideration of managing lifestyle choices was a viable solution (Alameda 2009; Clark, 2008).

Another cost considered was American lives. With an estimated 280,000 to 325,000 premature deaths due to excess weight gain each year, the rapid increase of overweight and obese individuals was an urgent health problem that required an intensive multi-disciplinary approach (Brady, 2011; Goetzel et al., 2009). “According to the Partnership to Fight Chronic Disease, the doubling of obesity in the United States since 1987 accounts for nearly 30 percent of the increase in health care spending” (D. R. Williams et al., 2010, p. 1482). Gabel et al. (2009) echoed this notation and stated that “obese people ages 18-65 incur medical spending that is 37 percent higher than spending for people of normal weight” (p. 47). A study was conducted to estimate the projected prevalence of overweight and obesity in the world and found that “by 2030, the respective number of overweight and obese adults was projected to be 1.35 billion and 573 million individuals” (Kelly et al., 2008, p. 1431).

The evolution of obesity took centuries to cause the consequences it brought to individuals today. However, as stated by Bray & Bouchard (2014), “scientific developments take time” (p. 5). Therefore, to combat the societal consequences of obesity, people must take action and personal responsibility to take control of their lives. Berman (2011) found more than 8 in 10 research studies cited poor eating habits and a
lack of exercise as the leading causes of obesity, thus clarifying that obesity was not caused by lack of information, lack of portion control at restaurants, or the proliferation of marketing fatty foods to children.

The gravity of obesity was recognized by the medical field and government as a public health crisis (Eknoyan, 2006). Obesity was talked about as a crisis and as such, requires a “war on obesity” argued Gard and Wright (2005, p. 69). Despite the research and science behind this pandemic, the steps taken to remediate and eradicate obesity as an urgent concern were yet to be evidenced substantially enough to make an impact in 21st century health.

According to Genné-Bacon (2014), the reversal of obesity required a restricted caloric intake and an increased exercise regime, and confirmed the research of Logan (2006) eight years prior. Furthermore, the CDC promoted the reversal of the obesity epidemic through community efforts focused on supporting healthy eating habits and active lifestyles in a variety of settings (CDC, 2015). However, despite all of this, “health officials have concluded that prevention, not treatment offers best hope of holding the worldwide obesity epidemic” (Schlosser, 2012, p. 243). In other efforts to combat obesity, the government approached introduced a variety of social change initiatives.

**Government Initiatives**

In spite of the government’s attempted effort to put new knowledge into use by Americans, serious health and nutrition-related problems increased overweight and obesity throughout the U.S. Thus, now more than two-thirds of adult Americans are found to be overweight or obese (Bray & Bouchard, 2014; Moseley, 2015; Olshansky et
al., 2005). To reverse this trend, multiple government initiatives were implemented of the years.

**Steps Program**

The Steps Program, formally known as Steps to a Healthier US, was a 2003-2009 grant implementation program that awarded over $100 million to 40 U.S. communities (CDC, 2008). The Steps Program focused on interventions that “encompassed multiple diseases and risk factors, served entire communities, and were designed to be sustainable beyond federal funding” (Nichols, 2012, p. 2).

Two California counties participated, Monterey and Santa Clara County. Monterey County focused on its growing concern of diabetes and due to early intervention, detection, and preventative measures taken, contributed to diabetes self-management. Thus, an outcome of this intervention was that “the Task Force on Community Preventive Services found that disease management interventions are effective in improving glycemic control among people with diabetes” (CDC, 2008, p. 35).

Santa Clara County found that its results offered insight into the growth and pervasiveness of the obesity epidemic, thus reporting an increase in rates of obesity and diabetes among adults who participated in the Steps Program that paralleled growth rates throughout California. For this population, the prevalence of obesity increased from “19% in 2001 to 28% in 2007 and diabetes increased from 6 % to 8%” (Santa Clara County, 2016, p. 5).

The Steps Program was pivotal when it came to changing the mindset and approach toward government initiatives because throughout the program, “steps
communities came to the common realization that, because characteristics of a healthy community were interdependent, a comprehensive approach was required to maximize Steps’ potential” (Nichols, 2012, p. 3). This resulted in a shift of their approach from an individual focused to a policy, system, and environment (PSE) based program. This finding compounded what Dilley, Reuer, Colman, and Norman (2009) found stating, it was “unreasonable to expect that people will change their behavior easily when so many forces in the social, cultural and physical environment conspire against such change” (p. 139).

The Affordable Care Act

The Affordable Care Act (ACA) was a historical healthcare reform law that contained provisions that granted Americans benefits, rights, and protections, and ensured more U.S. citizens had access to affordable, equitable, and quality healthcare (APA, 2010; Koyle, 2013; Schopp et al., 2015; D. R. Williams et al., 2010).

The ACA as a government initiative opened the door to workplace wellness programs by “implementing and expanding employer wellness programs [that] may offer our nation the opportunity to not only improve the health of Americans, but also help control health care spending” (U.S. Department of Labor, Employee Benefits Security Administration, 2014, para 1). The CDC (2016) found that the average full-time American worker spent more than one-third of the day, five days a week, at the workplace. The evolution toward sedentary working environments coupled with diversified employee lifestyles and how to meet the needs of the body while meeting the demands of the workplace resulted in starting a healthy lifestyle culture in the workplace. However, Berman (2011) disputed the enactment of the ACA and pointed out that it
“constitutes a historic step forward in the nearly century-long effort to ensure universal health insurance coverage, [but]…relatively little in the Act focused on the potentially transformative impact of public health efforts that prevent disease” (p. 328).

Workplace wellness programs were advantageous due to the access of employees and the benefits to employers, namely, lower healthcare costs and the changed behaviors of employees toward efficiency, production, and positive work culture (Robert, 2014; Tu & Mayrell, 2010). This trend was recognized by the ACA through multiple provisions to promote health activities, noting “access to employees at an age when interventions can still change their long-term health trajectory” in the workplace offered an opportunity to improve employee health (Mattke et al., 2013, p. 2). The revisions to the ACA were part of a broader national effort and strategy related to wellness programs in the workplace to access a larger population (Pomeranz, 2014). However, Nichols (2012) argued that “health cannot be legislated, mandated or decreed – it must be learned and practiced by individuals” (p. 502), further emphasizing how personal responsibility was the solution at the individual level and not more government regulated interventions. In the end, the CDC (2009) declared the workplace was an acceptable environment for health promotion activities.

**The Surgeon General’s Call to Action**

“A Call to Action is a science-based document to stimulate action nationwide to solve a major public health problem” (CDC & National Institutes of Health, 2001, para 1). In 2001, the Surgeon General released a call to action for preventing and decreasing overweight and obesity (Novak & Brownell, 2012; Office of the Surgeon General U.S. & National Institutes of Health, 2001). The goal was to encourage interest in solving a
nation-wide public health problem. This call to action declared its commitment to five main principles:

- promote the recognition of overweight and obesity as major public health problems; assist Americans in balancing healthful eating with regular physical activity to achieve and maintain a healthy or healthier body weight; identify effective and culturally appropriate interventions to prevent and treat overweight and obesity; encourage environmental changes that help prevent overweight and obesity; develop and enhance public-private partnerships to help implement this vision. (Office of the Surgeon General U.S. & National Institutes of Health, 2001, para 1).

The research and evaluation outcomes from this initiative suggested that the focus should be on both individual behavioral change and “group influences, institutional and community influences, and public policy” (Office of the Surgeon General U.S. & National Institutes of Health, 2001, para 3).

**Healthy and fit nation.** In 2010, the call to action focused on the Surgeon General’s vision for a healthy and fit nation. Publicizing the need for a concerted effort to confront obesity, the Surgeon General (2001) called “upon individuals, families, communities, schools, worksites, organizations, and the media to work together to build solutions that will bring better health to everyone in this country” (p. xi). The Surgeon General (2001) acknowledged the individual, environmental, and social challenges involved with changing health habits, creating communities that facilitate healthy and affordable choices, and building collective efforts to promote enjoyable and sustainable lifestyle changes.
**Step it Up!** In 2015, the Surgeon General presented Americans with: Step It Up! The Surgeon General’s Call to Action to Promote Walking and Walkable Communities.

The Surgeon General (2015) call to action presented five goals with accompanying strategies aimed at promoting walking and healthier choices. The first goal was to make walking a national priority with efforts to make communities walkable. Related, the second goal focused on designing communities to make it safe and easy to walk for people of all ages and abilities, which took an inclusive approach and was created to provide equitable accessibility to those with mobility limitations and other disabilities. The third goal promoted programs and policies to support walking where people lived, learned, worked, and played, and prioritized walking in these places. The fourth goal provided educational information to encourage walking and improve walkability, and promoted the substantial benefits of a healthy lifestyle to motivate walking. Finally, the fifth goal aimed to fill research and evaluation gaps related to walking and walkability, with a focus on the use of data for planning, implementation, and evaluation of the Step it Up! initiative (Step It Up! The Surgeon General’s Call to Action to Promote Walking and Walkable Communities, 2015, p. 31-43). These goals called for action by multiple sectors of society, including transportation, parks and recreation, education, business, non-profits, healthcare, and the media.

In 2001, America heard about the first call to action to combat obesity. In 2015, fourteen years later, with the best intentions and millions of dollars spent, the obesity epidemic remained uncontrolled (Trivedi et al., 2012). Despite the Surgeon General’s calls to action, Americans were not able to reach their full potential because of
preventable health conditions, inhibiting individuals from acquiring the healthy lifestyle habits recommended.

**Social Cognitive Theory as a Framework for Wellness**

“Social cognitive theory in its totality specifies factors governing the acquisition of competencies that can profoundly affect physical and emotional well-being as well as the self-regulation of health habits” (Bandura, 1998, p. 2). Social cognitive theory was deemed an appropriate framework for this study because it posited a “multifaceted causal structure in which self-efficacy beliefs operated together with goals, outcome expectations, and perceived environmental barriers and facilitators in the regulation of human motivation, behavior, and well-being” (Bandura, 1998, p. 2). This approach was referenced as a good individual self-manager of changed health and lifestyle habits while exercising control over healthier lifestyle management skills (Bandura, 1998; Garrin, 2014; Rouse, 2016; Wójcicki, White, & McAuley, 2009).

Education and knowledge were looked at through government initiatives as the forefront to change unhealthy lifestyle habits in the past (Barnes, 2010). However, unhealthy individuals did not lack the knowledge of their health risks. As stated by Bandura (1998) “knowledge creates the precondition for change. But additional self-influences are needed to overcome the impediments to adopting new lifestyle habits and maintaining them” (p. 1). Thereby clarifying that knowledge alone was not sufficient and other factors, such as self-efficacy, motivators, and barriers needed to be considered to establish healthier lifestyles.
Self-Efficacy

“Perceived self-efficacy refers to beliefs in one’s capabilities to organize and execute the courses of action required to produce given levels of attainment” (Bandura, 1998, p. 3). One of the six top barriers adults cited for not adopting a more physically active lifestyle was low self-efficacy; they lacked perceived competence and confidence in their activity level (CDC, 1999).

Self-efficacy as a determinant factor to health and wellness was supported in a study by Kadushin (2015) who found that efficacy in organized walking groups improved fitness and resulted in weight loss as a conduit to increased overall physical activity. Additionally, researchers found that wellness programs in the workplace that aimed to raise self-efficacy improved participants’ physical symptoms such as lowering incidences of anxiety and depression while increasing job satisfaction (M. J. Johnson, 2014; Norvell & Belles, 1993). Furthermore, the creation of a highly efficacious working environment with appropriate wellness resources supported efficacy acquisition, was shown to increase satisfaction with life and work, and employees applied the acquired efficacy skills to their job duties (Kim, Hollensbe, Schwoerer, & Halbesleben, 2015).

Additionally, research identified socio-psychological factors in exercise self-efficacy influential to: self-perceived body image, enjoyment for exercise, exercise barriers, and exercise benefits correlated to physical activity and participation (Alameda, 2009; Bandura, 2004; Brady, 2011; Middleton, 2009; Moseley, 2015).

The history of research on self-efficacy showed it to be a strong predictor of adoption and maintenance of healthy habits (Bandura, 1998). However, Anderson et al. (2006) conducted a study with a social cognitive model of physical activity and tested
999 adults from fourteen Southwestern Virginia churches for a health promotion baseline study. Of the social cognitive variables, social support influenced physical activity as a direct precursor to self-efficacy and self-regulation while “independent of self-regulation, self-efficacy had little effect” (Anderson et al., 2006, p. 510). Another study found that “following the intervention, participants exhibited significant increases in knowledge of and social support for physical activity but perceived barriers and self-efficacy did not change” (Mailey, 2012, p. 26). The barriers of inclement weather and a busy schedule were found to be affected by self-efficacy for walking in a study conducted by Richetti (2010) that involved a ten-week, electronically-delivered walking intervention that targeted sedentary faculty and staff of a small university in the Midwest. Additionally, this study explained how self-efficacy was a dynamic construct that changed over time depending on the particular situation informing the desired behavior (Richetti, 2010).

Self-efficacy and social cognitive theory to change behavior could be a critical piece to the puzzle of workplace wellness programs because self-efficacy is a “proven agent in sustained health-behavior change” (Schopp, 2015, p. 549). Despite the contrasting findings, Rouse (2016) found social cognitive theory posited that self-efficacy focused on “predictors as well as ways to improve the health habits of individuals” (p. 33), and it provided validation for behavioral intentions of changing health habits. With such inconclusive findings, a study looking at the self-efficacy of individuals in the face of perceived barriers compared to collective efficacy would add to the conversation and research knowledge to better understand this dilemma.
Collective Efficacy

“Perceived collective efficacy is defined as a group shared believe in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment” (Bandura, 1994, p. 477). For the purpose of this study, collective efficacy was used to measure teamed collective efficacy in participants in the workplace walking challenge. Additionally, the review of literature found the words collective, group, and team tended to be used synonymously. As such, in this section, the three terms may be used interchangeably as descriptors of collective efficacy.

Collective efficacy raised much query in the shadow of self-efficacy. “Unlike individual efficacy, collective efficacy involves interactive, coordinative, and synergetic social dynamics. “Perceived collective efficacy is, therefore, construed as an emergent group-level attribute rather than simply an aggregation of perceived individual efficacies” (Fernández-Ballesteros, Díez-Nicolás, Caprara, Barbaranelli, & Bandura, 2002, p. 108).

Little research was found concerning teamed participation and interventions in workplace wellness programs. Of the research found, the workplace was considered an environment that advanced health beyond preventable illness or chronic disease while building opportunities for individuals and teams to improve their overall health and well-being (Hundley, 2010). For example, Health Enhancement Systems (2013) found that team and group accountability motivated those who would not have participated in a walking program on their own.

The evidence suggested that collegial social support was only fruitful when it (1) raised self-efficacy and (2) created an environment with healthful and supportive responsibilities to influence changing peer habits and how they felt about themselves
Social influence in a workplace wellness program encouraged colleague socialization and thereby supported and developed a health culture. The created shift in workplace culture promoted and encouraged healthful behaviors, thus providing the employer a foundation that enhanced “employees’ level of self-efficacy, personal motivation, well-being, and sense of accomplishment” (Taylor, 2012, p. 66).

Seldom did research on workplace wellness focus on collective, group, or teemed efficacy. Choi et al. (2003) “acknowledge that previous studies have identified personal and task-related determinants of self-efficacy, nevertheless, potential impact of social context have not yet been systematically investigated” (p. 368). Their study examined group characteristics and how they affected the self-efficacy of individuals and found “preliminary evidence that various group factors contribute to changes in members’ self-efficacy” (Choi et al., 2003, p. 368). Furthermore, Bandura (1998) concluded that “knowledge on how to develop and exercise collective-efficacy can provide the guidelines for moving us further in the enhancement of human health” (p. 22). The current study sought to fill the research gap and build on these works to further explore the role of group efficacy of participants of a workplace wellness program.

**Workplace Wellness Programs**

Proximal environments, where Americans live, work, and convene for social interactions such as church or volunteer settings, were found to be influential to one’s health habits (Hopkins, 2007; D. R. Williams et al., 2010). The workplace drew attention as a captive environment to reach larger numbers of individuals because adults spent the majority of their day in the workplace (Hopkins, 2007).
Workplace wellness programs were defined as a “coordinated and comprehensive set of health promotion and protection strategies implemented at the worksite that includes programs, policies, benefits, environmental supports, and links to the surrounding community designed to encourage the health and safety of all employees” (CDC, 2014, para 1). With more than 60% of Americans who worked in sedentary environments at the organizational level, high consideration toward health initiatives to combat this pandemic in the workplace was a favorable environment to access middle-aged adults (Casimano, 2015; CDC, 2011; Purath, 2002). However, workplace wellness programs cannot be viewed as the panacea to the sedentary lifestyles Americans choose to live.

A study evaluated the intervention program Move to Improve, a 12-week initiative designed to increased leisure-time physical activity of 1,442 Home Depot participants from approximately 20 locations across the United States. Dishman, DeJoy, Wilson, and Vandenberg (2009) reiterated that upon a systematic review, past interventions did not necessarily conclude with successful health outcomes; although the workplace as an environment for health promotion interventions to increase physical activity was a growing area of interest, it remained an under-researched area. Furthermore, Dishman et al., (2009) cautioned that the “cumulative effect of physical activity interventions at workplaces is likely an underestimate of the potential impact of a well-implemented theory-based intervention applied with sound research design and methodology” (p. 133).

Research and Development (RAND), an organization that developed solutions to improve public policy through research and analysis, took an interdisciplinary approach
and produced actionable insight through collaboration with Dr. Soeren Mattke, a wellness expert. Bottles (2015) cited Mattke, who conducted pivotal reviews and salient research studies and discovered:

Many companies do not evaluate whether their programs work or not.

Another problem that these studies found was that it is hard to account for the bias introduced by the likelihood that participants in voluntary wellness programs are more motivated and healthier to begin with than their nonparticipant coworkers. (p. 36)

To further elucidate this, Pomeranz, (2014) found that none of the four case studies formally evaluated their health programs’ impact on employees despite the positive health outcomes. This brought forth the argument that the government needed to establish protocols to strengthen wellness related program requirements for employers and the use of practiced and evidence-based programs (Pomeranz, 2014).

When considering the implementation of a workplace wellness program, it behooves the organization to research and evaluate which workplace wellness programs resulted in positive health outcomes rather than adopting best practices alone. Pomeranz (2014) found that relying on best practices nurtured the investments made into wellness programs, however, only when effective programming was present. To do this, some states required provisions as an attempt to ensure success. In Colorado, for example, health-contingent programs were required by state law to show results “consistent with evidence-based research and best practices” (Pomeranz, 2014, p. 2053). However, research indicated that the use of best practices alone did not guarantee employee participation nor program effectiveness (Goetzel et al., 2011; Nichols, 2012).
Support and Health Promotion in Workplace Wellness Programs

Bottles (2015) revealed that in 2010, 57% of companies supported a workplace wellness program. Workplace wellness initiatives supported: lowering healthcare costs, retaining high-quality talent, reducing absenteeism, increasing employee health, and increasing productivity rates (Carnethon et al., 2009; Pronk, 2014). Wellness initiatives in the workplace were valued because they facilitated the overall health of employees and continued to break down barriers to wellness while increasing employee productivity.

“Employers expressed growing concern about workforce health and its effect on productivity” (Lang, 2013, p. 10). Deficiencies in health resulted in lower levels of productivity due to factors such as more days away from work and premature death; “when people are sick, they can’t function as well at school, home, or work as when they are healthy” (D. R. Williams et al., 2010, p. 1482). Goetzel et al. (2009) concluded that prevention activities were necessary, especially those outside of traditional healthcare settings. Complimentary to this, D. R. Williams et al. (2010) concluded that the “most important prevention activities occur outside the traditional medical care setting, in the places where we live, learn, work, play, and worship” (p. 1483). Hence, the supported intervention from the CDC to collaborate with employers as the facilitator sent a clear and urgent message about health promotion and chronic illness prevention opportunities focused in the workplace (Lang, 2013).

A revealing a trend toward workplace wellness programs found employee participation rates between 75% to 93% across companies in the United States (Bottles, 2015). Various facilitators promoted wellness and participation in health activities, which deserved further review of the literature to encourage other organizations to
incorporate some of the most suitable facilitators found in the literature. Although workplace wellness programs varied, the goal to improve the health of employees was universal (Chyou, Scheuer, & Linneman, 2006; Peters, 1997; Schopp et al., 2015). Having the support of an employer who offered a variety of programs such as health education classes, preventable disease seminars, onsite exercise classes, biometric screenings, monthly newsletters, and walking challenges was a facilitator as the multitude of services met the needs of a diversified staff (Birdee et al., 2013; Carnethon et al., 2009; R. L. Johnson, 2013). Workplace wellness programs also projected to employees that the employer cared, which builds upon the company supports and affected the culture (Schopp et al., 2015). Additionally, program elements that engaged staff and were rated high by employees were relatively low in cost (WorldatWork, 2012).

**Facilitators in the workplace.** This section looked at variables attributed to overall support in the workplace. Kane et al. (1996) noted that both individual and organizational factors played a role in the effectiveness of a wellness program. It was also noteworthy that “fewer than 26% of employees believe the company has a strong culture of health” (Anderko et al., 2012, p. 2). Therefore, salient individual and organizational workplace facilitators were identified and examined.

**Employer support.** An employer supported its employees by creating a caring workplace environment through the encouragement of healthier lifestyles for their employees (Du Preez, 2012). Employers also saw a productivity benefit from wellness programs through improved perceptions of workplace health support (Chen et al., 2015). However, an employer could not deem appropriate and inappropriate lifestyle habits. What they could do, as proposed by Bottles (2015), was “provide guidance, education,
skill building and support programs to workers who wish to eat healthy foods and become more physically active” (p. 37). It was through employers’ actions of support that employees acquired trust in their organizations (Bass, 1991). In sum, workplace wellness programs emerged due to the concomitant effects obesity inflicted on worker productivity losses. With nearly 78 million adults in the United States workforce dealing with health and emotional effects of obesity (Understanding the American Obesity Epidemic, 2015), employers must continue to offer support through evidence-based interventions in the workplace (Goetzel et al., 2009)

**Leadership support.** Leadership support was not a prerequisite to wellness programs in the workplace. However, studies indicated the effectiveness of the presence of leadership support in workplace wellness activities. Leadership involvement and policies were critical components to alter the work environment and support a culture of health through modeled leadership behaviors (Du Preez, 2012; Goetzel, 2015). “In addition to strong senior leadership, nearly all experts agreed that wellness programs need leaders—often called ‘wellness champions’ [leaders]—within the company ranks to help raise awareness and enthusiasm and maintain engagement in wellness” (Tu & Mayrell, 2010, p. 8). Casillas (2011) supported this finding and stated, “leadership culture is best understood through direct engagement with leaders. Leaders are in the best position to develop and nurture a health culture” (p. 65).

A recent study of 1,500 U.S. adults by the APA (2016), found links between support from senior leadership and workplace wellness programs. With leadership support, nine in ten workers said they felt motivated to do their best and 91% said they were satisfied with their job compared to 30% without leadership support. Similarly,
93% of those with leadership support reported positive relationships with coworkers compared to 72% for those without leadership support. Therefore, engaging leadership in wellness initiatives required attention because “when supervisors’ actions match their words, employees notice” (APA, 2016, p. 2).

Another study conducted by Rouse (2016) involved 108 faculty, staff, and administrators from four separate community college campuses in South Mississippi focused on participation in wellness programs and looked at leadership support, job satisfaction, and absenteeism specifically. Rouse (2016) found that half of the employees reported that had leadership been involved in the wellness program, they were more likely to participate. This study postulated the value of leadership participation to entice constituents to participate. Furthermore, Rouse (2016) testified that healthy behavioral changes “involve support from the organization and that any change process must have support of leadership to succeed” (p. 4).

A mixed-methods pilot study conducted over six months used interview data to confirm that non-participation from leadership was seen as a barrier to employee participation and was negatively perceived by constituents (Du Preez, 2010). Responses from 98 participants who worked for a health administration insurance company revealed that had leadership participated or were more involved, participants were less likely to drop out of the program (Du Preez, 2010).

Given the importance to create healthy work environments, Casillas (2014) concluded that “there is a need for more research on the mechanisms of organizational change, as well as leadership qualities that are most likely to improve the health of employees” (p. 20). According to Clark (2008), wellness programs in the workplace
were valuable because of their history of success and the reduction of healthcare costs. Furthermore, “they also resonate loud and clear with modern-day employees who are determined to work for a company that understands their needs and is willing to make progress with the employee’s best interest in mind” (Clark, 2008, p. 23). To further elucidate the value employees felt of leadership involvement, a study by T. L. Roberts (2014) found that “on average, 73% [of employees] agreed that the university care[d] about their health status, only 40% of respondents agreed that they have leadership support in wellness” (p. 37).

**Colleague support.** Colleagues were found to be an influential motivator toward participation in workplace wellness programs. Again, “employees are more likely to engage in healthy behaviors and wellness programs if their colleagues also participate” (Koster, 2014, p. 1).

One form of promoting a wellness program was using volunteers as wellness activity champions. Tu and Mayrell (2010) suggested the use of volunteer champions “often provides the critical peer support needed to improve and maintain healthy behaviors among coworkers” (p. 8). In a pilot study conducted over six-months, findings from interview responses indicated the strength of colleague support. For example, an anecdote from a participant who joined the workplace wellness program because of another colleague reported that colleague support had a positive effect on the work atmosphere (Du Preez, 2012). This study reinforced the value of collegial support in the workplace and more importantly, the implications social support had on participation in the wellness activities and the residual effects of this behavioral change on work productivity, employee satisfaction, and workplace culture (Du Preez, 2012).
**Social support.** Social support in wellness programs offered a supportive network, built relationships, and provided motivation and accountability to reach health goals. Using social support was essential; thus, “leveraging such incidental workplace social support for healthy behaviors may in turn lead to changes in overall workplace health climate, driven by individual employees rather than by mandates or incentives” (Schopp, 2015, p. 551).

In a study by Perkins (2012), who examined the patterns of adherence to variables that included sociocultural influences among those who enrolled in the Fit 4 Life study, found “commonly cited social and environmental facilitators were social support and structured/group exercise” (p. 41). This indicated that the exercise environment, with social support from staff and peers, were the most commonly reported facilitators to a healthier lifestyle (Perkins, 2012). As was previously stated, the implications of a supportive and safe workplace environment with social norms to support the changes toward positive attitudes, behaviors, and intentions were crucial to employees’ motivation and participation in physical activity in workplace wellness programs (Casimano, 2015; Hopkins, 2007).

Act Healthy was a wellness intervention that adopted the central components of the Chronic Disease Self-Management System into a standardized system. The purpose was to offer low-cost options that were convenient for employees. A study of the program offered evidence of the importance of social support among coworkers (Schopp, 2015). Act Healthy was based on social learning theory, which posited learned behavior was often driven by environmental influences (Bandura & Walters, 1977).
“Social norms can encourage accountability, change habits, and create positive peer pressure” (Bass, 1991, p. 3). The following anecdote from a participant highlighted the value of social support to her participation in a wellness program: “social support is really important to me. I wouldn’t go on walks or do the Fitness Center if I didn’t have someone encouraging me” (Das, Petruzzello, & Ryan, 2014, p. 4).

Another study found that “environmental facilitators can include a number of factors, but social support has been the most commonly studied facilitator in the context of exercise” (Mailey, 2012, p. 19). Multiple factors in the workplace environment facilitated participation in wellness programs. Support from leadership, colleagues, and other coworkers played a considerable role in engaging staff and changing behaviors (Mailey, 2012).

Facilitators: Technology. With a lack of time cited as a consistent salient barrier by wellness program participants, one option to reduce this barrier and elicit participation was the implementation of technology as a facilitator to workplace wellness (Harrington et al., 2015; Kadushin, 2015; Smith, 2014). “The emergence commercial wearable devices for tracking health and fitness related activities arguably represents the first widespread adoption of dedicated ubiquitous persuasive technology” (Fritz, Huang, Murphy, & Zimmermann, 2014, p. 487). Smith (2014) believed technology could motivate people to exercise in ways other efforts were unable to succeed. The use of technology to facilitate participation in wellness programs is an innovative option to combat obesity, especially with the tracking features for activities such as walking, making exercise activity more appealing (Nanney, 2014). Moreover, Lee (2013) claimed that with the ubiquity of technology, personalization brought a new importance in
consideration the preferences of individuals. To further defend this, Lee (2013) explained that the “advances in computing technology have resulted in a proliferation of computer-based services, ranging from information services to online health services to social networking services and more” (p. 167). With social networking and colleague socialization leading the technology trend to promote health, how technology plays a role in promoting participation in a workplace wellness programs was worth considering.

**Wearable tracking devices.** Wearable tracking devices are a type of “technology in the form of small hardware that includes an application with tracking and monitoring fitness metrics such as distance walked or run, calories consumed, and in some devices heart rate and sleep tracking” (Kaewkannate & Kim, 2016, p. 1). These devices were more accurate and tracked data in real-time. These mini-computers were comfortable to wear and a convenient method for tracking activity more accurately to the individual. Furthermore, a study predicted that 13 million wearable devices would be utilized by workplace wellness programs by 2018 (Farr, 2016).

In a study conducted by Koyle (2013), the use of technology was found as a facilitator because it could “tap into the social aspects that support behavior change, thereby increasing individual and collective efficacy” (p. 20). The use of technology helped battle unhealthy behaviors within workplace environments; Swick (2006) clarified “as technology continues to impact society, a new way of thinking about wellness must occur” (p. 30). Thus, after years of extensive research, in 2004 Bandura called for the field of research to look at the need to “further amplify our impact on human health by making creative use of evolving interactive technologies that expand the scope and impact of health promotion efforts” (p. 162).
The Fitbit is one wearable fitness tracking device that is wireless-enabled and measures data including the number of steps walked, quality of sleep, and other health factors depending on the model. The device has several fitness uses and mobile applications to facilitate access to immediate feedback and data (Kaewkannate & Kim, 2016). Employers worked with insurance companies and used Fitbits to create a corporate wellness challenge to motivate employees to adopt a healthier and more productive lifestyle through wellness initiatives (Farr, 2016). Additionally, Farr (2016) reported that the Fitbit organization provided human resource departments with “webinars, dedicated service support, and dashboards where benefits managers can monitor how their employees are performing” and benefiting from wearing the Fitbit (p. 30). Thus, the Fitbit was a facilitator to engage employees and made them aware of their health needs while fostering a culture of health in the workplace and meeting fitness goals together (Farr, 2016).

A study that used Fitbits in a wellness program looked at people who elected to wear the devices on their own for 3 to 54 months (Fritz et al., 2014). One participant stated that she originally was interested in losing weight, but using the Fitbit motivated her through the friendly competitions for steps walked and activity minutes tracked (Fritz et al., 2014). The study found the Fitbit was effective for facilitating engagement and participation through the use of technology and social networks.

**Salient Barriers to Wellness Programs**

Regardless of the self-evident benefits and motivators to wellness programs, significant barriers also exist. Linnan et al. (2008) found the most common barriers to offering health promotion and worksite wellness programs were a lack of: employee
interest; support by management; resources and funding, and participation by high-risk employees. Since Americans spent more than two-thirds of their day in the workplace, essentially physically inactive, the workplace was targeted as an environment to intervene (Anderson, Wojcik, Winett, & Williams, 2006; Gabel et al. 2009). Companies struggled with a registration barrier in wellness programs, reporting only a 20% registration rate as postulated by Farr (2016). This was detrimental to employers who needed higher participation rates to achieve health outcomes and lower healthcare costs.

Barriers to participation must be looked at from multiple employee perspectives to understand how to address the unique barriers. Employers need to consider that “participants sometimes over-estimate their ability to engage in healthy behavior(s) and under-estimate their barriers to healthy behavior(s) when they are not actively engaged in the behavior(s)” (Flannery, 2011, p. 77). Middleton (2009) stated that “individuals who perceive the strongest barriers may be the individuals in the most need of health improvements through exercise intervention programs” (p. 32-33). Further, Kilker (2007) suggested not all barriers were health-related and other factors such as the environment and social context needed to be considered. In brief, Middleton (2009) recommended that programs work to identify the best methods for recruiting and reducing perceived barriers for this population.

**Privacy of Personal Health Information**

A barrier found to limit participation in wellness activities was the trepidation employees had about the privacy of their personal information. Bottles (2015) found rights to privacy a barrier to participation by employees concerned for their personal information. Furthermore, Gabel et al. (2009) found that 28% of employees stated
“workplace programs related to weight and healthy life-style issues interfere with an employee’s privacy” (p. 49). In another study, employee unions pushed back against wellness programs for fear of inequitable treatment and privacy concerns” (Tu & Mayrell, 2010).

To assuage employees concerns about privacy, Fitbit, a leading collaborator to insurance companies and workplace wellness programs, added compliancy with the U.S. Health Insurance Portability and Accountability Act (HIPAA) to its policies. Additionally, Chief Executive Officer James Park defended the Fitbit organization maintaining that it kept personal data completely confidential and never sold information to third parties (Farr, 2016).

It is important for employers to understand the fears of employees when implementing a wellness program and implement precautions to ensure the confidentiality and protection of employee information. However, privacy concerns are only one of the barriers employers must overcome.

**Lack of Time**

A commonly purported barrier to participating in wellness programs was a lack of time (CDC, 2011; Hill-Mey, 2012; Perkins, 2012; T. L. Roberts, 2014; B. M. Williams, 2014; Williamson, 2012). One study with participants from K-8 schools in central California implemented a district specific, 10-week wellness program titled LiveWELL. This wellness program found that “physical and mental health benefits were evident, however, the barrier of perceived lack of time was the most commonly discussed barrier” (Williamson, 2012, p. 38). In another study, a survey took previously reported data to assess employee perceptions of potential barriers and incentives to promote workplace
wellness; the survey of approximately 52,000 found limited time during, before, and after work was the primary barrier to participation in wellness programs (Kruger et al., 2007).

D. R. Williams et al., (2010) also found lack of time and skills to engage in regular physical activity and maintaining a healthy lifestyle were common barriers identified by 66 students, faculty, and staff of a college in the South. This study also stated that students, faculty, and staff lacked the knowledge of how to get started in an exercise program, further elucidating that, “getting started is the most difficult step, but beginning an exercise program has immediate benefits (D. R. Williams et al., 2010, p. 1635). The researchers concluded that a multi-population approach, one that included multiple populations rather that one population, could be effective. Another salient result from this study was considering participants self-identified barriers to change their sedentary lifestyle to healthy behaviors; namely, lack of time, skills, knowledge, confidence, and accountability, and how to address each barrier through a multifaceted approach that involved “teaching people how to exercise, had to stay motivated and why these behavior modifications are vital to quality of life” (D. R. Williams, 2010, p. 1635).

High-Risk Employees

An individual was considered high-risk if they had two or more of the following chronic conditions: heart disease, cancer, stroke, chronic obstructive pulmonary disease, and diabetes (CDC, 2009; Jadad et al., 2013). High-risk employees were considered a barrier to wellness programs because more than one in four Americans had multiple chronic conditions and more than two-thirds of deaths were caused by at least one of the chronic diseases listed. Additionally, high-risk employees were considered a barrier to wellness programs because it was this group that was the unhealthiest, had higher
healthcare costs, and were highly unlikely to participate in a wellness program (Bottles, 2015; R. L. Johnson, 2013; Meyer et al., 2013; Montgomery, 2008; T. L. Roberts, 2014; Schopp et al., 2015).

Employers felt the onus through lower employee productivity because of absenteeism from work due to chronic illness and the increase of health-related expenses for employees and employers (Watson, 2001). Furthermore, healthcare costs for people with a chronic condition averaged $6,032 annually, five times higher than for those without such a condition (CDC, 2009).

Wellness programs struggled with the barriers to entice this group of employees for many reasons. One was the concern of alienation of this group when it came to the use of a wearable device such as the Fitbit. Despite the veracity of the Fitbit CEO’s previous statement about employee privacy, he contended, “we are trying to take the issue of privacy off the table…[because it is] detrimental to our core business if employees have concerns about what’s being done with their data” (Farr, 2016, p. 30).

Lastly, high-risk populations made up a significant proportion of the workforce and were a recommended population for workplace wellness programs (Aneni et al., 2014). As stated by Aneni et al. (2014), delivery of effective wellness programs for this population remained unclear in the research. Thus, the CDC (2009) called for further investigation into behavioral changes and individual choices that result in an increased incidence of costly, chronic diseases.

Wellness programs struggled with attracting the high-risk employees that required more medical attention and cost organizations more to employ. Yet, Health Enhancement Systems (2011) argued that “disease management programs that focus on
the high-risk population may seem like the best strategy, but research confirms that a major opportunity for economic impact is in keeping low-risk employees from moving into higher-risk categories” (p. 2). Norman, Heltemes, and Drew (2014) similarly emphasized “that it is more effective and efficient to intervene on a whole population rather than a small at-risk population” (p. 329). The implication was to focus on the typical-risk employee thus, removing the potential barriers generated by high-risk participants. Additionally, employers need ways to evaluate the needs of the population and tailor a wellness program to meet those needs.

The focus used by Norman et al. (2014) was a population approach and a high-risk approach as an incentive designed for program engagement. The study found that the population approach “engaged high-risk employees in coaching, and engaged a high proportion of employees not at high-risk, but who can still be at risk for chronic diseases” (p. 329). Furthermore, this study found the “concept of a population approach to impact the continuum of risk closely matches behavioral economics tenets, which also emphasize that it is more effective and efficient to intervene on a whole population rather than a small at-risk population segment” (Norman et al., 2014, p. 329).

**Wellness Programs in Higher Education**

An organization or institution strives to attract the highest quality of talent and maximize employee productivity and efficiency in the workplace. To accomplish this, organizations were found to offer flexible work options, wellness programs, and employee assistance programs. The rationale found by Thompson (2004) from Purdue University involved “enhanced competitiveness in recruiting, removing barriers for
employees to be more productive, reduced cost through decreased absenteeism and healthcare costs, and improve retention” (p. 1).

Higher education needed to include a comprehensive approach to support the benefits of an active lifestyle in the workplace (Bryant, Banta, & Bradley, 1995). However, some organizations argued lack of funds impeded the development of their wellness program. Walking was easily facilitated through individual or teamed participation and was easily accessible both inside or outside of the workplace; thus, wellness programs should consider walking challenges as a low-cost, non-threatening, and noninvasive option to start a wellness program (Koyle, 2013; Richetti, 2010). Chyou et al. (2006) further supported this through their research indicating the many health benefits of walking, such as: weight loss, lowered body mass index (BMI), lowered blood pressure, decreased caloric intake, increased mental capacity, improved sense of overall well-being, lowered anxiety, reduced tension, and increased efficiency and productivity.

**Walking Challenges in Higher Education**

One study took a deeper look at the personal motivators to participation in wellness programs and activities, and found that, “The most commonly cited activity participants participated in as adults, for both exercise and transportation, was walking” (Perkins, 2012, p. 112). Employers must consider and adapt to the perceived barriers to participation in wellness programs and respond to those barriers to increase participation and thus, realize the positive outcomes of such programs (Hill-Mey, 2012). Furthermore, wellness programs in higher education should factor in findings from prior studies that indicated 10% were already and would remain active, 30% would participate when the
timing was convenient or an incentive was offered, and 60% would identify other barriers to participation that must be overcome (Hill-Mey, 2012).

Physical activity was the theme of a Global Congress at the American Heart Association’s (AHA) Annual Scientific Sessions (Harrington et al., 2015). iHealth, working in collaboration with the AHA, provided Bluetooth-enabled wearable trackers to up to 2,000 Scientific Session attendees. This study involved a walking challenge as a pilot project measuring and promoting walking. This pilot demonstrated that technology as a facilitator to an interesting challenge engaged employee participation, and most importantly, provided access to those employees with high-risk behaviors (Harrington et al., 2015). This also brought attention to the need to consider the context in which health-related decisions were made, noting factors such as leadership, colleague socialization, and learned habits could reach a wider portion of the population (Norman et al., 2014).

Walking in higher education workplaces was also preferred as the physical activity to be included in a workplace wellness program per Rouse (2016). This supported research by Hernandez (2010), which reported that older adults versus younger adults were more likely to walk intentionally and have greater self-efficacy for walking and walking more days. Another interesting finding from this study was the difference between faculty and staff and reported minutes for physical activity; the researcher suggested the differences in education level and work demands might be reflective of the faculty reporting more minutes of physical activity. One implication from the study was that faculty had more time due to salaried positions rather than staff who may be hourly employees (Hernandez, 2010). Whom the employees reported to and if they were in a
leadership position were also indicators of the time available to participate in physical activity.

**Summary**

This literature review provided a comprehensive, contextual framework for this study, along with key findings related to the topic of workplace wellness programs in higher education settings. A substantive research approach explored the literature related to individual and collective efficacy and the impact on individual versus teamed participation and engagement when faced with perceived barriers in a walking challenge. As stated by Lang (2013) “several literature reviews have reinforced the need for comprehensive workplace programs that include policy, environmental, and individual level interventions to achieve cultural change and improve the health of the working population” (p. 11). However, the research revealed the incipient argument to move knowledge forward using a teamed approach and social intervention in further research.

“The core scientific premises on which the entire field of obesity studies rest: overweight and obesity are bad for your health and the excess food intake and insufficient physical activity are the root causes of this disease” (Logan, 2006, p. 68). Thus the scientific evidence needs to move its impetus toward researching human behaviorism to change individual and societal behaviors of over eating and inactivity starting with environmental influences.

**Synthesis Matrix**

A synthesis matrix identified the themes and patterns across various sources for comparison (C. M. Roberts, 2010). The top of the matrix represented the common themes, arguments, and main ideas identified in the literature. The side of the matrix
listed the various sources used in this research study. The synthesis matrix allowed the researcher to easily identify common themes across the literature and identify potential gaps.
CHAPTER III: METHODOLOGY

Overview

This chapter outlines the methodology used for this study, which was a sequential explanatory mixed-methods approach. The chapter begins with a restatement of the purpose and research questions. Next, the population, sample, and instrumentation are explained, followed by a presentation of the data collection and analysis methods. A discussion of the limitations, and a summary conclude this chapter.

Purpose Statement

The purpose of this sequential explanatory mixed-method study was twofold. First, the intent of the study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge. Second, the study sought to explore collective efficacy and the impact on teamed participation and engagement when faced with perceived barriers in an eight-week walking challenge compared to those who participated individually.

Research Questions

The following three research questions guided this study:

1. What was the difference in self-efficacy between those who participated in a walking challenge as an individual compared to those who participated as a member of a team?

2. What challenges were faced by individual versus teamed participants and how were those challenges overcome?

3. What was the difference in motivation between those who participated as an individual compared to those who participated as a member of a team?
Research Design

This section describes the research study and research design, followed by the rationale and why this design was deemed appropriate. Additionally, the research steps taken to carry out the study are described in detail. This section ends with an explanation of how this research aligned with the research problem and how this study collected data to address the research questions related to the lack of participation in workplace wellness programs in the face of perceived barriers by individual versus teamed participants of a walking challenge.

Sequential Explanatory Mixed-Methods

A sequential explanatory mixed-methods approach was deemed appropriate for the purpose of this study because this method, as explained by McMillan and Schumacher (2010), “provides for a more comprehensive picture of what is being studied, emphasizing quantitative outcomes as well as the process that influenced the outcomes” (p. 401). This approach entails two sequential data collection procedures, a quantitative online survey followed by a qualitative semi-structure interview (Creswell, 2014; McMillan & Schumacher, 2010). A pragmatic worldview guided the “priority decision” (Creswell & Plano-Clark, 2007, p. 81) that places greater priority and emphasis on one method then the other method to answer the research questions. For this study, greater emphasis was placed on the quantitative data to address the research questions. Figure 1 presents a visual representation of the sequential explanatory research design used for this study, with the capital letters indicating the priority decision on the quantitative data collection.
Figure 1. Sequential explanatory mixed-methods research design with a priority decision on the quantitative data collection.

For this study, phase one used a quantitative online survey to collect responses regarding the perceived barriers participants faced and the outcomes of those barriers on their self-efficacy. These data were analyzed and compared based on individual and teamed participation in an eight-week walking challenge. In phase two, the follow-up qualitative, semi-structured interviews helped elucidate, explain, and elaborate on the quantitative findings (Ivankova, Creswell, & Stick, 2006). The rationale for this approach was that the combination of subsequent analyzed results offered strength in a general understanding of the research problem by identifying and describing how individual and collective efficacy impacted participation and engagement when participants faced perceived barriers in an eight-week walking challenge in a workplace wellness program in higher education (Creswell, 2014; Creswell & Plano-Clark, 2007; McMillan & Schumacher, 2010).

Phase one: Quantitative online survey. “A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of the population by studying a sample of that population” (Creswell, 2014, p. 155). Quantitative research “maximize[s] objectivity by using numbers, statistics, structure and control” (McMillan & Schumacher, 2010, p. 23). Therefore, collecting survey data was relevant for this
study to seek answers about the trends, attitudes, and opinions to identify “statistically significant differences and anomalous results” to explain why results differed in impact of individual and collective efficacy of participants during an eight-week workplace walking challenge when faced with perceived barriers to activity (Creswell & Plano-Clark, 2007, p. 72).

**Phase two: Qualitative semi-structured interviews.** Qualitative research often takes on a constructivist or interpretivist paradigm (Creswell, 2014; McMillan & Schumacher, 2010). “Constructivists study the multiple realities constructed by different groups of people and the implications of those constructions for their lives and interactions with others” (Patton, 2015, p. 121). Therefore, capturing the diverse perceptions of participants through in-depth, semi-structured interviews and interpreting their implications led to insights towards understanding the research problem. Multiple participant realities with detailed attention to the particular context of Brandman University, and the historical and cultural settings the participants lived and worked in were explored in detail. Again, this approach was recommended by McMillan and Schumacher (2010) who stated that qualitative approaches “refer to an in-depth study using face-to-face techniques to collect data from people in their natural setting” (p. 475). Hence, for the purpose of this research study, phase two, in-depth semi-structured interviews were used following phase one, the quantitative survey data collection to explore a deeper understanding of participants’ individual and teemed perceptions when faced with barriers and the impact on self and collective efficacy in an eight-week workplace walking challenge.
Population

The population was the 495 benefits-eligible employees of Brandman University (Brandman University’s Human Resource department, 2016). This population was all of Brandman University’s full-time faculty and staff across over 25 campuses throughout California, Washington, and Oregon.

Brandman University employed 495 full-time faculty and staff at the start of this study (August 2016). This population was considered benefits-eligible and therefore, able to participate in the HealthyU Wellness Program of Brandman University and all activities. Brandman University also employed a large number of benefits-ineligible faculty and staff. At the time of this study, Brandman University employed approximately over 2,000 adjunct faculty and part-time staff, which included: part-time, agency employed, ancillary staff, and adjunct faculty. This group of the population was considered non-benefits eligible and therefore unable to participate in the HealthyU Wellness Program of Brandman University and any activities. As such, these benefit-ineligible staff were excluded from the study and focused population.

Demographic information

Demographic data obtained reflected the April 2016 Census reported from the Brandman University benefits broker. Demographic data provide an illustration of characteristics reflected in the sample, “which allows the researcher to describe the participants and the research report” (Patton, 2005, p. 148). Furthermore, the use of demographic data permit the researcher to determine generalizability of findings to the target population into the total population.
Demographic data were provided for the 495 benefits-eligible employees. Of those, 67% were female and 33% were male. The average employee age in years was 44.4. The number of employees at or over the age of 65 was 31. The average number of years employed at Brandman University was 5.8 years. As can be seen in Table 1, the majority of employees were White.

Table 1

*Demographic Data from Benefits-Eligible Employees of Brandman University*

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<td>American Indian/Alaskan Native</td>
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</table>

*Note.* N = 495

**Target Population**

The desired target population conformed to a criterion and therefore, were intended for the generalizability of this research study (Creswell, 2014; McMillan & Schumacher, 2010; Patten, 2005). The target population included benefits-eligible faculty and staff who voluntarily registered for the HealthTrails workplace wellness
program walking challenge, which totaled 168 of the benefits-eligible employees and represented 19 different campuses. Due to the lack of feasibility to gather information from a whole population, a representative sample of interest was selected (C. M. Roberts, 2010). Selection of the representative sample for this study follows.

Sample

A nonprobability sample, or convenience sample, in which respondents were chosen based on their convenience and availability was deemed appropriate due to the need of participants as volunteers (Creswell, 2014). A convenience sampling method offered ease for selection of participants and participants were based on their voluntary availability (Patten, 2005; Patton, 2015).

Sample Selection Process

The sample selection process began with an advert in the August 2016 monthly wellness newsletter titled HealthyU. HealthyU is a monthly, electronic newsletter that was part of the wellness program initiative for all Brandman University staff, and was emailed to eligible and non-benefits eligible employees. An introduction of the imminent walking challenge was deployed via the HealthyU monthly wellness newsletter, which announced that HealthTrails was returning in late August 2016 and featured an eight-week individual and team-based option to the walking challenge that incorporated steps and other healthy behaviors. The newsletter also mentioned that more details were to follow in another emailed advert from HealthyU. Deployment of the HealthyU newsletter with the first announcement (Appendix A) was via email during traditional working hours (i.e., 8:00 a.m. – 5:00 p.m. Pacific Standard Time) to only Brandman University email addresses.
The second emailed notification was deployed August 5, 2016 via the HealthyU monthly wellness newsletter to all benefits eligible, and non-benefits eligible employees (Appendix B). It announced that HealthTrails was accepting registrations from August 15 through August 28, 2016, for a total of 13 days. The newsletter also mentioned details about purchasing a subsidized Fitbit for benefits-eligible employees only. The deployment of the HealthyU newsletter with the announcement was sent via email during traditional working hours (i.e., 8:00 a.m. – 5:00 p.m. Pacific Standard Time). Although the newsletter was emailed to all Brandman University employees, it specified that only benefits-eligible faculty and staff were permitted to register and participate voluntarily in the eight-week walking challenge. The sample was generated from the target population of all employees who voluntarily registered for the HealthTrails walking challenge with the wellness program of Brandman University.

**Phase one: Quantitative online survey.** For the first, quantitative phase of this sequential explanatory research study, participants were chosen based on their convenience and availability. This was deemed appropriate due to the need of participants as volunteers (Creswell, 2014). Benefits eligible employees voluntarily registered online to participate in the eight-week HealthTrails walking challenge. Online registration was open from August 15 through August 28, 2016 for a total of 13 days. Registered employees were asked to indicate whether they chose to participate individually or as a member of a team for the duration of the eight-week walking challenge. A team was defined as a registered employee designated as team leader, working with a minimum of three, and a maximum of five team members. This included the team leader for the team, and therefore, teams were made of four to five employees.
total. A total of 168 employees registered to participate on HealthTrails online. Participants included 79 employees registered as individuals and another 89 registered across 18 teams (made of four to five employees total). The sample for phase one included all employees who registered for the walking challenge, regardless if they registered as an individual or as part of a team; thus, 168 participants registered for the eight-week workplace walking challenge. Each individual who registered for the eight-week walking challenge was emailed an invitation to complete the online survey for this study at the conclusion of the walking challenge on October 24, 2016 during traditional working hours (i.e., 8:00 a.m. – 5:00 p.m. Pacific Standard Time). If a participant volunteered and indicated on their online survey they were interested in participating in the second phase of this research study, the researcher purposefully selected participants to be interviewed based on whether they participated as individuals or on a team.

Phase two: Qualitative semi-structured interview. For the second, qualitative phase of this sequential explanatory research study, participants were purposefully selected based on whether they participated as individuals or as a member of a team to be involved in the in-depth, semi-structured interviews. Purposeful sampling allowed the researcher to select individuals from the sample for a specified reason or intent, such as those who are willing and able to provide rich, detailed descriptions of the topic or phenomena of interest (McMillan & Schumacher, 2010). For this study, the researcher purposefully selected interviewees who met the following qualifications:

- Benefits eligible employee at Brandman University
- Registered to participate in the HealthTrails walking challenge as an individual participant or as a member of a team
• Minimally participated with one day of activity in the walking challenge
• Employee indicated interest in a possible interview on the online survey submission from phase one of the data collection process

From those who met the study criteria, the researcher purposively selected particular individuals who were representative of the population regarding the impact on individual, and collective efficacy in the face of perceived barriers while participating in the eight-week walking challenge. Of those, 79 participated in the walking challenge as individuals and 89 participated as a member of a team. A total of 20 survey respondents in phase one indicated they were willing to participate in the follow-up interview in phase two.

Figure 2 describes in detail the participant selection process for this sequential explanatory mixed-methods research design with convenience sampling in phase one (quantitative) of the sample selection process, and purposeful sampling in phase two (qualitative) of the sample selection process.
Figure 2. Sequential explanatory mixed-methods research study with convenience sampling in phase one and purposeful sampling in phase two.

**Instrumentation**

A sequential explanatory mixed-methods research design used two consecutive phases of data collection, and data were collected over a period of time using two forms of instrumentation in this study. Phase one incorporated a quantitative approach that involved an online, electronic survey. Phase two incorporated a semi-structured in-depth interview.

**Phase One: Quantitative Online Survey**

An online survey was deemed appropriate for this study as a non-experimental research approach (Creswell, 2014). The collection of information in a standardized form from the participants helped to generalize to the Brandman employee population. Phase
one of this sequential explanatory research study used an online survey administered through SurveyMonkey Incorporated, and was deployed via email during traditional work hours (i.e., 8:00 a.m. – 5:00 p.m. Pacific Standard Time) to all registered participants of the HealthTrails walking challenge on October 24, 2016. Using a non-experimental research approach, participant information was collected through a standardized form, and all participants received the same questions (Creswell, 2014). The purpose of the online survey results obtained were to describe the attitudes, beliefs, and behaviors of the population of Brandman University employees related to participants’ self-efficacy in the face of perceived barriers during an eight-week walking challenge.

**BARSE.** To assess participant self-efficacy, the Barriers Self-Efficacy Scale (BARSE; McAuley, 1992) was used as the instrument (Appendix C). The BARSE was appropriately adapted as an intact instrument to measure the self-efficacy of participants when faced with perceived barriers during an eight-week workplace walking challenge. The BARSE is a widely used, 13-item questionnaire with 11-point Likert Scale response options designed to assess perceived capabilities to exercise in the face of commonly identified barriers to participation in exercise activities (Barkley & Vukovich, 2009; Burns, 2014; Olsen, 2014; Mailey, 2012; McAuley, 1992; Moseley, 2015; White, 2011; Williamson, 2012). The BARSE was selected due to its alignment with the research questions and because it measured participant self-efficacy of perceived capabilities in the face of commonly identified barriers to exercise (McAuley, 1992).
**Measurement of the BARSE.** For each item, participants indicated their confidence about executing their exercise behavior. Measurements of the BARSE included:

1. 100-point percentage scale composed of 11-point increment choices
2. Response anchors were 0%, not at all confident; 50%, moderately confident and 100%, highly confident
3. Total strength for the measure of self-efficacy was calculated by summing the confidence ratings and dividing by the total number of items
4. Possible scores ranged from a minimum self-efficacy score of 0 to a maximum possible score of 100

**Instrument permission.** Dr. Edward McAuley, creator of the BARSE instrument, granted permission to use the instrument for this research study. The researcher emailed Dr. McAuley on July 5, 2016, and received an email confirmation of permission granted on the same day (see Appendix D).

**Phase Two: Qualitative Semi-Structures Interviews**

Phase two of this sequential explanatory research study used semi-structured interviews. Participants were purposefully selected to be involved in the in-depth, semi-structured interviews using a phenomenological approach. Phenomenology was deemed appropriate to acquire detailed knowledge about their life experiences by examining the perceptions of respondents who participated in the eight-week walking challenge (Patton, 2005).

The purpose of the interviews was to build upon the quantitative survey results to gain in-depth information guided by the analyzed results from the first phase of data
collection, the quantitative, online survey (Creswell, 2014). As Creswell (2014) pointed out, “the key is that the qualitative data collection builds directly on the quantitative results” (p. 224), thereby offering an elaboration for understanding participants’ change in efficacy in the face of perceived barriers to activity.

Questions for semi-structured interview in phase two were constructed after analyzing the online survey responses from phase one of the data collection. Therefore, the development of the research questions relied heavily on phase one results of the online survey. “The qualitative phase was used to augment the statistical data to provide explanations” (McMillan & Schumacher, 2010, p. 403), which could then be used to describe in greater detail the change in efficacy in the face of perceived barriers to activity.

To ensure the researcher could gather the rich responses from the interviewees, the six semi-structured interview questions were general and open-ended (Creswell, 2014). The length of the interviews varied between 4 to 14 minutes. However, if an interviewer merited additional time, the researcher continued the interview process to collect as much information as the participant wished to provide.

To ensure research questions were addressed, an expert panel was involved to provide credibility of the interview questions. Furthermore, development of the six semi-structured interview questions involved the collaboration with an expert researcher to control for bias.

The following interview questions were developed and vetted with a content expert for the interviews conducted in phase two:
1. What made you decide to participate in the eight-week workplace walking challenge?

2. What challenges did you have to overcome?

3. What kept you from meeting your goal?

4. What did you do to overcome any obstacle’s or barriers?

5. What could someone have done to motivate you to continue?

6. What would incentivize you to participate in the next walking challenge?

Data Collection

In a sequential explanatory mixed-methods approach, “a researcher first collects and analyzes the quantitative (numeric) data. The qualitative (text) data were collected, and analyzed second in the sequence and help explain, or elaborate on, the quantitative results obtained in the first phase” (Ivankova et.al., 2006, p. 5). Data were collected using two distinct phases starting with a quantitative, online survey, and concluding with the one-on-one, semi-structured interviews.

Phase One: Quantitative Online Survey

Phase one of this sequential explanatory research study included an online survey administered through SurveyMonkey Incorporated. The online survey was deployed via email during traditional work hours (i.e., 8:00 a.m. – 5:00 p.m. Pacific Standard Time) to all registered participants upon conclusion of the HealthTrails eight-week walking challenge on October 24, 2016. Using a non-experimental research approach (Creswell, 2014), participant information was collected through a standardized form, and all participants received the same questions including the BARSE and other relevant demographic items. The purpose of the online survey was to collect data related to
participants’ self-efficacy in the face of perceived barriers during an eight-week walking challenge. The email invitation to the online survey indicated when the survey window opened, and provided a direct link embedded in the email (Appendix E). The email also informed participants of the deadline to submit their online survey. A follow-up email was sent November 2, 2016 that reminded all participants of the last day to submit their online survey, and thanked participants for their time.

These quantitative survey results were used to guide phase two of the study, the qualitative semi-structured interview. Participants were purposefully selected based on whether they participated as individuals or as a member of a team. Purposeful sampling in the second qualitative phase was a key component since the qualitative data collection built directly on the quantitative results (Creswell, 2014; McMillan & Schumacher, 2014; C. M. Roberts, 2010). Thus, making this a primarily quantitative study (McMillan & Schumacher, 2014).

**Phase Two: Qualitative Semi-Structured Interviews**

Phase two of this sequential explanatory research study involved conducting one-on-one, semi-structured interviews. Interviews took place on site at the Brandman University, Irvine campus as possible, and Adobe Connect (web collaboration tools, services, and software) was used to conduct virtual face-to-face interviews with participants from all other Brandman campuses. Participants involved in the second phase of data collection were purposefully selected if they indicated on their survey submission interest in a possible follow-up interview, and based on whether they participated as individuals or as a member of a team. Purposeful sampling in this qualitative phase was a key component since the qualitative data collection built directly
on the quantitative survey results (Creswell, 2014; McMillan & Schumacher, 2010; C. M. Roberts, 2010). For the purpose of this research study, in-depth, semi-structured interviews were used following the quantitative survey data collection process to answer the research questions and explore a deeper understanding of participants’ individual and teamed perceptions when faced with barriers and the impact on individual and collective efficacy in an eight-week workplace walking challenge.

Confidentiality

Protecting confidentiality means prohibiting the disclosure or release of confidential, personally identifiable information or data related to research participants (APA, 2009). To reduce the reluctance of potential participants, multiple steps were taken to ensure confidentiality, all of which were described to participants, and presented as part of the informed consent process.

Protecting confidentiality for phase one. Participation in the quantitative online survey began with an electronic informed consent form that presented the purpose of the research, the voluntary nature of participation, potential benefits, and drawbacks from participating, and steps to protect confidentiality. To continue taking the survey, respondents needed to acknowledge their participation in the study was voluntary, and participants agreed to participate by checking a box on the online survey. All data from the survey were kept in secured folders to which only the researcher could access. No participant names or other contact information was associated with their responses to the survey items. Upon completion of the online survey, participants were offered the opportunity to participate in phase two, the follow-up qualitative interviews. Participants willing to partake in an interview were asked to check the box for acknowledgment and
understanding, and were directed to a page where they could enter their name and email voluntarily. If participants did not want to continue to the second phase, clicking on the survey submit button allowed them to submit their online survey anonymously.

**Protecting confidentiality for phase two.** In-person interviews were conducted in empty classrooms or closed offices at Brandman University, Irvine campus to ensure privacy; virtual interviews were conducted via Adobe Connect with both parties in closed offices. To ensure privacy on campus, a sign was posted on the classroom door indicating the room was reserved, and the door was to remain closed until the interview was completed. Interviews involved six semi-structured questions, and the duration of the interviews ranged from 4 to 14 minutes. Participants were asked permission for the interview to be recorded solely for transcription purposes to ensure an accurate representation of their responses. All audio recordings were destroyed immediately after the transcription process. To protect the confidentiality of interview participants, each respondent was assigned a number rather than using a name or other personally identifying information. All transcripts and any other information about the study participants were kept in a locked cabinet to which only the researcher had access.

**Written Consent**

Written consent for publication was documented and reinforced. A clear explanation was given, and participants understood what would be done with their data. Assurance of confidentiality was also used to motivate reluctant respondents to participate in this research study (American Psychological Association, 2009). All participants of this research study were informed about the data collection process, and use of the data, and the researcher assured all participants that all information collected
was held in confidence. Individuals names were not used in publications related to this research study. Data collected were used by the researcher and an expert statistician only. No other individuals had access to the data. To ensure the data remained confidential during analysis, each participant was assigned a numeric code (C. M. Roberts, 2010).

**Institutional Review Board Approval**

The main purpose of an institutional review board is to protect the rights of research participants and ensure ethical approaches to research (C. M. Roberts, 2010). More specifically, the institutional review board committee’s role is to “protect participants from stress, discomfort, embarrassment, invasion of privacy or potential threat to reputation” (C. M. Roberts, 2010, p. 32).

The Brandan University Institutional Review Board (BUIRB) reviewed the study’s proposed methods and instruments prior to any data collection taking place. The researcher adhered to all measures described in the BUIRB application to ensure the confidentiality and protection of the study participants. BUIRB approved moving forward with this study on September 16, 2016.

**Data Analysis**

In a sequential explanatory mixed-methods design, “the key is that the qualitative data collection builds directly on the quantitative results” (Creswell, 2014, p. 224). The data collection and analysis take place in sequential phases, and the results of the first phase are then used to plan the analysis of the qualitative data collection. Figure 3 presents the process for this sequential explanatory research study.
Phase One: Data Analysis

The first step in the data analysis process was to clean the data set to ensure responses were complete. The data were checked for outliers and the distribution of the data were reviewed. Descriptive statistics (mean, percentage, standard deviation) were calculated for each factor on the BARSE. The descriptive statistics were conducted separately for those who participated in the walking challenged individually compared to those who participated as part of a team. To compare the self-efficacy scores of those who participated as individuals and those who participated as a member of a team, an analysis of variance (ANOVA) was conducted to determine if the two groups differed significantly on any of the BARSE scales.
Phase Two: Data Analysis

The second phase of data analysis involved a qualitative phenomenological approach using semi-structured interviews that helped explain and interpret the relationship of efficacy and perceived challenges of participants involved the workplace walking challenge.

The coding process followed the five steps to qualitative coding recommended by Creswell (2014). It began with an initial reading of the transcripts to identify themes. Responses to questions were grouped together and a first set of codes were developed based on the themes that emerged. Next, the researcher reviewed the themes and codes to cluster major topics and create code families with similar concepts. The researcher then reviewed the transcripts again and coded the data, adding additional codes as needed during the coding process. The coded data were then reviewed for trends and themes common across the interviewees to derive the larger conclusions of the study (Creswell, 2014). Finally, the coded data and transcripts were sent to an expert for review and to establish inter-rater reliability.

Inter-rater reliability. In qualitative research, inter-rater reliability refers to the “validation of findings” (C. M. Roberts, 2010, p. 161), which is completed by checking the consistency between multiple raters. For this study, a trained researcher reviewed and coded 10% of the data to check for inter-rater reliability and to limit the potential for researcher bias. This process ensured the codes accurately represented the content of the interviews, thus increasing the validity of the findings.
Validity and Reliability

Validity in research means that findings truly represent the phenomenon (McMillan & Schumacher, 2010). To increase the validity and reliability of this study, the researcher used multiple data collection methods to triangulate findings, and qualitative interviews were used to further explain the quantitative findings (Creswell, 2014; McMillan & Schumacher, 2010). In an explanatory sequential mixed-methods study, “the researcher may also contribute to invalidate results by drawing on different samples for each phase of the study (Creswell, 2014, p. 225). To increase the validity of the findings, a sequential explanatory mixed-method research design was used with fidelity and as such, the interview sample was drawn only from those who voluntarily completed the survey about their perceived barriers toward participation in the eight-week workplace walking challenge.

Internal validity was improved by using a valid and reliable measure. For phase one, validity and reliability were established by past studies that used the BARSE; Table 2 presents the BARSE validity and reliability data from prior studies.

Table 2

Studies that Previously Used and Tested for Reliability and Validity

<table>
<thead>
<tr>
<th>Published Author</th>
<th>Year Published</th>
<th>Subject of Study</th>
<th>Reliability and Validity Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>McAuley</td>
<td>1992</td>
<td>Middle-Aged Adults</td>
<td>Internal consistency .89</td>
</tr>
<tr>
<td>Olsen</td>
<td>2014</td>
<td>Diabetes</td>
<td>α = .96</td>
</tr>
<tr>
<td>Burns</td>
<td>2014</td>
<td>Psychological Mediators</td>
<td>Baseline α = .93; follow-up α = .93</td>
</tr>
<tr>
<td>Garrin</td>
<td>2014</td>
<td>African American Enrolled in Fit 4 Life</td>
<td>Cronbach alphas of .88 and .92</td>
</tr>
</tbody>
</table>
Limitations

Limitations are influences the researcher could not control with respect to the research, and all research studies have limitations (C. M. Roberts, 2010). The following limitations applied to this study. First, this study included one institution of higher education, namely, Brandman University. The perspectives, culture, and experiences at Brandman University may differ from those at other institutes of higher education. Second, respondents self-reported steps taken and could have under- or over-reported steps when manually tracking data using HealthTrails, potentially altering their perspective about participation in and barriers to the walking challenge. Third, specifically related to phase two of the data collection, participants may not have fully disclosed all information in responding to the interview questions. Additionally, data were also dependent on the participant memories and recollections, which may not always be accurate.

Summary

The first purpose of this study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge, and second to explore the relationship between collective efficacy and the impact on teamed participation and engagement when faced with perceived barriers in an eight-week walking challenge compared to those who participated individually. A sequential explanatory mixed-methods research design was used to address the research questions by use of two phases of data collection, a quantitative online survey followed by qualitative semi-structured interviews.
The population for the study was the 495 benefits-eligible employees of Brandman University, which represented Brandman University’s full-time faculty and staff from over 25 campuses throughout California, Washington, and Oregon. The target population was the 168 employees who registered and participated in the eight-week workplace walking challenge. The full targeted population was invited to voluntarily participate in the study by completing the quantitative online survey. A sample of 20 people who completed the survey were then purposefully selected to participate in one-on-one semi-structured interviews.

The quantitative data were analyzed using descriptive statistics separately for those who participated in the walking challenged individually compared to those who participated as part of a team. To compare the self-efficacy scores of those who participated as individuals and those who participated as a member of a team, ANOVA was conducted to determine if the two groups differed significantly on any of the BARSE scale. The interview data were also coded and analyzed to identify common themes and trends across the data sources. Chapter IV presented the data from the study, including a narrative description of the qualitative data from phase two. Chapter V then presents a summary of the findings and conclusions from this study, along with implications for action and recommendations for future studies.
CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS

Chapter IV begins with a review of the purpose statement and research questions that served as a roadmap for the study. The methods used and data collection process are discussed next, followed by a summary of the study population and sample. The demographic data from the participants is also provided. A presentation of the findings for each of the three research questions follows. Lastly, a summary and results are provided at the end of the chapter.

**Purpose Statement**

The purpose of this sequential explanatory mixed-method study was twofold. The first purpose of this study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge. The second purpose was to explore the relationship between collective efficacy and the impact on teamed participation and engagement when faced with perceived barriers in an eight-week walking challenge compared to those who participated individually.

**Research Questions**

The following three research questions guided this study:

1. What was the difference in self-efficacy between those who participated in a walking challenge as an individual compared to those who participated as a member of a team?

2. What challenges were faced by individual versus teamed participants and how were those challenges overcome?
3. What was the difference in motivation between those who participated as an individual compared to those who participated as a member of a team?

**Research Methods and Data Collection Procedures**

In a sequential explanatory mixed-methods approach, “a researcher first collects and analyzes the quantitative (numeric) data. The qualitative (text) data are collected and analyzed second in the sequence and help explain, or elaborate on, the quantitative results obtained in the first phase” (Ivankova et al., 2006, p. 5). Data were collected using two distinct phases starting with a quantitative, online survey and followed by Phase Two, the qualitative one-on-one interviews. The selected research designed was deemed appropriate due to effectiveness to answer the research questions with a small target population, and for generalizability purposes. Data collection procedures are explained in sequential order next.

**Phase One Data Collection**

Phase One of this sequential explanatory research study included an online survey administered through SurveyMonkey Incorporated. Using a non-experimental research approach (Creswell, 2014), participant information was collected through a standardized form and all participants received the same questions including the BARSE and other relevant demographic items. The purpose of the online survey was to collect data related to participants’ self-efficacy in the face of perceived barriers during an eight-week workplace walking challenge. A total of 168 participants were invited via email to complete the online survey. Of these 168 participants, 79 participated individually, and 89 participated in one of 18 teams (made of four to five employees total) across the eight-week walking challenge. A total of 59 online surveys were completed electronically. Of
these 59 online surveys, 20 were completed by those who participated individually, or 23.8%, and 39, or 46.4%, were completed by those who participated as a team.

*Figure 4.* Visual model for sequential explanatory mixed-method design participant procedures for Phase One and Two of data collection.
Phase Two Data Collection

Phase Two of this sequential explanatory research study involved conducting one-on-one, semi-structured interviews. Interviews took place either on site at the Brandman University, Irvine campus as possible, or through Adobe Connect (a web collaboration software) to conduct virtual interviews with participants from other Brandman campuses. Participants involved in the second phase of data collection were purposefully selected based on whether they participated as individuals or on a team, and if they indicated on their online survey (Phase One) submission interest in a possible follow-up interview. Purposeful sampling in this qualitative phase was a key component because the qualitative data collection built directly on the quantitative survey results (Creswell, 2014; McMillan & Schumacher, 2010; C. M. Roberts, 2010). For this research study, in-depth, semi-structured interviews were used following the quantitative survey data collection process to answer the research questions and explore a deeper understanding of participants’ individual and teamed perceptions when faced with barriers and the impact on individual and collective efficacy when participating in an eight-week workplace walking challenge. Twenty-eight participants who completed the online survey volunteered to be interviewed in Phase Two. Of this group of 28 volunteered interviewees, 8 were purposefully chosen to participate and represent the individual participants whereas 12 were purposefully chosen to represent members of teams.

Population

The population was the 495 benefits-eligible employees of Brandman University (Brandman University’s Human Resource department, 2016). This population included all Brandman University’s full-time faculty and staff across over 25 campuses throughout
California, Washington, and Oregon. This population was considered benefits-eligible and therefore, able to participate in the HealthyU Wellness Program of Brandman University and all activities. Brandman University also employed a large number of benefits-ineligible faculty and staff. At the time of this study, Brandman University employed approximately over 2,000 adjunct faculty and part-time staff, which included: part-time, agency employed, ancillary staff, and adjunct faculty. This group of the population was considered non-benefits eligible and therefore, were unable to participate in the HealthyU Wellness Program of Brandman University and any activities. As such, these benefit-ineligible staff were excluded from the study and the focused population.

**Target Population**

The desired target population was characterized by certain criteria to support the generalizability of a research study (Creswell, 2014; McMillan & Schumacher, 2010; Patten, 2005). In this study, the target population included benefits-eligible faculty and staff who registered for the HealthTrails workplace wellness program walking challenge, which totaled 495 of the employees from all campuses. Due to the lack of feasibility to gather information from a whole population, a representative sample of interest was selected (C. M. Roberts, 2010). Selection of the representative sample for this study follows.

**Sample**

A total of 168 participants were invited via email to complete the online survey concluding the eight-week walking challenge. Of these 168 participants, 79 participated in the walking challenge individually and 89 participated across 18 teams (made of four to five employees total). A total of 59 online surveys were completed during Phase One.
Of these 59 online surveys, 20 were completed by those who participated individually and 39 were completed by those who participated as a member of a team. As participants completed the survey, they could check a box indicating their willingness to participate in a follow-up interview. A total of 28 participants volunteered to be interviewed for Phase Two of qualitative data collection. Of this group of volunteered participants, 8 were chosen who participated in the walking challenge individually and 12 were chosen who participated as a team for a total of 20 one-on-one interviews in Phase Two.

**Demographic Data**

The following demographic data were collected from all who registered in the workplace walking challenge. The 168 participants represented 19 of the campuses throughout California, Washington, and Oregon, with most coming from the main campus and headquarter office in Irvine, California. A total of 102 of the 168 participants came from the Irvine headquarter office. The vast majority of participants (77%) were females (Table 3). Of the 21 campuses in California, 14 were represented; of the five campuses in Washington, three were represented and the one and only campus from Oregon was represented in the eight-week walking challenge.
Table 3

*Total Participants in the Walking Challenge by Gender and Campus*

<table>
<thead>
<tr>
<th>Campus</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antelope Valley, CA</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Bangor, WA</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Bremerton, WA</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fairfield, CA</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Hanford, CA</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Irvine, CA</td>
<td>73</td>
<td>29</td>
<td>102</td>
</tr>
<tr>
<td>Lacey, WA</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Lemoore, CA</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>McChord, WA</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Menifee, CA</td>
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<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Modesto, CA</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Monterey, CA</td>
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<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Ontario, CA</td>
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<td>1</td>
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<td>0</td>
</tr>
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<td>11</td>
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<tr>
<td>Riverside, CA</td>
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<tr>
<td>Roseville, CA</td>
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<td>Travis, CA</td>
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<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Victorville, CA</td>
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<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Visalia, CA</td>
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<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Walnut Creek, CA</td>
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<tr>
<td>Whidbey Island, WA</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Yuba City, CA</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yucaipa, CA</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>38</td>
<td>168</td>
</tr>
</tbody>
</table>

*Note: n = 168*

Additional demographic data were collected from those who participated in the follow-up interviews in Phase Two of the data collection process. Similar to the overall demographics, the vast majority (85%) of the participants interviewed were female. As
shown in Table 4, 12 interviewees participated in the walking challenge as members of a team whereas 8 participated as individuals.

Table 4

*Interview Participants by Gender and Type of Walking Challenge Participation*

<table>
<thead>
<tr>
<th>Type of Participation</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Participant</td>
<td>11</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Individual Participant</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>3</td>
<td>20</td>
</tr>
</tbody>
</table>

**Presentation and Analysis of Data**

The following sections present the results of the data analysis from both phases of this sequential explanatory mixed-methods study. The data are presented by research question.

**Findings for Research Question One**

Research Question One: *What is the difference in self-efficacy between those who participated in a walking challenge as an individual compared to those who participated as a member of a team?*

To address this research question, participants of the walking challenge were asked to complete the BARSE, a widely used tool designed to assess the perceived capabilities to exercise in the face of commonly identified barriers to participation in exercise activities (Barkley & Vukovich, 2009; Burns, 2014; Mailey, 2012; McAuley, 1992; Moseley, 2015; Olsen, 2014; White, 2011; Williamson, 2012). Items included factors such as the ability to enjoy exercise, exercise despite busy work schedules, exercise despite inclement weather, and exercise despite feelings of stress or lack of encouragement.
The data analysis showed that both the individuals and team members reported similar ratings on the BARSE. In terms of overall scores, team participants had an overall score 25.2 points higher than individual participants, 663.51 compared to 638.33. Additionally, both individual and teamed participants reported the highest rating for I believe that I can exercise three times per week for the next three months if I had to exercise alone. However, teamed participants rated this item 9.5 points higher than individuals with individual participants averaging 70.50 points compared to teamed participants averaging 80.00 points. Another large difference between individual versus teamed participants was for the BARSE question I believe that I can exercise three times per week for the next three months if I felt self-conscious about my appearance when I exercised, with individual participants’ rating this item 14.2 points lower than teamed participants. Additionally, individual participants averaged 53.16 points compared to an average of 67.68 points for teamed participants for this same question.

In terms of the lowest reported items on the BARSE, there was a difference between what individual participants reported versus teamed participants. Those who participated individually reported the lowest mean score of 38.42 points on the question, I believe that I can exercise three times per week for the next three months if I didn’t like the particular activity program that I was involved in. This indicated that because the individual participants did not have someone holding them accountable, they were more likely to stop the activity if they were bored. In contrast, those who participated as a member of a team reported their lowest mean score of 28.72 points for the question I believe that I can exercise three times per week for the next three months if I felt pain or discomfort when exercising (Table 5). This showed that teamed participants believed
they were much more likely to exercise because they had the support, encouragement, and accountability of their team to motivate them, and without this, they would have been much more likely to not exercise with only an injury impeding their engagement and participation in the workplace walking challenge.

Table 5

*BARSE Data for Individual versus Teamed Participants*

<table>
<thead>
<tr>
<th>I believe that I can exercise three times per week for the next three months if:</th>
<th>Team (n = 39)</th>
<th>Individual (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>The weather was very bad (hot, humid, rainy, cold).</td>
<td>71.28</td>
<td>35.56</td>
</tr>
<tr>
<td>I was bored by the program or activity.</td>
<td>48.97</td>
<td>31.87</td>
</tr>
<tr>
<td>I was on vacation.</td>
<td>50.79</td>
<td>33.78</td>
</tr>
<tr>
<td>I was not interested in the activity.</td>
<td>35.90</td>
<td>28.54</td>
</tr>
<tr>
<td>I felt pain or discomfort when exercising.</td>
<td>28.72</td>
<td>33.05</td>
</tr>
<tr>
<td>I had to exercise alone.</td>
<td>80.00</td>
<td>26.25</td>
</tr>
<tr>
<td>It was not fun or enjoyable.</td>
<td>40.51</td>
<td>33.83</td>
</tr>
<tr>
<td>It became difficult to get to the exercise location.</td>
<td>40.53</td>
<td>32.76</td>
</tr>
<tr>
<td>I didn't like the particular activity program that I was involved in.</td>
<td>35.38</td>
<td>30.60</td>
</tr>
<tr>
<td>My schedule conflicted with my exercise session.</td>
<td>45.13</td>
<td>34.03</td>
</tr>
<tr>
<td>I felt self-conscious about my appearance when I exercised.</td>
<td>67.18</td>
<td>24.96</td>
</tr>
<tr>
<td>An instructor does not offer me any encouragement.</td>
<td>57.63</td>
<td>27.55</td>
</tr>
<tr>
<td>I was under personal stress of some kind.</td>
<td>61.54</td>
<td>32.16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>663.51</strong></td>
<td><strong>317.87</strong></td>
</tr>
</tbody>
</table>
An analysis of variance (ANOVA) was conducted to compare the two groups scores (individual versus teamed participants of the eight-week workplace walking challenge) on the BARSE. ANOVA is a statistical technique that compares “differences in performance [that] is separated into variance that’s due to differences between individuals within groups and variance due to differences between groups” (Salkind, 2004, p. 223). Conducting an ANOVA resulted in the F-test statistic (Salkind, 2004, p. 222). The F-test compared the means of the groups and resulted in no statistically significant differences in self-efficacy when participants were faced with barriers between those who participated individually versus those who participated as a member of a team.

However, there were three notable, but non-significant, differences among the reported items from the BARSE. First, participants who participated individually reported feeling slightly more able to preserve, and continue exercising three times a week if they felt pain and discomfort when exercising versus the teamed participants. Second, participants who were part of a team reported that they were more likely to exercise alone slightly more than those who were not part of a team. Third, members who were a part of a team reported feeling less self-conscious about their appearance when exercising than those who were participating as individuals.

**Findings for Research Question Two**

Research Question Two: *What challenges (barriers) were faced by individual versus teamed participants and how were those challenges overcome?*

Research Question Two was addressed during the interviews of Phase Two of data collection. Participants were asked what challenges they had to overcome
throughout the duration of the eight-week walking challenge. Most participants, whether individual or teemed, answered with challenges related to maintaining consistency/pacing and self-motivation. The number one response among individual participants was self-motivation, mentioned by 62.5% of individual responses. This was followed by maintaining consistency/pacing, which was noted by half of individual participants. Maintaining consistency/pacing was the most cited response among teemed participants, which was noted by 41.7%. The idea of maintaining consistency/pacing was highlighted by one participant who stated, “The biggest challenge was staying consistent and making sure that I did hit my steps for the day. I often had to force myself to take walk breaks at lunch or during the [work] day.” The challenge of self-motivation was mentioned by one-third of individual participants, including one who shared,

I wanted to motivated myself to try to walk more, and try to be more active. Even though I was not on a team, and I was just doing it by myself, I needed that motivation to get up and move.

Other factors cited by 25% or more of both individual and teemed participants included lack of time, meeting their daily step goal, issues related to weather and the time change, the act of walking itself, and hitting the next level of steps. Table 6 provides a summary of the challenges (barriers) participants faced during the walking challenge.
As part of Research Question Two, participants were also asked *What factors prevented you from meeting your goals?* Eight of the interviewees indicated this question did not apply because their goal was met. This was true for half of individual participants and one-third of teamed participants, which could indicate the individuals were already more prone to exercise.

For those who did not meet their goal, weather and timing of the season was the number one response among individual participants, with 50% of individual participants citing this reason compared to only 16.7% for teamed participants. One interviewee who participated as an individual noted,
For me, again, it goes back to the timing. Actually, I think this time this timing in Fall II is great because this is actually, with the shorter daylight hours, and the cooler weather, and the holidays and all of the eating, this is when it’s actually harder for me. I can feel it right now, to stay motivated.

Three times as many individual participants answered lack of time as their challenge and reason for not reaching their goals, whereas teamed participants answered lack of routine was one of their main culprits for not reaching their goals. One teamed participant responded,

I would say, I mainly got all my step goals Monday through Thursday, but because of my schedule on Fridays and weekends, I think my lifestyle on the weekends. I don’t want to say wasn’t motivated, I just tended to relax more on weekends rather than sticking to a hardcore schedule during the week.

Table 7 presents a summary of the factors that prevented participants from meeting their goal.
Table 7

Factors that Prevented Participants from Meeting their Goals

<table>
<thead>
<tr>
<th></th>
<th># of Responses</th>
<th>Team Participants</th>
<th>Individual Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A - Goal met</td>
<td>8</td>
<td>33.3</td>
<td>50.0</td>
</tr>
<tr>
<td>Weather; season</td>
<td>6</td>
<td>16.7</td>
<td>50.0</td>
</tr>
<tr>
<td>Lack of routine</td>
<td>5</td>
<td>33.3</td>
<td>12.5</td>
</tr>
<tr>
<td>Weekend schedule</td>
<td>4</td>
<td>25.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Lack of time</td>
<td>4</td>
<td>8.3</td>
<td>37.5</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>4</td>
<td>16.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Laziness</td>
<td>3</td>
<td>8.3</td>
<td>25.0</td>
</tr>
<tr>
<td>Personal issues</td>
<td>3</td>
<td>16.7</td>
<td>12.5</td>
</tr>
<tr>
<td>Injuries</td>
<td>2</td>
<td>0.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Lack of accountability</td>
<td>1</td>
<td>0.0</td>
<td>12.5</td>
</tr>
</tbody>
</table>

The interview also asked how participants overcame obstacles (challenges). The top two responses from both individual and teamed participants were creativity to modify the exercise activity and prioritizing exercise when faced with a challenge. At least half of both teamed and individual participants cited these two methods for overcoming challenges. One such response from a participant who participated individually was,

One thing was I tend to try and make my dog walk so I’ll try to get the dog to go with me; it makes me more motivated…Overcoming any challenges…I do have an L.A. Fitness membership, so I would try to sometimes, me and my friend would sometimes check in you know and we’d ask, ‘did you go this week?’ Or I went to Zumba, or something like that to kind of keep it going just so it’s not so far gone and out of my mind.
Another response from an interviewee who participated as a member of a team and assumed the team leader position stated,

I made my participation on my team a priority and made conscious decision to walk at lunch, breaks, and after work. I also sent out encouraging email reminders to my team members to not only keep me accountable, but to help my team stay accountable.

More individual participants answered that self-talk was used to modify behavior to overcome challenges. One response from an individual participant was, “I think I just always told myself tomorrow is a new day. I can do better then.”

Another salient response to overcoming challenges during the walking challenge was blocking out time. However, this was more common among teemed participants than individual participants. One individual participant commented, “One thing I try to do is try to put it on my calendar so that I am blocking out some time to walk. But, sometimes it’s good and sometimes I ended up using it to check emails instead.”

Lastly, with respect to the use of technology, teemed participants stated using their application on their smartphone to compare team stats and individual participants stated comparing data on the leaderboard to view individual ranking was one form of motivation to overcome any challenges toward participation. One example of this came from a teemed respondent who commented,

Honestly, it’s very helpful when I got the app on my phone because I could see my teammates. I’m like, “Oh my God. I don’t want to let them down. I have to do this.” I made sure I kept up with my team.
Other factors that motivated participants to overcome challenges included building up energy, the incentive of the prizes, and the availability of virtual walking trains through HealthTrails. Table 8 provides a summary of the factors that helped participants overcome challenges.

Table 8

**Factors that Helped Participants Overcome Challenges**

<table>
<thead>
<tr>
<th>Factors</th>
<th># of Responses</th>
<th>Team Participants</th>
<th>Individual Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative activities</td>
<td>13</td>
<td>66.7</td>
<td>62.5</td>
</tr>
<tr>
<td>Prioritize exercise</td>
<td>11</td>
<td>50.0</td>
<td>62.5</td>
</tr>
<tr>
<td>Self-talk</td>
<td>9</td>
<td>33.3</td>
<td>62.5</td>
</tr>
<tr>
<td>Block time</td>
<td>8</td>
<td>50.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Colleague support</td>
<td>7</td>
<td>41.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Commit on the weekends</td>
<td>7</td>
<td>41.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Keep activities in mind with steps</td>
<td>7</td>
<td>41.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Comparing team stats</td>
<td>4</td>
<td>25.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Built up energy</td>
<td>3</td>
<td>0.0</td>
<td>37.5</td>
</tr>
<tr>
<td>Leaderboard data</td>
<td>3</td>
<td>8.3</td>
<td>25.0</td>
</tr>
<tr>
<td>Prize incentive</td>
<td>2</td>
<td>16.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Trails on HT</td>
<td>2</td>
<td>0.0</td>
<td>25.0</td>
</tr>
</tbody>
</table>

**Findings for Research Question Three**

Research Question Three: *What was the difference in motivation between those who participated as an individual compared to those who participated as a member of a team?*

The interview asked participants what factors motivated them to continue in the eight-week walking challenge. Despite individual versus teemed participation, both cited personal motivation/sense of accomplishment as their motivation to continue with the walking challenge. More individual participants answered accountability partners
motivated them over teamed participants. Albeit, this excluded team member accountability, which was mentioned by 41.7% of teemed participants. The concept of having an accountability partner was highlighted by an individual participant who shared,

I feel like so much of it has to be a personal motivation, but I think the biggest challenge, the biggest difference between when I did the [previous walking challenge] and this one was really the difference of being on an official versus an unofficial team. I really felt the difference because being on an unofficial team it was only me and another colleague at Brandman, who I know well but, it wasn’t like we were checking in with each other on how we were doing or anything like that so it didn’t feel as motivating, which is fine. It’s not that I needed her to do more to motivate me, but it was more just the idea that I didn’t feel as accountable. So I would do what I needed to do or do what I could do, but I didn’t feel that pressure that like I really want to earn the 10,000 steps today.”

Additionally, more teemed participants answered that they were motivated by their team commitment. The idea of team commitment was valued by a teemed participant who explained,

I think that if our team maybe kept walking afterwards, or wanted to plan at least once a week walking, that would be something that definitely would keep me motivated. I think that’s something that when the challenge ends, it’s hard for me to stay true to myself and stay focused. If I had peers who were continuing to walk, or a found a walking group, that would help me.
Lastly, more teamed participates stated that simple fun was a motivator to continue with the walking challenge, and both individual, and teamed participants answered affirmation as a motivator to continue in the eight-week walking challenge.

Table 9 provides a summary of factors that motivated participants to continue in the walking challenge.

Table 9

Factors that Motivated Continuation in the Walking Challenger

<table>
<thead>
<tr>
<th>Factor</th>
<th># of Responses</th>
<th>Team Participants</th>
<th>Individual Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal motivation/sense of accomplishment</td>
<td>10</td>
<td>41.7</td>
<td>50.0</td>
</tr>
<tr>
<td>Fun</td>
<td>8</td>
<td>41.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Team commitment</td>
<td>7</td>
<td>41.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Affirmation</td>
<td>6</td>
<td>25.0</td>
<td>37.5</td>
</tr>
<tr>
<td>Accountability partner</td>
<td>5</td>
<td>16.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Keep up with others</td>
<td>5</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Season (holidays, weather)</td>
<td>4</td>
<td>16.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Continue support for program</td>
<td>4</td>
<td>16.7</td>
<td>12.5</td>
</tr>
<tr>
<td>Lack of pressure</td>
<td>3</td>
<td>8.3</td>
<td>25.0</td>
</tr>
<tr>
<td>Not in program for prizes</td>
<td>3</td>
<td>0.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Goal alignment with home</td>
<td>3</td>
<td>24.1</td>
<td>17.3</td>
</tr>
<tr>
<td>Incentives mid-way</td>
<td>2</td>
<td>16.7</td>
<td>0.0</td>
</tr>
</tbody>
</table>

To take a deeper look as to what would incentivize further motivation to participate in a workplace wellness program’s activities such as a walking challenge, participants were asked what would motivate or incentivize them to participate in the future.

Three factors to motivate or incentivize participation in another eight-week walking challenge were each cited by 12 of the 20 interviewees: (1) quality of prizes or incentives, (2) prior success in the program and having a great time, and (3) simply
offering another walking challenge. Other highly rated answers included a campus-wide initiative, a subsidized Fitbit, and intrinsic motivation. Both individual and teemed participants answered equally that colleague support was an incentive to participate in the next walking challenge. One individual participant commented about the shared experience across the university, noting, “I did [meet colleagues]. I didn’t join their teams; I wasn’t invited. We talked a little bit. It was cool.” A teamed participant expanded on that idea, echoing,

> It was a lot of fun to have a healthy competition and all that goes on. You want to be there for the sake of your team. You want to keep up with everybody else. It’s fun because everyone else was motivated. It keeps me motivated. I had a lot of fun doing that.

Finally, more individual versus teemed participants stated they would be incentivized to participate again due to their prior success in the walking challenge, and due to their intrinsic motivation. Some individuals also expressed they would want to participant as a member of a team, but had difficulty joining a team. For example, one of the individual participants responded,

> I’m always going to participate in the challenge. What would probably make it more exciting is, maybe this is my fault, if there’s a list out there asking for a team member. I can put my name down because it seems like it was just word of mouth to me, but then I didn’t look at the website.

Participation and success in the prior walking challenge was also viewed as an incentive to continue in the challenge, as was the quality of the prizes. One participant asserted this view by saying, “I won a lot of prizes for the [prior challenge], and our team
did really well…Everybody was really up on making sure they met their 10,000 steps goal, so it was really motivating being on that team.” The importance of the team was also mentioned by a participant who commented, “I have done this with the same group of people, with a few challenges, so that was kind of nice to compare notes and things.” Another teamed respondent shared, “I like the challenge. I like teaming up, and doing the challenge with other folks that are encouraging. I want to win next year.” Table 10 provides a summary of the factors that would motivate future participation in similar walking challenges.

Table 10

*Factors that would Incentivize Future Participation*

<table>
<thead>
<tr>
<th></th>
<th># of Responses</th>
<th>Team Participants</th>
<th>Individual Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prizes/quality of prizes</td>
<td>12</td>
<td>58.3</td>
<td>62.5</td>
</tr>
<tr>
<td>Prior success/fun</td>
<td>12</td>
<td>50.0</td>
<td>75.0</td>
</tr>
<tr>
<td>Having a challenge/competition</td>
<td>12</td>
<td>50.0</td>
<td>75.0</td>
</tr>
<tr>
<td>Colleague support</td>
<td>11</td>
<td>58.3</td>
<td>50.0</td>
</tr>
<tr>
<td>Subsidize Fitbit</td>
<td>10</td>
<td>41.7</td>
<td>62.5</td>
</tr>
<tr>
<td>Campus-wide initiative</td>
<td>9</td>
<td>33.3</td>
<td>62.5</td>
</tr>
<tr>
<td>Intrinsic motivation</td>
<td>8</td>
<td>16.7</td>
<td>75.0</td>
</tr>
<tr>
<td>Metrics/data</td>
<td>7</td>
<td>25.0</td>
<td>50.0</td>
</tr>
<tr>
<td>HT trail locations</td>
<td>5</td>
<td>25.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Leadership encouragement</td>
<td>5</td>
<td>8.3</td>
<td>50.0</td>
</tr>
<tr>
<td>Public recognition</td>
<td>4</td>
<td>25.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Facilitate finding a team</td>
<td>4</td>
<td>8.3</td>
<td>37.5</td>
</tr>
<tr>
<td>Homogenous group</td>
<td>2</td>
<td>8.3</td>
<td>12.5</td>
</tr>
</tbody>
</table>

**Summary**

This chapter included a review of the study’s purpose, research questions, methodology, data collection process, population and sample, and a comprehensive report of the data analysis process. This was followed by an analysis of the findings that
emerged from the BARSE online survey from Phase One of the data collection and findings from Phase Two, the qualitative one-on-one interviews.

The overall key findings from the results of this study showed that of the 495 benefits-eligible faculty and staff from 19 campuses throughout California, Washington, and Oregon, 168 employees participated in the HealthTrails eight-week workplace walking challenge. Of the 168 who participated in the walking challenge, 60% of the participants came from the Irvine campus with 73 of those female and 29 male participants. A survey invitation was sent to all participants of the walking challenge; 59 completed the survey and another 20 were selected for follow-up interviews.

Key findings from Phase One of this sequential explanatory mixed-methods study included no statistically significant differences in self-efficacy of participants registered individually versus those who were a member of a team. Additional findings from the interviews found similarities and differences between those who participated individually compared to those who were a member of a team.

Chapter V provides a detailed interpretation of the results. It includes a discussion of the limitations, implications for action, and proposed ideas for future studies. The chapter concludes with closing remarks and reflections of the researcher.
CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter begins with the restatement of the purpose and research questions, and is followed by a summary of the findings of this study. Conclusions are drawn and implications for action are presented, along with recommendations for future research based on the findings and limitations from this study. This chapter concludes with closing remarks from the researcher.

Purpose Statement

The purpose of this sequential explanatory mixed-method study was twofold. First, the intent of the study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge. Second, the study sought to explore the collective efficacy and the impact of teamed participation and engagement when faced with perceived barriers in an eight-week walking challenge compared to those who participated individually.

Research Questions

The following three research questions guided this study:

1. What was the difference in self-efficacy between those who participated in a walking challenge as an individual compared to those who participated as a member of a team?
2. What challenges were faced by individual versus teamed participants and how were those challenges overcome?
3. What was the difference in motivation between those who participated as an individual compared to those who participated as a member of a team?
Research Design

This mixed-methods research design involved two sequential phases. Phase One included a quantitative online survey administered through SurveyMonkey Incorporated to all registered participants upon conclusion of the HealthTrails walking challenge in late October 2016. The purpose of the online survey was to collect data related to participants’ self-efficacy in the face of perceived barriers during an eight-week walking challenge.

Phase Two included qualitative, semi-structured interviews. Participants were purposefully selected based on whether they participated as individuals or as a member of a team. Purposeful sampling in the second, qualitative phase was a key component due to the sequential nature of qualitative data collection building upon the quantitative results (Creswell, 2014; McMillan & Schumacher, 2014; C. M. Roberts, 2010). The purpose of the semi-structured interviews following the quantitative survey data collection was to explore a deeper understanding of participants’ perceptions of barriers faced during the walking challenge, how they overcame those barriers, and what motivated them to continue in the eight-week walking challenge despite the barriers.

Population

This population consisted of all Brandman University full-time faculty and staff across over 25 campuses throughout California, Washington, and Oregon, which was 495 people at the start of this study (August 2016). This population was considered benefits-eligible employees who were thus able to participate in the HealthyU Wellness Program. Brandman University benefits-ineligible staff, such as adjunct faculty members, were excluded from the study. The target population included all benefits-eligible faculty and
staff who registered for the HealthTrails workplace wellness program walking challenge, which was 168 of the 495 eligible employees.

**Sample**

For the quantitative portion of Phase One, all 168 participants of the walking challenged were invited to participate in the study. Among those, 59 completed the survey for a response rate of 35%. For the qualitative interviews in Phase Two, a nonprobability convenience sample, in which respondents were chosen based on their convenience and availability (Creswell, 2014), was deemed appropriate due to the need of participants to volunteer. A convenience sampling method offered ease for selection of participants and participants were asked to move forward in the data collection process based on their availability. A total of 20 participants were interviewed for Phase Two of data collection.

**Methodology**

A sequential, explanatory mixed-methods approach was deemed appropriate for the purpose of this study because this method, as explained by McMillan and Schumacher (2010), “provides for a more comprehensive picture of what is being studied, emphasizing quantitative outcomes as well as the process that influenced the outcomes” (p. 401). This approach entailed two sequential data collection procedures, a quantitative online survey followed by qualitative semi-structured interviews (Creswell, 2014; McMillan & Schumacher, 2010). A pragmatic worldview guided the priority decision that placed greater emphasis on one method over the other method to answer the research questions (Creswell & Plano-Clark, 2007). For this study, greater emphasis was placed on the quantitative data to address the research questions.
Major Findings

Several major findings were discovered from the two phases of data collection in this sequential explanatory mixed-methods study. These findings are explained in congruence with each of the research questions that guided this study.

Research Question One

Research Question One: What was the difference in self-efficacy between those who participated in a walking challenge as an individual compared to those who participated as a member of a team?

The data indicated that working in teams or groups (collectively) in the workplace supported favorable health outcomes and goal attainment. Perceived collective efficacy referred to a team or group’s “shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment” (Bandura, 1994, p. 477). Therefore, institutions with staff that judge themselves collectively powerless to attain a desired walking goal conveyed a health and wellness futility that can pervade the entire institution. In contrast, institutions with staff that collectively judge themselves highly capable of behaviors that involve health and wellness imbued their institution with a positive working environment for sociocognitive development (Bandura 1997). The results indicated that faculty and staff judged themselves positively and therefore attained health outcomes when participating in health and wellness activities such as a walking challenge where employees participated as a member of a team.

Additionally, Bandura (1997) found that, “individuals judge the strength of their efficacy to get themselves to exercise regularly when they’re under pressure from work, are tired, depressed, have more interesting things to do and face foul weather” (2004, p.
8). Analysis of the findings of research question one indicated that individuals judged the strength of their self-efficacy when under personal stress of some kind less than those who participated as a member of a team. The findings of this research study also showed that when participants who were members of teams answered that they were bored of the program, not interested in the activity, or did not find it fun or enjoyable, they outperformed individual participants’ self-efficacy scores. Although there are emergent benefits to collective efficacy, the findings did not show statistically significant differences between individual participants and those who participated as a member of a team.

The findings of this study supported the difference in efficacy between those who participated in a walking challenge as an individual compared to the collective efficacy of those who participated as a member of a team. Those who participated as a member of a team averaged 25.2 points higher collectively on the BARSE than individual participants. According to Urdan and Pajares (2006), “the higher the perceived collective efficacy, the higher the groups’ motivational investment in their undertakings, the stronger their staying power in the face of impediments and setbacks, and the greater their performance accomplishments” (p. 318).

**Research Question Two**

Research Question Two: *What challenges were faced by individual versus teamed participants and how were those challenges overcome?*

Research Question Two used social cognitive theory (SCT; Bandura, 1986) as a framework to guide the analysis. SCT referenced the cognitions used to overcome challenges faced through affective self-evaluation, perceived self-efficacy, and personal
goal setting for individual participants, whereas participants who were members of a
team used collective efficacy integrating how they each mediated factors to overcome
their specific challenges.

Analysis of the data for Research Question Two supported SCT as indicated by
those who participated individually who faced challenges such as lack of consistency and
pacing, self-motivation, and disconnect from a group. Furthermore, the qualitative data
was in congruence with the results of the BARSE survey as well.

A strong factor that supported participants to overcome their challenges for both
individual and teemed participants was the ability to create activities in the face of
challenges such as travel, injuries, or inclement weather. This was highlighted by one
participant who gave this example,

I knew I was gonna be on vacation during the challenge so I knew I would
be having to find like you know new, kind of like novel ways for keeping
moving, especially when I would be at the airport and not able to walk for
a lot of the time. So, it was about finding creative ways to keep active.

These findings supported previous research that indicated “physical activity, such
as walking can produce affective reactions that can beget positive affective states as well
as alleviate aversive ones” (Bandura, 2007, p. 415).

Collective efficacy was largely dependent on the degree of interdependence from
each team member to achieve a goal (Bandura, 2007). To elucidate this, Bandura (1997)
stated the difference of summing a gymnastics teams individual scores and a soccer
teams intricate coordination with team attainment that was “highly dependent on how
well its members work together” (p. 403). For this study, the accomplishments of a
walking team were the sum of successes achieved independently, therefore acting like individual participants despite being members of a team. Under low-system interdependence, members inspired, motivated, and supported each other, but the walking teams’ outcomes were the sum of the attainments produced individually rather than by the team members working together. Therefore, to look at aggregated personal efficacies was found to be only well-suited to measure perceived efficacy for teams that work toward a team outcome that was the sum of the attainments produced individually rather than by the members working together (Bandura, 1997). Consequently, the participation of employees as members of a team to reach and attain health outcomes and team goals was supported through collective efficacy and individual self-efficacy.

Accordingly, the results of this study indicated that individual participants differed from those who participated as a member of a team in the challenges faced and how they overcame those challenges. A much greater percentage of individual participants used an affective self-evaluation process of perceived efficacy and implemented a cognitive self-talk strategy to overcome challenges. One such individual response that confirmed research from Bandura (2007) regarding how walking can produce affective reactions that could beget positive states was elucidated with the following interview response,

I just told myself that this is for me, this is for my benefit, and this is for my health. If I don’t do it, no one can do it for me. I have my own personal incentive, and it’s for my health. I don’t want to be deteriorate.
Overall, individuals mean scores were lower on all 13 BARSE questions, meaning overall, individuals struggled more with self-efficacy when faced with challenges while participating in a workplace walking challenge.

**Research Question Three**

Research Question Three: *What was the difference in motivation between those who participated as an individual compared to those who participated as a member of a team?*

As attested by Bandura (2000) “perceived collective efficacy fosters groups’ motivational commitment to their missions, resilience to adversity, and performance accomplishments” (p. 75). Therefore, when addressing Research Question Three about the difference in motivation between those who participated as an individual compared to those who participated as a member of a team, one must look at individual and collective motivations and the influences on individual and teemed performance.

The idea that collective efficacy fostered motivation in a group’s performance could be seen with the following response of one participant who participated as a member of a team,

“I participated in other challenges and enjoyed them. The motivation to having my teammates and coworkers is a big help for me because I tend to be someone who is motivated a lot more physically, for exercise, by a group than myself. Having that accountability was something that’s really interesting to me, so that’s what motivated me to do it.”

Another response that came from a participant who participated individually stated the following, “I wanted to motivate myself to try to walk more, and try to be more
active. Even though I wasn’t on a team, and I was just doing it by myself, I needed that motivation to get up and move.” Therefore, this participant is displaying strong beliefs to perform despite not being on a team. Thus, confirming that regardless of being on a team or not, “individuals with high levels of self-efficacy for exercise behavior tend to be more physically active” (Weibull et al., 2015, p. 478) and possess more of a self-motivated belief.

Overall there was a varying degree of motivational factors that influenced differences in motivation between those who participated as an individual compared to those who participated as a member of a team. For example, those who participated individually responded with the second highest motivational influence of affirming words whereas those who participated as members of teams responded with motivational influences such as fun and team commitment as their highest responses.

Despite this finding, the most common response from all participants regarding their motivation to participate in the walking challenge was personal motivation and a sense of accomplishment. In fact, one person who participated individually stated, “I feel like so much of it has to be a personal motivation.”

**Unexpected Findings**

There were several unexpected findings discovered from this sequential explanatory mixed-methods study. The most salient unexpected finding was that there were no significant differences between those who participated in the eight-week workplace walking challenge individually or as a member of a team. Although there were some differences in scores, the results were not statistically significant.
Another unexpected finding was that some participants who registered as an individual or as member of a team did not necessarily participate individually or rely on team members to exercise or walk; some of the individual participants also utilized others to maintain engagement and participation, and some of the teamed participants functioned more as individuals. Most participants, whether individual or teamed, used others such as friends and family outside of the institution to maintain engagement and participation.

It was also unexpected that participants who were members of a team did not necessarily stick to exercising or walking with only their immediate team members. Several of the teamed participants described working with people from outside their own team and outside of the institution as exercise or walking partners.

**Conclusions**

Several conclusions from this study provided insight to better understand participants perceived efficacy; the changes one underwent in the face of barriers, and differences in motivation when participating as an individual or as a member of a team in a workplace walking challenge. Understanding an organization’s culture and how to develop and institute a workplace wellness program successfully was found to be unique to one’s organization. As such, serious consideration from the conception and throughout the development of a workplace wellness program must be taken into consideration.

**Conclusion 1**

Raising one’s self-efficacy was found to be most affected by actual performances through mastery of experiences and how they were perceived or interpreted by the person on a given task or activity (Bandura, 1997). Evidence to this surfaced with interview
responses that commented on positive past experiences in walking challenges with Brandman University despite individual participation or participation as a member of a team. Therefore, it was concluded that past mastery raised one’s self-efficacy regardless if he or she participated individually or as a member of a walking team in an eight-week workplace walking challenge.

**Conclusion 2**

A second source of self-efficacy was through vicarious experiences (Bandura, 1997), or watching others with similar characteristics to oneself succeed. Watching models in one’s environment similar to oneself served as motivation to participate and continue throughout the walking challenge. This was found during the interviews as participants described the desire for more wellness champions, the involvement of leadership, and positive influences around the workplace. Therefore, it was concluded that both individual and teamed participants benefited from engaged leaders who championed the cause, built enthusiasm for the challenge, motivated participation, and modeled capabilities to master comparable activities required to succeed during the walking challenge.

**Conclusion 3**

A third source of efficacy was the social persuasion that one received from others’ influences (Bandura, 1997). Receiving feedback from peers affected one’s efficacy, either positively or negatively depending on the type of feedback offered. Results from this study demonstrated the social influence of peers in this walking challenge. Interview data showed that comments from peers provided motivation and social pressure to walk, or not walk, each day. Some individuals also noted their personal self-efficacy was
stronger and a bigger motivating factor after reviewing the data from their Fitbit on the leaderboard through HealthTrails or comparing their individual standing with all who participated. Therefore, it was concluded that both individual and collective efficacy was impacted by the received feedback from peers, either positively or negatively, depending on the type of feedback offered.

**Conclusion 4**

The fourth source of self-efficacy involved physiological arousal; the sensations one feels and how one perceives emotional arousal influences one’s self-efficacy beliefs. Physiological states such as stress, anxiety, arousal, fatigue, and mood all influence efficacy beliefs to enhance physical status. Physiological arousal was shown to influence participants’ mood for both individual and teamed participants with almost 70% of participants stating in their interview that the walking challenge was fun.

**Implications for Action**

Based on the findings and conclusions from the study, the following implications for action were suggested for organizations to consider when developing a workplace wellness program and more specifically, one that involves walking challenges as a participatory exercise activity in higher education settings.

This study offers implications to wellness practitioners looking to develop a sustainable workplace wellness program. Individuals perceived capabilities are affected by one’s actual performance on a given task and how they interpret them at that time. Self-efficacy is not a fixed trait and can be activated. Self-efficacy is also a concerned thought process that involves changing perceptions and beliefs before changes in behaviors may be seen. As such, self-efficacy has formidable predictive power and
carries several important implications for motivating human performance in a workplace environment. A workplace wellness program needs to look at the workplace environment and culture to address affectable influence to change employees perceived individual and collective efficacy by scaffolding behaviors through acquired knowledge about how to increase healthful behavioral changes which thereby increase participation in workplace wellness program activities.

Another implication for action from this research study involves mastery of an active lifestyle despite impediments to exercise habits. It was found that people were more likely to remain physically active if exercises were embedded in habitual routines and enjoyable activities rather than isolated from daily activities at particular times and places (Bandura, 1991). Therefore, workplace wellness programs need to focus on moving the sedentary population to become moderately active through creating daily habits rather than to focus on converting such employees to become vigorous exercisers. For novice exercisers, walking with a goal of 10,000 steps a day may be perceived as discouraging. Incorporating moderate exercise into habitual routines could be more effective than asking people to make large-scale lifestyle changes. The implication to create a wellness program that involves a range of activities with varying activity levels, times, locations, and opportunities during the work day would be one way to encourage multiple, diverse populations in the workplace to participate.

Teaching employees about how to raise one’s self-efficacy and encouraging participation in wellness activities with tangible, realistic results may support those with lower self-efficacy toward exercise and healthy behaviors. Thus, the second implication for action involves creating an environment to raise perceived self-efficacy of employees
through vicarious experiences such as observing others managing task demands successfully with interventions that involve a buddy system or team with a diverse group of individuals to allow those with higher efficacy and readiness to influence those with lower self-efficacy through modeling.

The third implication for action involves social persuasion to raise self-efficacy for those who cannot master this on their own. “Social persuasory mode” as Bandura (1997, p. 416) termed it, did not necessarily need to be in a group with the intention to raise collective efficacy. Creating a workplace environment conducive to social environmental support during the early phases of adoption and adherence to an exercise program may facilitate neophyte exercisers to outweigh any discomfort when enlisting in a workplace wellness program whether participating individually or as a member of a team.

**Recommendations for Further Research**

This study focused on a single population from a workplace in higher education that held a walking challenge as an activity in the institutions wellness program. Multiple campuses across three states and online, home-based employees participated in the challenge and study. Future research should consider replicating this study with a larger population that includes an on-ground, face-to face institution rather than using an online or blended institution alone.

Future studies need to heed that there is not a one size fits all approach to implementing wellness programs in workplaces. The gap in research further clarified there is not even a one size fits most. Therefore, there is a need to take a diagnostic of all employees upon hiring as one option to facilitate the intake of employee health
information to tailor a wellness program for each organization and groups of employees. Thereby, future research needs to develop an employee informational intake plan to create a data driven strategy that aligns with the health needs of its employees.

Another recommendation is to create wellness champions. According to Koster (2014), creating a network of wellness champions through peer influence and customized programs to smaller location or groups, such as departments, is one way to leverage wellness champions in organizations and thereby increase employee participation. This may be more successful than a general program for the organization that is too broad to tap into varying departments’ cultures.

There is also a dire need to understand what is termed as the high-risk population that is underrepresented across research studies and thus causes a gap in research. However, the cause for the gap in research is prevalent because this population hesitates to participate in workplace wellness programs altogether. To tap into this population, one must consider the barriers faced by this population and tailor a wellness program to include multiple options for activities, including various activity levels, various activity interests, and a plethora of accommodations for those with injuries or disabilities. Future research studies need to also find ways to allocate funds to support a more robust study that will involve inclusivity and gather evidence from populations typically not participating in workplace wellness programs.

Another recommendation would be to create a walking challenge with a diet and nutrition component to it. Results from this study indicated that employees with lack of a nutritional plan did not meet their goals with respect to weight loss. Therefore, it is recommended future research study a wellness program that includes a nutritional aspect.
to it to encourage both healthy eating habits and exercise activity to maximize the opportunity for health outcomes.

Future studies need to look at a workplace challenge that involves all activities versus only walking. Although walking may be low-impact, and considered accessible to the majority of the population who is sedentary, it would be advantageous to entice more participation to offer a workplace wellness challenge that is inclusive with varying exercise activities with instruments and measures for each activity. In addition, future research should aim to include the use of a device to measure these multiple activities to include varying exercise activities ranging from beginner to advanced.

Lastly, future studies need to continue the research on efficacy theories to better understand the changes in perceptions, behaviors, environments, and cognitions needed to support the health and wellness of employees in workplaces that offer wellness programs.

**Concluding Remarks and Reflections**

People deserve to be healthy. However, what I learned was that you cannot assume that people know how to create a healthy environment for themselves. Children grow up assuming their environment is suited with their best interest and health in mind. However, this is not always the case.

As a child athlete, my athleticism continued into adulthood. As an adult, attaining degrees and credentials in education, coupled with my teaching K-12 in southern California, allowed me to experience the breadth of knowledge needed to begin this research study. The acquired depth of knowledge resultant from this study confirmed many insights going into this research study and left me with further inquiry that will
continue as I move forward with this acquired culmination of knowledge to address obesity in America.

Obesity is an important health concern that is now considered an epidemic. The obesity epidemic is multidimensional and the key to the solution requires an interdisciplinary approach involving the synergism of a team, namely, the food industry, government, academia, and health care industries. This aggregation of stakeholders and experts learned through the increase of scientific understanding of the mechanism driving obesity. However, there is still not one answer to the scourge of obesity and there is still more research to be conducted.

What is instituted in a workplace as a wellness program must be dichotomized into schools. Workplaces were considered the optimal target to institute a wellness program due to the number of hours adults spent at the workplace. Likewise, this could be said about schools and the number of hours a child spends at the school.

The research has addressed wellness programs in the workplace and in schools. What is missing is an equitable plan that is diverse in nature to address the multiple needs of adults and children from diverse backgrounds. It is my hope that the findings from this study will serve as a catalyst for positive change in the health and wellness of Americans and future Americans. Researchers have no time to waste and must exercise judicial discretion to make decisions toward making America healthy.
REFERENCES


Casillas, M. E. (2014). *Understanding the role and responsibility of leaders in building a culture of health and wellness in an academic setting and how it shapes the distribution of presenteeism* (Doctoral dissertation). Available from The University of Texas School of Public Health.


Brandman University’s HealthyU wellness newsletter for July 2016 with the first advert of the walking challenge for August 2016.
Appendix B

Brandman University’s HealthyU wellness newsletter for August 2016 with the second advert of the walking challenge for August 2016.
Appendix C

Sample items from the Barriers Self-Efficacy Scale (BARSE; McAuley, 1992).

| I believe that I could exercise 3 times per week for the next 3 months if: |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Not at all Confident | Moderately Confident | Highly Confident |

6. I had to exercise alone.

7. It was not fun or enjoyable.

8. It became difficult to get to the exercise location.

9. I didn’t like the particular activity program that I was involved in.

10. My schedule conflicted with my exercise session.

11. I felt self-conscious about my appearance when I exercised.

12. An instructor does not offer me any encouragement.

13. I was under personal stress of some kind.
Appendix D

Permission to use the BARSE.

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Perez, Massiel

From: McAuley, Edward <emcauley@illinois.edu>
Sent: Tuesday, July 05, 2016 7:54 PM
To: Perez, Massiel
Subject: Re: Permission to use BARSE

Permission granted.

EM

Sent from my iPad

On Jul 5, 2016, at 7:43 PM, Perez, Massiel <masperez@brandman.edu> wrote:

PERMISSIONS


PERMISSION: TO USE AN EXISTING SURVEY

07.06.2016

Dear Dr. McAuley,

I am a doctoral student from Brandman University writing my dissertation tentatively on workplace wellness and self-efficacy under the direction of my dissertation committee chaired by Dr. Worthington, Dean of Business and Professional Studies.

I would like your permission to reproduce to use survey instrument 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 the copyright statement on all copies of the instrument
I will send my research study and one copy of reports, articles, and the like that make
use of these survey data promptly to your attention.

If these are acceptable terms and conditions, please indicate so by signing one copy of this letter
and returning it to me either through postal mail, or e-mail:

Massiel Perez, M.A.T.
Brandman University, 3rd floor
16355 Laguna Canyon Road
Irvine CA 92679
email: masperez@brandman.edu

Sincerely,
Massiel Perez, Doctoral Candidate

Please use the attached PDF to sign, scan and return. You can also mail it if need be.

Thank you for your time.

You did it, great job! Grades should be posted soon in Self-Service.
Best,

Massiel Pérez, M.A.T.
Academic Advisor
Ed.D Candidate, Organizational Leadership
Wellness Committee Member

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A Member of the Chapman University System

[Signature]
Appendix E

Email Invitation with the Link to the BARSE Online Survey Embedded

INFORMATION ABOUT: Participation in workplace wellness programs

BRANDMAN UNIVERSITY
16355 LAGUNA CANYON ROAD
IRVINE, CA 92618

RESPONSIBLE INVESTIGATOR:

Massiel Pérez-Calhoon – masperez@brandman.edu
Glenn Worthington, Ed.D – gworthing@brandman.edu

The purpose of this sequential explanatory mixed-method study was twofold. First, the intent of the study was to explore the relationship between self-efficacy and the impact on participation and engagement when faced with perceived barriers in an eight-week walking challenge. Second, the study sought to explore the collective efficacy and the impact on teamed participation and engagement when faced with perceived barriers in an eight-week walking challenge compared to those who participated individually.

The study will employ the BARSE, Barrier to Self-Efficacy Scale. “The Barriers Specific Self-Efficacy Scale (BARSE) is an instrumentation tool designed to tap subjects’ perceived capabilities to exercise” (McAuley, 1991, p. 71).

Your participation in this survey is voluntary. You may choose not to participate. If you decide to participate in this electronic survey, you can withdraw at any time. The survey will take approximately 5-15 minutes to complete. Your responses will be kept confidential, and anonymous. You will have the opportunity to provide your email address at the end of the survey should you be interested in participating in a follow-up interview. Providing your email address is purely optional and not required to complete the survey. The results of this study will be used for scholarly purposes only. If you have any questions about completing this survey or any aspects of this research, please contact Massiel Pérez-Calhoon at masperez@brandman.edu or Glenn Worthington at gworthing@brandman.edu.

ELECTRONIC CONSENT: By clicking on “agree” you are moving forward from this webpage and acknowledge that you have read the informed consent, the information in this document and, that you voluntarily agree to participate. If you do not wish to participate in this electronic survey, you may move away from this webpage.

☐ AGREE: I acknowledge receiving this Informed Consent form. I have read the information and give my consent to participate in the study.