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The Role of Kentucky State-Supported Postsecondary Education in Creating a Healthier Citizenship

Julia K. Buchanan
University of Kentucky, julia.buchanan@uky.edu

THE ROLE OF KENTUCKY STATE-SUPPORTED POSTSECONDARY
EDUCATION IN CREATING A HEALTHIER CITIZENSHIP

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DISSERTATION

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A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
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By
Julia Kristine Buchanan

Lexington, Kentucky

Director: Dr. Tricia Browne-Ferrigno, Professor of Educational Leadership Studies

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ABSTRACT OF DISSERTATION

THE ROLE OF KENTUCKY STATE-SUPPORTED POSTSECONDARY
EDUCATION IN CREATING A HEALTHIER CITIZENSHIP

Citizens within the United States of America (USA) and the Commonwealth of Kentucky exhibit indicators of lessened health status in a variety of areas. Many chronic diseases and conditions are due to individual lifestyle behaviors, which can be modified through the implementation of dedicated health and wellness programming. Such programs, often housed within institutions of higher education, have the ability to impact many individuals including students, faculty, staff, and community members. This dissertation is a report of a mixed-methods study that begins to explore how state-supported postsecondary institutions may be able to impact individual behavior and thus, resulting health outcomes. This relationship is not only beneficial for the targeted individuals but also for the institutions, which may experience heightened success and sustainability.

This research employs both quantitative and qualitative methods to gain an understanding of the current level of influence of state-supported postsecondary education in Kentucky on the health of its citizenship. Those working in various on-campus health and wellness departments at the University of Kentucky, University of Louisville, and Eastern Kentucky University were surveyed. Next, key leaders at each university involved with these programming efforts were interviewed along with Kentucky Council on Postsecondary Education officials, to gain an understanding of the leadership perspectives surrounding this issue. Finally, site visits at each university were completed to elicit knowledge regarding campus environments and how supportive they are in positively influencing individual health and wellbeing.

It is possible that with more extensive findings across the Commonwealth of Kentucky and across the USA, a greater rationale can be made for institutional and state-wide leadership support of health and wellness programming efforts on college campuses. Resulting outcomes have great potential to be both robust and reciprocal to the university and its community members.

_____ Julia Kristine Buchanan
Student's Signature

_____ July 6, 2015
Date

THE ROLE OF KENTUCKY STATE-SUPPORTED POSTSECONDARY
EDUCATION AND CREATING A HEALTHIER CITIZENSHIP

By

Julia Kristine Buchanan

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Dr. Tricia Browne-Ferrigno

Director of Dissertation

Dr. John Nash

Director of Graduate Studies

July 6, 2015

Date

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CHAPTER 1

INTRODUCTION

The health of the United States of America (USA) population, and that of the

Commonwealth of Kentucky, has shown a need for improvement. Although much is

known about how individual behaviors influence health, there has been little exploration

of how institutions of higher education (specifically those which are publicly funded) can

impact said behavior and support an individual's personal wellbeing. This dissertation is

a report of a mixed-methods study examining the role in which state-supported

postsecondary education in Kentucky influences a healthier citizenship.

For the purposes of this study, a healthier citizenship can be defined as improved

population health outcomes among citizens residing in the Commonwealth. The study

was based primarily upon specific aspects of the strategic agenda of the Kentucky

Council on Postsecondary Education (CPE), and the strategic plans of three Kentucky

universities that centralize around increasing the health and quality of life of

Kentuckians. Because Kentucky citizens evidence a low level of overall health compared

to the rest of the USA, there is considerable potential for state-supported institutions of

higher education in the Commonwealth to provide a positive influence through relevant

programs, services, and healthy campus environments.

This research explores a variety of departments within higher education that

influence the health and wellbeing of students, faculty, staff, and community members.

The research also examines the extent to which the selected universities are actively

influencing health and wellbeing, as reported through data gathered from key personnel

and observations of the campus environments for which wellness is supported for these

individuals. This chapter presents the background of the study, outlines the problem under investigation, specifies the significance of the study, and discusses the methodology used. The chapter closes with delimitations of the study and definitions for key terms used throughout the dissertation.

Background of the Study

The USA ranks very low in health among its citizens compared to other countries within its peer group based on such factors as life expectancy at birth, healthy years lost due to disability, and obesity rates (National Center for Health Statistics [NCHS], 2014). Likewise, Kentucky consistently ranks in the bottom 5% for a variety of health outcomes, as compared to the rest of the 49 states (Kentucky Department for Public Health [DPH], 2013).

Both the USA population and specifically that of Kentucky experience many indicators of overall poor health. This condition is largely due in part to poor individual health behavior choices, such as physical inactivity, tobacco use, alcohol consumption, and poor nutritional habits. The four aforementioned behaviors account for more than 50% of all deaths in the USA (Centers for Disease Control and Prevention [CDC], 2011). This brings about the hypothesis that by positively influencing individual health behaviors, a greater health status and quality of life may then be promoted among the greater population. Beyond health status, the economic and human capital gains as a result of a healthier citizenship may also be realized through individual and population health, minimizing preventable health conditions (López-Casasnovas, Rivera, & Currais, 2007).

Kentucky's low national ranking with regard to citizens' health makes it imperative to consider the many challenges to creating a healthier citizenship in the Commonwealth. First, economy and personal income indicate that Kentucky has the 5th highest poverty rate in the USA (United States Census Bureau, 2014). Impoverished citizens are often unable to access quality education, gainful employment, healthcare, or adequate housing, thus creating a multitude of barriers to heightening their personal health. Adding to the economic burden are high obesity rates, costing businesses, taxpayers, and other sectors of society over $1 billion per year.

Another challenge in creating a healthier citizenship within Kentucky is educational attainment, which has a direct relationship to health status. Approximately 81.7% of Kentuckians age 25 and older have graduated from high school, which falls below the national average and places the Commonwealth at 47th out of 50 in the national rankings (United States Census Bureau, 2012). Low levels of educational attainment may indicate a greater potential for negative lifestyle behaviors. One such behavior is that of tobacco use, occurring among 29.0% of the population in 2012 ranking Kentucky highest in the USA (Centers for Disease Control [CDC], 2013a). Low educational attainment is also associated with less access to preventive healthcare and thus, potentially increased rates of preventable disease (Kentucky Institute of Medicine, 2007).

Considering the aforementioned statistics regarding health in both the USA and Kentucky, it is necessary to recognize the potential impact higher education can have on a healthier citizenship. This consideration would not only include the health of an institution's students, faculty, and staff, but also members of the local and regional communities for which the institutions serve. Existing literature highlights the impact of

healthier students on academic success and retention and healthier faculty staff on productivity and retention (Chenoweth, 2007). Although the mutually beneficial relationship between an institution and its surrounding community is generally understood, there is little research available that assesses the programs and services available to those individuals as it relates to health and wellness. The goal of increasing the quality of life and wellbeing among Kentuckians is a prominent aim listed in the strategic agendas of the CPE and state-supported postsecondary institutions, although how this is being done or evaluated is unclear.

The Ecological Model for Health Promotion frames this study, and describes varying levels of influence upon individual health behavior (Mcleroy, Stecker, Bibeau, & Glanz, 1988). The model aids in explaining the role in which intrapersonal factors, interpersonal processes and primary groups, institutional factors, community factors, and public policy play in affecting one's health behavior. By employing strategies which target all sources of influence, colleges and universities may be able to better support individuals in heightening their state of wellbeing, thus contributing to an overall healthier citizenship. The research methods employed in this study aim to gain a better understanding of provisions offered by the selected universities which target these dynamics.

Statement of the Problem

Given the current health status among Kentuckians, there is much room for improvement through programs, services, and economic and educational opportunities dedicated toward the goal of creating a healthier citizenship. This need is recognized within higher education institutions across the Commonwealth, which set forth strategic

aims addressing health and quality of life for Kentuckians. What is not clear within available literature is the extent to which these institutions are targeting these aims or how their programs and services are viewed among key leaders. This study sought to discover an understanding of these concepts by surveying higher education professionals who implement health and wellness programming on their respective campuses. Interviews with higher education leaders and CPE officials provided a better understanding of perspectives related to the support of these efforts. Site visits and observations by the researcher offered contextual data about how wellness is sustained on the selected campuses. Methodological approaches in this study addressed the expanding levels of influence upon individuals' health behaviors, as framed by the Ecological Model for Health Promotion.

Significance of the Study

Findings from this study contribute to the general understanding of the role in which higher education influences the health and wellbeing of the citizenship. Although previous research studies have discovered the influence of certain dimensions of wellness on specific outcomes, such as college student success and retention (Sax, 1997; Eisenberg et al., 2009; Zhang & RiCharde, 1998) and faculty and staff productivity (Waller & Moten, 2012), little information is available concerning the overall impact of higher education on bringing about a healthier citizenship. To the researcher's knowledge, no published studies evaluate the extent to which postsecondary institutions are implementing programs and services which target strategic aims set forth to improve health and wellbeing among a state's citizenship.

The general problem has intrinsic importance in beginning the exploration of the nationwide influence of state-supported higher education on creating a healthier population within the USA. Many institutions include strategic aims for increasing the health of citizens within their states, but little is known about how these goals and objectives are carried out. In addition, an all-encompassing evaluation into the extent to which students, faculty, staff, and community members are affected by the health and wellbeing programs, services, and environment provided by the university is also in need of review. An aim of this study was thus to shed light on how postsecondary institutional leaders value health and wellbeing on their campuses, since they may be more involved with broad strategic planning efforts within their departments or institutions. Additionally, the study aimed to discover how institutional programs and services related to health and wellbeing are evaluated. Through these approaches, a general understanding of the degree to which community members and citizens of the Commonwealth are affected by these programs and services was hoped to be elicited.

Methodology Overview

With the interdisciplinary nature of this study, a mixed-methods research design was chosen to assess the action being taken by higher education institutions to support the goal of creating a healthy citizenship. Because of its ability to combine both qualitative and quantitative research paradigms to enhance and clarify conclusions, the mixed-methods design was most appropriate for this research (McMillan & Schumacher, 2010). The research study was framed by the Ecological Model for Health Promotion, which involves widening spheres of influence which guide an individual's health behaviors.

A sequential explanatory design (McMillan & Schumacher, 2010) was followed by the researcher, using qualitative questions to provide explanations for the findings elicited from quantitative inquiry. Quantitative and qualitative data collection was implemented in two phases. First, university health and wellness professionals were invited to respond in a survey adapted from a variety of instruments used in the field. The survey was designed to gain an understanding of the extent to which certain programs and services related to health and wellbeing were established, as well as to assess individuals' perspectives related to the role in which they serve at their institution and how it influences the health and wellbeing of target populations.

After survey data were analyzed, those in leadership positions at their respective universities were interviewed to gain clarification about survey responses provided by health and wellness professionals, and to discover the ways in which university departments and key individuals support the goal of creating a healthier citizenship. CPE officials, including the Vice President for Policy, Planning, and Operations, and the Senior Policy Advisor for Research and Economic Engagement, were invited to participate in individual interviews. Finally, after interview data were analyzed, the researcher conducted site visits and observations on participating university campuses to examine the how a culture of wellbeing is fostered.

Delimitations

This study was delimited by location because only University of Kentucky, University of Louisville, and Eastern Kentucky University were included. Health and wellness professionals working in collegiate recreation, health promotion or health education, career services, employee wellness, or counseling services at the

aforementioned institutions were surveyed. Key leaders at the participating institutions

were invited to participate in interview. Selected CPE officials (i.e., Vice President for

Policy, Planning, and Operations; Senior Policy Advisor for Research and Economic

Engagement) were also invited to participate in interviews for the purpose of gaining a

broader sense of the CPE's stance on the role that Kentucky state-supported

postsecondary education plays in creating a healthy citizenship. All data collection,

including site visits at the three selected institutions, was conducted during the spring

semester of 2015.

Key Terms Defined

Terms related to this study are defined in Table 1. Explanation of common

terminology used throughout this report is intended to aid the reader in further

understanding the context of the research.

Table 1

Key Terms Used in Study

Term	Explanation
Health	Defined by the World Health Organization (WHO) (1948), as "a state of complete physical and mental wellbeing and not merely the absence of disease or infirmity" (n.p.).
Wellness	An individual's overall wellbeing, which includes the emotional, environmental, financial, intellectual, occupational, physical, social, and spiritual aspects of their life (Substance Abuse and Mental Health Services Association [SAMHSA], 2014).
Citizenship	Individuals who establish residency in a particular area (for this study, within the Commonwealth of Kentucky) and are legally eligible to vote, run for political office, access government services, and are obligated to pay taxes (Leydet, 2014).
Health Promotion	Defined by the Joint Committee (2001) as "any combination of educational, political, environmental, regulatory, or organizational mechanisms that support actions and conditions of living conducive to the health of individuals, groups, and communities" (p. 99)

Summary

This chapter set forth an introduction to the study, which began with an abbreviated background exploring the study's context. This background included the current state of health and wellbeing within the USA and Kentucky, along with the current challenges to creating a healthier citizenship within the Commonwealth. The discussion also presented implications of a healthier citizenship on institutions of higher education, which was followed by a statement of the problem, study significance, and methodology overview. The chapter concluded by discussing delimitations, and definitions relevant to the study, which provides foundation for a deeper exploration into existing literature related to this topic. Chapter 2 presents a review of the literature relevant to the study, and Chapter 3 provides details about the research methodology.

Chapter 4 presents a report of the study's results, including those which were obtained using the survey, interview guides, and site observations. Following is Chapter 5, which explores the implications of the research, both to the profession and to future research opportunities. Finally, the appendices present the instruments and materials used throughout the study, including the survey, interview guides, site observation and walkability checklists, invitations for participants to take part in the study along with statements of informed consent, consent to utilize an externally-created instrument, and the researcher's documentation of completion of training involving protection of human subjects.

CHAPTER 2

LITERATURE REVIEW

The population of the USA, and more specifically the population of the

Commonwealth of Kentucky, exhibits many indicators of poor overall health. Because

many of these outcomes are a result of personal behaviors, implementation of primary

prevention practices is vital. According to Cottrell, Girvan, and MacKenzie (2008),

primary prevention is the process of educating individuals and changing their behaviors

to prevent the incidence or prevalence of a disease. This, along with the promotion of

quality of life across all life stages, is a major goal of the United States Department of

Health and Human Service's Healthy People 2020 initiative (Department of Health and

Human Services [DHHS], 2011). Improving quality of life and overall health involves

various interrelated dimensions of wellness. These dimensions include physical, mental,

spiritual, social, intellectual, environmental, and occupational wellness (Cottrell et al.,

2008). It is possible that all dimensions of wellness can be positively affected by the

presence of university programs and initiatives targeting healthy behaviors, both on

campus and within communities.

The purpose of the proposed study is to examine the role of Kentucky state-

supported postsecondary education in creating a healthier citizenship, which includes

students, faculty, staff and the rest of the Commonwealth's residents. To fully understand

this relationship, it was necessary to explore the literature related to the effect health and

wellbeing have on student success and retention, as well as on faculty and staff

productivity and retention. The impact institutions of higher education have on local

communities and residents across their respective regions and states will also be

examined, and an overview of the health status of the United States and Kentucky will be presented. This will lead into a discussion surrounding higher education leadership within Kentucky, an evaluation of study site selections, and how state-supported postsecondary education institutions within Kentucky can influence the health of its citizenship. Finally, an overview of the Healthy Campus 2020 framework will be provided, and how the Ecological Model for Health Promotion helps to bring an understanding to the way Kentucky postsecondary education can promote and foster health and an improved quality of life, both for its own benefit as well as for the citizenship of the Commonwealth.

Health Promotion and Wellness in Higher Education

Ultimately, the goal of the health promotion profession is to improve health status, resulting in an improved quality of life for individuals. Although health status and quality of life are complex and difficult to improve in short periods of time, there are a number of ways they can be influenced and assessed. Because of the relationship between health promotion and the ecological perspective, both the efforts of both an individual and their community are involved. Dustin, Bricker, and Schwab (2010) summarize this relationship:

> Health, from an ecological perspective, is a measure of the wellness of the individual and the community considered together. The individual cannot be healthy independent of the condition of the larger community, and the larger community cannot be healthy independent of the condition of the individuals constituting it. Health, at its core, is symbiotic in nature. (p. 7)

Wellbeing, or wellness, encompasses multiple dimensions including physical, mental (emotional), social, intellectual, spiritual, occupational (financial), and environmental (SAMHSA, 2014). Developing and maintaining these aspects of wellness

in students, faculty, staff, and community members is often listed as a priority for many institutions of higher learning (UK, 2010; UL, 2008; EKU, 2010). Previous research denotes the positive effects of improving health status in these dimensions on a variety of outcomes that are especially important to higher education. These outcomes not only involve students, but also faculty and staff members, their families, and the communities and regions that play host to the institutions themselves. Health educators and professionals, along with the support of leadership on college campuses, are often tasked to create interventions and programs which assist people in working toward a better state of wellbeing (Cottrell, Girvan, & McKenzie, 2009).

Implications of Student Wellbeing for Higher Education

In the modern era, the possession of a college education has become increasingly more important, and is shown to be associated with higher earnings and desirable health outcomes (Jaeger & Page, 1996; Kane & Rouse, 1995). Although two-thirds of high school students in the USA enroll in college (U.S. Department of Labor, 2014), the nation falls behind 25 other countries when it comes to bachelor's degree completion rates at just 56% (Postsecondary Education Opportunity, 2009). From a university's perspective, "it is less expensive to help current students succeed than to recruit new students" (Grizzell & McNeil, 2007, p. 20). This is one of the main reasons why an emphasis on student success and retention efforts is important to leaders within higher education, and fosters mutually beneficial outcomes for the institution, students, and community members (Grizzell & McNeil, 2007).

Collegiate wellness initiatives help to support the aforementioned goals, as students who have a high level of overall wellbeing often perform better academically,

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thus heightening their likelihood for graduation (Grizzell & McNeil, 2007). These relationships and their importance in higher education leadership are underscored by Eisenberg, Golberstein, and Hunt (2009), as noted below:

> Understanding this connection could be valuable due to the many ways in which college settings can reach young people; college represents the only time in many people's lives when a single setting encompasses their main activities, social networks, and a range of supportive services and organizations. (p. 1)

As was stated, the traditional college years are typically the only segment of a student's life where he or she has access to a multitude of social networks and services on campus available to support success. Because research shows that behaviors started in college are carried on through adulthood (Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008), this is a prime opportunity for higher education leaders and health professionals to induce positive habits and thriving lifestyles lasting long after the college years are over.

Most research has focused on the correlative relationships of certain health behaviors (e.g., physical activity, balanced diet) on student success and retention, but do not show direct, causal relationships. Since these positive health behaviors are often supported by the efforts of health and wellness services on college campuses, the need for more research on the topic is emphasized. This, along with "better assessment and testing of health programs to begin the process of improving health behaviors, academic performance, and retention" is necessary if administrators wish to improve institutional progress in these areas (Grizzell & McNeil, 2007, p. 23).

Role of mental wellness on student success and retention. It has been shown that three-quarters of mental health disorders arise in individuals between the ages of 18-24 (especially depression, anxiety, and eating disorders), which is the age of the typical college student (Kessler, Berglund, Demler, Jin, Merkangas, & Walters, 2005). College

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students often face the challenge of balancing a variety of pressures, most often relating to academic performance, social integration, and financial security. According to the 2014 *American Freshman Survey,* 1 in 10 students reported 'frequently' feeling depressed, a rate which has greatly increased since 2009 when the survey was last administered (Eagan, Stolzenberg, Ramirez, Aragon, Suchard, & Hurtado, 2014). A chronic deficiency in emotional wellbeing may lead students to unhealthy behaviors and coping strategies, ultimately negatively affecting academic performance (Ahearn, 2009).

In recent decades, college students have reported increasing levels of stress. Although Hans Selye originally defined stress as "the non-specific response of the body to any demand for change" (American Institute of Stress, 2014, n.p.), it is most often attributed to the negative physical responses associated with one's trying circumstances. It should be understood that some stress can result in heightened productivity levels— but only up to a certain point. This concept is illustrated in Figure 1, which describes the relationship between types and levels of stress and related health outcomes.

THE HUMAN FUNCTION CURVE
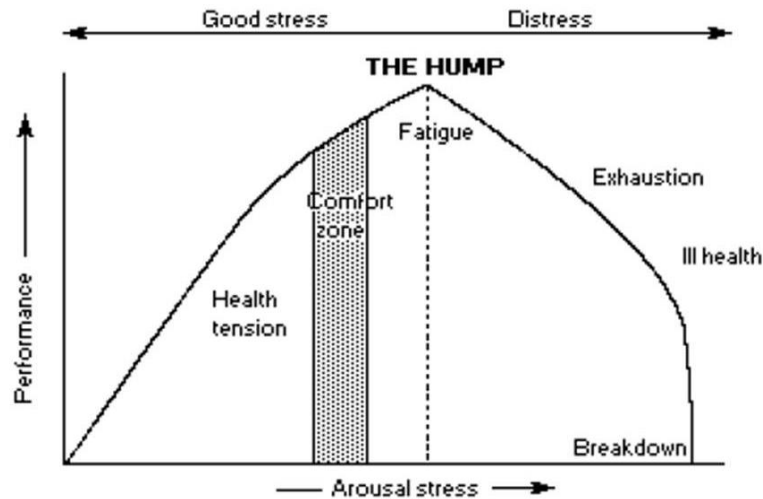
Figure 1. The Human Function Curve. The illustration demonstrates the notion that stress levels are directly related to productivity up to a certain point, or peak. After reaching this peak, there is a negative relationship which is associated with negative health outcomes. It is important to remember that the optimal level of stress is different for everyone. Adapted from "The Human Function Curve – A Paradigm for Our Times" by P.G. Nixon, 1982, *The Journal for Neurocognitive Research, 3,* 1, 130-133.

College students who are able to effectively cope with manageable stressors are better equipped to focus on their academic performance, thus leading to greater success and a higher likelihood they will choose to remain enrolled (compared to students who are unable to cope) (Sax, 1997). However, when stressors become unmanageable, the mind and body react negatively. Eisenberg et al. (2009) found that depression, anxiety, and eating disorders (either present individually or co-occurring) significantly predict a lower grade point average (GPA) and probability of dropping out among college students. Researchers involved with this study suggested that programs which aim to prevent or treat mental health issues on college campuses may have large economic returns and academic impacts (Eisenberg et al., 2009).

Role of social wellness on student success and retention. Social wellbeing is also important, as one's interaction with his or her peers and the formation of lasting relationships can influence academic success (Astin, 1993). Research has suggested that students with greater levels of social support and more developed individual coping strategies have a more fluid transition from high school to college. Because of this, students may experience lower levels of perceived stress, which again leads to greater academic success and lowered attrition rates (Wang, Chen, Zhao, & Xu, 2006).

Institutions which provide programs and initiatives supporting social interaction may benefit greatly, as students who are able to cope and perform better academically often have much lower attrition rates (DeBerard, Spielmans, & Julka, 2004). Research suggests that some student groups may need more targeted attention in the social dimension of wellness. These include students who are of ethnic minorities, academically disadvantaged, disabled, of low socioeconomic status, and on academic probation. These particular groups are often at the greatest risk for attrition throughout the college years, as a result of feeling rejected or like they don't belong (O'Keefe, 2013). As a result, institutions should be sensitive to the needs of these groups on their respective campuses, and make targeted efforts through intentional programs and initiatives.

Aside from peer interaction, students' intellectual wellness also greatly benefits from faculty interaction, mentoring, and guidance (Astin, 1993). Key research findings have shown that students who have more contact with faculty members are more likely to learn effectively and move forward with their academic progress (Center for Community College Student Engagement [CCCSE], 2014). This can be done through e-mail communication, discussion of grades or assignments, talking about career plans,

discussing ideas from readings or classes outside of class, receiving prompt feedback on assignments, and working with faculty members on projects aside from coursework.

Role of physical wellness on student success and retention. College students tend to develop lowered physical health during the college years as a result of behaviors such as poor dietary habits and low levels of physical activity. Consequently, the importance of robust collegiate health (i.e., student health services, health promotion and education) and recreation programs is emphasized. The 2013 National College Health Assessment (NCHA) results indicated that only 6.3% of college students nationwide ate the recommended daily amount of five servings of fruits and vegetables, and just 20.0% of students reported engaging in the recommended 30-minutes of moderate-intensity aerobic exercise per day (American College Health Association [ACHA], 2013). Research has suggested that increased levels of physical health and fitness are significant predictors of freshman retention, and those with such behaviors tend to have less stress and higher cognitive ability (Zhang & RiCharde, 1998). Other research has shown that there exists a positive relationship between grade point average and certain health behaviors, such as strength training (Trockel, Barnes & Egget, 2000) and a healthy diet (George, Dixon, Stansal, Gelb, & Pheri, 2008).

It has long been established that exercise has the ability to improve acquisition and retention of a cognitive task (Cotman, Berchtold, & Christie, 2007). Physical activity stimulates the growth of new nerve cells, and thus can improve learning and memory. In addition, physical activity improves general circulation, increases blood flow to the brain, and raises levels of norepinephrine and endorphins. Norepinephrine is a hormone produced in the human body which stimulates the fight-or-flight response, thus increasing

heart rate, blood flow, and oxygen delivery to the brain (National Center for Biotechnology Information, 2014). Endorphins are also hormones produced in the body, and are involved in pain management and natural reward circuits (e.g., feelings of pleasure) (National Center for Biotechnology Information, 2010). Through these outcomes, cognitive processes such as planning, scheduling, inhibition, and working memory are beneficially influenced. It is important to recognize that physical activity has a direct link to health status, which then can affect productivity and ultimately academic performance (Ratey & Loehr, 2011).

Adolescents who are active physically are also found to be at a lowered risk for attempting suicide, adopting risk-taking behaviors, and becoming pregnant—all factors related to physical wellbeing which thus impact academic achievement (Taras, 2005). Other behaviors, such as alcohol and substance use, have been shown to be positively related to missed classes, lowered test scores, and lowered overall GPA. The transition into the college years often coincides with the engagement in risky behaviors, which as a result, leads to a poorer health status. This shows the furthered need for higher education administrators to focus on the health-related necessities of college students through promotion of healthy behaviors and provision of intervention strategies when deemed essential (Ruthig, Marrone, Hladkyj, & Robinson-Epp, 2011).

Aside from physical activity, nutrition, and risky behavior, physical illness and sleep difficulties also have an effect on students and academic performance. In 2013, 13.2% of students reported that colds, flu, and sore throat impacted their academic performance, while sleep difficulties were reported as a culprit by 19.4% of students (ACHA, 2013). Lack of sleep has numerous effects on college students, some of which

can be life-threatening. Insufficient sleep has been associated with increased accidents and morbidity, and decreased cognitive, psychomotor, and emotional functioning. As a result, students who experience this issue are shown to have lesser academic performance. Educational programming on positive sleep habits is rarely provided for college students. Given its relationship to student success, a furthered focus on quality sleep by college health professionals is imperative (Orzech, Salafsky, & Hamilton, 2011).

Overall, research suggests that physical wellbeing has a positive effect on academic success and retention. This is based on research which shows the relationship between behaviors affecting personal health (e.g., lower substance abuse, participation in regular physical activity, getting ample sleep) and academic success. It has been suggested that college students who show personal concern in these areas of their lives and show consideration for future consequences perform better academically (Peters, Joireman, & Ridgway; Ratey & Loehr, 2011). For students who do not consider future consequences, one strategy which could be effective for college health professionals is to emphasize the short term benefits of engaging in these positive physical health behaviors (Peters et al., 2005).

Role of other dimensions of wellness on student success and retention. A variety of published research studies indicate positive relationships between academic success and retention and other dimensions of wellness. Variables related to spiritual wellness (such as a positive attitude, strong internal locus of control, and optimism) have been found to be positively associated with GPA as well as nonacademic accomplishment (George et al., 2008). Intelligence (IQ), sufficient study time, and the development of time management skills (indicators of intellectual wellness) in college students is also

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related positively to academic performance (George et al., 2008). In terms of occupational wellness, students who terminate their education have a decreased likelihood of pursuing career goals and are less prepared for productive roles in society. Therefore, institutions which support and retain students until graduation can directly affect this aspect of wellbeing (Krumrei-Mancuso, Newton, Kim & Wilcox, 2013).

Generally, environmental wellness refers to "good health by occupying pleasant, stimulating environments that support wellbeing" (SAMHSA, 2014, n.p.). This is a broad statement which can be interpreted or applied in a variety of ways. Energy conservation, recycling efforts, reducing one's carbon footprint, and an individual's general awareness of his or her surroundings are all indicators of environmental wellbeing. Ways in which campus environment or ecology can impact student success and retention has been a focus of many institutions' master planning efforts. Factors such as providing ample meeting spaces, construction of living and learning communities, aesthetically pleasing and well-thought architecture and landscaping, and plentiful and maintained walkways can have positive effects when it comes to student recruitment, success and retention. Campus environments which are conducive for learning and creativity also have linkages to the improvement of other dimensions of wellness. This again emphasizes the importance of considering environment when the goal is to improve other outcomes (Strange & Banning, 2001; Cohen & Lovell, 2011; and Campbell & Bigger, 2008).

Implications of Faculty and Staff Wellbeing on Higher Education

Colleges and universities can benefit from implementing worksite wellness programs for faculty, staff, and dependents in a variety of ways. Many of these benefits are financial, as the premise behind employee wellness programs is largely that

monitoring and modifying individuals' health risk factors can help to avoid many high

medical costs associated with preventable conditions. Relevant literature has shown that

medical costs fall by about $3.27 per dollar spent on wellness programs, indicating a

significant return on investment (ROI) for employers. Collaborative models involving

many departments on college campuses may assist in ensuring a robust and effective

employee wellness program (Carter, Kelly, Alexander, & Holmes, 2011). In addition to

college or university led programs, health insurance plans may also initiate wellness

programs as a means of leveraging chronic disease and health care costs (Department of

Health and Human Services [DHHS], 2013).

In addition to the direct financial ROI, the intangible rewards gained from having

a healthy workforce are faculty and staff productivity and retention. Lowered employee

absenteeism (occurring when individuals are absent from work due to illness) and

presenteeism (occurring when individuals come to work in ill health, but as a result may

lack mental focus and productivity) are both outcomes that have been shown to be

improved as a result of comprehensive employee wellness programs (Chenoweth, 2007).

One-half of unscheduled work absences in the US are the result of minor conditions that

could have been prevented by modifying personal health behaviors. Research indicates

that healthy employees also outperform unhealthy employees, thus again making a case

which falls in favor of employee wellness programs (Chenoweth, 2007).

Employees are often recruited and retained at a higher rate when employers

actively show they are invested in their needs. This leads to greater employee satisfaction

with their workplace, thus heightening morale and overall investment in the

organization's mission (Sparling, 2010). Worksite wellness programs benefit employees

in several ways, including the facilitation of reduced stress levels, increased energy levels, a greater display of enthusiasm while working, and greater social interaction (Waller & Moten, 2012). In short, "Workforce health is an essential element in determining the long-term success of the company and whether it thrives" (Sparling, 2010, p. 2).

As was mentioned previously, a key to the success of employee wellness programs, especially within higher education, is collaboration among multiple stakeholders at the institutional level. Another important component which ought to be considered involves employees' family members and other social networks. By also making an investment into the health and wellbeing of employees' families, a reciprocal and beneficial relationship may be fostered in the promotion of positive health behaviors (Sparling, 2010). According to the World Health Organization (WHO) (2015), the workplace "directly influences the physical, mental, economic and social wellbeing of workers and in turn the health of their families, communities and society. It offers an ideal setting and infrastructure to support the promotion of health of a large audience" (n.p.). By having a healthier, qualified, and motivated workforce, overall success of the workplace may be more readily achieved and community benefits, such as reduced poverty rates, may be realized (WHO, 2015).

Another very important principle to consider in regard to the implementation of employee wellness programs on college campuses is the investment of top leadership. Sparling (2010) states that "True concern and action by employers for the welfare of employees can be a powerful influence on employee morale, loyalty, and retention" (n.p). Focusing on the individual needs of employees, implementing environmental and policy

changes in support of healthy behaviors and linking these programs to occupational

safety and job performance are also key considerations which can elicit successful

workplace wellness programs. Overall, the more comprehensive the program is, the more

benefit it will have for the employee, which then brings about positive effects for the

college and university in a number of realms. These benefits have the potential of

increasing proportionally, when considering the potential impacts on employees' family

members (Sparling, 2010).

Impact of Higher Education on Wellbeing of Community Members

It wasn't until the late 19th century and early 20th century that towns saw firsthand

the benefits of hosting colleges. Land values increased, the economy was supported (due

to the presence of students and faculty in the community), and certain members of society

became perceived as superior citizens. Localities bid to host institutions, and likewise,

institutions chose localities based on where they might have received the best financial

guarantees. Town populations increased due to settlers coming to the area to send their

children to particular institutions. All in all, the initial relationship between towns and

colleges was mutually beneficial (Church & Sedlak, 1997).

As time progressed to the present era, the relationship has remained similar—but

on a much larger scale (especially economically). In the present day, there are many more

colleges and universities in existence and resulting campus communities often make up

the majority of a town or city's population. Literature suggests that having healthy,

productive community members aids in the attraction and recruitment of higher-quality

employees (Webber & Mercure, 2010). Overall, however, there exists a gap in the

research literature which explicitly examines the role of institutions of higher learning on

the health of their respective citizenship (and vice versa). Existing literature indirectly points to this notion, but more inquiry on this topic might provide a clearer understanding of the relationship between higher education and a healthy citizenship.

Scholars have pointed at the importance of developing "connections between higher education and the broader society through local community" (Falconer, 2006, p. 16). One researcher interviewed community and university leaders to gain an understanding of their perception of the relationship which exists among them. This relationship was referred to as a marriage—areas of both common and divergent goals were found. As with any marriage, relationships between universities and their respective towns can fluctuate between periods of positivity and times of friction. However, better understanding leads to better relationships, and thus a more mutually beneficial relationship (O'Leary, 2004, as cited by Falconer, 2006). It can be suggested, then, that the relationship between the health and wellbeing of a community is related in a similar way to institutions of higher education. Following through on a commitment to health and quality of life of its citizenship may be a beneficial endeavor for colleges and universities to pursue.

Health in the United States

The poor overall health status of the USA is due largely to poor personal behavior and health choices. Four of the health behaviors that contribute to the majority of the illness and death related to chronic disease include lack of physical activity, tobacco use, poor nutritional habits, and excessive alcohol consumption. These behaviors are specifically related to heart disease, cancer, and stroke, and combined account for more

than 50% of all deaths in the USA each year. These behaviors have a significant impact on an individual's health, and ultimately, the health of the nation (CDC, 2011).

The USA spends twice as much money on healthcare than any other nation in the world, but despite this fact, the nation is one of the sickest of the industrialized countries (Farley & Cohen, 2005). One factor that may contribute to this is the variability in health insurance coverage across the life cycle in the USA, as compared to lifelong (universal) coverage as found in other countries such as Canada. Other major contributing factors to health in the USA include poverty, economic and social inequality, and access to quality care (Feeny, Kaplan, Huguet, & McFarland, 2010). There is a strong potential for "public health programs, access to high-quality medical care, and policy and legislation in addressing both diseases and risk factors" (U.S. Burden of Disease Collaborators [BDC], 2013, p. 603). Some of this is already being done, especially in recent times. Examples include the Patient Protection and Affordable Care Act, which calls for quality, affordable healthcare for all Americans and a focus on the prevention of chronic disease (BDC, 2013). It is apparent—according to health statistics—that more needs to be done. It is possible that the establishment of higher education could be a major player in improving the health status of the USA.

Some statistics show improvements in certain areas of health within the USA over the last decade. From 2000 to 2010, modern medicine has aided in decreasing the age-adjusted heart disease death rate by 30% and decreasing the age-adjusted cancer death rate by 13% (NCHS, 2014). Other positive indicators included lowered teenage birth rate and a slow, but present, decline in babies born at a low birth weight (NCHS, 2014).

Although these improvements were present, they occurred at a much slower rate than other high-income countries (BDC, 2013)

One of the most common indicators used to make international health comparisons is life expectancy. In 2007, the USA ranked very low—27th and 26th out of 33 countries—within its peer group for life expectancy at birth of both females and males, respectively (DHHS, 2013). From 1990-2010 life expectancy within the USA improved, but when considering other factors such as healthy years lost due to disability, this is not necessarily positive. Americans are now living longer lives, but often times not in good health or with a high quality of life. Morbidity and chronic disability account for half of the health burden in the USA and include such conditions as mental and behavioral health issues, musculoskeletal disorders, vision and hearing loss, and neurological disorders (BDC, 2013).

Obesity rates have skyrocketed in recent years (e.g., 35.7% of American adults were obese and over two-thirds were overweight in 2009-2010), leading to increased risk for hypertension, hyperlipidemia, type 2 diabetes, and myriad other chronic conditions (Ogden, Carroll, Kit, & Flegal, 2012). A dramatic increase in obesity rates in the USA was experienced from 1990-2010. In 1990, no state had a prevalence equal to or greater than 15%; in 2000, no state had a prevalence of obesity equal to or greater than 25%. In 2010, however, a total of 36 states had an obesity prevalence of greater than 25%. States in the southeast region of the USA tended to have the highest increases in obesity rates across the two decades. Aside from the aforementioned negative health outcomes of obesity, the economic impact the condition had on the USA in 2008 was $147 billion in associated costs (Centers for Disease Control [CDC], 2014a).

Another factor that contributes negatively to health is stress, which the USA population reports greatly experiencing but poorly managing. The American Psychological Association (APA), which conducted the Stress in America Survey in 2011, found that most Americans report feeling moderate-to-high stress levels as a result of concerns about finances, employment, and the economy. Almost all body systems are subject to the effects of stress that over time can lead to heart disease, decreases in immune function, cancer, obesity, and gastrointestinal problems (e.g., 39% of adults report eating unhealthy foods or overeating as a result of stress). Several strategies have been shown to be effective in reducing stress, which include exercise, meditation, and cognitive behavioral therapy (University of Michigan Medical Center [UMM], 2013). Unfortunately, the majority of stress management strategies used among adults are sedentary activities, such as watching television and overeating. These activities could also contribute to the development of aforementioned health issues. The APA (2012) sums up this issue by stating, "Overall, Americans appear to be caught in a vicious cycle where they manage stress in unhealthy ways, and seemingly insurmountable barriers prevent them from making the lifestyle or behavioral changes necessary for good health" (p. 14).

Historically, public health statistics in the USA have routinely compared racial and ethnic groups more frequently than groups defined by socioeconomic factors. These factors include income and educational attainment, and only about half of National Center for Health Statistics (NCHS) publications examined differences in health by income or education. The lack of reporting this information has many implications for public health, since differences in health among these groups suggest high rates of illness

among the poor and better overall health among those who are more highly educated.

These findings would support policies that address various aspects of deficiency

experienced by the underprivileged as well as levels of chronic stress and ongoing

logistical challenges associated with obtaining and keeping ideal work conditions.

Reducing these social disparities in health should focus on strategies that target

socioeconomic classes, while continuing to recognize racial and ethnic disparities that are

still profoundly in existence (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010).

Thus, there is little room for debate when it comes to the need for improved health

among the USA population. Fineberg (2013) states:

> Setting the United States on a healthier course will surely require leadership at all
> levels of government and across the public and private sectors and actively
> engaging the health professions and the public . . . if all constituents do their parts,
> the apt subtitle of the next generation's analysis of US health will be not 'doing
> better and feeling worse (still)' but 'getting better faster than ever.' (p. 585)

Fineberg's statement emphasizes the need for accountability among all entities involved

in improving the health of Americans and is especially true for states where the overall

health status of the citizenship is very poor.

Health in Kentucky

Although Kentucky is generally a healthy place to live and work, many of the

health problems afflicting its citizens are due to poor lifestyle choices. Overall,

Kentucky's citizens are less healthy than much of the nation (Kentucky Institute of

Medicine, 2007), and likewise may experience a lesser quality of life. Within the USA,

Kentucky ranked 45th out of 50 states in terms of overall health status (DPH, 2013). No

one single factor is responsible for Kentucky's health status, as this statistic is determined

through a combination of factors that include health outcomes and determinants of health.

Data show that more Kentuckians need to engage in preventive health practices, including breast, cervical, and colorectal cancer screenings, flu and pneumonia vaccinations, and annual dental checkups. Kentuckians report a higher number of poor mental health days—days when a person indicates their activities are limited due to mental health difficulties—than 48 other states, and significant numbers of citizens are affected by chronic disease, including heart disease, diabetes, high blood pressure, disabilities, and asthma (DPH, 2013).

The Commonwealth reports the highest smoking rate in the nation (28.3%), a modifiable risk factor for many chronic diseases. Only five Kentucky counties have smoking rates below the national average. The population of the Commonwealth also carries a high adult obesity rate (31.3%) and the nation's highest rate of cancer deaths and number of days missed at work due to poor health. It also ranks very low compared to other states in terms of its population's intake of fruits and vegetables (44th and 23rd, respectively), physical inactivity (46th), incidence of cardiovascular disease (47th), and median household income (47th). These rates along with high incidences of preventable hospitalizations provide challenges to the Commonwealth in terms of improving its overall health status (Kentucky Center for Health and Family Services [CHFS], 2013).

Personal health behaviors, including diet and physical inactivity, contribute to one-third of all premature deaths in Kentucky and should be a focus of health efforts within the Commonwealth (DPH, 2013). As a result of a poor diet and low engagement in physical activity, the obesity rate (upwards of 52% in some counties) challenges Kentucky's overall health status. An increased obesity rate also brings with it a higher prevalence of cardiovascular disease, diabetes, stroke, and a variety of other health

disorders. Out of the Commonwealth's 120 counties, only 10 are above the national average for physical activity engagement, while 78 are above the national average for obesity. These risk factors are modifiable, and with well-planned intervention strategies (especially at the local levels), can be combated and potentially improved (Kentucky Institute of Medicine, 2007).

The Kentucky Institute of Medicine (2007) stated, "In order to address the problems that undermine health, citizens, providers, and policymakers need to initiate change in the communities where they live, work, and participate in the healthcare system" (p.7). Unfortunately, local communities often are unable to take action in addressing these problems due to lack of knowledge or simply unwillingness to do so. In all, the effort needs to be ecological in nature and involve a variety of stakeholders, including leaders within higher education.

Challenges to Creating a Healthy Citizenship in Kentucky

Because of the many negative health behaviors present among Kentucky's population, inherent challenges exist to creating a healthy citizenship. Aside from these personal behaviors, other factors challenge this ideal. These factors span economics and personal income, population characteristics, education, and health access. In this section, challenges to improving health status within Kentucky are presented in an effort to understand strategies that could lead to a healthier citizenship.

Economy and personal income. Although Kentucky has been very progressive in terms of its postsecondary education system, the economy within the Commonwealth has not proportionately progressed. Compared to all of the USA, Kentucky ranks 45th on the New Economy Index (a system that measures factors such as economic dynamism

and globalization); 45th in the number of science, technology, engineering, and mathematics (STEM) degrees awarded; and 41st for money spent per capita on postsecondary research and development. For the Commonwealth to prosper, a focus must be placed on advancing regional stewardship, upgrading skills of current employees, and properly educating future professionals. As this ideal progresses, prospective employers and educated people can be lured to Kentucky due to an educated workforce and higher quality of life (CPE, 2011).

Aside from the notable costs associated as a result of unhealthy population, poor health status can also affect the future of Kentucky's economic prosperity and development. Obesity alone brings with it high costs for businesses, taxpayers, and other sectors of society—costing $1.1 billion in 2004. Having a healthier citizenship can not only improve worker productivity and the economic competitiveness of the Commonwealth, but also may attract more industry to the region. Typically, businesses are hesitant to relocate or become established in areas of lesser health status because they realize that there is an increased cost of business associated with health insurance claims and worker absenteeism (Kentucky Institute of Medicine, 2007).

Another factor related to economics that greatly impacts health status is personal income. Because Kentucky has 43 high-poverty counties (i.e., poverty rates are above 20%) and the 8th highest poverty rate in the country, this poses another challenge to creating a healthier population. Economic inequities prevent many impoverished citizens from accessing education, gainful employment, healthcare, and quality housing (Kentucky Institute of Medicine, 2007). Another issue affected by personal income is the rising cost of health insurance premiums. Between the years of 2002 and 2012, the cost

of an employee's share of a typical family health insurance plan has increased by 102%. Further, almost 60% of Kentuckians report they think healthcare costs (e.g., deductibles, copays, and insurance premiums) are financially burdensome, and 64% report delay in seeking healthcare due to cost in the past year. If large numbers of residents are going without necessary care, health status and quality of life is likely to decrease, which can in turn affect the economy and a number of other aspects of society (Foundation for a Healthy Kentucky, 2014).

Personal income is also highly correlated with nutritional intake, thus influencing one's wellbeing. According to the 2013 Kentucky Health Issues Poll, only 2 in 10 Kentucky adults eat the recommended amount of fruits and vegetables daily, and these statistics correlate positively with income. Although most Kentucky adults (excluding those living in Appalachian or eastern counties) report having easy access to healthy foods, cost is the reason most cited for not purchasing them (Foundation for a Healthy Kentucky, 2014). Poor nutrition is yet another outcome resulting from low economic status that has a great influence on health status.

It can be concluded that economy, especially personal income and poverty rates, are directly related to overall health status. That is, negative health behaviors result from lack of money, which impacts seeking healthcare and consuming healthy food. Lower income also impacts stress levels, which can have a significant impact on an individual's health. Moreover, industry and business are less likely to establish or relocate in regions with poor health indicators. This means less economic development, potential for lower employment rates, and likewise, a lower quality of life and overall health.

Education. According to the Kentucky Institute of Medicine (2007), "education and health go hand in hand" (p. 10). This direct relationship yields a more positive health status and quality of life with improved education. Research has shown that individuals who are better educated are more able to understand the risks associated with poor health and thus are more likely to make better lifestyle decisions. This education may be formal or may simply include health literacy and is important to the future of the Commonwealth. Citizens who are both healthy and educated can be better equipped to affect change in reducing health risk at the local level as well as engage decision makers at the state level to discuss community healthcare needs, which may involve improving access to healthcare and employment (Kentucky Institute of Medicine, 2007).

Though there have been significant strides made in increasing the number of high school graduates within the Commonwealth, there is still some work to be done. Only about 72% of Kentuckians age 25 and older have graduated from high school, which is below the national average of 80%. In some counties, that percentage is as low as 49%. Overall, Kentucky is ranked 48th out of 50 states for the percentage of individuals age 25 and older with a high school diploma. In terms of postsecondary education, in 2005 Kentucky ranked 47th with 19.3% of its residents holding an undergraduate degree. Because education level is strongly correlated with positive lifestyle behaviors, engagement and access to preventive healthcare, and likewise health status, it can be said that lower education levels may be a challenge when trying to improve the health of Kentucky's citizenship. It has been suggested that the importance of leading a healthy lifestyle be stressed to children at a young age, with in-school programs being the most ideal setting for this to occur. Retaining students through high school should also be a

priority, since higher education levels may lead to better overall health (Kentucky Institute of Medicine, 2007).

Population characteristics. In an effort to improve health and wellbeing in the USA, the National Prevention Council noted the necessity to eliminate health disparities within the country's population. As part of the National Prevention Strategy, the National Prevention Council (2011) stated that all American citizens ought to "have the opportunity to live long, healthy, independent, and productive lives, regardless of their race or ethnicity, religion, socioeconomic status, gender, age, mental health, cognitive, sensory, or physical disability, sexual orientation or gender identity, geographic location, or other characteristics" (p. 11). Although the pledge of allegiance to the flag of the Commonwealth of Kentucky touts, "one Commonwealth, blessed with diversity" it is this diversity that also brings with it many health disparities (Walsh, Christian & Hopenhayn, 2012).

The majority of the health disparities within Kentucky exist among the 22 Delta counties of western Kentucky and the 54 Appalachian counties of eastern Kentucky. Each region boasts strong cultural ties, but unfortunately also experiences overwhelming levels of poverty. Within the Delta region, adults were less likely to have a personal doctor, more likely to report binge drinking, and over time have seen obesity rates increase. In the Appalachian region, adults tend to be more likely to go without medical care due to cost, are less likely to have health insurance, and also have seen rates of binge drinking increase as compared to the rest of the Commonwealth. Recognizing and eliminating these disparities—especially within the aforementioned areas—is imperative to improving the health of the Commonwealth (Walsh et al., 2012).

Health access. It has been established that preventive care is strongly associated with positive health status. However, one major challenge within the Commonwealth of Kentucky is access to primary healthcare. Because of recent cuts in health insurance benefits to employees and rising insurance premiums for individuals, some citizens have been discouraged from seeking medical care when it is needed. Cost of transportation to access adequate healthcare is also an area of concern, especially in more impoverished areas within the Commonwealth (Kentucky Institute of Medicine, 2007).

Further, citizens within Kentucky also experience a low physician-to-population ratio, especially in rural areas where approximately half of the population lives. Unfortunately, it is difficult to attract and retain primary care physicians in these areas, and thus, only 7 of 120 counties in Kentucky have primary care physician-to-population ratios that fall above the national average. Current standards set by the United States Bureau of Primary Healthcare, Health Resources, and Services Administration set the minimum ratio to be 1 primary care physician per 3,500 residents. However, this ratio is unlikely to provide adequate care to a population such as Kentucky's, where the burden of health-damaging behaviors and chronic disease is sure to have a great effect. Overall, the Commonwealth has a ratio of 2.5 per 3,500 people, but this rate is still far below the national ratio (Kentucky Institute of Medicine, 2007).

Although attempting to create a healthier citizenship within Kentucky involves many challenges, there is hope in knowing that many of the health problems of focus are preventable. The main premise is that individuals can often prevent premature death and chronic illnesses by engaging in regular physical activity, avoiding tobacco use, maintaining healthy nutritional intake, and making positive choices when it comes to

personal safety. Health status can be a liability to the potential of economic development within Kentucky due to the high and often unnecessary costs of healthcare. Recognizing that both economic prosperity and an increased quality of life within the Commonwealth can be achieved through the improvement of health behaviors and thus health status is a definite goal and interest of Kentucky's state supported postsecondary institutions (Kentucky Institute of Medicine, 2007).

Higher Education and a Healthier Citizenship within Kentucky

Overall, life expectancy in the USA is increasing, but death from preventable diseases is likewise growing. Risk reduction and a focus on primary prevention techniques should therefore be the goal of health promotion efforts throughout the nation (DHHS, 2011). Institutions of higher education within Kentucky often have the capital and personnel available to build facilities (e.g., recreational centers, walking trails), institute policies (e.g., tobacco-free campus), and support initiatives (e.g., awareness campaigns, screenings, health fairs) that target these behaviors. Improving the health of the institution's students, faculty, staff, and broader community has major implications for increased student success and retention (DeBerard et al., 2004), increased employee productivity and lowered medical costs (Wayne, Conti, Chen, Schultz, & Edington, 1999), and can make the community a desired place to live and work, which is an invaluable commodity for the recruitment of skilled students and workforce and increased state prosperity (Berger & Fisher, 2013).

Despite the poor health status of Kentucky's citizens, the good news is that it can be improved, and residents can become healthier. Leaders at the state and institutional levels need to consider the current forces of change within the Commonwealth in order to

determine effective strategies for shifting behaviors and health outcomes. These poor health statistics are a result of multiple factors, and considering the shrinking resources available, stakeholders must determine how to best allocate funds to improve overall health status (DPH, 2013). It is apparent that both the Kentucky Council on Postsecondary Education (CPE) and institutions of higher learning within the Commonwealth have recognized these staggering health statistics, and have deemed themselves stakeholders in this effort. Most mention within their strategic plans that increasing the quality of life of Kentuckians is a priority and a commitment, and likely recognize that a healthier citizenship can carry mutual benefit for both the institution and its citizens.

Leadership Perspectives in Higher Education Organizations

A comprehensive view of the history of higher education will show it evolving from a once elite activity to one which has become increasingly more accessible. It should be understood that this development has been one of both change and continuity. According to Thelin and Gasman (2011), "The ultimate challenge for the lively history of higher education, then, is to be aware of landmark events that offer information and inspiration that can be useful for responding to contemporary issues on college and university campuses" (p. 22). This awareness and response process is pivotal for effective leadership within higher education, as individuals work to improve the lives of diverse groups of individuals within campus communities.

Leadership Frames

In order to achieve strategic goals and objectives, leaders within higher education can ascertain and finalize their decision making processes through the use of various

leadership frames. Before considering the nature of these perspectives, it is first necessary to comprehend the basic functions and assumptions of organizations, which include colleges and universities. According to Shafritz and Ott (2001), organizations exist for four main purposes. The first purpose involves the accomplishment of goals, both economic and productive in nature. Second, organizations exist to achieve their goals through systematic and scientific inquiry. A third assumption is that organizations exist to maximize production through a specific division of labor and specialization in those divisional skills, and a final assumption is that both people and the organization act in a way that lines up with rational, economic principles.

Only in the last half century have social scientists spent time examining how organizations do or should do work, along with why they fail. Because many schools of thought surround these ideas, Bolman and Deal (2008) consolidated them into a comprehensive framework encompassing four perspectives or frameworks which leaders are encouraged to consider when going about decision making processes or taking action within their organization. The four frames include: a) structural; b) human resource; c) political; and d) symbolic and will be further explained in the following sections. These frames are helpful for understanding leadership behavior in educational institutions such as colleges and universities.

Structural frame. Within the structural frame of organizational leadership, analysis, logic, and data are emphasized within a system of clear structural boundaries (Palestini, 1999). Bolman and Deal (2008) identified six assumptions within the structural frame, the first of which being that organizations are rational and exist to achieve goals and objectives. Other assumptions include specialization and a division of

labor, as well as finding suitable forms of coordination to make sure that those divisions mesh well together. These assumptions are very consistent with the aforementioned assumptions of organizations through Shafritz and Ott (2001). Other conventions of the structural frame are that organizations work best when rationality overcomes personal agendas and external pressures, that structures should be designed to fit the current circumstances within an organizations, and that conflict can arise from structural deficiencies (overcome through analysis and restructuring) (Bolman & Deal, 2008).

Political frame. Bolman and Deal (2008) describe organizations as jungles, arenas, and contests when viewed through a political lens. In the political frame, key players in organizations compete for power and scarce resources, and conflict is a part of everyday life due to differences in needs, perspectives, and lifestyles. The need for power (and thus the resulting conflicts) is the center of organizational decision making in the political frame, by managers who are seen as politicians. In order to solve conflict, achieve goals, and promote structure, an ongoing process of bargaining and negotiation must take place between interest groups and authorities. Although there is no certainty as to whether those with power will use it wisely, politics is a necessary option in creating just and efficient societies (Bolman & Deal, 2008).

In the political frame, organizations are seen as coalitions established by a person in authority (manager). Within these coalitions, individuals and interest groups are varied. In building these coalitions, managers must first decide whose help is needed before developing relationships (e.g., finding out who will be the advocate for the coalition). Next, building the coalition's strong foundation by the promising of rewards (in exchange for resources and support) is necessary. Because organizational goals are numerous and

sometimes conflicting, bargaining with these key players is a must. In short, managers need allies to achieve the organization's goals. In order to gain their support, bargaining and negotiation forms the coalitions to help the organization succeed (Bolman & Deal, 2008).

Human resources frame. According to Bolman and Deal (2008), the viewpoint through the human resource frame is that organizations are essentially extended families. Each employee (or family member) has varying needs, feelings, prejudices, skills, and limitations which ought to be considered or addressed. Overall, it is the manager's job to ensure the organization is tailored in a way that best helps employees complete their job but also feel good about themselves while doing so (Bolman & Deal, 2008).

Four core assumptions exist which highlight the human resource frame. The first assumption is that "organizations exist to serve human needs, rather than the converse" (Bolman & Deal, 2008, p. 122). A second assumption states that both people and organizations serve each other – while organizations need ideas, energy and talent, people need opportunities to earn salaries and build careers. A third assumption of the human resource frame refers to poor outcomes which result from a weak fit between an individual and a system. If an individual is exploited by an organization or vice versa, both parties become victims (Bolman & Deal, 2008). Finally, the last assumption of the human resource frame refers to the fact that both parties benefit when a good fit is present, and states " individuals find meaningful and satisfying work, and organizations get the talent and energy they need to succeed" (Bolman & Deal, 2008, p. 122).

Symbolic frame. As its name implies, the symbolic frame utilizes powerful symbolism to depict view of organizations far from rationality, certainty, and linearity.

The symbols that organizations use work to communicate culture and bring meaning out of chaos through myths, values, and vision Within the symbolic frame, conflict seeps into culture, and is resolved through stories, fairy tales, heroes and heroines, metaphors, and humor. In regards to leadership, rituals are used to signal responsibility and negotiate meaning within the symbolic lens. Meetings are sacred occasions to celebrate accomplishments and work to transform culture, and stories are a common means of communication (Bolman & Deal, 2008). All of the aspects of the symbolic frame work to anchor an organization's culture through tradition, and to create meaning and unity among team members.

Viewing organizations as theaters is central theme involved in the symbolic frame. Through this lens, organizations contain a certain "arrangements of space, lighting, props, and costumes that make the drama vivid and credible to its audience" (Bolman & Deal, 2008, p. 299). This concept infers that structure (within the symbolic frame) has little to do with actual tasks. People want to believe rather, that their efforts produce the intended outcomes (Bolman & Deal, 2008). Therefore, their activities play an important theatrical role, serving as "scripts and stage markings for self-expressive opportunities, forums for airing grievances, and get-togethers for negotiating new understandings" (Bolman & Deal, 2008, p. 301). In essence, the right drama in an organization gives the 'audience' the quality of performance they expect. The symbols used in the 'theatrical performance' provide a basis for confidence and support in the product or service that is delivered by the organization (Bolman & Deal, 2008).

According to Palestini (1999), leadership within higher education typically falls within one or a combination of the aforementioned frames. Those who are the most

effective leaders are able to apply various frames to particular situations. In addition,

leaders are able to utilize the strengths and weaknesses of each frame as they see fit for

various purposes. It is important for educational administrators within higher education to

reframe situations and shift from one perspective to another to effectively manage

situation. This is a reflection of the dynamic and ever-changing landscape of higher

education which requires the ability of leaders to adapt accordingly (Palestini, 1999).

Kentucky Council on Postsecondary Education

The CPE "coordinates change and improvement in Kentucky's postsecondary

education as directed by the Kentucky Postsecondary Education Improvement Act of

1997" (Kentucky Council on Postsecondary Education [CPE], 2014, n.p). The CPE

encompasses numerous public, state-supported colleges and universities that include

Eastern Kentucky University (EKU), Kentucky Community and Technical College

System (KCTCS), Kentucky State University (KSU), Morehead State University (MSU),

Murray State University (MuSU), Northern Kentucky University (NKU), University of

Kentucky (UK), University of Louisville (UL), and Western Kentucky University

(WKU). In an effort to coordinate an organized, efficient, and effective adult education

system, the CPE outlines a number of responsibilities that support its mission. These

include developing and implementing a strategic agenda, submitting budget requests for

public funding, monitoring and approving tuition rates and admission criteria, overseeing

all academic programs, promoting the use of technology, and collecting and distributing

data surrounding postsecondary education within Kentucky (CPE, 2014).

The mission of the CPE's 2011-2015 strategic agenda entitled *Stronger by

Degrees* is "To deliver a world-class education to students, create and apply new

knowledge, and grow the economy of the Commonwealth" (CPE, 2014, n.p.). The CPE values engagement with business, industry, and other community partners to improve the economy and quality of life of Kentuckians as well as promotion of education as a quality investment in the future of the Commonwealth. Within the *Stronger by Degrees* strategic agenda are lists of various policy objectives related to: (a) college readiness; (b) student success; (c) research, economic and community development; and (d) efficiency and innovation (CPE, 2011).

Although improved health can affect the achievement of virtually all four policy initiatives listed within the CPE strategic agenda, one which particularly stands out in relation to the role of higher education in creating a healthy citizenship is the research, economic, and community development objective. Within this topic area of the agenda, Policy Objective 7 reads, "Increase educational attainment and quality of life in Kentucky communities through regional stewardship, public service, and community outreach" (CPE, 2011, n.p.). Strategy 7.3 under this policy objective specifically states, "Maximize the impact of postsecondary education's contribution to improving the health of Kentucky's people" (CPE, 2011, n.p.). Although this key strategy is listed, its performance is not explicitly measured. Metrics within this policy initiative focus primarily on research and development funding, degrees in the STEM and health fields awarded, and educational attainment for adults age 25-44 (CPE, 2011). Although these factors are all known to be positively related to higher health status, it would be helpful to examine exactly what strategies postsecondary institutions are employing in order to directly influence the health of Kentuckians. Therefore within the proposed study, these specific strategies will be examined at the institutional level.

Identification of Research Settings

The major public universities within the Commonwealth of Kentucky have expressed the importance of and their accountability for creating a heightened quality of life for their citizenship. This idea follows suit of a 1997 statute placed by the Commonwealth, which identifies the strong symbiotic relationship between a state's condition and its intellectual capital. This relationship leads to residents who likely lead healthier lives because they are educated and experience higher incomes (University of Kentucky [UK], 2010). Colleges and universities are able to do so not only by impacting the students on their campuses, but also by supporting the thousands of faculty and staff members they employ (along with their family members). Serving as major economic, cultural, and educational anchors within their communities and regions, these public institutions have the potential and responsibility to be advocates for health, educate future generations, and explore creative and collaborative programs that enhance health behaviors and outcomes on campus and beyond (NIRSA, 2014). Although these goals are made public, there is a gap in the research literature that examines the outcomes of related objectives, or which evaluates the values regarding and priority placed on the promotion of health and wellbeing of the campus and community.

Along with the CPE's overarching agenda, all nine public institutions included within the Council also list a section within their strategic planning agendas that seeks to improve the quality of life of Kentuckians using various strategies and metrics. For the purposes of this study, the following universities will be examined in greater depth: The University of Kentucky (UK), the University of Louisville (UL), and Eastern Kentucky University (EKU). These three universities are all part of the CPE, and each represent a

different type of institution. The University of Kentucky is a land-grant research

institution as well as Kentucky's flagship university. The University of Louisville is an

urban (metropolitan) research institution, and Eastern Kentucky University is a regional,

teaching institution. Selection of these research settings was based on convenience of

location, the fact they each represented a different type of university within the CPE, and

because they each included statements within their own strategic plans related to

improving the lives of Kentuckians. A brief overview of the characteristics of the selected

institutions can be found in Table 2.

Table 2

Characteristics of Selected Postsecondary Institutions

Characteristics	University of Kentucky[a]	University of Louisville[b]	Eastern Kentucky University[c]
Location	Lexington	Louisville	Richmond
Host city population[d]	308,428	609,893	32,550
Year established	1865	1798	1874
Student enrollment (Kentucky residents)	20,376	17,082	13,546
Percentage of in-state students	72.4%	75.8%	84.1%
Full-time faculty and staff population	12,430	6,737	2,167
Operating budget (FY 2013-2014)	$2.7 billion including $283.8 million from the Commonwealth of Kentucky	$1.2 billion including $164.2 million from the Commonwealth of Kentucky	$220.5 million including $67.7 million from the Commonwealth of Kentucky

[a]*Source*: University of Kentucky (2014); [b]*Source*: University of Louisville (2013); [c]*Source*: Eastern Kentucky University (2014); [d]*Source*: Kentucky State Data Center (2013)

Whereas Table 2 referred to institutional characteristics, Table 3 addresses some

of the major health indicators present among residents who reside in the Kentucky

counties most represented by each institution's student body. These key indicators of

health are often representative of individual health behaviors which contribute to the majority of the premature death and disease within the Commonwealth. For UK, the top three counties represented by in-state students are Fayette (27.7%), Jefferson (14.5%), and Kenton (3.6%) (UK, 2014). For UL, the top three counties represented are Jefferson (57.5%), Oldham (4.8%), and Hardin (4.1%) (UL, 2013). For EKU, the top three counties represented are Madison (17.3%), Fayette (11.3%), and Jefferson (5.2%). Table 3 displays the rate of prevalence of key health indicators—including less than good health, lack of physical activity, overweight and obesity, fruit and vegetable consumption, and smoking—present among adults residing in each of the aforementioned counties. Having an understanding of where the majority of students come from and the associated health issues facing those counties can help provide rationale for the implementation of intervention programs and initiatives at the institutional level.

Table 3

Health Indicators Reported by Kentucky Adults Living in Counties [e] Most Represented by

Institutional Student Bodies

Health Indicator	University of Kentucky	University of Louisville	Eastern Kentucky University
Percentage of adults reporting less than good health[f]	Fayette (13%) Jefferson (17%) Kenton (16%)	Jefferson (17%) Oldham (11%) Hardin (19%)	Madison (18%) Fayette (13%) Jefferson (17%)
Percentage of adults reporting lack of physical activity[g]	Fayette (23%) Jefferson (27%) Kenton (23%)	Jefferson (27%) Oldham (20%) Hardin (28%)	Madison (27%) Fayette (23%) Jefferson (27%)
Prevalence of overweight[h]	Fayette (64%) Jefferson (62%) Kenton (61%)	Jefferson (62%) Oldham (50%) Hardin (68%)	Madison (64%) Fayette (64%) Jefferson (62%)
Prevalence of obesity[i]	Fayette (23%) Jefferson (27%) Kenton (22%)	Jefferson (27%) Oldham (13%) Hardin (24%)	Madison (25%) Fayette (23%) Jefferson (27%)
Percentage of adults who consume the recommended daily amount of fruits and vegetables[j]	Fayette (22%) Jefferson (22%) Kenton (16%)	Jefferson (22%) Oldham (21%) Hardin (16%)	Madison (18%) Fayette (22%) Jefferson (22%)
Prevalence of adult smokers	Fayette (20%) Jefferson (26%) Kenton (33%)	Jefferson (26%) Oldham (25%) Hardin (28%)	Madison (21%) Fayette (20%) Jefferson (26%)

[e]*Source:* Foundation for a Healthy Kentucky (2008) [f] Indicates the percentage of adults reporting their health status as generally being fair or poor. [g]Indicates the percentage of adults who did not participate in any physical activity or exercise during the past month. [h]Indicates the percentage of adults estimated to be overweight, defined by having a Body Mass Index (BMI) of 25.0 or higher. Also includes those classified as obese with a BMI of 30.0 or higher. [i]Indicates percentage of adults estimated to be obese, defined as having a BMI of 30.0 or higher. [j]Indicates the percentage of adults who consume five or more servings of fruits and vegetables per day.

University of Kentucky

The University of Kentucky strives to be a leader in promoting diversity,

inclusion, economic development, and human wellbeing as one of the Commonwealth's

land grant universities. During the 2013-2014 academic year, enrollment reached 29,385

undergraduate and graduate students. The university employed more than 12,000 full-

time faculty and staff members during that time period, and operated with a $2.7 billion budget. The Commonwealth of Kentucky provided $283.8 million of that total (University of Kentucky [UK], 2014).

Within its 2009-2014 strategic plan, a total of five goals steer UK's mission, which is to "[improve] people's lives through excellence in education, research and creative work, service, and health care . . . [and play] a critical leadership role by promoting diversity, inclusion, economic development, and human wellbeing" (University of Kentucky [UK], 2012, n.p.). Each goal contains relevancy to the current study, as either directly or indirectly, they support increasing the health of Kentucky's citizenship. Strategic plan goals and objectives may directly impact students, faculty, and staff of the university, as well as the community and the rest of the Commonwealth through outreach and engagement.

Two goals focus specifically on the greater good of the Commonwealth and beyond. The plan's second goal is to "promote research and creative work to increase the intellectual, social, and economic capital of Kentucky and the world beyond its borders" (UK, 2010, p. 4). This goal carries objectives that focus on research, specifically that which involves the Commonwealth. One tactic for achieving this objective is Strategy 2.3.5 that reads "track over time improvements in the health of Kentuckians, the environment, literacy rates, cultural enrichment, agricultural productivity, and similar metrics" (UK, 2010, p. 5). All of these metrics can bring an understanding about the Commonwealth's wellbeing and quality of life. Having this understanding is necessary in order to employ initiatives to improve it, as well as assess whether those strategies are effective.

The fifth goal of UK's strategic plan specifically relates to quality of life within Kentucky: "improve the quality of life of Kentuckians through engagement, outreach, and service" (UK, 2010, p. 6). It is especially pertinent since UK is both a flagship and a land-grant institution. This goal includes objectives and strategies which aim to strengthen communities, advance schools, recruit and create business, fight disease, and improve and enrich lives within Kentucky. Objective 5.2 strives specifically to connect the community with UK's knowledge and expertise resources as well as create marketing strategies which promote the community's awareness of the university's engagement, outreach, and services toward it. Other objectives within the plan's fifth goal aim to provide incentives and recognition for faculty and staff who engage in outreach and engagement and pursue funding and support which have the potential to expand these engagement activities (UK, 2010).

University of Louisville

The University of Louisville was municipally funded for many decades before it became part of Kentucky's university system in 1970. The research institution has three campuses and is committed to the "intellectual, cultural, and economic development of [its] diverse communities and citizens through the pursuit of excellence" (University of Louisville [UL], 2014), and the university has the potential to do just that. This potential is outlined in a series of goals, objectives and strategies as part of its strategic plan entitled *The 2020 Plan: Making it Happen* (University of Louisville [UL], 2008).

The University of Louisville's strategic plan lists goals and objectives relating to both community engagement and utilization of the university's capacity to improve its surrounding environment and community. The plan addresses five critical areas: (a)

educational excellence; (b) research, scholarship, and creative activity; (c) community

engagement; (d) diversity, opportunity, and social justice; and (e) creative and

responsible stewardship. These themes are touted as being the driving force of UL's

growth, and in this specific plan, are narrowly focused based on the strategies it employs

(UL, 2008). These strategies work toward not only improving the university itself, but

also the community, region, and Commonwealth within which it exists.

Within its first major area, educational excellence, the *2020 Plan* emphasizes

initiatives that provide for engaged learning among students. This engagement is intended

to connect them to many local businesses and community organizations, which involves

the students in promoting community wellbeing. Creating a skilled workforce is also a

focus within this area, as a necessary step in responding effectively to community needs.

The area that emphasizes research scholarship and creative activity affects the

community by increasing translational research through also responding to community

needs and driving economic development. This area also aims to expand clinical

operations which better serve Kentucky—examples of which are to obtain national

recognition for health and wellness centers and accreditation for human research which is

geared toward improving health (UL, 2008).

Within UL's *2020 Plan*, community engagement is a key area of emphasis that

helps to transform both Louisville and Kentucky. The plan strives to create an improved

neighborhood through growth in business and housing, expanding clinical enterprises,

providing opportunities for cultural engagement within the community, and continuously

working to eliminate disparities in West Louisville, an area that has historically been

depressed. The plan's fifth area of focus is on creative and responsible stewardship

toward its faculty, staff, and alumni. Through supporting these groups with professional development, opportunities for growth, and mentoring, quality of life in the present and future can better be attained (UL, 2008).

Overall, UL has worked to achieve success in the aforementioned focus areas of its *2020 Plan.* The university recognizes how far it has come, where it needs to be, and what else it needs to get there. As an institution, it has remained committed to the Commonwealth, and emphasizes that a positive mutual relationship will enhance the return on investment through state funding. In its conclusion, the plan states that its effort will "give the Commonwealth a tremendous return on investment, providing world-class education for our students and new economic opportunities for Kentucky's citizens. The investments we make now will ensure a bright future for our children and for the entire Commonwealth" (UL, 2008, p. 31).

Eastern Kentucky University

Located one of the Commonwealth's fastest growing cities, Eastern Kentucky University was founded with the function of preparing quality teachers for the elementary and secondary schools of the Commonwealth. Over time, the institution has evolved and expanded its academic offerings to include a strong liberal arts curriculum as well as pre-professional and graduate programs. The university is dedicated to three specific functions which include high-quality instruction, scholarship, and service (Eastern Kentucky University [EKU], 2011).

To achieve the aforementioned functions, EKU devised a 2011-2015 strategic plan that addresses student success, regional stewardship, and critical and creative thinking and effective communication. One of its six core values includes stewardship of

place, which refers to the way in which the university "enhances the intellectual capacity, economic vitality, environmental sustainability, and quality of life of the communities it serves" (Eastern Kentucky University [EKU], 2010, p. 1). This directly relates to the aim of improving the health and wellbeing of Kentucky's citizenship, and this value is carried out throughout the three main goals within EKU's strategic plan.

The institution recognizes that part of maximizing student success involves providing them with opportunities for engagement, leadership, and scholarship which impacts their potential to bolster Kentucky's future. Within its second goal, EKU strives to build and sustain the university's capacity for excellence by maintaining salary equity, providing improved access to online and regional programs, increase faculty and staff professional development, and improve the university's environment. The plan's third goal focuses on developing and maintaining a diverse and inclusive environment, which includes both in terms of campus climate as well as the faculty, staff, students, and administrators within it (EKU, 2010).

The final goal focuses more specifically on quality of life. The fourth goal of EKU's strategic plan reads, "collaborate with the university's regional community partners to promote academic achievement, economic development, and quality of life" (EKU, 2010, p. 3). Strategic directions within this goal aim to not only improve Kentucky's P-12 education system, but also to improve health, economic development, research and development, cultural opportunities, and environmental sustainability (EKU, 2010). This is to be done through partnerships and collaborations within the community and regions which EKU represents, and through its initiatives can have great impacts on

Kentuckians. This is especially true, since the regions involved counties within eastern Kentucky, a notably depressed region in terms of health, economy, and quality of life.

Healthy Campus 2020

The Healthy Campus 2020 initiative's development was guided by the framework of Healthy People, developed by the U.S. Department of Health and Human Services. The Healthy People initiative provides science-based, 10-year national objectives that aim to improve the health of all Americans through prevention efforts and empowering individuals to make informed health decisions. The overarching goals of Healthy People 2020 include attaining high-quality and longer lives for Americans, achieving health equity and improving the health of all groups, creating environments (both social and physical) which promote good health, and promoting healthy behaviors and lifestyles across all life stages (U.S. Department of Health and Human Services [DHHS], 2014).

The creation of Healthy Campus 2020 is referred to as a parallel document to Healthy People, and reflects the perspectives of over 600 higher education professionals representing a multitude of professional organizations and disciplines. The primary collaborating organizations in this effort (led by the American College Health Association's [ACHA] Healthy Campus Coalition) include: a) the American College Personnel Association (ACPA); b) The Boosting Alcohol Consciousness Concerning the Health of University Students (BACCHUS) Network; c) NASPA: Student Affairs Administrators in Higher Education; and d) NIRSA: Leaders in Collegiate Recreation. It became apparent to the stakeholders early on in the development phase that Healthy Campus 2020 needed to be less of a set of objectives and more of a toolkit which would assist in the implementation of initiatives impacting campus communities. From 2007

through its finalization in 2012, the progress of Healthy People was closely monitored, and the ways in which Healthy Campus 2010 (an earlier version of Healthy Campus 2020) was being utilized was also considered. As a result, Healthy Campus 2020 was drafted with numerous objectives, resources, and tools which institutions of higher education can utilize to foster healthy environments and behaviors among their campus communities (ACHA, 2012a).

Healthy Campus 2020 Framework

The overall framework for Healthy Campus 2020 was largely informed by an emergent understanding of the underlying concepts surrounding the health promotion profession. These concepts are part of the ecological perspective, which refers to the influence of several environmental dimensions upon an individual's behavior and resulting health outcomes. Ultimately, "lasting changes in health behaviors require supportive changes in the whole system" (O'Donnell, 1996, p. 244). The Healthy Campus 2020 Action Model involves the MAP-IT (Mobilize, Assess, Plan, Implement, and Track) Framework as a means for colleges and universities to address determinants of health exposed through the ecological perspective (ACHA, 2012A). For the current study however, the focus is on the ecological perspective in assessing the measures taken by Kentucky Council on Postsecondary Education (CPE) institutions in improving student, faculty, and staff health, as well as the health and quality of life of community members and citizens of the Commonwealth of Kentucky. The specific ecological perspective being used in the proposed study is the Ecological Model for Health Promotion.

The Ecological Perspective

The use of theories and models in the field of health promotion not only helps to guide health educators in planning, implementing, and evaluating programs and interventions, but also aids in the understanding of the influence of a variety of factors on health behavior. Stokols (1992) identified that physical, social, and cultural dimensions within one's environment greatly impacts health behavior. When these influences are understood, a more solid foundation as to how interventions should be planned to target specific health behaviors is formed. This course of action is known as an ecological approach, and examines multiple levels of influence in regard to health behavior and resulting health status (Cottrell et al., 2009).

Since the 1980s, ecological approaches in the study of health issues and interventions have been enthusiastically received among professionals within the fields of public health and health promotion. Rooted in a much broader ecological approach, Richard, Gauvin, and Raine (2011) define an ecological model as "a formalized conceptualization of the individual and environmental determinants of health behaviors and public health outcomes" (p. 308). Ecological models take a multi-level slant, meaning a variety of variables from numerous levels of influence are incorporated. In addition, these models have a long history—emerging from the developments found in many fields such as public health, sociology, biology, education, and psychology. Richard et al. (2011) attest that the convergence of these developments led to the ecological and behavioral foundations of the health promotion field. Historically, research in health behavior has been disappointing due to an overwhelming attraction to the study of individual behaviors as a sole determinant of health outcomes. However,

once the idea of ecological approaches came about in regard to this notion, it was better

understood the influence of environmental and social contexts which also work to shape

one's behavior (Richard et al., 2011).

Ecological Model

Urie Brofenbrenner first introduced the ecological paradigm in 1974 to describe

the process of human psychological development, and emphasized the influences of one's

micro-, meso-, exo-, macro-, and chronosystems. These systems make up the individual's

ecological system which influences and guides human growth. A microsystem refers to

the layer of influence closest to the individual, and includes patterns of activities, social

roles and interpersonal relations (face-to-face settings which permit engagement with an

individual's immediate environment). Mesosystems are the layers of influence between

the structures of the individual's microsystems, such as the connection between his or her

family and school, or between his or her school and the workplace. Exosystems refer to

the larger social system in which the individual does not function directly, such as

campus health resources. Although the individual might not directly be involved within

this level, they do feel the positive or negative forces of the exosystem acting upon their

own systems. The next layer is referred to as the macrosystem, which encompasses

cultural values, customs, and laws which influences the other systems active within the

individual's life. The outermost, or largest layer of interaction, is the chronosystem. This

system encompasses "change or consistency over time, not only in the characteristics of

the person but also of the environment in which that person lives" (Brofenbrenner, 1994,

p. 40). Examples of interactions within the chronosystem which impact the individual

include changes in family structure, socioeconomic status, or employment status over

time (Brofenbrenner, 1994). A visual representation of Brofenbrenner's Ecological

Model of Human Development can be found in Figure 2.
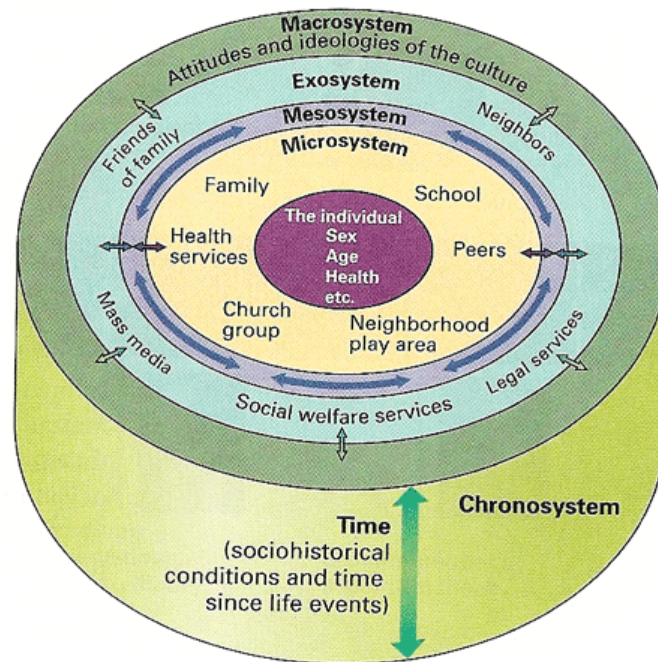
Figure 2. Brofenbrenner's Ecological Model of Human Development. Illustration
displays progressively more complex interactions between an individual and the persons,
objects, and symbols in his or her immediate environment. Adapted from Brofenbrenner,
1994. Image retrieved from http://www.techmobiz.com/bronfenbrenners-ecological-
theory-of-development.html

Ecological Model for Health Promotion

McLeroy et al. (1988) developed the Ecological Model for Health Promotion as

an adaptation from Brofenbrenner's Ecological Model. McLeroy and colleagues utilized

Brofenbrenner's ecological framework and expanded it to explain the role one's social

environment plays in manipulating individual health behavior, and involves the following

levels of influence: a) intrapersonal factors; b) interpersonal processes and primary

groups; c) institutional factors (or organizational processes); d) community factors; and e)

public policy (McLeroy et al., 1988). It is important to recognize that the study of

individual health behavior through an ecological lens involves all of these levels. In

addition, when planning and evaluating health behavior interventions accordingly, one

must also be cognizant of the interactions between the levels, reciprocal causation, the

need for environmental change, and individual support. This then, proves the need for a

variety of health education and promotion strategies to be implemented in order to

achieve individual and population-level health behavior changes (Richard et al., 2011). A

visual representation of the Ecological Model for Health Promotion in relation to

influencing individual health outcomes at colleges and universities is listed in Figure 3.
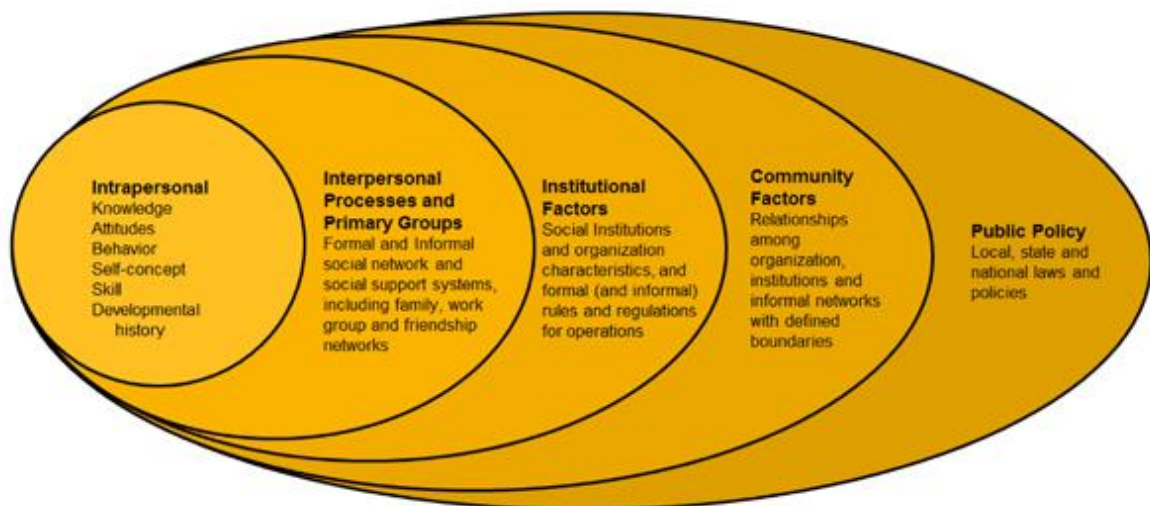
Figure 3. Ecological Model for Health Promotion. Illustration displays the expanding
spheres of influence upon individual health behavior. Adapted from the American
College Health Association (2012).

Ecological Model for Health Promotion in the Higher Education Environment

When applied to the university setting, the Ecological Model for Health

Promotion exposes a variety of health determinants which can be influenced by social

interactions, campus ecology, programs and initiatives, facilities, and accessibility. For

the campus and surrounding community members, universities can play a role in

affecting the spheres of influence described earlier which influence individual health

behavior. These include public policy, community factors, institutional factors, interpersonal processes and primary groups, and intrapersonal processes. As each sphere expands its reach, as does its overall potential to impact health behavior change. The specific application of these spheres of influence will be described in the following sections.

Public policy. State-supported institutions within the CPE are affected by local, state, national, and global laws and policies. These policies may assist in connecting individuals with their larger social environments to help create a healthier campus. Specific examples include implementing tobacco-free policies on campus, restricting the sale and consumption of alcohol on or around campus, and providing policies which relate to violence, social injustice, and environment (ACHA, 2012a). Policies enacted on and around campuses have a definite potential to reach community members and likewise affect behaviors of those external to the university (but who may utilize its resources for various purposes).

Community factors. Institutions of higher education contain all aspects of a community, including "functional spatial units, units of patterned social interaction, and symbolic units of collective identity, and therefore should build upon the inter-relationships and interdependencies among their members and contextual systems to influence health" (ACHA, 2012b, p. 1). Thus, community sphere of influence within the Ecological Model for Health Promotion refers to the "relationships among organizations, institutions, and informational networks within defined boundaries" (ACHA, 2012a, n.p.). Examples of how this sphere influences health include the university's location

within its community, implementation of the built environment, attracting businesses, parking and transportation, safety, and walkability. (ACHA, 2012a).

Institutional factors. The institutional factors influencing health behavior on college campuses include the social institutions within the university, and may include rules and regulations for operations. Examples include tolerance and intolerance of certain aspects of campus climate, financial policies, lighting, unclean environments, air quality, and safety (ACHA, 2012a). Stokols (1996) suggests that "everyday human behavior is organized into recurring patterns of activity that take place within highly structured environmental settings and life domains" (p. 290). It can then be suggested, that campus environments which are highly supportive of positive behaviors (e.g., healthier choices are made easier) may have great potential to facilitate positive health outcomes for individuals who frequent them.

Interpersonal processes and primary groups. The sphere of influence that includes interpersonal processes and primary groups is described as "formal and informal social networks and social support systems, including family, work group, and friendship networks" (ACHA, 2012a, n.p.). On a college campus this may include roommates, availability of recreational and social opportunities, or Greek life. This also may include one's interaction with his or her family members, and whether they are supportive in the individual's pursuit of a healthy lifestyle. Essentially, an individual's close social circles (such as peers and family members) have a strong potential to impact health behavior (ACHA, 2012a).

Intrapersonal factors. The final sphere of influence includes interpersonal factors, or individual level influences. These may be related to biological or personal

history factors which influence behavior. In regard to influencing health behaviors, the acquisition of knowledge, skills, and attitudes are employed by colleges and universities. Specific examples of intrapersonal factors include gender, ethnic identity, economic status, age, health literacy, or time management skills. (ACHA, 2012a). Other examples may include heredity, personality dispositions, and health practices such as exercise, nutritional habits, and stress management (Stokols, 1996).

Interventions within this area may include educational training sessions, counseling or therapy services, opportunities to participate in workshops, or availability of facilities to engage in informal recreation (ACHA, 2012a). It is recommended that both active (behavioral) and passive (environmental) strategies be utilized when intervening on intrapersonal factors, as opposed to employing one or the other to enhance success (Stokols, 1996). Intrapersonal factors are often the foci of health and wellness programming on college campuses. Having ample understanding of target audiences and how their various intrapersonal factors affect their wellbeing aids in achieving more successful outcomes from interventions (Stokols, 1996).

The Ecological Model for Health Promotion serves as a way to explain how campus environments can greatly influence health of students, faculty, and staff, as well as shows the potential for community impact in improving wellbeing (ACHA, 2012a). The relationship between an individual and his or her surrounding community is the focus of the Healthy Campus 2020 initiative, which was brought forth in an effort to improve the overall health status of campuses nationwide. The aims of this framework require collaboration among health, academic, student affairs, and administrative colleagues within institutions of higher education, and promote action using the

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aforementioned ecological approach. As was previously discussed, there is a reciprocal benefit to be had for institutions of higher education when health and wellbeing is encouraged on campuses and within surrounding communities and regions. Therefore, providing services and engagement opportunities for the university community and citizens of the Commonwealth may encourage positive lifestyle behaviors related to wellbeing, and thus positive health outcomes.

Summary

Chapter 2 outlined the mutual benefits of higher education and a healthier citizenship, which includes students, faculty, staff, and community members. The ways in which health and wellbeing (in a variety of dimensions) influences student success and retention, faculty and staff success and retention, and the citizenship were also discussed. This led to an overview of the health status of the USA and the Commonwealth of Kentucky, along with a discussion regarding leadership frames and perspectives. Next, an outline of each institution included within the current research study (i.e., UK, UL, EKU) was given, along with their corresponding aims and strategic goals for addressing Kentucky's health needs. Finally, an overview of the Healthy Campus 2020 development and framework was presented, along with the theoretical framework utilized in the current research study, which is the Ecological Model for Health Promotion. These discussions provided the background and foundation for further study into the role of higher education in creating a healthier citizenship within the Commonwealth of Kentucky, which is outlined in Chapter 3.

CHAPTER 3

METHODOLOGY

The purpose of this study was to determine the role that Kentucky state-supported

postsecondary institutions play in creating a healthy citizenship. The term *citizenship*

refers to persons who live or establish residency in a particular area (for this study, within

the Commonwealth of Kentucky) and are legally eligible to vote, run for political office,

access government services, and are obligated to pay taxes (Leydet, 2014). This

citizenship includes not only students, faculty, and staff of these state-supported

postsecondary institutions, but also residents within the areas served by the institutions,

which may include the entire Commonwealth of Kentucky. Both the Kentucky Council

for Postsecondary Education (CPE) and the individual institutions include aims related to

creating a healthier citizenship in their strategic agendas. This study focused on the extent

to which corresponding goals and objectives are being met within the CPE and at the

institutional levels. This chapter presents the research design, participant selection, data

collection methods and analysis strategies, and standards of validation for this research.

Research Design

In an effort to evaluate all aspects of this phenomenon, a mixed-methods research

design was utilized. According to McMillan and Schumacher (2010), a mixed-methods

study combines characteristics of both quantitative and qualitative approaches to

research. When considering the epistemology guiding the current study and its associated

mixed-methods design, a pragmatism worldview fits best. Creswell and Clark (2011)

refer to pragmatism as having "a focus on the consequences of the research, on the

primary importance of the question asked rather than the methods, and on the use of

multiple methods of data collection to inform the problems under study" (p. 41).

Following the development of this worldview and subsequent theoretical framework

(through the Ecological Model for Health Promotion), the methodological approach and

procedures for data collection were determined. Quantitative data were obtained through

the development and administration of a researcher-created survey, while qualitative data

were collected through interviews and site observations.

Mixed-Methods Research Design

Within a mixed-methods approach and depending on research purpose, there is

potential for a variety of designs to be used when developing research questions. This

study utilized a sequential explanatory design (McMillan & Schumacher, 2010) that

included qualitative research questions to provide explanations for the findings elicited

from quantitative questions posed on a survey. Data collection was implemented in two

phases with an emphasis on quantitative method, and thus, the sequential explanatory

design for this study thus followed the QUANT $\rightarrow$ qual notation. This type of design is

especially useful when quantitative data collection is necessary but a follow-up analysis

through qualitative questioning illuminates and enhances the quantitative findings

(McMillan & Schumacher, 2010).

Study Design Rationale

Mixed-methods approaches have been used in many disciplines, including the

health, social, and behavioral science fields that include, but are not limited to, the areas

of education, psychology, health sciences, management and organization, program

evaluation, and sociology (Collins, Onquegbuzie, & Sutton, 2006). Due to the

interdisciplinary essence of this study, a mixed-methods research design was chosen in an

effort to capture the widest range of effects of accountability efforts at the institutional

level that support the shared goal of creating a healthy citizenship within Kentucky. In

addition, this approach elicited a larger range of participant perspectives on whether these

efforts are effective or what more needs to be done. Using a mixed-methods research

design combines both the qualitative and quantitative paradigms in a way that converges

diverse philosophies, viewpoints, methods, and conclusions to enhance and clarify

conclusions (McMillan & Schumacher, 2010).

Advantages to using this approach are that it carries straightforward

implementation and presentation of results, exudes more comprehensive data, allows for

a study of both the research process and outcomes, compensates for limitations found

through the use of a single method, and allows for a better understanding of complex

research questions. However, some limitations are inherent in this approach, including

more extensive data collection, which requires more time and resources, and potential for

one method to be employed superficially (McMillan & Schumacher, 2010). Considering

both advantages and disadvantages to mixed-methods research, this design was chosen

due to the nature and purpose of the current study.

Research Sites

Within the Commonwealth of Kentucky, nine postsecondary institutions are

identified by the CPE (2014) as being state supported (i.e., provided monies generated

through taxes). Three of those institutions serve as research sites: University of Kentucky

(UK), University of Louisville (UL), and Eastern Kentucky University (EKU). These

universities were selected as representative of the nine because of their diversity as a

land-grant flagship research university (UK), an urban research university (UL), and a

regional teaching institution (EKU). Among these institutions, there is also diversity in overall student and employee populations, budget, and host city populations. Table 2 displays characteristics of each of the study sites.

Personnel from each of the three institutions formed the population of potential study participants. To be included in the survey portion of the research study, individuals must have held an active role in promoting or providing programs and services related to health and wellbeing at their institutions. To be included in the interview portion of the study, individuals must have served in a leadership capacity for the departments which provide or promote programs and services related to health and wellbeing services. Leaders within the CPE who were chosen to participate in interviews were selected based on their roles related to strategic planning efforts surrounding the creation of a healthier citizenship in Kentucky.

Participant Selection

In this study, university health and wellness professionals were identified through a detailed Internet search of departmental websites. Participants were invited to respond to an online survey. Following analysis of survey data, purposefully selected individuals serving in leadership positions at targeted universities were interviewed to provide clarification about survey responses from professionals and to share ways in the departments for which they represent are supporting the goal of creating a healthier citizenship. Two CPE officials (i.e., Vice President for Policy, Planning, and Operations; Senior Policy Advisor for Research and Economic Engagement) were also invited to participate in interviews. Finally, site visits and observations were conducted to examine the campus climates and facilities that study participants represent. These methods work

collectively to satisfy the overarching research question, *What is the role of Kentucky state-supported postsecondary education in creating a healthy citizenship*? This primary question is directed by the guiding questions listed in Table 4.

Table 4

Guiding Research Questions

Guiding Questions	Means of Data Collection
To what degree do the Kentucky state-supported postsecondary institutions (KSSPSI) provide programs and services which influence health and wellbeing for their students, faculty, and staff?	Survey
To what degree do the KSSPSI provide programs and services which influence health and wellbeing for their local communities, regions, and state?	Survey
How are the KSSPSI engaging their communities or regions through health and wellness programming?	Survey; Interviews with higher education leaders
How do leaders of the KSSPSI value their institutions' role in creating a healthy citizenship?	Interviews with higher education leaders
How do CPE officials value the role of the KSSPSI in creating a healthier citizenship?	Interviews with CPE officials
How conducive are the campus climates of the KSSPSI in supporting health and wellbeing?	Site visits

Because a mixed-methods research design involves both quantitative and qualitative inquiry, standards of adequacy for each of these studies (independent of one another) are appropriate. That is, is necessary to ensure rigor and quality checks are completed for both quantitative and qualitative methods (McMillan & Schumacher, 2010). For this study, standards of validation and trustworthiness for each the quantitative and qualitative portions of the research are presented in the following sections.

Quantitative Research Design

Quantitative measurement in research uses "some type of instrument or device to obtain numerical indices that correspond to characteristics of the subjects . . .

consequently, the results depend heavily on the quality of the measurement" (McMillan & Schumacher, 2010, p. 173). Survey research is used to obtain information concerning opinions or practices from a sample of people representing a population and thus can be used (a) to provide a basis for making comparisons, revealing trends, finding weaknesses or strengths in a given situation and (b) to gather information for decision making (Baumgartner & Hensley, 2006) The instrument used to assess quantitative measures in this study was a descriptive survey. The survey, administered electronically via Qualtrics (Qualtrics, 2015), gathered information related to the respondents' role at their institution, programs and services that are implemented by their department, and their perspectives related to their institutions' responsibility for influencing citizens' health and wellbeing.

A cross-sectional approach was used to collect survey data on a multitude of variables, thereby providing a snapshot of how selected variables are represented within a sample of institutional health and wellness professionals. A cross-sectional design can be described by Baumgartner and Hensley (2006) as a "method for testing many groups and assuming each group is representative of all other groups when they are at the point in time (p. 181)." This method allowed for initial information to be gathered efficiently from a multitude of participants from multiple postsecondary institutions within the Commonwealth of Kentucky.

Although survey research is an effective way to obtain data on a host of variables among a sample of participants, there is much to consider in reference to ensuring technical adequacy. In this type of research, technical adequacy involves both validity and reliability (McMillan & Schumacher, 2010). These types of technical adequacies will be described in the following sections, as well as how they will apply to the current study.

Validity. Test validity is described by McMillan and Schumacher (2010) as "the extent to which inferences made on the basis of numerical scores are appropriate, meaningful, and useful" (p. 173). Validity goes beyond the common conception that an instrument measures what it is supposed to measure—the process is also about professional judgments that are "relative and ever evolving . . . evaluated in light of new evidence and desired interpretations" (Gorin, 2007, p. 461). Validity is about accuracy and depends in part on the study's area of focus. One type of validity was utilized in this study. *Face validity* is a legitimate, but somewhat non-scientific, way of determining if the instrument seems to be obtaining the desired result. For this study, all instruments were examined by professionals working in the fields of health and wellness at other universities to determine whether they were face valid.

Reliability. Test reliability refers to consistency of measurement and whether results prove to be similar with use of different forms of the same instrument or over multiple occasions of data collection (McMillan & Schumacher, 2010). One reliability method, *pilot testing*, was utilized prior to launch of the study. The survey was reviewed by ten individuals to assess the flow of the questionnaire, understanding of the survey instructions and wording of the questions asked, and its completion within a reasonable timeframe. The individuals participating in this survey review possess similar characteristics found in the target population of the research study (i.e., the individuals serve as professionals in similar fields) but work at institutions not included in the study.

Qualitative Research Design

Two types of qualitative data collection were utilized for this study: interviews and observations. Thus, the PI conducted phone interviews among selected personnel,

and personally visited the campuses of the three institutions selected as study sites to complete this phase of the study.

Interviews. Qualitative interviews provide conversations through which participants share their experiences or interpretations that "uncover the meaning structures that participants use to organize their experiences and makes sense of their worlds" (Hatch, 2002, p. 91). All interviews were conducted via telephone, audio recorded, and professionally transcribed.

Although various types of interview protocols are available, the most appropriate for this study was an interview guide, which is described by Baumgartner and Hensley (2006) as "topics and issues to be covered . . . [and] specified in advance; however, the interviewer decides the sequence and wording of questions during the interview" (p. 201). Interview guides are less structured than formal interviews and thus allow flexibility for the researcher to decide the proper wording and sequence of questions throughout the conversation. In order to maximize success during the interview process, the PI ensured that questions were open-ended, used language that was clear and familiar to the participants, and was neutral and respected participants' comments (thus signifying the researcher presumed they had valuable knowledge). These strategies were intended to generate answers that are related to the research focus. According to Hatch (2002), combining these attributes along with respect, interest, attention, good manners, and encouragement on behalf of the researcher works to build rapport and generate useful data.

The interview guide developed for the higher education leaders was intended not only to gain leadership perspectives related to health and wellbeing on their respective

campuses, but also to supplement responses probed via the online survey for the health and wellness professionals. The interview guide developed for the CPE officials was developed with an understanding of the CPE's role among the KSSPSI (obtained from the CPE website), as well as to gain deeper insight into the broader perspectives regarding a healthier citizenship from a state-wide organization.

Observations. In qualitative research, observation is a specific data collection strategy that is often referred to as *participant observation*. This terminology is used because the researcher acts as a participant in some fashion in the setting that is being studied. According to Hatch (2002), the goal of observation is to "understand the culture, setting, or social phenomenon being studied from the perspectives of the participants" (p. 72). The benefits of using observation in qualitative research include providing the researcher firsthand experience, acquiring potentially sensitive information that participants may be unlikely to discuss during interviews, and adding to the researcher's own experience in the setting to the overall analysis of the data collected (Hatch, 2002).

The level of engagement by the researcher within the setting observed varies. For example, Spradley (1980) introduced five levels of participant observations along a continuum that includes (a) non-participatory, (b) passive participation, (c) moderate participation, (d) active participation, and (e) complete participation. For this study, the PI engaged in passive participation, which means her ability to establish rapport with those observed was limited. In this role, the PI served as a bystander but nonetheless became immersed within the setting through asking questions, if needed. In addition, the PI took field notes of observations either on the premises or directly after leaving the area as to ensure greater accuracy of data gathered.

Ensuring technical adequacy in qualitative research. Since qualitative research strategies are inherently interpretive, it is imperative that necessary precautions are taken to ensure technical adequacy of the data collected. Verification is a process by which these interpretations are tested for their credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (objectivity) (Baumgartner & Hensley, 2006). Two verification procedures for interpretive quality are relevant to this study and include clarification of researcher biases and member checks (Creswell, 1998).

Clarifying researcher's bias, or reflexivity, is a process by which the perspective or position of the researcher is presented. The PI kept a reflexive journal, with the purpose of recording "methodological decisions and the reasons for them, the logistics of the study, and reflection upon what is happening in terms of one's own values and interests" (Cohen & Crabtree, 2006, n.p.). Member checking is a process used to establish validity of a study report and gives participants an opportunity to correct errors and challenge what might be perceived as misinterpretations by the researcher (Cohen & Crabtree, 2006). Utilizing these verification procedures was necessary for enhancing technical adequacy and thus were readily used.

Description of Measures

The following section presents a description of each data collection strategy for this study (i.e., online survey, interview guide, observation protocols). The development of each instrument is discussed as well as what each instrument specifically measured. Finally, an overview of how each instrument was utilized to meet the aims of the research is presented.

Survey

The survey instrument included questions adapted from the University Health Index (UHI) and the CDC's K-12 School Health Index (SHI) as well as questions developed by the PI, which were needed to examine the research aims. These questions were formatted and arranged to meet the needs of the research study as well as tailored for the target population. A copy of the online survey is presented in Appendix A.

The UHI was created and validated to assess the health environment for late adolescence and young adulthood in higher education (Hosig, Goodwin, Serrano, & Redican, 2013). The PI obtained written permission from the developers of this instrument to utilize and adapt it for this study (Appendix J). The UHI itself was developed using measures obtained from the SHI, which included evidence-based characteristics. Associations were found between student health behaviors and outcomes from the National College Health Assessment (NCHA) through the use of the UHI. These outcomes included diet, physical activity, and body mass index (BMI kg/m^2) and were measured to validate the UHI. The UHI itself is a tool that assesses university characteristics that support positive health behaviors, including nutrition and physical activity. University characteristics that were measured included health education requirements, recreational sports and fitness, health promotion of nutrition and physical activity, and built environment in support of nutrition and physical activity (Hosig et al., 2013).

Additional questions on the survey instrument were adapted from the SHI itself, specifically in regard to counseling, psychological, and social services, and health promotion for university faculty and staff. The SHI is an "online self-assessment and

planning tool that schools can use to improve their health and safety policies and programs" (Centers for Disease Control and Prevention [CDC], 2013b, n.p.). It was developed by the CDC in collaboration with school administrators and staff, experts in the field of school health, family members, and nongovernmental health and education agencies. The efforts of this partnerships (through the development of this tool) allow schools to identify strengths and weaknesses in their health and safety policies and programs, while at the same time assisting them in developing an action plan to improve in specific areas if need be. All SHI measures are based upon research based guidelines for school health programs developed by the CDC (CDC, 2013).

In order to meet the needs of this study, additional questions were developed by the PI and added to the final instrument. These questions addressed career services on campus, an area that specifically impacts occupational (and usually also financial) wellness. This dimension is not directly addressed within the measures from the UHI or SHI. The addition of these questions follow a similar format as questions addressing other dimensions of wellness and were necessary in order to capture a more holistic view of the efforts being made at higher education institutions to improve all aspects of wellbeing for the campus community and beyond. Table 5 outlines the items from the UHI and the SHI that were utilized in the current study's survey instrument.

Table 5

Adaptations from UHI and SHI for Current Study's Survey

UHI items used in survey (Module.Topic.Question)	SHI items used in survey (Module.Topic.Question)
2.RSF.1	6.CC.5
2.RSF.2	7.CC.2
2.RSF.3	7.CC.4
2.RSF.5	7.CC.5
2.RSF.6	7.PA.1
2.RSF.7	7.N.2
2.RSF.8	7.T.1
3.HP.1	
3.HP.2	
3.HP.3	
3.HP.4	
3.HP.5	

In order to address all spheres of influence represented in the Ecological Model for Health Promotion, additional prompts were added to the study's survey. Items addressing the various individual-level determinants of health were spread throughout the survey, and are listed below in Table 6.

Table 6

Survey Items Targeting Determinants of Health

Determinants of Health	Corresponding Survey Items
Intrapersonal factors	11; 12; 13; 14; 15; 16; 17; 23; 24; 26; 32
Interpersonal factors	11; 12; 13; 14; 15; 16; 17; 23; 24; 27
Institutional factors	30
Community factors	29; 33
Public policy	31

Interview Guide

The interview protocols were developed to invoke more insight into the extent to which university leaders and CPE officials value and actively engage in creating a healthy citizenship. The aforementioned individuals were asked questions related to their

values surrounding the role of higher education in creating a healthier citizenship. In addition, their awareness and assessment of strategic goals and objectives (either at their respective university or department) related to creating a healthier citizenship were discussed. Themes exposed through these interviews were then compared with those revealed through analysis of survey responses from the professionals, which indicate the offerings their institution provides for promoting health and wellness among their students, employees, and the residents of Kentucky. The interview guide provided flexibility in both the order and wording of questions, but all interviews covered the same general topics. Copies of the interview guides can be found in Appendix B (higher education leaders) and Appendix C (CPE officials).

Observation Protocol

After surveys and interviews were completed, the PI conducted site observations at the three study sites (i.e., UK, UL, EKU) to assess the overall campus environment in promoting health and wellbeing for Kentucky's citizens. These efforts assisted in assessing institutional and community factors which influence individual health behavior, as addressed in the Ecological Model for Health Promotion. Site observations examined the built environment, which includes "land use patterns, the transportation system and design features that together provide opportunities for travel and physical activity" (Transportation Review Board, 2005, p. xiii). Specifically, a walkability assessment was completed as part of this observation, using the Walkability Checklist developed by the U.S. Department of Transportation Federal Highway Safety Research Center (2014). This checklist can be found in Appendix D. Assessing walkability as part of the campus' built

community aims to gain a better understanding of community factors influencing individuals' wellbeing.

The facility phase of these observations assessed overall campus environment, including aesthetics and accessibility for promoting healthy lifestyles in students, faculty, staff, and the community. These observations included an assessment of vending machines on campus, dining and recreation facilities, the health promotion and education and counseling services facilities, employee wellness facilities, and the career services centers. Also assessed were certain transportation features, including bike lanes crosswalks. Utilized for this assessment were items from the Partnership for Healthier America's (2014) Healthier Campus Checklist. A copy of the site observation protocol can be found in Appendix E.

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Procedures

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The following section describes the procedures followed throughout this study. These procedures include sampling procedures, along with a description of the inclusion criteria associated with each of the measures used in the current study. This section will also explain the procedures for data collection, protection of human subjects, data analysis, and how the issue of missing data was addressed.

Sampling Procedures

Using a nonprobability sampling method means that every element of the population does not have an equal chance of being selected, and conclusions can only be made about those who complete the survey or interview. A more specific nonprobability sampling approach is maximum variation sampling, which according to Hatch (2002), seeks to "include individuals with different perspectives on the same phenomenon" (p.

98). For this study, individuals who work at the selected institutions in careers that promote various aspects of institutional or community health and wellbeing were surveyed. Potential survey respondents included recreation professionals, psychologists, employee wellness coordinators, health educators, and career counselors. Although they may work within different areas of their respective campuses and have varying roles, it was likely they all shared the common goal of creating a healthier population in some facet. In addition, leaders and decision makers (e.g., program directors, managers) at those institutions as well as CPE officials were interviewed. Site observations only occurred at the selected institutions.

Survey inclusion criteria. Only individuals who work in specific areas of the selected institutions (i.e., UK, UL, EKU) were surveyed. Invitations were sent via electronic mail to these selected professionals who work to promote student, employee, or community health and wellbeing at their respective institutions. These individuals were identified by the PI through an in-depth search of institutional and departmental websites. Although each institution possesses both similar and unique departments that fulfill this aim, only those departments that were consistently represented at all three instructions were included in the this study. The university areas that were consistently found among all three institutions include (a) health education or promotion, (b) employee wellness, (c) collegiate recreation, (d) counseling services, and (e) career services. Personnel within these departments were invited to respond to the online survey. Student health departments and medical centers were not included in the study because their purpose is largely medical in nature, compared to the promotion and support of lifestyle behaviors influencing health and wellbeing. In addition, evaluating all medical

services on each institution's campus would have greatly expanded the scope of this study.

Because the sample of representatives invited to complete the survey was homogenous (meaning the PI chose participants who have similar positions at their institutions), a smaller sample size was appropriate. A total of 85 university health and wellness professionals could have participated in the survey (Table 7). Assuming an average response rate range is 30% for Web-based survey administration (University of Texas, 2011), a total of 26 responses would have been considered an ideal response rate for the purposes of this study. After several reminder electronic mail messages and invitations to take the survey, the total number of responses received was 33, signifying a 38.8% response rate.

Table 7

Survey Invitations sent to Health and Wellness Professionals

Department	UK	UL	EKU
Health promotion and education	3	3	1
Collegiate recreation	6	5	7
Career services	8	7	6
Counseling services	12	7	7
Employee wellness	6	7	1
Total number of surveys sent to each institution	35	29	22

Interview inclusion criteria. Higher education leaders (e.g., program directors, managers) at the selected sites were invited to participate in telephone interviews. The purpose of these interviews was to allow leaders at the respective institutions—who oversee the university departments promoting health and wellbeing to the campus and surrounding communities—to provide perspectives about their departments' aims related

to health and wellbeing as well as to elaborate upon the survey responses provided by professionals. Other university leaders (e.g., vice president for student affairs, associate dean for study development) were not included because they do not often have direct interaction with many program areas included within this study. Additionally, two senior staff members at the CPE who play a role in developing strategic initiatives related to the health of the Commonwealth were invited to participate in the interviews. Table 8 lists the selected individuals at each institution who were invited to participate in the interview portion of the current study. The potential interviewees were identified using an in-depth search of institutional and departmental websites and organizational charts.

Table 8

Higher Education Leaders and CPE Officials Invited to Participate in Study

UK	UL	EKU	CPE
Director of Campus Recreation	Director of Intramural Sports and Recreation	Director of the Student Rec Center	Vice President for Policy, Planning, and Operations
Program Manager of Employee Health and Wellness	Health Management Director of Get Healthy Now	Department Chair Interim Head of Human Resources	Senior Policy Advisor for Research and Economic Engagement
Director of the Counseling Center	Director of the Counseling Center	Director of the Counseling Center	
Clinical Administrator of University Health Service	Director of Health Promotion and Education	Health Promotion and Administration	
Associate Dean for Career and Academic Exploration	Director of the Career Development Center	Director of Center for Career and Cooperative Education	

Site observation inclusion criteria. Specific sites located on the UK, UL, and EKU campuses—including the facilities of which participants and interviewees represented—were observed by the researcher. In addition, the PI performed an assessment of the overall environment of each campus, which included observations of walkability, aesthetics, health policy awareness (if applicable), and access to facilities. Specific site observation protocol is described in a later section.

Data Collection

Data collection for this study was completed in a series of three steps, which involved survey, interview, and observation administration. Data collection began in February 2015 and concluded in April 2015.

Survey data collection. Once the final list of invited survey participants was determined, an initial electronic-mail (e-mail) invitation was sent asking potential participants to complete the survey. This e-mail message (Appendix F) provided the study background and purpose, introduced the waiver of documentation of informed consent, and provided a statement of confidentiality. An individual link (associated with the e-mail address of the participant) to complete the survey was also included in the e-mail, which was produced by the online survey software, Qualtrics. The survey was available online starting in February 2015 and was open for a total of approximately four weeks. Two weeks following the initial invitation, a reminder e-mail message was sent to participants to complete the survey (Appendix G). Participants were given one more week to complete the survey before one final reminder message was sent. Only those who had not yet completed the survey were sent reminder messages.

Once survey data were collected, only the PI and faculty advisor had access to the de-identified, completed instruments on the password-protected Qualtrics account. The instruments and results were also stored on a password-protected computer, accessible only by the PI, only to be shared with the faculty advisor. Once all of the data were utilized, the PI saved the results on file, to be held for a period of five years after submission of the final report on this project.

Interview data collection. In collecting data for the interview portions of the current study, the PI first sent invitations via e-mail messages to the list of selected individuals (leaders) at each institution (Appendix H). This invitation prompted the participants to contact the PI if he or she chose to participate in an interview. If the participant chose to complete the interview, the PI scheduled a time that was conducive for the interviewee. The phone interview, lasting no more than 30 minutes, was audio-recorded and transcribed using a professional transcription service. The recording and transcription will be saved on the PI's password-protected computer for a period of five years after the submission of the final report on this project. Once interviews were completed, participants were sent an e-mail message (i.e., information card) that included the PI and faculty advisor's contact information, as well how to reach the IRB, if the interviewees had any further questions regarding the research.

Site observation data collection. Once all surveys and interviews were completed, the PI then conducted site observations on the campuses of UK, UL, and EKU. The PI utilized an observation protocol (Appendix E) to assess certain university characteristics that are related to health and wellbeing. In addition, the PI took field notes as the observation was taking place. These field notes were then typed and saved on the

PI's password-protected computer. All results will be kept on file for a period of five years after the submission of the final report on this project.

        Protection of human subjects. Prior to issuing the survey, the PI completed the CITI Training and obtained the University of Kentucky's Institutional Review Board (IRB) approval to ensure compliance with all ethical considerations in the handling of informed consent, participant interaction, data collection, and analysis. Participants were made aware that their answers will be kept confidential, as to maintain privacy. Using the Qualtrics software, respondents were tracked for completion and to allow for follow-up invitations to be sent, if applicable. This means the survey responses were not anonymous, but will be maintained confidential because only the PI and faculty advisor have access to any identifying data for each human subject. No identifying characteristics will be published in the results or analysis of the study, which also includes transcription of all interviews.

        Missing data. If the participants failed to mark a response throughout the survey, it was considered missing. If any survey respondent had more than 20% of the total responses considered missing, their data were eliminated from the study.

Data Analysis

        In order to analyze all aspects of this mixed-methods research study, it was necessary to determine an analytic strategy that integrated the quantitative and qualitative data being used. The specific strategy used in this study's data analysis was *data transformation*, a method described by Caracelli and Greene (1993) as "the conversion or transformation of one data type into the other to allow for statistical or thematic analysis of both data types together" (p. 197). Using an analytic strategy known as *data*

triangulation (Merriam, 1998), the various data sources (including surveys, interviews, and site visits) were used to arrive at a reasonable understanding of the factors contributing to the creation of a healthier citizenship through higher education, and how the selected KSSPSI were impacting individual determinants of health using the Ecological Model for Health Promotion.

Quantitative data were first collected via online surveys. Frequencies for demographic variables were calculated to gain an understanding of the population characteristics. For each department included in the study, respondents could indicate whether a corresponding program or service listed in the survey was *fully in place* (score=3), *partially in place* (score=2), *under development* (score=1), or *not in place* (score=0). A mean score for each program area for all three universities was calculated using SPSS (version 21.0) to show the overall extent to which programs and services were in place. Quantitative data were combined with open-ended responses from the survey and transformed into qualitative narrative for further analysis. For the qualitative portion of the study, transcripts and researcher notes from recorded telephone interviews were coded using Microsoft Word. Concepts, phrases, and quotes were highlighted and sorted according to common patterns and themes to assist in drawing conclusions (Hatch, 2002). Researcher notes from the site visits were combined and also transformed into narrative to be evaluated.

Summary

Chapter 3 outlined the methodology used in this study about postsecondary institutional support for health and wellbeing in the Commonwealth of Kentucky. First, the components of the mixed-methods design were described as well as the standards for

ensuring technical adequacy of both quantitative and qualitative aspects of the study. Next, the study sites and target population were explained along with corresponding sampling procedures for each of the data collection methods used. The chapter included an explanation about development of the measures and procedures used in this study. These procedures included obtaining IRB approval, data collection, and exclusion criteria for participants with missing data. Finally, the manuscript concluded by describing the processes used for data analysis of the research study.

Chapter 4 describes the findings of the study, both quantitative and qualitative. A discussion of results relevant to the research questions will follow. Words italicized in the text of the following chapters represent prompts or statements included within the survey. Statements which are enclosed within quotation marks or shown as single-spaced indented paragraphs represent participant responses, either retrieved from open-ended survey prompts or spoken during interviews.

CHAPTER 4

RESULTS AND DISCUSSION

The purpose of this study was to determine the role that Kentucky state-supported postsecondary institutions have in creating a healthier citizenship. This was done through administering an electronic survey, conducting interviews with key university personnel and officials at the Kentucky CPE headquarters, and conducting site visits at the campuses of the University of Kentucky, University of Louisville, and Eastern Kentucky University. This chapter presents the results of this study, including survey demographics, perspectives of key leaders in the field, and an analysis of campus environments. The chapter concludes with a discussion of the study's results as well as its limitations and a summary of findings.

Quantitative Research Findings

A survey (Appendix A) was administered electronically to professionals in the fields of health promotion or education, collegiate recreation, counseling services, career services, and employee wellness at the University of Kentucky (UK), the University of Louisville (UL), and Eastern Kentucky University (EKU). The overarching purpose of the survey was to gain an understanding of the implementation and evaluation of specific health and wellness-related programs and services at the three selected universities. Additionally, administration of the survey sought to gather firsthand perspectives from personnel working at the three institutions about how strongly their departments impact the health and wellbeing of individuals on their campuses, within their communities, and within the Commonwealth.

Demographics of Survey Respondents

   Although 40 individuals responded to the survey, 7 participants were excluded because more than 20% of survey responses were missing or unanswered. Therefore, the adjusted total number of survey participants was 33. A total of 85 individuals were invited to participate; thus, the survey response rate was 38.8%. Table 9 displays the breakdown of the survey participants' demographics, including university represented, current practice setting, and time served in their current position.

Table 9

Descriptive Statistics of Survey Respondents (N=33)

Variable	n	%N
University represented		
University of Kentucky	16	48.5
Eastern Kentucky University	9	27.3
University of Louisville	7	21.2
Missing	1	3.0
Current setting		
Counseling Services	9	27.3
Employee Wellness	9	27.3
Collegiate Recreation	8	24.2
Career Services	5	15.2
Health Education or Promotion	2	6.1
Years in current position		
0-4.9 years	18	54.5
5-9.9 years	8	24.2
10-14.9 years	3	9.1
>20 years	2	6.1
15-19.9 years	1	3.0
Missing	1	3.0

   As shown in Table 9, 48.5% (*n* = 16) of respondents represented UK, while 21.2% (*n* =7) represented UL and 27.3% (*n* = 9) represented EKU. Counseling services and employee wellness departments were most represented at 27.3% (*n* = 9) each, followed by collegiate recreation (24.2%; *n* = 8) and career services (15.2%; *n* = 5). The

majority of respondents have been working in their current position for less than 5 years (54.2%; $n = 18$), while approximately one-quarter of participants have been in their current position for 5-9.9 years (24.2%; $n = 8$). Six participants (18.2%) have been working in their current position for more than 10 years.

Involvement in Wellness Initiatives

In regard to survey participants' knowledge of Healthy Campus 2020, the majority (72.7%; $n = 24$) reported not being familiar with the initiative. A few individuals (12.1%; $n = 4$) reported being familiar with the initiative, but indicated that it was not being implemented on their respective campus. Five individuals (15.2%) reported that Healthy Campus 2020 was being implemented on their respective campuses, but only one of those individuals (3.1%) reported being personally involved with its implementation. Those whose campuses are currently implementing Healthy Campus 2020 reported corresponding activities, such as promoting a smoke-free campus, providing nutrition awareness (in collaboration with the university's dining services department), administering alcohol and drug education, providing safer-sex programming, and offering opportunities for enhancing spiritual wellbeing.

Respondents also reported whether their institutions were involved in any other wellness initiatives (not formally part of the Healthy Campus 2020 initiative), at the national, state, local, or institutional levels. Twenty-two individuals (66.7%) responded *Yes*, and indicated various other initiatives including: Fit Friendly Workplace (American Heart Association), employee wellness initiatives, wellness coalitions across the Commonwealth, campus-wide stress-relief programs, National Depression Screening Day, National Alcohol Screening Day, smoking cessation programs, suicide prevention

initiatives, tobacco-free campus policies, and violence prevention training.A total of 11 individuals (33.3%) reported they were unsure of whether their institutions were involved with any other wellness initiatives.

Health and Wellness Programming Offered

Survey respondents were directed to specific sections of the survey based on which program area they represented. For the purposes of this reporting, all responses are aggregated to show the mean implementation score for each program or service offered. If respondents indicated a program or service was *fully in place*, it received a score of 3. The response *partially in place* received a score of 2; *under development* received a score of 1; and *not in place* received a score of 0.

Counseling services. Nine individuals (27.3%) represented the counseling services (mental health) profession in this study. Table 10 displays the mean score for each program or service provided by the counseling services departments represented in the study.

Table 10

Counseling Services Programs or Services Offered

Program or Service Offered	Mean Score[a]
Individualized counseling	3.0
Couples/relationship counseling	3.0
Group counseling	2.7
Career counseling	2.7
Crisis/on-call services	2.7
Counseling services reaches undergraduate students well	2.7
Counseling services has an established referral process	2.7
Eating disorder counseling	2.6
Veterans counseling	2.6
Suicide prevention education/programs	2.6
Workshops and educational sessions	2.6
Counseling services reaches graduate students well	2.6
Academic counseling	2.2
Online screenings (e.g., stress, anxiety, depression, eating disorders)	2.2
Alcohol and drug treatment	2.0
Tobacco treatment	1.9
Screenings for learning disabilities	1.6
Counseling services reaches distance learning students well	0.4

[a] The response *fully in place* received a score of 3; *partially in place* received a score of 2; *under development* received a score of 1; and *not in place* received a score of 0.

Participants had the ability to list additional programs and services provided by their respective counseling services department as open-ended responses. Those mentioned included drop-in workshops for stress relief (e.g., creative activities, guided relaxation, meditation, yoga, life skills), medication management, consultation with families and campus community, and a Community of Concern team.

Employee wellness. Nine individuals (27.3%) represented employee wellness departments in this study. Table 11 indicates the mean score for each program or service provided by the employee wellness departments represented.

Table 11

Employee Wellness Programs or Services Offered

Program or Service Offered	Mean Score[a]
Health/biometric screenings for faculty and staff	3.0
Stress management programs for faculty and staff	3.0
Fitness assessments/exercise prescription services for faculty and staff	3.0
Physical activity/fitness programs for faculty and staff	3.0
Weight management programs for faculty and staff	3.0
Tobacco cessation programs for faculty and staff	3.0
Educational sessions or workshops for faculty and staff	3.0
Policies promoting the opportunity for breastfeeding	3.0
Nutritional programming for faculty and staff	2.9
Incentive programs promoting healthy lifestyles for faculty and staff	2.9
Disease management programs (e.g., diabetes, COPD) for faculty and staff	2.0
Disease management programs (e.g., diabetes, COPD) for dependents	1.9
Health/biometric screenings for dependents	1.8
Stress management programs for dependents	1.8
Physical activity/fitness programs for dependents	1.8
Fitness assessments/exercise prescription services for dependents	1.6
Weight management programs for dependents	1.6
Nutritional programming for dependents	1.6
Tobacco cessation programs for dependents	1.6
Educational sessions or workshops for dependents	1.6
Incentive programs promoting healthy lifestyles for dependents	1.6

[a] The response *fully in place* received a score of 3; *partially in place* received a score of 2; *under development* received a score of 1; and *not in place* received a score of 0.

Through open-ended responses, participants listed additional programs and services provided by their department. These included free books on self-care for treatment of illness or injury or professional care, 5K races, annual wellness conferences, monthly newsletters, individual health coaching, and mindfulness and meditation classes for stress management.

Collegiate recreation. Eight individuals (24.2%) represented collegiate recreation departments in this study. Table 12 displays the mean score for each program or service provided by the collegiate recreation departments represented.

Table 12

Collegiate Recreation Programs or Services Offered

Program or Service Offered	Mean Score[a]
Individual and team intramural sports program	3.0
Recreational and competitive club sports program	3.0
Group fitness classes	3.0
Personal and/or small group training	3.0
Fitness incentive programs	3.0
Fitness appraisals/assessments	3.0
Wellness or lifestyle modification programs	3.0
Indoor recreational sport and fitness facility space (e.g., basketball, racquetball)	3.0
Sport-related instructional programs and/or workshops	2.8
Fitness instructional programs and/or workshops	2.8
Recreational programs reach undergraduate students well	2.6
Recreational programs reach graduate students well	2.6
Aquatics – open swim opportunities	2.5
Aquatics – instructional programs or swim lessons	2.5
Outdoor recreational sport and fitness facility space (e.g., tennis, basketball, par course)	2.5
Department-wide special events	2.4
Recreational programs reach faculty and staff well	2.4
Outdoor pursuits/adventures program	2.3
Outdoor pursuits/adventures instructional programs and/or workshops	1.9
Facility/fitness center orientation Program	1.8
Size of facilities are adequate for the size of campus population	1.5
Recreational programs reach distance learning students well	1.1

[a] The response *fully in place* received a score of 3; *partially in place* received a score of 2; *under development* received a score of 1; and *not in place* received a score of 0.

Participants were given the opportunity to list additional programs and services provided by their departments as open-ended responses. Those listed by professionals in the collegiate recreation field included the administration of an all-freshman living and learning community an outdoor challenge course (high and low ropes) and a large-scale kick-off event.

Career services. Five individuals (15.2%) represented the career services

profession in this study. Table 13 shows the mean score for each program or service

provided by the career services departments represented.

Table 13

Career Services Programs or Services Offered

Program or Service Offered	Mean Score[a]
Resume, cover letter, and CV workshops and/or resources	3.0
Job fairs on campus	3.0
Individual career counseling	3.0
Resources related to on-campus jobs	3.0
Academic major planning	2.6
Career exploration workshops	2.6
Interviewing and etiquette workshops and resources	2.6
Internship connection opportunities and resources	2.6
Co-operative education program	2.6
Resources related to service learning opportunities	2.5
Career services reaches undergraduate students well	2.4
Career services reaches alumni well	2.2
Mentor and shadowing networks	1.8
Virtual advising	1.8
Career services reaches graduate students well	1.8
Career services reaches distance learning students well	1.6

[a] The response *fully in place* received a score of 3; *partially in place* received a score of 2; *under development* received a score of 1; and *not in place* received a score of 0.

Participants were given the opportunity to list additional programs and services

provided by their departments as open-ended responses. Those listed by professionals in

the career services field included a program entitled, Dress for Success (a wardrobe

resource for those on a tight budget who need professional clothing to wear), workshops

on the topic of dining etiquette, employer panels, and collaborations with the local

community on a job club.

Health promotion or education. Two individuals (6.1%) represented the health

promotion or education profession in this study. Table 14 shows the mean score for each

program or service provided by the health promotion or education departments

represented. No additional programs or services were listed as open-ended responses by the respondents in this area.

Table 14

Health Promotion or Education Programs or Services Offered

Program or Service Offered	Mean Score[a]
Health promotion/health education topics include nutrition	3.0
Health promotion/health education topics include alcohol, tobacco, and other drugs	3.0
Health promotion/health education topics include stress management	3.0
Health promotion/health education topics include sleep	3.0
Health promotion/health education topics include sexual health	3.0
Nutrition or weight management counseling	3.0
Health promotion/health education topics include prevention of communicable disease (e.g., flu, cold)	3.0
Health promotion/health education topics include body image and eating disorder awareness	3.0
Tobacco cessation programs	3.0
Health awareness special events held regularly	3.0
Health promotion/health education reaches undergraduate students well	2.0
Health promotion/health education reaches graduate students well	2.0
Health promotion/health education topics include physical activity	2.0
Health promotion/health education reaches distance learning students well	0.0

[a] The response *fully in place* received a score of 3; *partially in place* received a score of 2; *under development* received a score of 1; and *not in place* received a score of 0.

Barriers to Implementation of Programs and Services

All participants were asked to indicate whether certain factors served as barriers to (or reasons why) some programs and services were not fully in place within their departments. Table 15 lists the frequencies of these barriers and reasons reported among all participants. Participants were also able to list other barriers as open-ended responses. Other responses reported included "not enough effective marketing to promote programs" and "distance [learning] students cannot access our services without being seen in person."

Table 15

Reported Barriers and Reasons for Program or Service not Being Fully Implemented

Barrier	n	%N
Limited funding/resources	22	66.7
Lack of physical space	12	36.4
Lack of professional staff members	11	33.3
Limited time available to implement	11	33.3
Low interest among target population	6	18.2
Professional staff members lack proper training	6	18.2
Competing with other departments on campus (similar programs/services offered elsewhere on campus	5	15.2
Not identified as a need within campus community	4	12.1
Others	3	9.1
Tried in the past, was not successful	2	6.1
Competing with local businesses or organizations (similar programs/services offered off-campus)	2	6.1
Lack of trained student personnel	1	3.0

The most common barriers indicated among counseling services professionals included limited funding or resources (100%*; n*= 9), lack of physical space (66.7%; *n =* 6) limited time available to implement (55.6%; *n =* 5), and lack of professional staff members (55.6%; *n =* 5). For collegiate recreation professionals, reported barriers included limited funding or resources (87.5%; *n =* 7) and lack of physical space (62.5%; *n =* 5). Among career services professionals, limited funding or resources (80.0%; *n =* 4), lack of professional staff members (60.0%; *n =* 3) and limited time available to implement (40.0%; *n =* 2). Only one employee wellness representative and one health promotion or education representative answered this question. The employee wellness representative reported limited funding/resources, limited time available to implement, not identified as a need within campus community, and competition (both with other departments on campus and in the community) as barriers to program implementation, while the health education or promotion representative listed limited funding/resources,

professional staff members lack proper training, limited time available to implement, and competition with other departments on campus as barriers.

Methods of Program Evaluation

To determine how the success of programs and services is measured, departments included within this study were asked to indicate how often certain evaluation methods are utilized. Response options included *always* (score=4), *many times* (score=3), *sometimes* (score=2), *rarely* (score=1), or *never* (score=0). Responses for each method were totaled, and the mean score for each method was determined. Respondents had the ability to list other methods utilized in an open-ended format. One participant indicated that another type of assessment utilized was student-employee evaluations. Table 16 displays the mean score for each method utilized.

Table 16

Methods Used for Program or Service Evaluation

Program or Service Offered	Mean Score
Participation (e.g., usage, visits, contact hours)	3.7
Participant satisfaction	3.3
Process evaluations	2.9
Participant/population needs assessments	2.7
Creation of learning outcomes	2.6
Benchmarking	2.6
Measurement of learning outcomes	2.5
Return on investment (ROI)	2.3

Services Requiring Additional Cost for Students

Seventeen respondents (73.9%) indicated that the departments by which they are employed offered programs and services for students at their respective institutions, and noted that some come at an additional cost. Examples of services that required additional cost (beyond traditional student fees) included: testing for a learning disability, attention-

deficit, or hyperactivity disorder; career assessments and dining etiquette workshops; personal training; club sports dues; adventure program trips; massage therapy; challenge course admission; and Senior Step Day (a day-long job preparation event).

Services Requiring Additional Cost for Faculty and Staff

Seven respondents (77.7%) working for employee wellness programs reported that some programs and services offered by their department come at an additional cost for faculty and staff members (beyond what may be covered under the institution's healthcare plan or health insurance premium). Examples of services which require additional fees included weight management programs, fitness memberships, chair massages, cooking classes, mindfulness-based stress reduction programs, and 5K races.

Departments Offering Faculty and Staff Programs

Some survey respondents that work in departments that primarily target students reported that their departments also offered programs and services for faculty and staff members. All seven individuals (100%) who work in collegiate recreation departments represented in the study indicated that their departments offered faculty and staff programs, such as personal training, challenge course, and wellness programs (additional fees required), and access to group fitness classes (included in membership fees), intramural sports, and club sport participation. Five respondents (55.6%) who work in counseling services indicated their departments provide services to faculty and staff, such as consultation about students of concerns, consultations regarding department dynamics, and outreach programs. Among career services departments, three respondents (60.0%) reported programs or services for faculty and staff members. These services included assistance with their job search after a termination from the university and consulting

about curriculum vitae development (no fees required), as well as travel provisions for faculty who need to visit student internship or co-op sites. No health promotion or education departments indicated programs or services for faculty and staff members were offered.

Departments Offering Services for Community Members

Some respondents (48.4%; $n = 16$) reported that the departments by which they are employed provide programs and services which are open to community members. These departments included collegiate recreation, counseling services, career services, and employee wellness. Those provided by collegiate recreation included lifeguarding classes, swim lessons, challenge course access, 5K races, triathlons, and fitness center memberships (as long as individuals live within the same zip code). All aforementioned programs and services have associated fees. Counseling services provides depression and alcohol screening days, suicide prevention events, and counseling (as long as it co-occurs with a current student, such as with couples counseling), which does not require paying a fee. Career services representatives reported that community members have access to a part-time job fair (no fee); however, another job fair event (held in the spring) requires paying a fee. Finally, employee wellness representatives reported providing a 5K race open to community members (fee associated) and a farmer's market that provides fresh, local produce for purchase.

Department's Influence on Addressing Interpersonal Factors

Respondents were asked to rate the level of influence that their departments' programs and services have on addressing interpersonal factors related to an individual's health and wellbeing. Examples would include social networks, social support systems,

and friendship networks. Thirteen respondents (40.1%) perceived their department was *extremely influential,* while 13 respondents (40.1 %) felt their department was *moderately influential.* Nine respondents (28.1%) reported their department was *minimally influential.* No respondents felt their department had *no influence.* Most respondents reporting that they department was *extremely influential* in addressing interpersonal factors was counseling services (66.7%; $n = 6$), whereas most respondents reporting their department was *minimally* influential in addressing interpersonal factors was career services (40.0%; $n = 2$).

Departmental Influence on Fostering a Culture of Health and Wellness on Campus

Participants were asked to report the level of influence their department has on fostering a sense of health and wellness on their respective campus. Nineteen respondents (57.6%) perceived their department was a prime influencer of health and wellness on their campus, while another seven (21.2%) felt their department was somewhat influential, meaning their department plays a role but other departments are more influential. Table 17 shows the overall level of influence reported by individual respondents.

Of respondents representing employee wellness departments, eight (88.9%) felt their department was very influential in fostering a culture of campus health and wellness. Similarly, seven (87.5%) collegiate wellness representatives and one (100%) health education or promotion representative felt this way. This is compared to three (33.3%) counseling services representatives and zero career services representatives who felt their department was a prime influencer of health and wellness on campus. Representatives from both counseling services and career services more strongly felt their

departments had somewhat of an influence, but that other departments were more

influential.

Table 17

Reported Influence of Department on Fostering a Culture of Campus Health and

Wellness (N = 33)

Level of Influence	n	%N
Very; our department is a prime influencer of health and wellness on campus	19	57.6
Somewhat; our department plays a role but other departments are more influential	7	21.2
Somewhat; multiple departments collaborate equally to influence health and wellness	4	12.1
I don't know	2	6.1
Not at all; our department does not influence health and wellness on campus	1	3.0

Department's Influence on Fostering a Sense of Community on Campus

When asked about their departments' level of influence on fostering a sense of

community at their institution, the majority of respondents (57.8%; $n = 19$) felt they had a

moderate level of influence. Nine respondents (27.2%) asserted that their department was

extremely influential, while three others (9.1%) felt there was minimal influence. The

department with the most respondents reporting the highest level of influence in this area

was collegiate recreation (50.0%; $n = 4$), while no respondents working in career services

reported this level of influence.

Involvement in Health and Wellness Policy Change

Respondents were asked to report the level of involvement they (or others in their

respective departments) had in influencing health and wellness policy change at their

institutions. The minimum score was 0 and the maximum score was 100 related to their

level of involvement in this area. All participants reported a value for this item, and the

mean value reported was 54.0 (*SD* = 30.3). Career services representatives reported the lowest mean value at 35.8, and employee wellness representatives had the highest mean value at 73.1. Health education or promotion respondents reported a mean value of 50.0, and collegiate recreation individuals reported a mean value of 53.3. Of counseling services representatives, the mean value was 51.2.

When asked to consider their (or others in their department) involvement in local or statewide policy change as it relates to health and wellness, respondents reported a lower overall mean value. The range was 0-100, and the mean was 24.7 (*SD* = 23.0). Employee wellness representatives reported the highest mean level of influence at 35.4, while career services reported a mean value of 31.8. Collegiate recreation representatives reported a mean value of 26.0, while counseling services representatives reported a mean value of 14.3. Health education or promotion representatives reported the lowest mean value at 9.0.

Perceptions of Job Responsibilities' Influence on Health and Wellness

Participants were asked to rate the overall influence of their specific job responsibilities on the health and wellness of those they target. Overall, the mean score (range of 0-100) was 73.6 (*SD* =22.6). Employee wellness representatives reported the highest mean level of influence at 84.9, followed by counseling services at 81.6. Collegiate recreation representatives reported a mean score of 70.4, followed by career services at 55.0 and health education or promotion at 21.0.

When participants were asked to rate the influence of their specific job responsibilities on the health and wellbeing of Kentuckians, the mean value was much lower at 47.8 (*SD* = 25.7). Collegiate recreation representatives reported the highest

mean value at 56.3, followed by employee wellness representatives at 55.7. Counseling services reported a mean value of 43.1, career services reported a mean value of 41.0, and health education or promotion reported the lowest mean value at 10.0.

Qualitative Research Findings

In total, 15 higher education leaders (e.g., program directors, managers) representing the fields of collegiate recreation, health promotion or education, employee wellness, counseling services, and career services at UK, UL, and EKU were invited to participate in the interview portion of this study. Five individuals agreed to participate, representing collegiate recreation, employee wellness, career services, and health promotion or education at UK, UL, and EKU. This represented a 33.3% participation rate. Participants were interviewed using the interview guide found in Appendix B.

A second set of interviews warranted the responses from CPE officials, including the Vice President for Policy, Planning, and Operations and the Senior Policy Advisor for Research and Economic Engagement. These interviews also took place via telephone and followed the interview guide in Appendix C. The final step in the qualitative research process involved site visits at all three campuses involved in this study. The researcher examined each site according to the walkability checklist (Appendix D) and the site visit checklist (Appendix E). The following section presents findings from all qualitative components of the study.

Interviews with Higher Education Leaders

A total of five interviews were conducted among higher education leaders (e.g., program directors, managers) within collegiate recreation, health promotion or education, career services, and employee wellness. During data analysis of the higher education leader interviews, six themes emerged: (a) sufficiently reaching target audiences, (b) low levels of community engagement, (c) importance of partnerships, (d) barriers to successful services, (e) lack of support by higher administration, and (f) strong influence of institutions on creating a healthier citizenship. The following section presents a description of the themes and the cohesive ideas found within the interviews conducted. Quotes are included to provide a rich, thick description and to authenticate the themes discovered.

Sufficiently reaching target audiences. Overall, interview participants felt they did a sufficient job in reaching their target campus audience(s) through programming efforts. One individual stated this was done through "education, intervention, and empowerment," and others asserted this was done through "improving health through healthy living choices and behaviors" and "looking at the environment . . . and making the healthier choice the easier choice." These program leaders also wanted to "really try to push into innovative areas" as it related to their health and wellness programming on campus, suggesting one way of doing so could be to "partner with our research and faculty folks to determine the efficacy of what we're doing."

Through strategic planning and identifying areas of need among their target audience(s), program leaders are in the process of implementing new strategies with the goal of reaching those individuals. For employees, certain universities are in the process

of completing an employee dedicated fitness center on campus and broadening the scope

of health screenings to reach employees across the entire Commonwealth. One individual

stated:

> It's really about improving your culture of health on campus. What we're trying
> to do is to implement strategies that do improve the culture of health on campus
> [so] people are encouraged to engage in healthy behaviors while at work due to
> their environment.

For students, one notion was to embed health and wellness programming into residence

life so that students are living it every day and have constant access to healthy choices

related to their wellbeing. Other strategies included adding another recreation center to

reach students in other areas of campus, or implementing virtual career counseling for

distance learning students.

Low levels of community engagement. All participants indicated that some

programs offered by their department were open for participation among the broader

local community. None of these initiatives, however, were specified as "staple" programs

for the department, but rather would be considered special events. In general, community

engagement was expressed to be low by program leaders. An employee wellness

represented indicated "our primary efforts are dedicated to the faculty, staff, and spouses .

. . but we do have the 5K event that is open to the community." Additionally, this

individual spoke of a farmer's market held on campus that is open to community

members during the summer months. Some career services, such as job fairs, are open to

the community (with associated fees to participate). Another interview participant

representing collegiate recreation explained that "there are no [community programs] that

are really directed by us . . . but we do have the age group swim program and

lifeguarding classes offered through aquatics." Overall, leaders described this aspect of

targeted programming to be much lower than what is dedicated to students, faculty, and staff.

      Importance of partnerships. Another theme that emerged through the interview process was partnerships. Individuals attributed the success of their programs and services to partnerships at their institution and among other universities within the Commonwealth. In regard to intra-institutional partnerships, one interviewee representing employee wellness explained that some initiatives required them to collaborate with other departments. This included partnering with dining services to offer healthier food options on campus and with facilities management to place signage and increase visibility regarding walking routes, tobacco-free policies, and point-of-decision triggers (e.g., encouraging individuals to take the stairs instead of the elevator). A collegiate recreation representative explained that partnerships existed in the early stages between all campus constituents who "have a hand in the wellness community" to pull together resources and begin to plan and implement joint ventures.

      In regard to external university partnerships, employee wellness representatives discussed an organization called the University Wellness Advisory of Kentucky. Within this organization, individuals come together approximately twice per year to collaborate, share resources, and assist others who might have gone through similar issues when working to implement programs. One individual stated, "each university is impacting thousands of people collectively . . . we're all in it together." Other external partnerships were discussed by a representative from health promotion and education, specifically in regard to alcohol and substance abuse prevention. Multiple institutions are engaged and have been working collaboratively on an initiative called Building Resiliency in the

Campus and Community, which got propelled into a coalition when this health issue because identified as an issue across the Commonwealth. A career services representative noted many community partnerships with local and regional employers, which provides numerous opportunities for co-ops and internships for students.

Barriers to successful services. When asked to speak of barriers to the implementation and execution of successful programs and services, many common themes emerged. One of these themes included a lack of professional personnel. In one example, a health promotion or education reported that there is only one dietitian on campus who is expected to serve the nutritional needs of a large student, faculty, and staff population. Another participant stated, "We have no dedicated nutrition services for students, faculty, or staff here. It's a very, very undervalued and underfunded element of health, and so across our Commonwealth. It's a huge deficit." It was also stated that more personnel was needed to tend to the marketing of programs and services, such as print materials and social media. One individual stated:

> This is a huge barrier because if you don't reach that tipping point of people seeing what you're doing and being attracted to what you're doing and getting positioned into committees [to develop policy] then you're never really shifting the dial.

Another reported barrier was related to participation. One individual suggested that low participation in some in-person educational programs may be the because of the Internet, stating "people want more technology online, something quicker . . . and not to go somewhere." Another barrier influencing participation, particularly by employees, was a lack of policy that allows employees paid time to participate in programs throughout the workday. A suggested solution might be a policy that "allows employees, particularly the

hourly employees, paid time . . . to leave their desk and engage in the wellness offerings, to make it easier for them."

Other barriers were mentioned by those whose programs primarily target students, such as collegiate recreation and health promotion and education. A collegiate recreation representative stated that one particular barrier is a lack of facility space, particularly to run multiple programs during the busiest time of day (i.e., when is most convenient for students to attend). A barrier mentioned by an individual within health promotion and education included their department not being a part of student affairs: There is "this unnecessary polarization of student affairs from other co-curricular units [and] it is really unfortunate . . . because we're constantly trying to move into that territory. We should just be there."

Lack of support by higher administration. A common theme expressed among the majority of interview participants was a lack of alignment between higher administration's words and actions when it comes to supporting wellness. In reference to the fact that the wellbeing of the Commonwealth was a supported goal within one institution's strategic agenda, an interviewee stated, "I think sometimes there's a big disconnect between what ends up in reports with good intentions." Another interviewee stated,

> We pay lip service to wellbeing and don't fund it. And somehow we are supposed to figure out how to do it with very, very small budgets. We're supposed to do it out of the goodness of our public health hearts.

Another program director asserted, "I think that our trustees and presidential leadership do actually understand the health status is directly related to academic success and retention. They've just never been real proactive about how we support that."

Institutional responsibility for creating a healthier citizenship in Kentucky.

All individuals who participated in the interview process agreed that their institution does

and should play an integral role in positively affecting the health of Kentucky's

citizenship. For example, one program director shared the following perspective about

institutional responsibility for a healthier citizenry.

> I think were critical. I think we're very important to that. I feel like, the impact
> that we can have on our workforce on an individual level for each employee, they
> themselves are citizen can actually then take those behaviors and live a healthy
> lifestyle. However those folks, once they leave this workplace, then go to their
> homes, to their churches, into their communities, and they can have the influence
> on others to live healthier. So it's about educating the employee and intervening
> with them so that they understand.

A similar sentiment was echoed by another interviewee:

> I think the only way that we are going to really change the negative health
> statistics in Kentucky is that we all systematically partner to have systemic impact
> on the communities—that each one of us sees the diversity of this challenge in
> serving. So I think it's critically important that we get behind and support that.

Finally, another representative stated:

> Institutions in the [Commonwealth] should be leading the way of how we can
> better educate our citizens in a healthier lifestyle and particularly our children . . .
> I think there should be big burden on the universities to be leading the way in that.

Interviews with CPE Officials

In order to gain a better understanding about the role of Kentucky's postsecondary

education in creating a healthier citizenship, it was necessary to gain the perspectives of

two CPE representatives. One was the Vice President for Policy, Planning, and

Operations, and the other was the Senior Policy Advisor for Research and Economic

Engagement. The primary objectives of these interviews were two-fold: (a) to gain a

greater understanding of the individuals' roles within the CPE and (b) to describe the

rationale behind the creation of policy objectives within *Stronger by Degrees*. Similar to

the interviews with the higher education leaders, CPE officials were also asked to explain the level of responsibility they felt KSSPI has in creating a healthier citizenship within the Commonwealth.

Description of roles within CPE. The two administrators at CPE were asked to elaborate upon their roles within the organization. The Vice President for Policy, Planning, and Operations "wears a number of hats," working with university presidents, independent college associations, serving as a leader on the CPE's board, providing general direction in operations of the council and working with much of the policy "thinking" regarding higher education in the Commonwealth. The Senior Policy Advisor for Research and Economic Engagement described this position as "looking at where higher education headed, and what our value proposition is as a state coordinating agency. So, the items that I am looking at are the research functions that take place at the universities, [and] also what it means to be innovators and entrepreneurs."

Process of policy objective creation. Both CPE officials were asked to describe the process used to create policy objectives for the *Stronger by Degrees* strategic agenda. One interviewee explained that the CPE is a coordinating board, which means they approve programs, set tuition, and set the strategic agenda for postsecondary education in the Commonwealth. He explained how the the strategic agenda is created in cooperation with the universities and mentioned that a new version of *Stronger by Degrees* was in development.

Currently, the CPE has "strategic people coming to the table saying here are the things that we think are important for the next strategic agenda," meaning university representatives present their needs and ideas for future advancement of higher education.

The process involves hiring professional facilitators to conduct those planning meetings in an effort to enhance effectiveness and progress. Among topics discussed for the updated, in-progress strategic agenda are achievement gaps, accessibility and affordability, and research innovation and entrepreneurship. When asked if health and quality of life of Kentuckians will remain a policy objective on the next strategic agenda, both CPE officials responded that they expected it would because of its relationship to so many other strategies within higher education. However, they both remarked that including health and quality of life depends on what stakeholders perceived to be primary needs within the Commonwealth.

Perspectives on the role of KSSPI in creating a healthier citizenship. The main purpose for conducting interviews with the CPE officials was to gain a sense of higher level perspectives on how KSSPI can influence a healthier citizenship within the Commonwealth. One interviewee started this conversation with a historical context of the issue.

> It is very tough for institutions to do and so if you think about it this way, since the 1500s there are 85 institutions which are still in existence. One of those is the Catholic Church, one is the Parliament, and the rest are universities. So universities have been around for a long, long time—they prevail, they have dealt with every technological change that has happened in that period of time. Universities have prevailed but also the same things that gave them the advantage of having lasted that long are also the same things that keep them from growing.

This lengthy comment paved the way for further discussion about the directions that higher education needs to take in creating a healthier citizenship as well as what it is going well.

One CPE official explained that health and human services, corrections, and education are the three biggest expenses of Kentucky's government. These expenses, the individual explained, are related. In essence:

> The more educated you are, the less health needs you have. Also, the more education you have, the less likely you will be go to prison. In my view--and the view of a lot of other universities around this country that are top performers--is that you have this piece known as social entrepreneurship. How do we solve, as Lee Todd said, the Kentucky 'uglies' which is diabetes, infant mortality, lung cancer, obesity? Kentucky leads the country in the category of being at the bottom of the most categories, and so if we were to flip all those categories we would be the best in the country but we don't want to be the best at diabetes we don't want to be the best at teen pregnancy, teen obesity, all those kind of things. So health will be . . . embedded throughout [the next version of *Stronger by Degrees*] I would imagine.

The other CPE official explained that higher education has the potential to play a "monumental" role in influencing the health and quality of life of Kentuckians. First, the question needs to be "what does the Commonwealth need?" in relation to wellbeing. Once those needs are identified, then higher education can play a direct role through such strategies as increasing the number of students in health professions through a talent pipeline (due to a known deficit of healthcare workers in the Commonwealth) and increasing overall access to higher education, increasing the amount of civic engagement and thus, health. This official was realistic, explaining that "a lot goes into making a better Kentucky." This person explained that it's time to start thinking more deliberately about the role that others can play, such as allied health professionals, social workers, and health care navigators. It will be important for the CPE and institutional leaders to strategize effectively if new academic programs need to be created to meet this need.

The main theme that emerged from both conversations regarding the relationship between higher education and the overall improvement of health in the Commonwealth

was that "higher education needs to be at the table." This means that in state-wide talks regarding public health, professionals at the institutional levels should be brought in to provide expertise and drive change within the state through programs, services, employment and academic endeavors. CPE officials agreed that more assessment and evaluation needs to take place to closely examine the impact and influence of community engagement by specific university departments and universities as a whole, as it relates to improving health and wellbeing of Kentuckians.

Site Visits

Site visits were completed at all three Kentucky institutions (UK, UL, EKU) and evaluated on the same variety of indicators. These indicators included accessibility, aesthetics, availability of resources, signage, and staff interaction of the health education or promotion, collegiate recreation, counseling services, career services, and employee wellness facilities. These indicators were each scored on a ranking scale with possible 5 for each department. Scores for each indicator within each department were totaled and averaged. Additionally, overall campus environment, dining and nutrition options, health policies, and walkability were evaluated.

Health education or promotion department. At UK, the health education department received an average score of 4.8 for all indicators assessed. Overall, the facility was very accessible, clean, aesthetically pleasing, and had an abundance of resources available. Areas of improvement included increased signage notating hours of operation of the health education resource center, as well as exterior building signage informing individuals that the office was located inside the main University Health Services building.

The health promotion department at UL received a score of 5. The building was very accessible, easy to find, and it was clear that the health promotion office was located inside. Additionally, there was an abundance of resources and staff available.

At EKU, the health education department received an average score of 4.2. Suggested areas for improvement included increasing hours of operation (only open only during the evenings) to enhance staff interaction and increasing external facility awareness of the resource center. In all, the space was aesthetically pleasing, had a variety of unique resources, and was very accessible.

Collegiate recreation department. At UK, the collegiate recreation department received an average score of 3.8 for indoor facilities, and 2.5 for outdoor facilities. Indoor facilities were accessible, aesthetically pleasing, and staff had a high level of interaction with patrons. Areas of improvement for indoor facilities included increasing the availability of resources (such as information regarding benefits of physical activity) and improving signage and overall awareness of program offerings. Outdoor facilities, specifically the intramural fields, lacked a certain degree of accessibility, and may have benefitted from having improved signage and resources available to users.

At UL, indoor facilities received a score of 4.8, excelling in the areas of aesthetics (building opened in 2013), staff interaction, and accessibility. One suggested area of improvement would be to have more resources available in common areas, although a virtual display did provide some. Outdoor facilities at UL scored a 4.2, with possible enhancements being availability of resources and greater accessibility.

At EKU, indoor facilities received a score of 3.8 with possible improvements being increased lighting, availability of resources, and exterior signage and aesthetics.

Staff interaction was very positive within the facility. Outdoor facilities received a score of 2.8; possible improvements may include aesthetics, availability of resources, and improved directional signage. Facilities such as outdoor basketball and tennis courts appeared to be easily accessible.

Counseling services department. At UK, the counseling services department received an average score of 3, with accessibility and aesthetics having the most room for improvement. Lack of signage was also a factor, as it was difficult to understand that the building housed the services. Staff interaction and availability of resources was rated very high. Located alongside the health promotion office, the counseling center at UL was also very accessible, provided many resources, and had a great deal of signage. Staff members were very helpful and accommodating. These attributes provided it a score of 5 overall. At EKU, the counseling services department received an overall score of 3.8. The building was very accessible, aesthetically pleasing, and resources were very available. The main area improvement at EKU was increased signage, as the department was housed in a much larger building. It was unclear as an outside observer that the department was located inside without having prior knowledge.

Career services department. At UK, the career services department received an average score of 5.0. The building was very visible and accessible, resources were readily available, there was a high level of staff interaction, and the space was aesthetically pleasing. At UL, the career services department received a score of 4. Although the department and office itself had a high level of staff interaction, accessibility, and resources available, the main building it was housed in was somewhat difficult to find. Additionally, aesthetics of the main building lowered the score, and it was not clear that

the career services department was located inside. At EKU, the career services

department received a score of 3.8. It is located within a building which houses many

other services and departments; therefore, it was difficult from the outside of the building

to realize the career services department was inside. The center had many resources

available and was very inviting, but staff interaction was low.

Employee wellness department. At UK, the employee wellness department

received an average score of 3.2. The main office was very accessible, but there was no

exterior signage indicating the office was inside the building it was housed in.

Additionally, the spaces housing the employee wellness offices and fitness spaces were

located in multiple locations across campus, which created some confusion (as compared

to having all resources located in one place). At UL, the employee wellness department

received a score of 5. Having recently completed a new building construction, it was very

aesthetically pleasing, and accessible. There were many resources available, signage was

clear, and staff members were helpful and accommodating. At EKU, the department

received an overall score of 3.6. The space was located in a much larger building, so it

was difficult to know that the office was located inside. Other areas of improvement

included availability of resources (space was mostly just an office), improved

accessibility, and signage. Staff interaction was rated highly.

Campus environment. Overall campus environment was assessed at each

institution on a scale of 0-5, for such factors such as aesthetics, availability of green

space, quiet study locations and safety. UK received an average score of 4.3, doing very

well in the areas of safety and aesthetics, but leaving room for improvement in overall

availability of quiet study space outside of the library locations. At UL, a more urban

campus led to greater traffic, low amounts of green space, and also a lessened sense of

security. Because of the abundance of quiet study and work spaces, aesthetics, the overall

score was brought to 3.9. EKU received an average score of 3.8, scoring highly in the

area of safety and availability of quiet study and work locations. There was a high level

of police officer presence and the campus was well-lit. The researcher did not observe a

large amount of green space throughout campus (buildings seemed to be compact), and

there was graffiti in multiple locations.

  Dining and nutrition. Dining and nutrition was assessed using the same scoring

scale (0-5) for a variety of factors including: provision of nutrition labeling on non-pre-

packaged foods, availability of vegan and vegetarian options, gluten-free and food allergy

awareness and labeling, and whether healthy options. These factors were assessed for

dining halls and eateries, convenience stores, and vending machines. At UK, dining halls

received an overall score of 2.5. There was inconsistency in nutrition labeling for

prepared, non-pre-packaged foods, and minimal healthy options available overall.

Convenience stores received an overall score of 3, as there was labeling on some non-

pre-packaged foods (but not all), and a moderate amount of healthy options were readily

available. Vending machines received the lowest score at 1.3, as vegan and vegetarian

options were not indicated, and very few healthy options were available.

  At UL, dining services provided a great deal of labeling in food venues across

campus. Healthier choices were labeled in various locations for food items that were

considered nutritionally sound. Additionally, food items in all-you-care to eat venues and

at prepared food locations had labeling which indicated whether choices were mindful,

gluten free, local, organic, vegan, or vegetarian. For these reasons, dining halls received a

score of 4. Although this was very positive, many food venues served unhealthy options, and some convenience stores and vending machines contained few healthy options (but did have vegan and vegetarian options). Additionally, non-pre-packaged foods in convenience stores lacked consistency in nutrition labeling. Convenience stores received an overall score of 2.8, while vending machines received a score of 2.

At EKU, the main dining hall scored highly with an average of 4.5, providing numerous healthy options, nutrition labeling on foods, and vegan and vegetarian options. Gluten-free and food-allergy awareness were also present on labels. Convenience stores received an average score of 3.8, and recommended areas of improvement include improving gluten-free and food-allergy awareness and labeling as well as providing nutrition labeling on non-pre-packaged food items. Vending machines scored an average of 2.0, providing some vegan and vegetarian offerings. However, few healthy options were available, and vending machines did not have clear labeling gluten-free or food-allergy items.

Health policies. During the site visits, notes were made based on any health-related policies which were in place. It was very clear that UK did possess a tobacco-free policy, as signage was very much available. However, some individuals were observed to be smoking on campus. Additionally, there were a great deal of bike lanes available and campus bus systems in place, noting the campus' commitment to the environment as well as promotion of physically-active travel. At UL, the declaration of its smoke-free policy was evident across campus, along with ample signage requiring cars to stop for pedestrians. Additionally, there were a great deal of bike lanes available. Although it was known by the researcher that EKU does have a tobacco-free policy, signage and policy

awareness was lacking. It was clear that safety is an emphasis at the university, with abundant signage requiring cars to stop for pedestrians along with raised crosswalks where no traffic lights were present. The university appeared to be actively promoting events surrounding wellness, such as a 5K race and a campus-wide recycling competition, advertised at busy intersections and high-traffic areas.

Walkability. Using the Walkability Assessment (Appendix D), each campus was assessed on a variety of factors such as having room to walk, ease of crossing street, behavior or drivers, and pleasantness of the walk itself. UK received a total score of 24 of a possible 30. Factors negatively affecting the score were a lack of raised crosswalks, some sidewalks being broken or cracked, and drivers not always yielding to pedestrians. UL received a total score of 23. Most sidewalks were wide enough for pedestrians and not cracked or broken. However, there were many busy streets and wide intersection, making crossing streets somewhat time-consuming. Additionally, some drivers failed to yield at crosswalks which did not contain a traffic light, so safety in the walkability assessment was an issue. EKU also received a total score of 24. Factors negatively influencing this score included some sidewalks and paths starting and stopping, some drivers not yielding to pedestrians, and some crosswalks not being striped or clearly visible.

Discussion of Results

The purpose of this study was to determine the role that Kentucky state-supported postsecondary institutions play in creating a healthy citizenship. The study included a total of 33 professionals working to facilitate programs and services in the fields of collegiate recreation, counseling services, career services, employee wellness, and health

promotion and education. These individuals were invited to take part in a survey, and the

university with the highest representation among respondents was UK (48.5%; $n = 16$).

Counseling services and employee wellness represented the departments with the highest

number of respondents at 27.3% ($n = 9$) from each. The majority of respondents (54.5%;

$n = 18$) have been in their current position for less than five years.

Although respondents' departments represented various dimensions of wellness,

many did not report any involvement in wellness initiatives at their campus, such as

Healthy Campus 2020. Nine (27.3%) reported a level of familiarity with this nationwide

initiative, but only five (15.2%) reported that it was actually being implemented on their

campus. Because Healthy Campus 2020 is an initiative that has been in existence since

2002 and is supported by many of the national organizations with which the

representative departments are affiliated (e.g., NIRSA, ACHA), this number was

surprising. The overall participation of institutions in administering the ACHA's National

College Health Assessment II (ACHA-NCHA II, the instrument guiding the aims of

Healthy Campus 2020) is 624 unique institutions since 2000 (ACHA-NCHA, 2014).

Therefore, the reported level of participation Healthy Campus 2020 by study participants

may be low, considering a large percentage of universities nationwide participate in

collecting this data. It is unclear from national data how many institutions are actually

participating in Healthy Campus 2020, and thus, may be an implication for future

research. Although few individuals in the current study reported participation in Healthy

Campus 2020, the majority of individuals (66.7%; $n = 22$) did report participation in

other wellness initiatives, which would indicate a movement toward the creation of

healthier individual campuses. However, by participating in a national movement such as

Healthy Campus 2020, a better understanding of the broad impact of higher education's impact on the health of students, faculty, staff, and community members across the USA can be better realized.

Higher education professionals who responded to the survey reported the level of implementation of a variety of programs and services offered by their respective departments. The level of implementation was given a score in the range of 0-3. Health promotion and education representatives reported an overall mean score for all programs and services to be 2.6, while collegiate recreation representatives reported an overall mean of 2.5. Counseling services and career services representatives reported an overall mean score 2.4, and employee wellness representatives reported an overall mean score of 2.3. Of all departments represented, the average overall score was 2.4, meaning that collectively, the programs and services provided by these departments were partially to fully in place.

Although total UHI scores were not significantly associated with certain health outcomes (e.g., BMI) or behaviors (e.g., nutrition, physical activity) in the Hosig et al. (2011) research, individual modules and questions were found to be significantly associated with outcome variables. It would be important for future research on this topic to examine the association between certain programs or services (representing various dimensions of wellbeing) and certain health outcomes. The focus of the current study was to gain an understanding of what programs and services related to the determinants of health within the ecological perspective KSSPI are currently implementing. Thus, future research may expand to more closely examine the specific outcomes of these programs and services.

A variety of barriers were reported by survey participants to provide insight into why some of their programs and services might not have been fully in place. The most commonly reported barrier was limited funding and resources, as expressed by the majority of participants (66.7%; $n = 22$). In discussing barriers with higher education leaders, this theme was also present. Interviewees tended to feel that although higher administration acknowledges the need for health and wellness programming on their campus, there was a general lack of funding allocated for such. Other commonly reported barriers by survey respondents included lack of physical space (36.4%; $n = 12$) and lack of professional staff members (33.3%; $n = 11$), which were also indicated as barriers by higher education leaders in this study. It seems that the aforementioned barriers could be positively impacted by an increase in funding. Considering chronic disease is both costly and often preventable (CDC, 2014b), utilizing state dollars to enhance health and wellness programs at KSSPI may elicit a strong return on investment. This is not including other outcomes important to higher education, such as student retention and success as well as faculty and staff retention and productivity.

In regard to program or service evaluation, survey respondents discussed participation numbers, participant satisfaction, and process evaluations as the most frequently utilized forms of assessment. Although consistent with the commonly utilized methods of assessment in higher education (Hanover Research, 2013), future research on this topic may need to explore the effectiveness of said programs and services being through impact and outcome evaluations. Behavioral and health outcomes resulting from these programs and services may lead to investment of additional resources at both the institutional and state levels.

Many of the departments represented reported a specific target audience for their programs and services, but also offer programs to other target groups. For example, collegiate recreation, counseling services, and career services typically are funded via student fees, and work to primarily serve students. However, the majority of the aforementioned departments offer programs and services for faculty and staff on campus. It is possible that these departments recognize the importance of having healthy faculty and staff, and realize that the rewards are mutually beneficial for the both the students and faculty and staff members. Healthy employees are found to be more engaged on the job, productive, and present (van Scheppingen, de Broome, ten Have, Zwetsloot, Bos, & van Mechelen, 2014). Thus, these positive outcomes may directly benefit the students who depend on or interact with faculty and staff regularly.

In regard to serving community members, it was reported by almost half of respondents that their departments (i.e., collegiate recreation, career services, employee wellness) provided programs and services which were open and available to community members, although some did come with an associated fee and for the most part, were one-time events. It is possible that low levels of community engagement are due to a lack of funding and a pressure by universities to see measureable outcomes related to students, faculty, and staff. Regardless, all individuals involved in this study believed that either their specific job responsibilities or their institutions influence health and wellbeing of the Commonwealth in some way.

It would be very important for the CPE to work with KSSPI in clearly identifying expectations for community engagement of programs and services at the institutions related to health and wellness. Additionally, further research may help provide a better

understanding to what is currently being done for outside community members and the related health outcomes. Through the interviews, various higher education leaders mentioned that by influencing the health behaviors of students, faculty, and staff, those individuals can then influence their family and social networks. Thus, it is possible that 'community engagement' is viewed in this lens. In all, it would be important for higher education leaders and the CPE to identify what is meant by the need for community engagement, what the level of engagement should be among institutional programming, and how this engagement be evaluated.

Influence of Job and Department on Health and Wellness

Overall, survey participants felt their specific job responsibilities had a high level of influence upon the health and wellness of those they target, as compared to their mean levels of influence on the health and wellbeing of Kentuckians. This difference was statistically significant ($p = .01$) and may be indicative of a finding in the previous section. Perhaps health and wellness professionals simply do not see the larger influence of their efforts, or they are consistently focused on their target audiences. Suggestions for future research would be to find out reasons why individuals scored their levels of influence in this way. This may provide insight into individuals' perspective, job satisfaction, and possibly a relationship between how job responsibilities and skillset might influence the wellbeing of Kentuckians and ultimately benefit the Commonwealth.

Ecological Model for Health Promotion

A mixed-methods approach was taken to adequately analyze this study's research questions. This was done through completion of surveys, interviews, and site visits. The following section will present an analysis of the results pertaining to the Ecological

Model for Health Promotion, which provided the theoretical guidance for this research. The discussion will focus on the ways in which universities are targeting each sphere of influence to improve individual health behavior, and will conclude with an overview of the interaction between spheres.

Intrapersonal factors. It was clear that through the survey portion of this research, departments created many programs and services which targeted intrapersonal factors, such as knowledge, skills, and attitudes related to health and wellbeing. When examining the Ecological Model for Health Promotion, intrapersonal factors are presented as the closest level of influence to individual's behavior. Therefore, it was understandable that this would be the area most targeted by programs and services. However, more research should be done which examines how well these targeted programs are actually influencing behaviors. Although a question was asked regarding methods of program evaluation, the study did not ask participants to report on the effectiveness and actual outcomes uncovered by these assessment techniques. Therefore, to gain a better understanding of the extent to which targeted intrapersonal factors influence individual behavior on college campuses, measurable outcomes should be more widely examined.

Interpersonal processes and primary groups. This sphere of influence on individual health behavior includes "formal and informal social networks and social support systems, including family, work group, and friendship networks" (ACHA, 2012, n.p.). Some questions on the survey examined the influence of interpersonal processes though programs and services provided. Although more than two-thirds of participants rated this level of influence to be extreme or moderate, it would be prudent for future

investigation surrounding this topic to examine the resulting health outcomes through social groups on college campuses. Examples of places to start could be within Greek life, student organizations, or employee networks. Additionally, individuals may be influenced by the engaged behaviors of alumni groups, which are often a very large part of the campus community and university life.

Overall, social relationships in the higher education setting promote overall wellbeing (O'Keefe, 2013), and may help students experience a better sense of connection to their surroundings and university. Students who are more invested in their institution may perform better academically and become more likely to remain enrolled through graduation. Additionally, the need for more programming related to interpersonal factors is especially relevant for students who are of ethnic minorities, academically disadvantaged, disabled, of low socioeconomic status, or on academic probation. Because these groups experience the greatest risk for attrition throughout the college years (O'Keefe, 2013), institutions should work to support the development of social networks to avoid feelings of rejection, and thus, reduce potential for threats to students' mental and emotional wellbeing.

Institutional leaders should seek to provide ample opportunities for social interaction among students, and encourage faculty members to reach out to students as much as possible in an effort to support their success. Future research should more specifically examine what universities are doing (beyond institutional departments included in this study) to support interpersonal factors on campuses. It may be beneficial to frame this research for students, faculty, and staff, as well as consider how their

interpersonal interactions with community members may influence individual health and wellbeing.

Institutional factors. To gain an understanding of overall campus climate for supporting individual health behaviors, site visits were performed. These institutional factors included an analysis of such factors as availability of health and wellness resources, staff interaction, availability of study lounges and space, walkability and safety, nutritional labeling and availability of healthy food choices and building aesthetics and accessibility. The three universities included in this study scored differently in most of the aforementioned areas. Future research may need to more closely examine these aspects of the built environment to find out if there is a relationship among health and wellbeing of campus communities whose institutions score highly in certain areas. Uncovering a possible relationship may bring attention to the need for funding or improvements in these facets of campus environment.

Community factors. When considering the campus culture (in regard to health and wellness), participants rated their departments very highly in terms of overall influence. An overwhelming majority of respondents (90.9%; $n = 30$) felt their department had some level of influence on creating a culture of health and wellness on campus. About half of that total felt their department had somewhat of an influence, but either felt other departments were more influential or that multiple departments had equal influence. This idea parallels one of the themes expressed within the leadership interviews, which was that of institutional partnerships. It is promising to see that both professionals and leadership recognize that there are many influences to health and wellness on their campuses, and that everyone is in it for a common goal. Interestingly

however, no career services departments felt they were a prime influencer of health and wellness on their campus. This may allude to the idea that they might not view their role as a pivotal dimension of wellness which supports individuals' occupational wellbeing. It would be important for future collaborations in the realm of wellness to include career services departments to be sure they recognize (and the campus community recognizes) what an important influence they are, and to turn this perceived importance into action..

Public policy. Within this sphere of influence, individuals were asked to discuss their involvement with policy change at the local, state, and national levels. Although institutions within the CPE are affected by local, state, national, and global laws and policies, campus wellbeing professionals did not express a high level of involvement in them. This was also recognized within the CPE officials' interviews, who understood that these professionals ought to be involved (and this is starting to happen). Both CPE officials, and some higher education leaders, strongly felt that health and wellbeing representatives from higher education need to be involved in state-wide initiatives which aim to improve health outcomes along with a variety of secondary outcomes. It is imperative that institutional professionals are recognized as 'experts in the field' and involvement in these policy changes should be highly regarded.

Study Limitations

Although the sample included three distinct types of universities, the sample size was small. Thus, results may not be generalizable across the Commonwealth, especially because community colleges were not included. Additionally, a small number of departments were chosen to represent health and wellness services on college campuses. Although the selected services were chosen because they represented a variety of

dimensions of wellness, there were still others that could have been included, such as student health (medical) services, hospitals and medical clinics, tutoring and academic centers, financial aid services, student engagement and involvement departments, dining services, or leadership and community service departments.

Also not included within this study was a major outreach and engagement program through the UK (together with Kentucky State University), which is the Kentucky Cooperative Extension Service. The mission of this service is to "make a difference in the lives of Kentucky citizens through research-based education" (UK, 2015, n.p.). Through these services, a variety of programs and initiatives are implemented across the Commonwealth to include 4-H youth development, nutrition education, and leadership development. This area was not included in the study because similar services did not exist at all three universities. Although these services are available in virtually all 120 counties across the Commonwealth, benefiting countless Kentuckians, it was necessary to exclude this initiative in the current study. Future research on this topic (i.e., analyzing the role of all KSSPIs in creating a healthier citizenship) should include the Kentucky Cooperative Extension Service to elicit more comprehensive findings.

The online format of the survey may also be a limitation. Since participants were aware of the general topic area of the survey and interview ahead of time (described in the invitation e-mail), it is possible that those who were passionate about the topic proceeded to participate.

Summary

This chapter presented the results of the study, collected via surveys, interviews, and site visits. Additionally, a discussion of the research findings was covered, as well as

how the findings relate to the conceptual framework of the study, the Ecological Model for Health Promotion. The chapter concluded by presenting the study's limitations, which lays the foundation for consideration of major conclusions and implications in the final chapter. Chapter 5 works to provide an overall summary of this research, including conclusions and implications for further study and practice.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The present study examined the role of Kentucky state-supported postsecondary education in creating a healthier citizenship. In order to answer the overarching research question, *What is the role of KSSPI in creating a healthier citizenship?,* surveys, interviews, and institutional site visits were conducted. The study utilized a conceptual approach, guided by the Ecological Model for Health Promotion. Data collection was directed by the theory's constructs to help provide an understanding of influences of various factors related to individual-level health behavior (a predictor of health outcomes).

Conclusions

Results from all aspects of this study indicate that little is known about the extent to which targeted programs and services are actually influencing health outcomes across universities and/or the Commonwealth. Additionally, the study revealed that health and wellness professionals, along with higher education leaders and CPE officials, agreed that higher education should have some level of responsibility in creating a healthier citizenship within the Commonwealth. However, a variety of barriers were discussed, which may prevent this ideal from being carried out to its greatest potential.

KSSPI play an important role in creating a heathier citizenship within the Commonwealth. This is currently being done through support of the students, faculty, and staff on their campuses through dedicated programs and services. Additional investigations should be conducted on the impact of other programs at the institutional level, such as medical services and extension services across the Commonwealth.

Additionally, the term *community engagement* and strategic policy objectives related to improving the health and quality of life of Kentuckians should be more clearly defined. Additional conclusions from this research study are outlined below.

- Higher administration within postsecondary education may need to be more supportive of health and wellness efforts on their college campuses. By serving as champions for health and wellbeing on campuses and within their host communities, they may improve buy-in among key stakeholders and be able to influence widespread change (especially regarding institutional policy change).

- Campus professionals specializing in health and wellbeing should be invited to high-level discussions and state-wide talks regarding the improvement of health and wellbeing across the Commonwealth. Often, these individuals carry a skillset for effectively executing various initiatives and thus may be able to provide a clear understanding of both scope and needs of targeted populations.

- Facilities that house programs and services related to health and wellbeing at institutions of higher education should be more visible, accessible, and serve as the cornerstone of campuses. Because wellbeing has such a large impact on student and employee success and retention, these services should be emphasized, and likewise funded properly.

- A universal agreement among all study participants was that collaborations are imperative to the success of health and wellness programs on campuses. According to ACHA (2012b), "collaboration exceeds co-sponsorship of initiatives; it requires health promotion professionals to be community organizers who mobilize a wide range of interdisciplinary campus and community partners

for collective action" (p. 20). Therefore, support of inter-departmental partnerships on campuses (as well as opportunities for collaboration with external organizations) should be heavily supported among upper administration at KSSPI to maximize efficiency and positive outcomes.

- Higher education wellness departments need to create better strategies for targeting the individual health behaviors of distance learning students. With the rise of online learning and an increasing population of distance learning students, a focus needs to be placed on how their needs can be better met.

Implications

Information gathered from this study helps to provide a foundation for further investigation into this topic. Findings from this research contribute to the general understanding of the role in which higher education influences the health and wellbeing of the citizenship. Because no previous studies have assessed the role of postsecondary education and influencing population health, this study provides an initial look into future areas of research. It may be prudent to continue investigating the usefulness of the Ecological Model for Health Promotion as a theoretical approach to research in this area, as individual behavior can be influenced in many different ways on a college or university campus.

Future studies are needed to investigate other departments that provide health and wellness services on college campuses and their level of involvement in creating widespread behavior change. Additionally, researchers need to examine all other universities across the Commonwealth of Kentucky to gain a broader range of perspectives and understanding. As research in this area builds, it is hoped that similar

studies take place at the national level to observe how the establishment of higher education in the United States might influence overall population health. Collectively, research in this area may greatly assist in providing rationale and influencing decision makers at the federal and state levels to allocate more funding toward health and wellness services at colleges and universities.

Findings from this study suggest that more research be done that investigates the knowledge, skills, attitudes, and behaviors regarding health and wellbeing among incoming students and employees at universities. If health and wellness professionals have an understanding of these students' or employees' transitions from high school to college or between workplaces, they may be better able to meet their needs while on campus. Having knowledge of any challenges individuals were faced with prior to beginning their journeys at the institution may assist in providing more effective programming during their tenure.

Finally, future research needs to involve upper-level leaders at the institutions of study (e.g., President, Vice President of Student Affairs, Director of Human Resources and Employee Benefits). Throughout the current study, some individuals stated that a major barrier to full implementation of certain programs and services was a lack of support among key leaders at their institutions. Therefore, further investigation on this topic need to explore rationales for this barrier. It would also be wise to examine whether certain leadership traits among these individuals (e.g., enthusiasm or optimism surrounding the improvement of health outcomes, education, and experience) or leadership styles closely relate to overall health outcomes on their campuses. This may relate to how these stakeholders lead their institutions (i.e., which leadership frames they

tend to stay within). According to Palestini (1999), effective leaders within higher education are able to apply various frames to particular situations and utilize the strengths and weaknesses of each frame as they see fit for various purposes. Applying these concepts to leading widespread health behavior change and improvement of health outcomes among the university communities and across the Commonwealth would be essential.

Although many chronic diseases and conditions arise from preventable health behaviors established within adolescence and adulthood, research on the possible influence of higher education on these outcomes has been proportionately scarce. It is recommended that the results and findings from this research are used to further refine the instruments and methods developed to widen both the scope and understanding of the topic. Ultimately, if the goal is to truly make lasting improvements in health outcomes, evidence-based strategies and interventions are imperative and should be administered in a timely manner. Without the support of leadership within higher education, this may be a monumental task. It is anticipated that with heighted justification and stronger rationales, the case will be made for enhanced attention to wellness and prevention through higher education and associated programs and services.

APPENDIX A: SURVEY

To XXXXX:

You have been invited to complete this online survey because you play an important role in administering health and wellness programs at your institution. Although you will not get personal benefit from taking part in this research study, your responses may help us understand more about the role that institutions of higher education within Kentucky play in creating a healthier citizenship.

We hope to receive completed surveys from about 80 people, so your answers are important to us. Of course, you have a choice about whether or not to complete the survey, but if you do participate, you are free to skip any questions or discontinue at any time.

The survey will take about 15 minutes to complete.

There are no known risks to participating in this study.

Your response to the survey will be kept confidential to the extent allowed by law. When we write about the study you will not be identified.

Please be aware, while we make every effort to safeguard your data once received from the online survey/data gathering company, given the nature of online surveys, as with anything involving the Internet, we can never guarantee the confidentiality of the data while still on the survey/data gathering company's servers, or while en route to either them or us. It is also possible the raw data collected for research purposes may be used for marketing or reporting purposes by the survey/data gathering company after the research is concluded, depending on the company's Terms of Service and Privacy policies.

If you have questions about the study, please feel free to ask; my contact information is given below. If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

Thank you in advance for your assistance with this important project.

Sincerely,

Julia Buchanan, M.S.
Department of Educational Leadership Studies, University of Kentucky
E-MAIL: julia.buchanan@uky.edu

Dr. Tricia Browne-Ferrigno
Faculty Advisor

Department of Educational Leadership Studies, University of Kentucky
E-MAIL: tricia.ferrigno@uky.edu

Q1 Professional (working) title

Q2 University name
- ○ Eastern Kentucky University
- ○ University of Kentucky
- ○ University of Louisville

Q3 Years and months served in current position
_____ Number of full years
_____ Number of additional months

Q4 Healthy Campus 2020 provides a framework for improving the overall health status on college campuses nationwide. Its purpose is to engage collaborative efforts among health, academic, student affairs, and administrative colleagues to foster healthy environments and behaviors. Please select your personal level of involvement with the Healthy Campus 2020 initiative on your campus:
- ○ I am not familiar with the Healthy Campus 2020 initiative
- ○ I am familiar with the Healthy Campus 2020 initiative, but neither myself or anyone on my campus is involved with its implementation
- ○ Healthy Campus 2020 is being implemented on my campus, but I am not personally involved with its implementation
- ○ Healthy Campus 2020 is being implemented on my campus, and I am personally involved with its implementation

Display Q5 if response to Q4 is *Healthy Campus 2020 is being implemented on my campus, but I am not personally involved with its implementation* or *Healthy Campus 2020 is being implemented on my campus, and I am personally involved with its implementation*
Q5 Please briefly describe how Healthy Campus 2020 is being implemented on your campus.

Display Q6 if response to Q4 is *Healthy Campus 2020 is being implemented on my campus, and I am personally involved with its implementation.*
Q6 Please describe how you are personally involved with the implementation of Healthy Campus 2020.

Q7 Is your institution involved in any other wellness initiatives, either at the national, state, local, or campus-wide levels?
- ○ Yes
- ○ No
- ○ I'm not sure

Q8 Please briefly describe what other wellness initiative(s) your institution is involved with, and how you are involved with its implementation (if applicable).

Q9 Please select the university department for which you work.
- ○ Health Education or Promotion
- ○ Collegiate Recreation
- ○ Counseling Services
- ○ Career Services
- ○ Employee Wellness
- ○ Other

Q10 Does the department you work for on your campus provide programs and services related to health and well-being?
- ○ Yes
- ○ No

Q11 This module includes information about the collegiate recreation program which promotes healthy, active lifestyles through intramural sports, sport clubs, fitness classes, fitness instruction, outdoor recreation, informal (open) recreation, wellness or lifestyle modification programming, aquatics, and other physical activity opportunities within the university. Please select the most applicable response next to each item as it applies to the department you represent at your respective institution:

	Fully in place	Partially in place	Under development	Not in place	I don't know
Individual and team intramural sports program	○	○	○	○	○
Recreational and competitive club sports program	○	○	○	○	○
Sport-related instructional programs and/or workshops	○	○	○	○	○
Outdoor pursuits/adventures program	○	○	○	○	○
Outdoor pursuits/adventures instructional programs and/or workshops	○	○	○	○	○
Group fitness classes	○	○	○	○	○
Personal and/or small group training	○	○	○	○	○
Fitness incentive programs	○	○	○	○	○
Fitness appraisals/assessments	○	○	○	○	○
Fitness instructional programs and/or workshops	○	○	○	○	○
Wellness or lifestyle modification programs	○	○	○	○	○
Aquatics - open swim opportunities	○	○	○	○	○
Aquatics - instructional programs or swim lessons	○	○	○	○	○
Facility/fitness center orientation program	○	○	○	○	○

Outdoor recreational sport and facility space (e.g., tennis, basketball, par course)	❍	❍	❍	❍	❍
Indoor recreational sport and fitness facility space (e.g., basketball, racquetball)	❍	❍	❍	❍	❍
Size of facilities are adequate for the size of the campus population	❍	❍	❍	❍	❍
Department-wide special events	❍	❍	❍	❍	❍
Recreational programs reach undergraduate students well	❍	❍	❍	❍	❍
Recreational programs reach graduate students well	❍	❍	❍	❍	❍
Recreational programs reach distance learning students well	❍	❍	❍	❍	❍
Recreational programs reach faculty and staff well	❍	❍	❍	❍	❍

Q12 This module includes information about health education and health promotion efforts related to nutrition, physical activity, substance use, and other health topics pertinent to the college student population. Please select the most applicable response next to each item as it applies to the department you represent at your respective institution.

	Fully in place	Partially in place	Under development	Not in place	I don't know
Health promotion/health education reaches undergraduate students well	○	○	○	○	○
Health promotion/health education reaches graduate students well	○	○	○	○	○
Health promotion/health education reaches distance learning students well	○	○	○	○	○
Health promotion/health education topics include nutrition	○	○	○	○	○
Health promotion/health education topics include physical activity	○	○	○	○	○
Health promotion/health education topics include alcohol, tobacco, and other drugs	○	○	○	○	○
Health promotion/health education topics include stress management	○	○	○	○	○
Health promotion/health education topics include sleep	○	○	○	○	○
Health promotion/health education topics include sexual health	○	○	○	○	○
Nutrition or weight management counseling is available	○	○	○	○	○
Health promotion/health education topics include prevention of communicable disease (e.g., flu, cold)	○	○	○	○	○

Health promotion/health education topics include body image and eating disorder awareness	○	○	○	○	○
Tobacco cessation programs are available	○	○	○	○	○
Health awareness special events held regularly	○	○	○	○	○

Q13 This module includes information about the counseling and psychological services offered at the university for students. Please select the most applicable response next to each item as it applies to the department you represent at your respective institution.

	Fully in place	Partially in place	Under development	Not in place	I don't know
Individualized counseling	❍	❍	❍	❍	❍
Group counseling	❍	❍	❍	❍	❍
Couples/relationship counseling	❍	❍	❍	❍	❍
Academic counseling	❍	❍	❍	❍	❍
Career counseling	❍	❍	❍	❍	❍
Eating disorder counseling	❍	❍	❍	❍	❍
Veterans counseling	❍	❍	❍	❍	❍
Crisis/on-call services	❍	❍	❍	❍	❍
Suicide prevention education/programs	❍	❍	❍	❍	❍
Counseling services offers alcohol and drug treatment	❍	❍	❍	❍	❍
Counseling services offers tobacco treatment	❍	❍	❍	❍	❍
Counseling services offers workshops and educational sessions	❍	❍	❍	❍	❍
Counseling services reaches undergraduate students well	❍	❍	❍	❍	❍
Counseling services reaches graduate students well	❍	❍	❍	❍	❍
Counseling services reaches distance learning students well	❍	❍	❍	❍	❍
Counseling services has an established referral process	❍	❍	❍	❍	❍
Counseling services offers screening for learning disabilities	❍	❍	❍	❍	❍

Counseling services offers online screenings (e.g., stress, anxiety, depression, eating disorders)	○	○	○	○	○

Q14 This module provides information on the status of career and occupation services at the university. Please select the most applicable response next to each item as it applies to the department you represent at your respective institution:

	Fully in place	Partially in place	Under development	Not in place	I don't know
Career services offers resume, cover letter, and CV workshops and/or resources	○	○	○	○	○
Career services offers job fairs on campus	○	○	○	○	○
Career services offers individual career counseling	○	○	○	○	○
Career services offers academic major planning	○	○	○	○	○
Career services offers career exploration workshops	○	○	○	○	○
Career services offers interviewing and etiquette workshops and resources	○	○	○	○	○
Career services offers mentor and shadowing networks	○	○	○	○	○
Career services offers virtual advising	○	○	○	○	○
Career services offers internship connection opportunities and resources	○	○	○	○	○
Career services offers a co-operative education program	○	○	○	○	○
Career services offers resources related to on-campus jobs	○	○	○	○	○
Career services provides resources related to service learning opportunities	○	○	○	○	○

Career services reaches undergraduate students well	○	○	○	○	○
Career services reaches graduate students well	○	○	○	○	○
Career services reaches distance learning students well	○	○	○	○	○
Career services reaches alumni well	○	○	○	○	○

Q15 This module includes information on programs and services offered by the employee wellness department at the university. Please select the most applicable response next to each item as it applies to the department you represent at your respective institution:

	Fully in place	Partially in place	Under development	Not in place	I don't know
Offers health/biometric screenings for faculty and staff	❍	❍	❍	❍	❍
Offers health/biometric screenings for dependents	❍	❍	❍	❍	❍
Offers stress management programs for faculty and staff	❍	❍	❍	❍	❍
Offers stress management programs for dependents	❍	❍	❍	❍	❍
Offers fitness assessments/exercise prescription services for faculty and staff	❍	❍	❍	❍	❍
Offers fitness assessments/exercise prescription services for dependents	❍	❍	❍	❍	❍
Offers physical activity/fitness programs for faculty and staff	❍	❍	❍	❍	❍
Offers physical activity/fitness programs for dependents	❍	❍	❍	❍	❍
Offers weight management programs for faculty and staff	❍	❍	❍	❍	❍
Offers weight management programs for dependents	❍	❍	❍	❍	❍
Offers nutritional programming for faculty and staff	❍	❍	❍	❍	❍
Offers nutritional programming for dependents	❍	❍	❍	❍	❍
Offers tobacco cessation programs for faculty and staff	❍	❍	❍	❍	❍
Offers tobacco cessation programs for dependents	❍	❍	❍	❍	❍
Offers educational sessions or workshops to faculty and staff	❍	❍	❍	❍	❍

Offers educational sessions or workshops to dependents	○	○	○	○	○
Offers disease management programs (e.g., diabetes, COPD) for dependents	○	○	○	○	○
Offers disease management programs (e.g., diabetes, COPD) for faculty and staff	○	○	○	○	○
Offers incentive programs promoting healthy lifestyles for faculty and staff	○	○	○	○	○
Offers incentive programs promoting healthy lifestyles for dependents	○	○	○	○	○
Policies promoting the opportunity for breastfeeding are in place	○	○	○	○	○

Display Q16 if response to Q9 is *Health Education or Promotion* or *Collegiate Recreation* or *Counseling Services* or *Career Services* or *Employee Wellness*

Q16 Please describe any additional programs or services your department offers which promote health and well-being, as well as the target audience (e.g., students, faculty, staff, community) of these services.

Display Q17 if response to Q10 is *Yes*

Q17 Please describe any programs or services your department offers which promote health and well-being, indicate the target audience (e.g., students, faculty, staff, community) of each.

Q18 If you indicated that any of the programs or services listed on the previous page ARE NOT FULLY in place, what are the common barriers to implementation? Check all that apply.

❑ Limited funding/resources
❑ Low interest among target population
❑ Lack of trained student personnel
❑ Professional staff members lack proper training
❑ Lack of professional staff members
❑ Lack of physical space
❑ Limited time available to implement
❑ Tried in the past, was not successful
❑ Not identified as a need within campus community
❑ Competing with other departments on campus (similar programs/services offered elsewhere on campus)
❑ Competing with local businesses or organizations (similar programs/services offered off-campus)
❑ Others (please name) _____

Q19 For programs/services that are FULLY in place within your department, please indicate how often the following methods of evaluation/assessment are utilized:

	Always	Many times	Sometimes	Rarely	Never	I don't know
Participant/population needs assessments	○	○	○	○	○	○
Process evaluations	○	○	○	○	○	○
Creation of learning outcomes	○	○	○	○	○	○
Measurement of learning outcomes	○	○	○	○	○	○
Participation (e.g., usage, visits, contact hours)	○	○	○	○	○	○
Participant satisfaction	○	○	○	○	○	○
Return on investment (ROI)	○	○	○	○	○	○
Benchmarking	○	○	○	○	○	○
Other _____	○	○	○	○	○	○
Other _____	○	○	○	○	○	○
Other _____	○	○	○	○	○	○

Display Q20 if response to Q9 is *Health Education or Promotion* or *Collegiate Recreation* or *Counseling Services* or *Career Services*

Q20 Do any of the programs or services offered by your department come at an additional cost for students (beyond traditional student fees)?
- ○ Yes (please name programs/services) _____
- ○ No
- ○ I'm not sure

Display Q21 if response to Q9 is *Employee Wellness*

Q21 Do any of the programs or services offered by your department come at an additional cost for faculty and staff members (beyond what may be covered under the institution's health insurance premium)?
- ○ Yes (please name programs/services) _____
- ○ No
- ○ I'm not sure

Q22 Does your department offer any services for faculty and staff?
- ❍ Yes
- ❍ No
- ❍ I'm not sure

Q23 Please briefly describe programs or services offered to faculty and staff, and whether they incur any associated fees.

Q24 Does your department offer any services for community members (other than students, faculty, or staff)?
- ❍ Yes
- ❍ No
- ❍ I'm not sure

Q25 Please briefly describe programs or services offered to community members, and whether they incur any associated fees.

Q26 Please rate the level of influence your department's programs and services have on addressing intrapersonal factors (e.g., knowledge, skills, attitudes, behavior, self-concept, skill, or development) related to an individual's health and well-being.
- ❍ Extremely influential
- ❍ Moderately influential
- ❍ Minimally influential
- ❍ Not influential at all
- ❍ I don't know

Q27 Please rate the level of influence your department's programs and services have on addressing Interpersonal factors (e.g., social networks, social support systems, friendship networks) related to an individual's health and well-being.
- ❍ Extremely influential
- ❍ Moderately influential
- ❍ Minimally influential
- ❍ Not influential at all
- ❍ I don't know

Q28 Please rate how influential your department is in fostering a culture of health and wellness at your institution.
   - ❍ Very; our department is a prime influencer of health and wellness on campus
   - ❍ Somewhat; our department plays a role but other departments are more influential
   - ❍ Somewhat; multiple departments collaborate equally to influence health and wellness
   - ❍ Not at all; our department does not influence health and wellness on campus
   - ❍ I don't know

Q29 Please rate how influential your department is in fostering a sense of community within your institution, as it pertains to health and wellness.
   - ❍ Extremely influential
   - ❍ Moderately influential
   - ❍ Minimally influential
   - ❍ Not influential at all
   - ❍ I don't know

Q30 Please rate (on a scale of 0-100, with 0 being not involved and 100 being very involved) how involved you (or others in your department) are in influencing policy at your institution, as it relates to health and wellness.

Q31 Please rate (on a scale of 0-100, with 0 being not involved and 100 being very involved) how involved you (or others in your department) are in influencing policy at the local and state levels, as it relates to health and wellness.

Q32 Please rate (on a scale of 0-100, with 0 not influential and 100 being very influential) how strongly you feel your specific job responsibilities influence the overall health and well-being of those you target.

Q33 Please rate how strongly (on a scale of 0-100, with 0 being not influential and 100 being very influential) you feel your specific job responsibilities within your department influence the overall health and well-being of Kentuckians.

APPENDIX B: INTERVIEW GUIDE FOR HIGHER EDUCATION LEADERS

Introduction

- Introduce self, build rapport
- Explain purpose of the study
- Issue statement of informed consent
- Alleviate any concerns regarding confidentiality
- Gain consent to record interview
- Remind interviewee that he or she does not have to answer any question if they do not wish to
- Ask interviewee about basic background data

Topic Areas to be Discussed

- Describe your job responsibilities
- Describe the role that the department you oversee plays on your campus
- As a leader, describe your values related to campus wellbeing
- Describe services available to students, faculty, and staff members available at the university (offered through your department)
- Describe any services available to community members
- Describe assessment or evaluation plan for all services offered
- What services are successful, and what services are not successful?
  - Protective factors for successful services
  - Barriers to successful services
- Describe any programs or services you'd like to implement, but can't. Explain the barriers to action.
- Explain your role (or your department's role) with the implementation of the Healthy Campus 2020 initiative or a related campus wellbeing initiative (if any)
- Are you aware that your institution has set forth strategic goals which relate to creating a healthier citizenship within the Commonwealth?
- If yes, describe how services are designed to satisfy the institution's strategic goals
- Describe the level of responsibility you feel that your institution has in creating a healthier citizenship within the Commonwealth
- Any other points of clarification needed which are related to survey results submitted by interviewee's colleagues

Conclusion

- Provide expectations for further proceedings or follow-up
- Ask interviewee if he or she has any further questions
- Express gratitude
- Provide contact information

APPENDIX C: INTERVIEW GUIDE FOR CPE OFFICIALS

Introduction

- Introduce self, build rapport
- Explain purpose of the study
- Issue statement of informed consent
- Alleviate any concerns regarding confidentiality
- Gain consent to record interview
- Remind interviewee that he or she does not have to answer any question if they do not wish to
- Ask interviewee about basic background data

Topic Areas to be Discussed

- Describe your role within the CPE
- Describe the rationale behind the creation of policy objectives within *Stronger by Degrees* which relate to improving the health and quality of life for Kentuckians
- Describe the influence these policy objectives had in the development of similar strategic initiatives at the institutional level
- Describe the level of responsibility you feel that the Kentucky state-supported postsecondary institutions have in creating a healthier citizenship within the Commonwealth

Conclusion

- Provide expectations for further proceedings or follow-up
- Ask interviewee if he or she has any further questions
- Express gratitude
- Provide contact information

Take a walk and use this checklist to rate your neighborhood's walkability.

How walkable is your community?

Location of walk _____

_____

Rating Scale:

1	2	3	4	5	6
awful	many problems	some problems	good	very good	excellent

1. Did you have room to walk?

☐ Yes   ☐ Some problems:
- ☐ Sidewalks or paths started and stopped
- ☐ Sidewalks were broken or cracked
- ☐ Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
- ☐ No sidewalks, paths, or shoulders
- ☐ Too much traffic
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)   _____
1 2 3 4 5 6   _____

2. Was it easy to cross streets?

☐ Yes   ☐ Some problems:
- ☐ Road was too wide
- ☐ Traffic signals made us wait too long or did not give us enough time to cross
- ☐ Needed striped crosswalks or traffic signals
- ☐ Parked cars blocked our view of traffic
- ☐ Trees or plants blocked our view of traffic
- ☐ Needed curb ramps or ramps needed repair
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)   _____
1 2 3 4 5 6   _____

3. Did drivers behave well?

☐ Yes   ☐ Some problems: Drivers...
- ☐ Backed out of driveways without looking
- ☐ Did not yield to people crossing the street
- ☐ Turned into people crossing the street
- ☐ Drove too fast
- ☐ Sped up to make it through traffic lights or drove through traffic lights?
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)   _____
1 2 3 4 5 6   _____

4. Was it easy to follow safety rules?
Could you and your child...

☐ Yes   ☐ No   Cross at crosswalks or where you could see and be seen by drivers?

☐ Yes   ☐ No   Stop and look left, right and then left again before crossing streets?

☐ Yes   ☐ No   Walk on sidewalks or shoulders facing traffic where there were no sidewalks?

☐ Yes   ☐ No   Cross with the light?

Locations of problems: _____

Rating: (circle one)   _____
1 2 3 4 5 6   _____

5. Was your walk pleasant?

☐ Yes   ☐ Some unpleasant things:
- ☐ Needed more grass, flowers, or trees
- ☐ Scary dogs
- ☐ Scary people
- ☐ Not well lighted
- ☐ Dirty, lots of litter or trash
- ☐ Dirty air due to automobile exhaust
- ☐ Something else _____

Locations of problems: _____

Rating: (circle one)   _____
1 2 3 4 5 6   _____

How does your neighborhood stack up?
Add up your ratings and decide.

1. _____
2. _____
3. _____
4. _____
5. _____

Total _____

26–30	Celebrate! You have a great neighborhood for walking.
21–25	Celebrate a little. Your neighborhood is pretty good.
16–20	Okay, but it needs work.
11–15	It needs lots of work. You deserve better than that.
5–10	It's a disaster for walking!

Now that you've identified the problems,
go to the next page to find out how to fix them.

Improving your community's score...

	What you and your child can do immediately	What you and your community can do with more time
1. Did you have room to walk?		
Sidewalks or paths started and stopped Sidewalks broken or cracked Sidewalks blocked No sidewalks, paths or shoulders Too much traffic	• pick another route for now • tell local traffic engineering or public works department about specific problems and provide a copy of the checklist	• speak up at board meetings • write or petition city for walkways and gather neighborhood signatures • make media aware of problem • work with a local transportation engineer to develop a plan for a safe walking route
2. Was it easy to cross streets?		
Road too wide Traffic signals made us wait too long or did not give us enough time to cross Crosswalks/traffic signals needed View of traffic blocked by parked cars, trees, or plants Needed curb ramps or ramps needed repair	• pick another route for now • share problems and checklist with local traffic engineering or public works department • trim your trees or bushes that block the street and ask your neighbors to do the same • leave nice notes on problem cars asking owners not to park there	• push for crosswalks/signals/parking changes/curb ramps at city meetings • report to traffic engineer where parked cars are safety hazards • report illegally parked cars to the police • request that the public works department trim trees or plants • make media aware of problem
3. Did drivers behave well?		
Backed without looking Did not yield Turned into walkers Drove too fast Sped up to make traffic lights or drove through red lights	• pick another route for now • set an example: slow down and be considerate of others • encourage your neighbors to do the same • report unsafe driving to the police	• petition for more enforcement • request protected turns • ask city planners and traffic engineers for traffic calming ideas • ask schools about getting crossing guards at key locations • organize a neighborhood speed watch program
4. Could you follow safety rules?		
Cross at crosswalks or where you could see and be seen Stop and look left, right, left before crossing Walk on sidewalks or shoulders facing traffic Cross with the light	• educate yourself and your child about safe walking • organize parents in your neighborhood to walk children to school	• encourage schools to teach walking safely • help schools start safe walking programs • encourage corporate support for flex schedules so parents can walk children to school
5. Was your walk pleasant?		
Needs grass, flowers, trees Scary dogs Scary people Not well lit Dirty, litter Lots of traffic	• point out areas to avoid to your child; agree on safe routes • ask neighbors to keep dogs leashed or fenced • report scary dogs to the animal control department • report scary people to the police • report lighting needs to the police or appropriate public works department • take a walk wih a trash bag • plant trees, flowers in your yard • select alternative route with less traffic	• request increased police enforcement • start a crime watch program in your neighborhood • organize a community clean-up day • sponsor a neighborhood beautification or tree-planting day • begin an adopt-a-street program • initiate support to provide routes with less traffic to schools in your community (reduced traffic during am and pm school commute times)
A Quick Health Check		
Could not go as far or as fast as we wanted Were tired, short of breath or had sore feet or muscles Was the sun really hot? Was it hot and hazy?	• start with short walks and work up to 30 minutes of walking most days • invite a friend or child along • walk along shaded routes where possible • use sunscreen of SPF 15 or higher, wear a hat and sunglasses • try not to walk during the hottest time of day	• get media to do a story about the health benefits of walking • call parks and recreation department about community walks • encourage corporate support for employee walking programs • plant shade trees along routes • have a sun safety seminar for kids • have kids learn about unhealthy ozone days and the Air Quality Index (AQI)

APPENDIX E: SITE OBSERVATION PROTOCOL

Rate each facility from 0.0-5.0 (with 0.0 being the lowest, and 5.0 being the highest) in terms of its: accessibility, aesthetics, availability of resources, signage, and staff interaction (if applicable). Make necessary notes or observations as needed.

- Health Education or Promotion
    - Accessibility _____
    - Aesthetics _____
    - Availability of resources _____
    - Signage _____
    - Staff interaction _____
- Collegiate Recreation
    - Indoor facilities
        - Accessibility _____
        - Aesthetics _____
        - Availability of resources _____
        - Signage _____
        - Staff interaction _____
    - Outdoor facilities
        - Accessibility _____
        - Aesthetics _____
        - Availability of resources _____
        - Signage _____
        - Staff interaction _____
- Counseling Services
    - Accessibility _____
    - Aesthetics _____
    - Availability of resources _____
    - Signage _____
    - Staff interaction _____
- Career Services
    - Accessibility _____
    - Aesthetics _____
    - Availability of resources _____
    - Signage _____
    - Staff interaction _____
- Employee Wellness
    - Accessibility _____
    - Aesthetics _____
    - Availability of resources _____
    - Signage _____
    - Staff interaction _____

Campus Environment

Rate the overall campus environment from 1-5 (with one being the lowest, and 5 being the highest) in terms of its: aesthetics, availability of green space, quiet study/work locations, and safety. Make necessary notes or observations as needed.

- Aesthetics _____
- Availability of green space _____
- Quiet study/work locations _____
- Safety _____

Dining and Nutrition

Rate the dining and vending options on campus from 1-5 (with one being the lowest, and 5 being the highest) in terms of its: provision of nutrition labeling, vegan and vegetarian options, gluten-free and other food-allergy awareness and labeling, and healthy options available in dining halls, convenience stores and vending machines.

- Dining halls
  - Provision of nutrition labeling on non-pre-packaged foods _____
  - Vegan and vegetarian options _____
  - Gluten-free and food-allergy awareness and labeling _____
  - Healthy options available _____
- Convenience stores
  - Provision of nutrition labeling on non-pre-packaged foods _____
  - Vegan and vegetarian options _____
  - Gluten-free and food-allergy awareness and labeling _____
  - Healthy options available _____
- Vending machines
  - Vegan and vegetarian options _____
  - Gluten-free and food-allergy awareness and labeling _____
  - Healthy options available _____

Health Policies

Make notes about any health-related policies in place (e.g., tobacco-free campus) on the university's campus. Notate amount of signage and/or awareness efforts.

Other Notes

Make other notes or observations as necessary as they pertain to the promotion (or lack thereof) of healthy lifestyles on the university's campus.

APPENDIX F: SURVEY INVITATION E-MAIL AND INFORMED CONSENT

Dear [Name],

The purpose of this letter is to invite you to participate in a research study to examine the role of Kentucky postsecondary education plays in creating a healthy citizenship. Your institution will be included in this study, and you were selected to participate due to the nature of your role at your respective institution. We are sending this invitation out to approximately 80 individuals who serve as health and wellness professionals at their respective institutions of higher education within the Commonwealth of Kentucky. Because of the low sample size, your answers are important to us.

If you would like to participate in this study, we will need you to fill out the online survey, which can be accessed via the link below.

Survey Link: [insert link]

The survey should take you about 15 minutes to complete. Of course, you have a choice about whether or not to complete the survey, but if you do participate, you are free to skip any questions or discontinue at any time. We will keep private all research records that identify you to the extent allowed by law. It is hoped that you will enjoy taking part in this project, and your participation is very important in helping us identify the role of higher education in creating a healthy citizenship.

If you have questions about the study, please feel free to ask; my contact information is given below. If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 866-400-9428. Please see below for Documentation of Waiver of Informed Consent.

By completing the survey, you are giving your permission to participate in this study

Thank you in advance for your assistance in this important project.

Sincerely,

Julia Buchanan, M.S.
Doctoral Student, Department of Educational Leadership Studies
University of Kentucky
julia.buchanan@uky.edu

Faculty Advisor:
Tricia Browne-Ferrigno, Ph.D.
Professor, Department of Educational Leadership Studies
University of Kentucky
tricia.ferrigno@uky.edu

APPENDIX G: SURVEY INVITATION REMINDER E-MAIL

Dear [Name],

Two weeks ago, we sent you an invitation to participate in a research study examining the role of Kentucky postsecondary education on creating a healthy citizenship. Your institution will be included in this study, and you were selected to participate due to the nature of your role at your respective institution. We have sent this invitation out to approximately 80 individuals who serve as health and wellness professionals at their respective institutions of higher education within the Commonwealth of Kentucky. Because of a low sample size, your answers are important to us.

This letter is to serve as a reminder of your invitation to participate in this research study if you have not yet done so. If you would like to participate, we will need you to fill out the online survey, which can be accessed via the link below.

Survey Link: [insert link]

The survey should take you about 15 minutes to complete. Of course, you have a choice about whether or not to complete the survey, but if you do participate, you are free to skip any questions or discontinue at any time. We will keep private all research records that identify you to the extent allowed by law. It is hoped that you will enjoy taking part in this project, and your participation is very important in helping us identify the role of higher education in creating a healthy citizenship.

If you have questions about the study, please feel free to ask; my contact information is given below. If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 866-400-9428.

Sincerely,

Julia Buchanan, M.S.
Doctoral Student, Department of Educational Leadership Studies
University of Kentucky
julia.buchanan@uky.edu

Faculty Advisor:
Tricia Browne-Ferrigno, Ph.D.
Professor, Department of Educational Leadership Studies
University of Kentucky
tricia.ferrigno@uky.edu

APPENDIX H: INTERVIEW INVITATION E-MAIL AND INFORMED CONSENT

Dear [Name],

The purpose of this letter is to invite you to participate in a research study examining the role of Kentucky state-supported postsecondary education in creating a healthy citizenship. Your institution will be included in this study, and you were selected to participate due to the nature of your leadership role at your respective institution. We are sending this invitation out to approximately 15 individuals who serve as higher education leaders and stakeholders for improving health and wellbeing at their respective institutions within the Commonwealth of Kentucky. Because of a low sample size, your participation is very important to us.

The interview may last up to 30 minutes, and you may choose not to answer any interview questions or discontinue any time during that process. Your consent to participate in the study is determined by acceptance of this interview request, and the completion of the interview, if applicable. If you choose to participate in the study, please respond back to the e-mail message by [date]. We will then be in contact with you to schedule a time for a telephone interview, which will be completed at time convenient to you.

We will keep private all research records that identify you to the extent allowed by law. It is hoped that you will enjoy taking part in this project, and your participation is very important in helping us identify the role of higher education in creating a healthy citizenship.

If you have questions about the study, please feel free to ask; my contact information is given below. If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 866-400-9428.

Thank you in advance for your assistance in this important project.

Sincerely,

Julia Buchanan, M.S.
Doctoral Student, Department of Educational Leadership Studies
University of Kentucky
julia.buchanan@uky.edu

Faculty Advisor:
Tricia Browne-Ferrigno, Ph.D.
Professor, Department of Educational Leadership Studies
University of Kentucky
tricia.ferrigno@uky.edu

APPENDIX I: CONSENT TO PARTICIPATE SCRIPT FOR INTERVIEWS

Consent to Participate in a Research Study – Phone Script

Hello, my name is Julia Buchanan. I am a graduate student at the University of Kentucky in the Department of Educational Leadership Studies, and I am undertaking research that will be used in my dissertation. I am being supervised by Dr. Tricia Browne-Ferrigno, Professor in the Department of Educational Leadership at the University of Kentucky.

I am studying the influence that Kentucky state-supported higher education has on creating healthier citizens. I would like to ask you a series of questions about your perspective regarding the role that your department or organization specifically plays in this.

The information you share with me will be of great value in helping me to complete this research project, the results of which could significantly enhance our understanding of the importance of higher education in creating a healthier population. Participants in this study are from Kentucky, and the total number of subjects is expected to be 130.

If you agree to participate in this study, this interview will take about 30 minutes of your time.

To minimize the risk of a breach of confidentiality, I will not link your name to anything you say, either in the transcript of this interview or in the text of my dissertation or any other publications. I may be required to show information which identifies you to individuals at the University of Kentucky to ensure the research is being conducted correctly.

There are no other expected risks of participation.

Participation is voluntary. You can decline to answer any question, as well as to stop participating at any time, without any penalty or loss of benefits to which you are otherwise entitled. You will not receive any personal benefit from taking part in this study.

If you have any additional questions concerning this research or your participation in it, please feel free to contact me, my dissertation supervisor or our university research office at any time. You should have received and email containing this information. If you did not, I can give it to you now…. OR….. I have that contact information for you now, and I will email it to you before we begin the interview.

(The respondent will be e-mailed an information card, containing PI and faculty advisor's name, institutional affiliation, and contact information.)

I would like to make an audio recording of our discussion, so that I can have an accurate record of the information that you provide to me. That recording will be transcribed, and will keep the transcripts confidential and securely in my possession.

Do you have any questions about this research? Do you agree to participate? May I record this discussion?

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APPENDIX J: DOCUMENTATION OF IRB APPROVAL

U.K.
UNIVERSITY OF
KENTUCKY®

Initial Review

Approval Ends
January 29, 2016

IRB Number
14-1020-P4S

TO: Julia Buchanan, M.S.
        Kinesiology - Health Promotion
        177 Johnson Center
        0220
        PI phone #: (859) 257-9283

FROM: Chairperson/Vice Chairperson
        Non-medical Institutional Review Board (IRB)

SUBJECT: Approval of Protocol Number 14-1020-P4S

DATE: February 2, 2015

On January 30, 2015, the Non-medical Institutional Review Board approved your protocol entitled:

The Role of Kentucky State Supported Postsecondary Education in Creating a Healthier Citizenship

Approval is effective from January 30, 2015 until January 29, 2016 and extends to any consent/assent form, cover letter, and/or phone script.   If applicable, attached is the IRB approved consent/assent document(s) to be used when enrolling subjects. **[Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approval" stamp unless special waiver has been obtained from the IRB.]**   Prior to the end of this period, you will be sent a Continuation Review Report Form which must be completed and returned to the Office of Research Integrity so that the protocol can be reviewed and approved for the next period.

In implementing the research activities, you are responsible for complying with IRB decisions, conditions and requirements. The research procedures should be implemented as approved in the IRB protocol.   It is the principal investigators responsibility to ensure any changes planned for the research are submitted for review and approval by the IRB prior to implementation. Protocol changes made without prior IRB approval to eliminate apparent hazards to the subject(s) should be reported in writing immediately to the IRB.   Furthermore, discontinuing a study or completion of a study is considered a change in the protocol's status and therefore the IRB should be promptly notified in writing.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" from the Office of Research Integrity's IRB Survival Handbook web page [http://www.research.uky.edu/ori/IRB-Survival-Handbook.html#PIresponsibilities].   Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site [http://www.research.uky.edu/ori].   If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at (859) 257-9428.

_____
Chairperson/Vice Chairperson

APPENDIX K: CONSENT TO USE UNIVERSITY HEALTH INDEX (UHI)

U K UNIVERSITY OF KENTUCKY

Buchanan, Julia <jkcl222@g.uky.edu>

RE: Request to Utilize UHI Survey

Hosig, Kathy ████████████   Tue, Jun 24, 2014 at 1:35 PM
To: "Buchanan, Julia K" <julia.buchanan@uky.edu>
Cc: "Goodwin, Stephanie (████████████████████)" <████████████████>

Hi Julia,

██
██

Yes, we would be happy for you to use questions from the UHI. The only citation available at this point is the APHA abstract. We still hope to publish our initial work somewhere if I can ever find the time to revise and resubmit to an appropriate journal.

Please let me know if you need anything as you work on your project. It sounds like a great project!

Sincerely,

Kathy Hosig

Kathy Hosig, PhD, MPH, RD

Associate Professor and Director, Center for Public Health Practice and Research

Department of Population Health Sciences

Virginia-Maryland Regional College of Veterinary Medicine

Virginia Tech

████████████

████████████

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    Paper presented at the annual forum of the Association for Institution Research,

    Minneapolis, MN.

VITA

Julia Kristine Buchanan

Erie, Pennsylvania

Education

University of Kentucky (2010-2012)
Master of Science in Kinesiology and Health Promotion

University of South Florida (2006-2010)
Bachelor of Science in Physical Education with a Specialization in Exercise Science

Work Experience

North Carolina State University (2014-2015)
Department of University Recreation

University of Kentucky (2010-2014)
Department of Campus Recreation

University of South Florida (2006-2010)
Department of Campus Recreation

Professional Credentials

Certified Health Education Specialist (2014-present)
National Commission for Health Education Credentialing

Certified Exercise Physiologist (2010-present)
American College of Sports Medicine

Publications

Buchanan, J., & Ickes, M. (2015). Energy drink consumption and its relationship to risky behavior in college students. *Californian Journal of Health Promotion, 13*(1), 38-48.