

CONTENT ANALYSIS OF CONCEPTUALLY-BASED PHYSICAL EDUCATION
COURSES IN SOUTHEASTERN UNITED STATES UNIVERSITIES AND COLLEGES

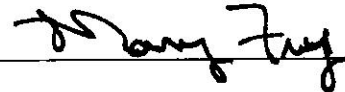
By

Suzanne Williams

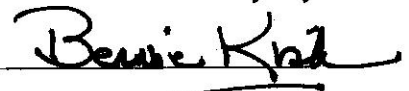
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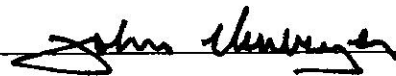
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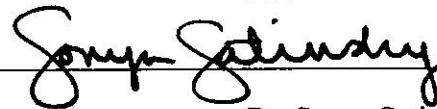
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ABSTRACT

The purpose of this dissertation study was to conduct an exploratory content analysis on conceptually-based physical education (CPE) courses available to students in randomized baccalaureate degree-offering colleges and universities located in the Southeastern United States. From a randomized sample of 56 institutions, each was screened to determine whether physical education (PE) and CPE courses were offered and/or required, followed by a closer examination of the CPE courses. It was hypothesized that all of the CPE courses would share many commonalities, as would their components, description and objectives, curriculum, and coursework/evaluation after content analysis. Secondary hypotheses were included that predicted the likely existence of PE general education requirements, and offering of CPE at each institution.

Preliminary research indicated that 41 of the 56 screened institutions offered CPE courses. A request was made to the Chair for the PE-related department of each of these institutions for their CPE course information including: course syllabus, schedule of topics to be covered, exam copies, and any other additional course handouts and instructional aids used in the delivery of the course material. Since the majority of the information that was collected from all of the solicited institutions came in the form of a syllabus and topic schedule, these were the two primary sources of CPE course information that were examined.

Among the data collected, the course content analysis criteria dependent variables examined were separated into the following sections: components, description and objectives, curriculum, and evaluation. The data was then compared to standards provided by the Health Education Curriculum Analysis Tool (HECAT), Physical Education Curriculum Analysis Tool

(PECAT), ACSM's Knowledge, Skills and Abilities (KSAs), along with a small number of additions and modifications to the health education curricular topics.

Descriptive statistics were relied upon in this exploratory content analysis study and demonstrated commonalities between all of the institutions' CPE courses. Many of the course content criteria dependent variables scored 50% or higher, which indicated shared commonalities and characteristics among all of the CPE courses. Descriptive statistics also indicated the inclusion of PE in general education requirements in 40 out of the 56 (71%) randomized institutions. Among these institutions, 29 out of 56 (52%) specifically had a CPE requirement, and a CPE course offering (required or elective) was found in 41 out of the 56 (73%) of the institutions.

This sample of courses shared many commonalities which could suggest the generalization that most CPE courses are grounded by research and driven by theory, with clearly stated health goals and behavioral outcomes; last the duration of a semester and include regular PA; focus on physical health-related curriculum topics; and base evaluation on primarily exams and quizzes, and self-improvement coursework. PE/CPE is an important component of higher education, with the majority of these baccalaureate degree-offering institutions including PE in their general education requirements. In addition, most of these institutions offered CPE, with nearly half specifically requiring a CPE course. Such programming combining classroom concepts and regular PA in a laboratory setting can encourage active, healthy lifestyles. CPE can potentially be a very effective measure in positively impacting the lives of college students enrolled in the course, as well as combatting physical inactivity among this population of vulnerable young adults.

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CHAPTER 1

The Problem

Introduction

In the United States, the lack of physical activity (PA) has become prevalent and persists as a major health issue among all ages, including young college adults. Physical inactivity compromises health and poses an increased risk for chronic disease and other adverse long-term health outcomes (Calfas, Sallis, Nichols, Sarkin, Johnson, Caparosa & Alcaraz, 2000). Consequently, the effects pose harm to the personal health of Americans and adversely impact the overall state of public health in this country. According to the most recent available data provided by the Centers for Disease Control and Prevention (CDC), only 48% of Americans meet the minimal guidelines for moderate PA (Centers for Disease Control and Prevention, 2012b). Physical inactivity is not only a problem that is prevalent in adults, but it is starting at younger ages. Evidence has suggested that this has become a crisis beginning in children and adolescents who are not engaging in sufficient amounts of PA (Caspersen, Pereira, & Curran, 2000; Kimm, Glynn, Kriska, Barton, Kronsberg, Daniels & et al., 2002). Youth Risk Behavior Surveillance System (YRBSS) statistics showed that the prevalence of not participating in at least 60 minutes of PA on any day was higher among 11th grade (14.7%) and 12th grade (15.6%) than 9th grade (11.2%) students and higher among 10th grade female (17.9%), 11th grade female (19.0%), and 12th grade female (20.6%) than 9th grade female (13.9%) students (Centers for Disease Control and Prevention, 2011b). This trend in PA levels follows, and actually worsens, as individuals grow from adolescents into adults. Furthermore, national epidemiological data indicate that the majority of health behaviors, including PA and exercise, regress as adolescents

age into young adulthood. When surveyed, college students have yielded even more unacceptable levels than the general adult population. According to the Spring, 2012 *National College Health Assessment (NCHA)*, only 50.6% of college students met the recommended PA and exercise guidelines for moderate- or vigorous-intensity, or a combination of the two guidelines as developed for adults by the American College of Sports Medicine (ACSM) and the American Heart Association (AHA). The American College Health Association (ACHA) statistics on the amount of PA and exercise that college students reported within seven days prior to taking the NCHA survey are presented in Table 1.

Table 1 <i>Physical Activity and Exercise Among College Students in United States</i>			
ACSM/AHA Recommendations: Moderate-Intensity Cardiorespiratory Exercise (CRE) \geq 30 minutes on \geq 5 days per week			
	Male Compliance (%)	Female Compliance (%)	Total Compliance (%)
0 days	21.6	21.5	21.6
1-4 days	55.1	58.9	57.5
5-7 days	23.3	19.6	20.8
ACSM/AHA Recommendations: Vigorous-Intensity Cardiorespiratory Exercise (CRE) \geq 20 minutes on \geq 3 days per week			
	Male Compliance (%)	Female Compliance (%)	Total Compliance (%)
0 days	31.8	39.2	36.7
1-4 days	31.5	30.4	30.7
5-7 days	36.7	30.4	32.6
	Male Compliance (%)	Female Compliance (%)	Total Compliance (%)
Recommended Guidelines Met	54.2	48.8	50.6

(American College Health Association, 2012b; American College of Sports Medicine, 2010a)

The consequences of physical inactivity producing many adverse personal health effects have been acknowledged; likewise, research efforts have also exposed the multiple benefits of PA and exercise (Blair et al., 1996; S. N. Blair et al., 1995; Blair et al., 1989; K. J. Calfas et al.,

2000; RS Paffenbarger et al., 1993; RK Paffenbarger, Wing, & Hsieh, 1986; US Department of Health and Human Services, 1996, 2000, 2008, 2010). While most perceived benefits that fuel motivation are based on body image and health concerns, documented and proven benefits can be derived from research and consensus statements from such agencies including the CDC and ACSM (Schrop, 2006). These scientific and political agencies have emphasized the importance of regular PA in decreasing the risk of cardiovascular disease, some forms of cancer, non-insulin-dependent diabetes, osteoporosis, and early mortality; as well as improving weight management, performance, stamina, and quality of life (Blair et al., 1996; S. N. Blair et al., 1995; Blair et al., 1989; K. J. Calfas et al., 2000; Leslie, Sparling, & Owen, 2001; RS Paffenbarger et al., 1993; RK Paffenbarger et al., 1986; Sailors et al., 2010; US Department of Health and Human Services, 1996, 2000, 2008, 2010). In addition, exercise has been shown to improve other aspects of health, including the psychological, intellectual and social dimensions (Hughes, 2004; Landers, 1997; Taylor, James, & Needle, 1985; Wankel & Bonnie, 1990; Warburton, Crystal, & Bredin, 2006). In fact, young college adults may benefit the most, given their transitional stage of growth and development as they embark on their independent lives (K. J. Calfas et al., 2000; Sailors et al., 2010).

Despite the strong evidence for the health-promoting benefits of engaging in regular PA and exercise, the sharpest decline in this health behavior occurs during young adulthood and continues to decrease over the life span (Fischer & Bryant, 2008; Sailors et al., 2010). There are a number of determinants or perceived barriers that inhibit participation for this young adult population. According to the research, some of these determinants include insufficient time and/or motivation, low finances, less education, accessibility/location, fatigue, fear, dislike and lack of social support (Harne, 2005; Reichert, Aluisio, Domingues, & Hallal, 2007; Schrop et al.,

2006). However, these factors vary based on the student population and geographical location (Reichert et al., 2007). These studies seem to have mixed conclusions and recommendations. Some authors conclude that health professionals and policymakers should broadly base their efforts and interventions on the many influential aspects including self-efficacy, social support and environment (Reichert et al., 2007). Other recommendations were based on particular aspects with strategies focusing on a specific population or increasing awareness of select components of PA and exercise in order to better motivate individuals to overcome the perceived barriers (Harne, 2005; Reichert et al., 2007).

On behalf of the United States Department of Health and Human Services (HHS), the United States Surgeon General came out with the claim in 1996 that PA, as well as increased exercise and resulting physical fitness levels are associated with better physical health. The United States Preventive Services Task Force has recommended that all individuals be counseled on the importance and opportunity of incorporating PA into their daily lives (Schrop et al., 2006). Health professionals must educate about the vital role of regular PA and exercise in disease prevention; determine their participants' level of PA and recognize perceived barriers specific to them; as well as provide instruction and techniques to better enable their intended populations to lead healthier, more active lifestyles (Harne, 2005; Schrop et al., 2006). Hence, public health efforts have been initiated to educate the American population about the importance of PA, as well as provide activity and exercise guidelines for health promotion and optimal health. This includes the recommendations originating from the US Surgeon General's findings on the relationship between PA and health in 1996 to campus health initiatives such as *Healthy Campus 2010* (American College Health Association, 2009; US Department of Health

and Human Services, 2000). Health education and promotion, including PA intervention programs, are needed to improve health, longevity and quality of life.

Another campus health initiative, specifically PA- and education-related, well preceded these efforts, namely physical education (PE). Colleges and universities began offering classes in PE as far back as the early 1800s, and declaring them as a requirement since post-World War II (Mitchell, 2012). Basic activity- or skills-related PE (ASPE) instructional programs were initially developed to be offered to the general college student population. The basic activity programs were designed to focus on physical and skill development. Eventually, conceptually-based PE (CPE) courses were developed as an alternative to provide further education in the activity course. While trends have fluctuated some, they seem to now be progressing from the offering of traditional, activity- or skills-based PE to increased conceptually-based PE, along with the requirement of such into the general education core curriculum. CPE has grown to educate students about the importance of a physically active lifestyle, as well as provide strategies and support to encourage PA and exercise with its experiential and intellectual qualities. Recent literature has suggested that there is a variety of PE programs being offered in higher education, including numerous successful conceptually-based PE programs that have proved successful in combatting physical inactivity in the young adult college student population.

Given the public health issue of physical inactivity among college students, measures such as PE need to be implemented to improve the health of young adults attending higher education institutions. CPE at this level can serve as a means of intervention, since young adults are more likely to engage in unhealthy behavior, and vulnerable to continue to do so over the life span (Sailors et al., 2010). Such programming can reach and influence a large population of

adults, providing education and motivation to encourage healthier behaviors, especially the adoption of PA into their lifestyle (Fischer & Bryant, 2008).

Statement of Purpose

The primary purpose of this study was to conduct an exploratory content analysis on conceptually-based PE (CPE) courses available to students in colleges and universities located in the Southeastern United States. The secondary purpose was two-fold: (1) a description of the PE requirements (including ASPE and CPE) at each institution was obtained and analyzed; (2) it was determined whether each institution offered CPE as a requirement.

Hypotheses

H1: All CPE courses would be relatively similar, as would their components, description and objectives, curriculum, and coursework/evaluation after content analysis.

H2: PE (ASPE and/or CPE) would likely be included in the general education requirements, and CPE would likely be offered at each institution.

Scope

The following were delimiting factors to the study:

1. Fifty-six four-year general education public and private liberal arts colleges and universities located in the Southeastern region of the US were selected for this study.
2. PE requirements were identified and referenced through preliminary research on each of the selected colleges and universities.
3. CPE requirements were obtained only as reported by the participating institutions.

4. Data were analyzed by a pre-determined modified content analysis system designed for the dissertation study.

Assumptions and Limitations

The following assumptions were made:

1. Selected college and universities provided current, reliable and inclusive information via website and/or direct communication.
2. Modified content analysis system was a valid and reliable method for this study.

The following were limitations to the study:

1. Interpretation of institutions' CPE course information was objective.
2. Voluntary participation from selected institutions potentially limited data collection efforts.

Definitions

Activity- or Skills-Based Physical Education (ASPE): This consists of physical instructional programming involving skill performance and participation in activities (Adams, 1995).

Conceptually-Based Physical Education (CPE): This is a type of physical instructional programming which includes the combination of theoretical fitness and wellness concepts learned in the classroom and exercise in a laboratory setting (Adams, 1995).

Content Analysis: Any technique of making inferences by objectively and systematically identifying specified characteristics of messages (Stemler, 2001).

Exercise: A specific subset of physical activity which is planned, structured and repetitive with the distinct goal of maintaining or improving physical fitness (Casperson, Powell, & Christenson, 1985).

Frequency: This aspect of exercise prescription describes the number of exercise sessions per week (American College of Sports Medicine, 2010b).

Intensity: An aspect of exercise prescription that refers to the level of effort, which may be expressed as a percentage of oxygen consumption reserve; once selected it can be translated to a heart rate, workload or subjective level of perceived exertion (American College of Sports Medicine, 2010b).

Oxygen Consumption Reserve (VO₂R): This is the range of oxygen consumption from rest to maximum effort; a percentage of this range is used to establish cardiorespiratory endurance intensity (American College of Sports Medicine, 2010b).

Physical Activity (PA): Any movement of the body produced by skeletal muscles which results in energy expenditure (Casperson et al., 1985).

Physical Education (PE): A type of instructional programming that is concerned with education of the whole person through physical activities; and is designed to help students develop the skills, knowledge and attitudes necessary for confident, lifelong participation in sport and recreation activities (National Association for Sport and Physical Education, 2004).

Physical Fitness: A set of health- and/or skill-related attributes that relate to one's ability to perform PA and contribute to improved performance and health (US Department of Health and Human Services, 1996).

Time: Another aspect of exercise prescription which refers to the duration of each exercise session that is generally expressed in minutes (American College of Sports Medicine, 2010b).

CHAPTER 2

Literature Review

Introduction

There is no question that the lack of PA and exercise potentially decreases the length and quality of life, and is a national public health concern; this prevalence is so widespread that it has been described as a health crisis for all ages, including young college adults (K. J. Calfas et al., 2000; Jacobson & Mazurek, 2010; National Institutes of Health, 1998; Nicklas, Jill, Legault, Leng, & Rejeski, 2012; Ogden, Margaret, Curtin, Lamb, & Flegal, 2010; Sailors et al., 2010; Serdula, Coates, Freedman, Williamson, & Byers, 1993; PB Sparling, 2003). Due to the lack of the states' requirement of daily PE in primary and secondary schools, or even the lack of time to meet the recommended guidelines in limited class periods, PA is declining with age, with the most rapid declines occurring during late adolescence and early adulthood (Stephens & White, 1985). According to a survey conducted in 1994, 47% of recent high school graduates reported a decrease in PA, compared to levels demonstrated in previous school days (K. Calfas, Sallis, Lovato, & Campbell, 1994). School PE programs do not effectively prepare students for the transition to optimal self-directed PA (J. Sallis, 1991). This is particularly true for young college-aged adults who not only witness the sharpest decline in PA between adolescence and young adulthood, but also begin to experience the potentially long-lasting, detrimental effects to their health, which only continue to worsen over their lifetime (K. J. Calfas et al., 2000; Kulinna, Warfield, Jonaitis, Dean, & Corbin, 2009; Leslie et al., 2001; Sailors et al., 2010). With the increased likelihood of physical inactivity and its life-threatening effects, this young college student population requires the attention, research and proper exercise intervention. As a result,

it has been concluded that college and university settings offer great opportunities for health promotion programming despite challenges including insufficient attention and intervention that the college population seems to receive due to the current pressures and lack of funding that confronts most administrators in higher education (PB Sparling, 2003). In addition to providing much needed intervention, large numbers of students in attendance can be reached at this important transitory stage from young adult to adulthood, and these college students are often a captive audience in classes where they are required to complete the course assignments to earn a grade.

Much research on the generally healthy adult population has demonstrated the countless benefits of PA and exercise in terms of generally improved health and the prevention of serious acute and chronic health problems, and this research is slowly extending to include the college population (Blair et al., 1996; S. N. Blair et al., 1995; Blair et al., 1989; K. J. Calfas et al., 2000; Hughes, 2004; Landers, 1997; Leslie et al., 2001; RS Paffenbarger et al., 1993; RK Paffenbarger et al., 1986; Sailors et al., 2010; Taylor et al., 1985; US Department of Health and Human Services, 1996, 2008, 2010; Warburton et al., 2006). In addition to improvements in physical health, many findings are indicative of the improvement in the psychological, intellectual and social dimensions, as well (Hughes, 2004; Landers, 1997; Taylor et al., 1985; Wankel & Bonnie, 1990; Warburton et al., 2006). Among these documented findings, much of the motivation behind exercise intentions and behavior for many individuals, including young college adults, is driven by the perceived benefits of improved health and body image (Harne, 2005). However, even with all of the improvements in health, many young adult college students seem to be inhibited by obstacles or barriers, and lack the motivation to engage in regular exercise.

In addition to benefits, research findings have also recognized a number of determinants historically recognized as barriers. These perceived barriers constitute a large role in behavioral change. The HHS has identified seven primary categories of factors hindering exercise. These include fear of injuries, and lack of time, resources, energy, and skill (US Department of Health and Human Services, 2000). Other documented barriers to exercise include low socioeconomic status, poor health, inconvenient access, and the perception of getting adequate activity at one's job (Brownson et al., 2000; Schrop et al., 2006). Racial/ethnic minorities seem to be more likely to face additional barriers such as cost, child care responsibilities, high crime rate and fear for personal safety, family priorities, specific cultural barriers, and lack of past exercise experience and community support (Eyler & Vest, 2002; Schrop et al., 2006; Seefeldt & Clark, 2002). Researchers studying particularly college students' exercise behavior have found that those who do not exercise regularly perceive more of these barriers to exercise and rate their self-confidence lower (Myers, Zasha, Anzaldua, & Trinidad, 2011). This may pose further problems to students' motivation and exercise self-efficacy.

Perceived benefits and barriers related to a behavior contribute significantly to whether individuals engage in a given behavior, including regular PA and exercise (Myers et al., 2011). Social- and cognitive-related theories have attempted to examine benefits and outcomes affiliated with such behavior (Bandura, 1991). The results from some studies have revealed that active and inactive individuals view benefits similarly and do not differ significantly regarding perceived psychological, body image, social and health benefits (Harne, 2005). However, previous research contradicts this by finding that individuals in early stages of exercise adoption perceive fewer benefits than those in the latter stages (Marcus, Rakowski, & Rossi, 1992; Marcus, Rossi, Selby, Niaura, & Abrams, 1992). Like research conducted by Marcus, Harne and

Bixby (2011) believed that the college student population was exposed to greater amounts of information, thereby strengthening their perceived benefits and active lifestyle. Research also has predicted that increasing the awareness of exercise benefits is an important early step to increasing future exercise behavior.

In contrast, researchers studying college students' exercise mediators found that inactive individuals perceive more barriers to engage in PA and exercise, as well as a lower related self-confidence (Harne, 2005). This is consistent with previous research conducted by Marcus, et al, (1992) suggesting that individuals in the latter stages of exercise adoption perceive fewer barriers than those in early stages (Marcus, Rakowski, et al., 1992; Marcus, Rossi, et al., 1992). Based on these results, it could be hypothesized that as participants continue to engage in exercise and witness the physiological and psychological benefits associated with the activity, they begin to overcome barriers to participation. PA and exercise intervention programs might address the benefits associated with activity, along with consider and recognize perceived barriers and strategies by which to overcome.

Since the compilation of early findings released in 1996 by the US Surgeon General, which initiated a broad recognition and increased research efforts publicizing epidemiological evidence of the benefits of PA and exercise, multiple goals, objectives and recommendations have been introduced to motivate the American public to become more active. These public health efforts have originated from the US Surgeon General, CDC, HHS, ACSM, and AHA (Centers for Disease Control and Prevention, 2009a, 2009c, 2011a; US Department of Health and Human Services, 2008, 2010). The ACHA also initiated PA and exercise promotion interventions for young college students. *Healthy Campus 2010: Making It Happen*, in particular, has suggested that college students increase activity levels and, in fact, exceed the

amount of PA received in a typical health or PE class to reach the PA recommendations (American College Health Association, 2009). Included in these intervention efforts was the introduction to leading health indicators reflecting major public health concerns, including physical inactivity. In addition, there is a collection of guidelines and over 200 health objectives with baselines and targets for the nation's colleges and universities (American College Health Association, 2009). The initiatives were identified to be achieved over the next decade. Inclusive PE programming has proved to serve these health initiatives well by fulfilling the health-related objectives consisting of educating students and positively affecting their PA levels during their college years; and in some cases, research has found greater health and PA improvements in alumni (T. Adams II, 1992; T. M. Adams II & Brynteson, 1993; Buckworth, 2001; Leslie et al., 2001; Sailors et al., 2010; J. Sallis et al., 1999).

Among these initiatives at the higher education level, effective interventions at this level have been noted to increase the awareness of exercise benefits initially, as well as recognize specific perceived physical, time, effort and social barriers of the particular population, and the techniques by which to overcome these obstacles. Research has indicated that individuals in the latter stages of exercise adoption are more likely to perceive fewer barriers (Marcus, Rakowski, et al., 1992; Marcus, Rossi, et al., 1992). It has been hypothesized that as students engage in exercise, they begin to witness the physical and other benefits associated with activity, which encourages them to overcome barriers on their own (Harne, 2005). Continued regular exercise participation is predicted to allow students to readily garner the positive health effects which should lead to a greater likelihood that they will successfully adopt PA and exercise as a behavior in order to maintain and improve health.

With PA and exercise prescription embraced as an important characteristic of behavior for health promotion and disease prevention, educating through the physical, as well as providing instruction and support, has been recognized as essential for successful performance in school and life (Eldar & Ayvazo, 2009). PE is a vital component of education which begins exposing youth to the importance of PA in Kindergarten, sometimes as early as in the daycare or preschool setting, through students' secondary education. PE in all K-12 schools is designed to provide students with a firm foundation for a healthy, active lifestyle, as well as support learning and future success (Wikgren, 2012). All PE programming at the higher educational level is monumental to the continued conveyance or re-introduction of PA- or skills- and health-related information and instruction, as well as a source of support for the PA health promotional campaigns and initiatives. Research has shown that personal fitness education classes that teach self-management skills, including education of the benefits and identification of the barriers to activity, are effective at promoting lifetime activity (Dale, Corbin, & Dale, 2000). High quality PE extends students the opportunity and support to participate in healthy activity, as well as encourages life-long habits of good health and PA. CPE is based on these principles and should continue to be implemented to include PA and exercise recommendations at the higher educational level for maximum effectiveness.

History of Physical Education (PE) Programming

The goal of PE is to “improve the mass of our students and to give them as much health, strength and stamina as possible to enable them to perform the duties that await them after leaving college” (Felshin, 1967, p. 110). PE became a part of American liberal arts and college general education curriculum in 1883 due to the efforts of Massachusetts Institute of Technology President FA Walker (PB Sparling, 2003). President Walker contended that recent developments

in modern biology supported the introduction of gymnastics and physical training into colleges. He recommended the assignment of medical doctors to direct this new programming, along with the organization of departments for PE. Later, PE courses in higher education became required by most universities dating back to the post-World War II and the Korean War years. Along with multiple other reasons, the perceived need to prepare young men and get them fit for war justified the requirement of two to four semesters of PE.

PE activity and basic instruction programs were initially developed to be offered to the general college student population. The basic activity programs were designed to focus on the physical development and health needs of students. Still today, these courses are recognized by students and faculty to be central to the PE programming on most college and university campuses. The status and nature of this activity or basic instruction program has evolved over the years, and continues to be regarded as an important component of PE.

American colleges and universities began to change their course requirements, among those, PE, due to a number of reasons in the early 1960's which gave rise to concept-based PE (PB Sparling, 2003). Factors included: student demand for a wider choice in curriculum; decreased perceived need for fitness for war; large inpouring of students, making the administration of required courses more difficult; and the newfound movement to make PE more 'academic'. In efforts to provide an alternative to traditional activity- or skills-based PE, this led to the development of conceptually-based fitness/wellness (CBFW) courses (Kulinna et al., 2009). These consisted of the combination of lecture and laboratory (C. B. Corbin, Welk, Corbin, & Welk, 2006). The lecture component was designed to provide instruction of fitness-, wellness- and behavior change theory-related concepts; the laboratory was intended to serve as a setting to apply the learned self-management skills and fitness-related theory (Charles Corbin &

Lindsey, 2005). Like the activity- or basic skills-instruction type of PE programming, conceptually-based PE has grown to educate students about the importance of a physically active lifestyle, as well as provide strategies and support to encourage PA and exercise as a vital component to one's overall wellness.

The University of Illinois and Texas A&M University were among the first institutions to implement the CBFW courses, in the 1960s. The courses introduced the novel idea of utilizing a specially designed textbook (Slava & Corbin, 1984). Some literature has suggested that more widespread implementation of CBFW courses was slow initially, but by the late 1970s and early 1980s the movement had grown (CB Corbin & Laurie, 1978). In 1996, the US Surgeon General published a report entitled *Physical Activity and Health*; this new body of epidemiological evidence further supported the CBFW movement. The report detailed the benefits of moderate PA and the reduction in the risk of chronic diseases such as heart disease, diabetes, hypertension and cancer (US Department of Health and Human Services, 1996), and also advocated greater amounts of activity for greater benefits and optimal health. Since that time, research has continued to support the need for such conceptually-based courses, including the release of *Healthy People 2010* (US Department of Health and Human Services, 2000). The percent of institutions offering a lecture-laboratory combination course increased to 60% in 2000, and had reached 90% by 2009 (Kulinna et al., 2009).

The majority of colleges and universities have required at least one course in PE as a part of the general education core for at least the last 45 years. The required courses have been designed alone or in combination based on the two approaches. Adams, et al. (1995) described these approaches a little differently as activity- or skills-based physical education (ASPE) which consists of an activity- or skills-related course; or conceptually-based physical education (CPE),

consisting of a one three-credit lecture and laboratory course including the theoretical concepts of PA. The ASPE approach to general education was predominately used until the 1970s, at which time universities began developing the concepts-inclusive courses (Adams, 1995). More than 300 junior and senior colleges had implemented a concepts course by 1978 (C Corbin, 1978). Trimble and Hensley (1990) found that 52% of colleges and universities surveyed offered a concepts course and 33% of all institutions accepted the course as a required PE course.

All PE programming, CPE and ASPE, is monumental to the conveyance of PA- or skills- and health-related information and instruction, as well as a source of support for the PA health promotional campaigns and initiatives. This vital component of education begins exposing youth to the importance of PA in Kindergarten, sometimes as early as in the daycare or preschool setting, through students' secondary education. PE in all K-12 schools is designed to provide students with a firm foundation for a healthy, active lifestyle, as well as support learning and future success (Wikgren, 2012). Research has shown that personal fitness education classes that teach self-management skills are effective at promoting lifetime activity (Dale et al., 2000). PE that is conceptually-based may extend students the opportunity and support to participate in healthy activity, as well as encourage life-long habits of good health and PA. These principles should be continued and implemented to include PA and exercise recommendations at the higher educational level for maximum effectiveness.

Conceptually-Based Physical Education Programming

As reported in the more recent literature, there is a variety of PE programs being offered in higher education, including both approaches of ASPE and CPE. The latter, CPE, has been implemented to expand upon the traditional activities- and skills-based PE; and in addition, build on the foundations, concepts or conceptually-based PE (T. M. Adams II & Brynteson, 1993).

CPE is considered a multidimensional course with the underlying philosophy that students should be instructed in a greater awareness of the importance of exercise; fuller understanding of their exercise needs; and the means by which to gain the most from their exercise to fulfill these needs (CB Corbin & Laurie, 1978). The significance of this type of course, then and now, is its experiential and intellectual qualities. Primary goals of the lecture are to assist college students in achieving an appropriate level of health and science literacy, equip them with the knowledge and analytical skills needed to navigate through the labyrinth of diet and exercise myths and programs in today's society, and support active college adults' health and exercise efforts. This type of course can better enable students to understand concepts like energy balance and proper nutrition, and exert healthful behavior change. The associated lab provides the opportunity to learn and practice various forms of exercise, and utilize the coinciding concepts being learned in the classroom. Dating back to 1966, proponents for this concepts-based approach strongly believe that knowledgeable students have an increased likelihood to engage in healthy decision-making concerning their health, PA and fitness behaviors (Carr & Walker, 1968; CB Corbin & Laurie, 1978; Flath & Leigh, 1966; Hallatt, 1967).

In this section, the CPE-related course offerings will be the focus. These have included lifetime fitness classes broadly offered, and specific programs such as Project GRAD (Graduate Ready for Activity Daily) (J. Sallis et al., 1999), ARTEC Project (Active Recreation Tertiary Education Campuses) (Leslie et al., 2001), Project TEAM (Teaching Exercise/Activity Maintenance) (Buckworth, 2001), Training Interventions and Genetics of Exercise Response (TIGER) Study (Sailors et al., 2010), among many others, though not all directly identified in this literature review (T. Adams II, 1992; T. M. Adams II & Brynteson, 1993; Carr & Walker, 1968; C Corbin, 1978; Flath & Leigh, 1966; Gibson, 1975; Going, 1984; Hallatt, 1967; Laurie,

1981; Pearman et al., 1997; Slava & Corbin, 1984; Terry & Johnson, 1977; Trimble & Hensley, 1990). It seems that there are several successful conceptually-based PE programs that have increased health knowledge and PA levels in college students.

The intervention behind Project GRAD integrated concepts and methods from exercise science and behavioral science. The purpose of the lecture component was to educate college students about: health benefits and risks of physical inactivity, recommended PA patterns to promote health and fitness, principles of injury prevention, and principles and methods of behavioral self-management (J. Sallis et al., 1999). Each lecture was divided into two parts: exercise topics discussion and behavior change methodology. The lab was intended to teach physical activities and help students use self-management techniques to implement their own PA program; it met for 110 minutes weekly. Each lab consisted of three parts: 15-minute PA, 25-minute behavior change discussion, and 45-minute PA. The information in Table 2 outlines the Project GRAD intervention.

Week	Exercise Science Component	Behavioral Science Component
1	Intro to course; PA in population	Decrease in PA with age; need to prepare to be active after graduation
2	PA and health; PA prescription; FITT for flexibility	Intro to self-management for behavioral change
3	Benefits and risks of PA; FITT for lifestyle activity	Master environment to increase lifestyle activity
4	FITT for cardiovascular activity	Goal-setting
5	Energy cost of PA	Scheduling and time management
6	FITT for strengthening exercise	Analyzing costs and benefits of PA
7	Nutrition and health: carbs, protein, and fat	Positive self-talk
8	Nutrition and health: food labels	Master environment, increase vigorous exercise
9	Midterm exam	Body image
10	Weight management	Social support
11	Injury prevention; exercise myths, gadgets	Enjoying PA

12	Circuit systems	Increasing commitment to PA
13	Mental health and PA	Stress management and relaxation
14	GRAD (planning activity after graduation)	Relapse prevention
15	Post-test measures	

(J. Sallis et al., 1999)

In the Project GRAD research study, they evaluated the intervention’s ability to increase the adoption and maintenance of PA among young adults in transition from university to the adult roles. Results indicated that there were differences between the responses of men and women to the intervention. For men, there were no effects, in general. There were significant effects for women on three PA outcomes: increased total caloric expenditure, and improved amounts of both strength and flexibility exercise. The most significant finding reported was the intervention’s effect on women’s total energy expenditure in leisure time.

The ARTEC Project was a quasi-experimental study that was designed to promote on-campus and total PA for inactive students at an Australian University campus. The intervention was composed of a program of activity classes available to the students for no charge, such as weight training and aerobics. In addition, the interventions included demonstrations of various activities, fitness assessments, swimming passes to a local facility, and on-campus media promotion. This project also attempted to identify determinants of PA. For those insufficiently active, predictors included less social support from family and friends, lower enjoyment of activity, unemployment for women, and (older) age for men (Leslie et al., 2001). For students who were not active at all, some factors included strong gender preferences for activities and the desire to have greater accessibility to facilities and other similar sources of assistance. Researchers found that males were motivated to be active by weight gain; females motivated by weight loss, appearance and exercising closer to home (Leslie et al., 2001). From these findings, the intervention was designed to match program offerings to students’ preferences for activities,

gender-specific motivations to be active, types of assistance perceived to be important, along with social support and enjoyment. The intervention program lasted eight weeks and resulted in a significant increase in the proportion of students reporting higher levels of PA. ARTEC demonstrated that matching intervention offerings to students' perceived needs and preferences could potentially influence PA in the university setting.

Project TEAM was a 3-year research project on exercise adherence funded by the National Institutes of Health (NIH) that began in the Fall, 1998 at a large Midwestern university. Much like Project GRAD, its intervention group consisted of students enrolled in a two-credit academic conditioning exercise class (aerobics, jogging, weight training); however, unlike the other studies, the TEAM Project also included long-term follow-up every six months for two years (Leslie et al., 2001). The intervention included a 50-minute lecture once a week and 45-minute activity three times a week, followed by the periodic testing of outcome variables, including fitness testing. Theoretically-based modifications were implemented in the lecture class, and then outcome variables were compared between the intervention group to the control, or traditional PE curriculum. Aside from preliminary results suggesting that participation in the health and PA intervention classes were related to positive physical improvements, health attitudes and behaviors, overall results were inconclusive. There were also seasonal effects that were found since the study took place in the Midwest where there were four distinct weather seasons. Student participants from the fall conditioning class had significantly lower aerobic capacity and higher resting heart rate when re-tested after the winter. Those participants in the class during the spring semesters of the study, and re-tested after the summer had an increased aerobic capacity and decreased resting heart rate.

The TIGER Study began in 2003, introducing sedentary college students to regular exercise through a 3-day/week course taken for credit (Sailors et al., 2010). The purpose was to examine the roles of genes related to adiposity and metabolism regarding body fat, blood pressure and blood components. The program included 30 weeks of exercise intervention, along with pre- and post-testing of the previously listed variables. Each exercise session consisted of a 5-minute warm-up, 30-minute workout and 5-minute cool-down; the entire session lasted a minimum of 40 minutes. The educational component provided instruction in fitness and physiology relevant to public health including: cardiovascular health, body composition, nutrition, genetics, energy balance, exercise program design, stretching and exercise tracking. An on-line activity-logging program was also available for students to document exercise performed outside of class.

Sailors and authors of the TIGER Study (2010) found through previous research and this study, that moderate exercise intensity is considered appropriate and achievable for young adults. The majority of the study participants complied with the exercise protocol, which allowed for the assessment of exercise adherence and dose. Furthermore, a substantial contingent of the participants persisted in exercise despite encountering barriers such as finances, time and other obligations. The fact that the program was for college credit, appeared to be a motivating factor. The authors made additional claims of the possibility of enhanced self-efficacy based on the non-judgmental approach used in the study to teach students to exercise within their target heart rate zone, which should have produced positive physical changes; and social contexts of group/class membership and positive reinforcement through personal contact with research staff.

Despite a lack of current or more recent research studies, the knowledge of theory and application learned through previous work continues to guide and support CPE programming.

Since its early implementation in the 1960s, slow involvement in the 1970s, and growth surge in the 1980s, this type of programming saw a great deal of study and implementation in the 1990-2000s (C Corbin, 1978). Trimble and Hensley (1990) reported that approximately half of the surveyed colleges and universities offered a concepts-based course, and 33% of all higher educational institutions accepted this type of PE course as a general education requirement. Other statistics have stated that by 2000, the percentage of higher institutions offering a lecture-laboratory course increased to 60%. There has been further growth with 90% of the reporting colleges and universities offering CPE in 2009 (Kulinna et al., 2009). These were the latest statistics to be found regarding the study and implementation of this programming. While there has been an upwards trend in the increased offering of CPE in the last few decades, there is also the threat of all PE being discontinued as a requirement, and even eliminated, altogether due to the lack of financial resources and call to revise/decrease graduation requirements (Harnisch, 2011). Efforts need to be continually sought in order to continue to sufficiently research CPE programming and provide effective exercise interventions to young college adults during the time of their education and well beyond in their lifetime.

Another study of interest compared the attitudes and exercise habits of alumni from colleges with varying degrees of PE activity programs and not only found a correlation between the conceptually-based PE programs and positive effects on health and behavior, but also a dose-response relationship (T. Adams II, 1992). The PE requirements and/or offerings of the four colleges in the study are listed in Table 3.

Institution	General Education Requirements	Other Requirements	Offerings
College A	1 PE course required every semester for a full-time student (1 foundations of PE course initially + 1-credit activity course/semester until graduation)	1.5-mile running field test and participation of additional exercise outside of class	
College B	4 credits of PE (4 x 1-credit activity course)	None	
College C	2 credits of PE (2 x 1-credit activity course)	None	
College D	None	None	1 1-credit PE activity course could be elected from list of art, music, speech or PE courses to meet an area of general education courses

(T. Adams II, 1992)

Interestingly, significant differences were found among all four colleges on the dependent variables related to exercise including knowledge, attitude, habits, value and frequency.

Statistical analyses indicated that alumni perceived value of their college PE program in terms of fitness knowledge, attitudes toward fitness, and current exercise habits. College A perceived their college PE program having a significantly greater relationship to their current fitness knowledge, attitude toward fitness, and their current exercise habits than alumni from the other three colleges. For knowledge, College B placed greater value on their college PE than did College D alumni, and greater impact on exercise habits than College C alumni. Also, significance at the $p < .05$ level was found regarding the value of exercise and its benefits; Colleges A and B had a higher perceived value than College D. Alumni from Colleges A, B, and C indicated higher exercise frequency than alumni from College D.

Research in Support of Conceptually-Based Physical Education

In addition to Project GRAD's findings about increased total energy expenditure as a result of the exercise intervention program, the TIGER Study results indicated motivation for exercise adherence due to the structure of a formal class for credit. The dose-response relationship related to the comparison of required and elective PE programming was demonstrated in Adams II (1992). There are also other various studies that have provided similar results and support for these specific program interventions (Adams, 1995; Ermler, Kovar, & Reinders, 1993; Powell, 1989; Slava & Corbin, 1984).

A study conducted at Furman University in 1973 on a similar concepts-based PE course revealed that there were improvements in health-related knowledge, attitudes and behaviors among those students taking a required class such as this. It also suggested that cognitive health information was more valuable when it was provided in conjunction with PA (Powell, 1989). Slava, et al. (1984) found through research that students exposed to a CPE course exhibited greater knowledge for making health decisions than those who did not take the course. In addition, alumni who took the course participated more frequently and had more positive attitudes toward PA. In regards to other physical health characteristics, study participants also weighed significantly less and not only were knowledgeable about, but also exhibited normal blood pressure and cholesterol levels.

Additional studies conducted by Adams and Brynteson in 1992 and 1993 compared exercise attitudes and habits of alumni from colleges that had varying degrees of required PE programs. Results suggested that the more credits required in the PE program, the more favorably alumni perceived their PE program and its contribution to their current knowledge,

attitudes and habits related to exercise and fitness. Also, those specifically taking a conceptually-based course perceived that their college PE program had made a significant contribution to their exercise knowledge, attitudes and behavior. In addition, the student participants demonstrated greater exercise frequency. This suggested that differences in exercise behavior and frequency could originate from the underlying difference in philosophy between ASPE and CPE programs, and that a CPE approach to required PE results in more physically active alumni than the ASPE approach.

Another study was conducted by Ermler and Kovar (1993) which examined resting heart rate, intent to exercise, and attitude toward exercise. The study involved examining college students from three different types of lifetime fitness classes. All met two times a week for 14 weeks, though the class structure was varied. Class 1 included one day of lecture and one day of activity each week. Class 2 consisted of three lectures and then one activity day over a two-week period. Class 3 engaged in 20 minutes of activity and 20 minutes of lecture every class meeting. Course objectives, requirements, and activity protocols were identical for all three sections. Results indicated that all groups experienced significant differences in resting heart rate and intent to exercise, though not in attitude toward exercise. Between-group differences were also significant and post hoc measures further indicated that group 3 was significantly different from groups 1 and 2. Group 3 class structure also improved resting heart rate significantly better than the class structures used for groups 1 and 2. Conclusions were made that all three class structures were equally effective in improving intent to exercise, with group 3, including both activity and lecture each day, demonstrating the most effectiveness in improving cardiorespiratory endurance (Ermler et al., 1993). All of these concepts-based offerings

improved the fitness and health of students, with the consistent daily combination of lecture and lab proving to be the most beneficial to students enrolled in these courses.

Additional research was conducted in 2002 which investigated the PA patterns in recent randomly selected college alumni who graduated in 1988, 1990, 1992, 1994 and 1996 from a Research I University (P Sparling & Snow, 2002). The alumni reported frequency of participation for three levels of PA: vigorous-, moderate-intensity, and resistance training exercise. Relative to recommended levels of PA, findings indicated: 32.7% respondents engaged in vigorous PA on three or more days a week; 6.0% participated in moderate-intensity PA on five or more days and 21.0% engaged in resistance or calisthenics training on 3 or more days. These findings suggested that 84.7% of those who were regular exercisers as college seniors were as active or more active at the time of the study survey, and 81.3% of the non-exercisers as college seniors reported being about the same or less active at the time of the survey. There was a significant association at the $p < .05$ significance level between the exercise behavior as college seniors and later as alumni. The study participants that were regularly active in college were more likely to participate in recommended levels of PA, vigorous or moderate, after graduation. Logistic regression also identified three significant predictors of current PA level including attitude toward exercise, confidence in setting up an exercise program, and exercise behavior as a college senior.

It appears that CPE research studies plateaued in the 1990s and early 2000s, and have decreased since that time. Some of the latest research is from 2009, and that examines earlier work. This may be due to a number of possible reasons. Today, one of the largest concerns is the lack of funding and/or decreased budgets for nearly all public and private higher education institutions. Though it seems that enrollment is increasing in most colleges and universities,

there is still limited funding, whether this is due to cuts in state and federal assistance, decreased support from alumni and donors, or the downturn of the economy, itself. It could be that in some smaller institutions, research has been limited in size or scope, due to increased teaching responsibilities and workloads for faculty accommodating a higher enrollment of students. Research in this domain might also simply be waning in interest, in light of all of the other general education and major requirements, and increased pressure for university administrators to analyze their institution's needs and options, possibly minimizing programs, faculty or staff. However, given the current poor state of public health, it appears necessary that CPE (and ASPE) research efforts, initiatives and promotional campaigns should be re-visited and -invested in order to meet the needs of modern society and development of the economy.

All of the aforementioned research has contributed some degree to the support of CPE. Each study has had a unique significance to the PE domain. Though, a number of them also reiterated some common characteristics or benefits: knowledge, attitudes, behavior, and physical health. The basic premise of conceptual PE courses is to provide education to improve one's knowledge about PA, exercise and health; promote a positive attitude regarding an active lifestyle; as well as motivate and support behavior change through the adoption of PA and exercise. All of which—knowledge, attitudes and behavior—are hypothesized to be positively associated with increased levels of PA and exercise. Improved physical health results as not only a short-term benefit of a concepts program, but also extends a greater likelihood of such behavior and attributes to follow later in life.

Some studies have demonstrated the positive benefits of PA and exercise on physical health associated with short-term effects. Some specific short-term physical health effects include increased energy expenditure; decreased body weight; and improved nutrition, namely

increased fruit and vegetable intake; along with normal cholesterol levels and blood pressure (T. Adams II, 1992; Franko et al., 2008; J. Sallis et al., 1999). This study demonstrated the importance of consistent daily health behaviors, including regular PA, and the numerous health improvements that can result from which.

The long-term physical health benefits of exercise are many. CPE facilitates improved physical fitness levels and health, and has the potential to promote health behaviors, especially exercise, supporting improved health. In addition to merely improving health behaviors, including PA and exercise, the consequential results are demonstrated through improved physical fitness levels and health. Physical fitness has been linked with better overall physical health dating back to the US Surgeon General's report in 1996. In addition to these report findings, many other research studies have further supported this positive impact on physical health and inverse association between PA or cardiorespiratory endurance and disease, and in some cases, all-cause mortality due to improvements in blood pressure, cholesterol and other controllable disease risk factors (S. Blair et al., 1995; Blair et al., 1996; Blair et al., 1989; RS Paffenbarger et al., 1993; RK Paffenbarger et al., 1986). Conceptually-based programming promotes exercise behavior from not only prescribed activity during the course, but also education about the importance of regular exercise and support for behavioral change. CPE has the capacity to directly improve the quality of life and longevity.

Limitations of Research Studies

While all of these studies have provided a great deal of support for CPE programs, each come with limitations. In particular, Projects GRAD and ARTEC were limited in that they were conducted in a single university located in a geographic area with favorable weather, the age

range of the sample was limited, and the intervention demonstrated inconsistent effects on PA. All of the variables were measured through self-report, as well; though all of the measures used had been found psychometrically acceptable. In addition, the findings may have been affected by measurement error and the sample's limited characteristics.

The TIGER Study had limitations, as well. First, it was not a randomized sample, but rather participants were self-selected. In addition, the study included 30 weeks of exercise training; however, long-term effects of the intervention reported were limited. It was recommended that in the future, a larger subject sample should be sought, behavior should be assessed more thoroughly prior to the beginning of the exercise program, and subjects should be followed for a longer period of time after the intervention is complete to determine whether levels of PA remain at a higher level.

Two additional limitations were shared by most of these studies. First, there were limited (or less than optimal) sample sizes, therefore affecting effect size and power. Second, few institutions were the focus in most of the research, thereby bringing generalizability into question.

The Role of Self-Determination Theory in the Physical Education Domain

Among the many studies examined, there were a number of theories which were integrated into the research (Conner & Norman, 2005; Johnston, 2005; Orbell, 2004). All were utilized in attempt to explain and guide participants' motivations and behavior through healthy behavior change. Relative to the adoption of regular exercise, the *Self-Determination Theory (SDT)* was the most relatable to this research. However, the study was not dependent on all constructs of the theory.

SDT focuses on human behavior and the degree to which it is self-driven and self-determined, as well as the natural processes of self-motivation and healthy development (EL Deci & Ryan, 2000; Ryan & Deci, 2000). Specifically, factors have been examined that enhance intrinsic motivation, self-regulation, and well-being. Findings from such examination have led to the assumption that three innate psychological needs are required to motivate an individual to initiate behavior essential for optimal health and well-being.

The three psychological needs or constructs of the SDT are competence, relatedness and autonomy, and listed in Table 4. When these needs are sufficed, self-motivation and well-being is enhanced. The concepts and underpinnings of the SDT's framework are very well-suited to behavioral change involving the adoption of exercise. This theoretical approach has been used in numerous research studies to examine motivation for PA and exercise (Bagoien, Halvari, & Nesheim, 2010; Carson & Chase, 2009; Koka & Hagger, 2010; Sailors et al., 2010; Sas-Nowosielski, 2008; Shen, McCaughtry, & Martin, 2007; Martyn Standage, Duda, & Ntoumanis, 2003; Sun & Chen, 2010; Vlachopoulos, Kaperoni, & Moustaka, 2011; Zhang, 2009). The SDT has shown a great deal of success in navigating and interpreting exercise research and intervention.

The SDT has become utilized a great deal in studies pertaining to human motivation, especially in addressing motivation-related questions within PA settings (EL Deci & Ryan, 2000; Edward Deci & Ryan, 1985). In particular, it has been relied upon to investigate the role that PE plays in supporting students' motivation experiences, well-being, knowledge, and PA behavior (Martyn Standage et al., 2003; M Standage & Ryan, 2012). An important principle within SDT suggests that when an individual's motivation is autonomous, they will experience better psychological health, improved well-being and increased effective performance (EL Deci &

Ryan, 2000). Past research in PA settings has supported this theoretical position by showing autonomous forms of motivation being positively associated with adaptive outcomes including greater psychological well-being, increased behavioral persistence, and indicators of more objectively assessed behavior or intention (M Standage & Ryan, 2012). Furthermore, social conditions and processes supporting volitional and self-initiated engagement have been tested, and found to support high quality motivation, wellness and growth-oriented development. SDT hypothesizes that an individual's optimal motivation, development, well-being and healthy functioning are facilitated in association with the basic needs of autonomy, competence and relatedness being met within their social context. Some research in PE settings has demonstrated that each basic psychological need predicts autonomous motivation for PE, thereby increasing the likelihood of the adoption of exercise as a behavior (M Standage & Ryan, 2012).

Constructs	Competence	Relatedness	Autonomy
Definition	Demonstration of effectiveness in dealing with the surrounding environment	Universal want to connect, interact with others and experience caring	Universal desire to be responsible for one's own life and act in harmony with their authentic self
Predicted CPE Effects/ Contributions	Health knowledge and exercise experience gained in lecture and lab	Opportunity to provide/garner support to classmates	Motivation to seek benefits, overcome barriers, act on health and exercise knowledge, and secure adoption of exercise into lifestyle
Evidence	<ol style="list-style-type: none"> 1. Fitness pre- and post-assessment 2. Quizzes, exams 3. Personal improvement project/journal 4. Wellness research paper 	<ol style="list-style-type: none"> 1. Personal improvement project/journal 2. Small group discussions, activities, case studies 3. Community health advocacy/promotion project 	<ol style="list-style-type: none"> 1. Personal improvement project/journal 2. Community health advocacy/promotion project

(Ryan & Deci, 2000)

The CPE course was predicted to fulfill and strengthen the constructs of competence, relatedness and autonomy that characterize SDT. Evidence should be demonstrated through the various methods of evaluation during the course. By the end of the CPE course, students should be capable of demonstrating improvement in each of the SDT constructs.

Competence should be achieved through the course's provision of health education and exercise experience. Students should demonstrate competence through participation and likely improvement in the fitness assessments; satisfactory performance on quizzes, exams, personal improvement-or behavioral change-related project/journal and wellness research paper.

Relatedness should be promoted through the class format and activities. Students of the class should be encouraged to seek and utilize support from classmates through the effort and reflection involved with a personal improvement project. They should also have the opportunity to share their ideas, motivations and successes with one another. Community health advocacy/promotion projects would promote collaboration among students gathering together to collectively advocate a healthy lifestyle to members of the institution or larger community population.

Lastly, CPE programming is designed to not only educate students about the importance of a healthy, active lifestyle, but that is intended to assist students realize their self-control/discipline, and empower them in their newly adopted or continued exercise efforts. This would be evidenced through the completion of a personal improvement- or behavioral change-related project. For those programs including a community-based project or promotion, students would be granted the opportunity to take their knowledge and experience, and apply it in the environment around them.

Content Analysis

The educational curriculum is a vital component in the development and transformation of content material into effective pedagogical content knowledge. Curricular and teaching planning lend to the cognitive process by which educators visualize the future, assess needs, devise goals, refine instructional methods, and construct frameworks to guide the effective delivery of education (Barrett, 1991). This effectiveness can be measured through the accumulation of content knowledge and culmination of the related concepts into successful,

practical application. Also, a very critical component is the review of the curriculum that cultivates the educational process.

The analysis of curriculum can be facilitated by the method of content analysis which is defined as any technique of making inferences by objectively and systematically identifying specified characteristics of messages (Stemler, 2001). Systematic content analysis methods are often sought to evaluate the curriculum, goals and objectives, instructional methods and/or evaluation procedures of a course. A review of these components that make up the content of a course can serve as an effective measure of the success and effectiveness of the course on students' knowledge levels and consequential behavior. Various analysis techniques have been documented to include results from surveys, observations, and interviews; the identification of major themes in the theoretical body of literature; as well as either computer- or human-coding procedures searching for the presence of codes or variables in select material (Belstock, 2008; Blais, 2008; Whitehead, 2007).

Content analyses have been conducted in numerous academic disciplines; among these include the health- and PE-related settings (Barrett, 1991; Blais, 2008; Webster, 2011; Whitehead, 2007). Content analysis of PE programs is geared to evaluate the content of the curriculum, design of the learning experiences that ideally foster attached value, and the accrual of knowledge and experiences that affect student engagement in healthy behavior and PA (Webster, 2011). Additionally, an important function of teaching has been recognized as helping students manifest attachment and positive value about the material they are learning in order for them to be motivated to embrace engagement and interaction with this content (Hatfield, 1993). However, it was difficult to locate any of these methods directly used to review the content of CPE courses in higher education. With one of the primary purposes of PE and CPE programs

intended to guide youth, adolescents and young adults in the process of becoming physically active for life, review of this educational process should be viewed as essential to the effectiveness of such programming (National Association for Sport and Physical Education, 2004).

The exploratory content analysis proposed in this study was intended to evaluate the course description and objectives, curriculum components, and evaluation methods of a randomized selection of CPE courses. Without any recognized content analysis methods already in place for CPE programming at the higher education level, this study called for the design of a modified content analysis system from other existing related resources. The procedure implementing this modified system was anticipated to reveal the commonalities among the examined CPE courses. As a result, it was predicted that these CPE courses would be relatively similar in their course content.

CHAPTER 3

Methodology

Purpose

The primary purpose of this study was to conduct an exploratory content analysis on conceptually-based PE (CPE) courses available to students in colleges and universities located in the Southeastern United States. The secondary purpose was two-fold: (1) a description of the PE requirements (including ASPE and CPE) at each institution was obtained and analyzed; (2) it was determined whether each institution offered CPE as a requirement.

It was hypothesized that all of the CPE courses would be relatively similar, as would their components, description and objectives, curriculum and coursework/evaluation after content analysis. Secondary hypotheses were included that predicted the likely existence of PE (ASPE and/or CPE) in the general education requirements, and offering of CPE at each institution.

Design

The design of this research study was a randomized exploratory content analysis (Higgins, 2010). The National Center for Education Statistics (NCES) was researched in order to identify four-year general education public and private liberal arts colleges and universities in the Southeastern region of the United States including the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia. A total of 296 colleges and universities were listed in this geographical area. All 296 institutions were assigned a number and entered into IBM'S Statistical Package for the Social Sciences (SPSS), from which the program randomly selected 56 to be subject to further

analysis. Minimally, a 30% response rate or securing a sample size of at least 15 was sought. Prior to the start of this research study, an application was submitted to the institution's Human Subjects Committee (HSCL); however, when approached with this study's details, the HSCL deemed its approval unnecessary since human subjects were not used. A copy of the email regarding HSCL #20501 is included in Appendix A.

Data Collection/Instrumentation

Following the randomized selection of colleges and universities in the Southeast, further research concerning their PE requirements and CPE course offerings was completed. General education requirements from the institutions' program catalogs were examined to determine the presence of PE requirements. The identified department or staff affiliated with PE from each of the randomized institutions was sent a letter, seeking their support and assistance in this content analysis and notifying them of a forthcoming request for further information. Within two weeks, an email followed requesting the following CPE course materials: course syllabus, which was looked to contain the course components (duration of semester, inclusion of regular PA), description, objectives, curriculum topics and coursework to be evaluated; exams covering the material taught; along with handouts or descriptions of course topics, assignments, activities, technology or teaching aids not referred to in the course syllabus. Study participation was non-compensated and voluntary. Each institution was assured that all information collected would be used only for study purposes and remain confidential.

CPE content was sought through direct examination of the course by reviewing the aforementioned materials; however, if a lack of information and/or clarity existed, questions were posed to the appropriate department/staff of the institution. For this course content

analysis, key word coding of the message content was the primary focus. Each of the criteria to be used had a highlighted key word or phrase to which the data obtained from the course components, description, objectives, curriculum topics and evaluation were compared and determined whether each message content variable was compliant. The syllabus was relied upon to provide this information and acquired through the department/course webpage on the institution's website and/or requested directly from the instructor listed to teach the course.

All of the course content information was reviewed and predicted to comply with the *American College Health Association (ACHA) Guidelines, Commission on Accreditation of Allied Health Education Programs (CAAHEP) Standards and Guidelines, and National Commission for Health Education Credentialing (NCHEC) Responsibilities and Competencies*. Adherence to the guidelines and competencies provided by the ACHA, CAAHEP, and NCHEC was predicted to be interwoven throughout all of the course components, descriptions, objectives, curriculum, and evaluation.

Closer examination was conducted through the culmination of slight modifications in existing assessment guides. These included the following: *Health Education Curriculum Analysis Tool (HECAT)* and *Physical Education Curriculum Analysis Tool (PECAT)*, both created by the Centers for Disease Control and Prevention (CDC) for school and adolescent health; and *Knowledge, Skills and Abilities (KSAs)* as identified and recognized by the American College of Sports Medicine (ACSM). In addition, a small number of curriculum content-related additions and modifications were proposed by the investigator.

The HECAT builds on the 'characteristics of effective health education curricula' and health education topic module areas as recognized by the CDC, as well as *National Health*

Education Standards (Centers for Disease Control and Prevention, 2009b). The PECAT is based on the *National Standards for Physical Education* that are required to be incorporated into successful school PE programs (Centers for Disease Control and Prevention, 2006). The KSAs declared by ACSM are a set of expectations that are often applied to higher education exercise science-related degree courses, as well as health- and fitness-related general education (American College of Sports Medicine, 2010a).

CDC's effective health education characteristics listed in the HECAT and the national standards from the PECAT were referenced in the analysis of the CPE course components, description, objectives, as well as some modes of evaluation; CDC's effective health education characteristics, the HECAT health topic modules, PECAT standards, KSAs and independently added criteria provided curriculum guidance; and primarily the National Health Education Standards, CDC effective health education characteristics, along with select PECAT standards enabled analysis of evaluation within the CPE courses. Various types of recognized evaluations demonstrating the National Health Education Standards, CDC characteristics, PECAT standards were included, and review provided opportunity for other modes to be identified. Appendix B outlines this modified content analysis system's dependent variable criteria, with the key terms or phrases highlighted, to be used for this study in the review of CPE course components, description, objectives, curriculum, and evaluation measures.

The researched content analysis systems, sought from professional organizations for educators and practitioners, primarily provided guidelines for school-aged and adolescent health education, and were professionally inclusive. While these recognized standards and characteristics pertained to adolescent and school health, in particular, the recommendations were intended to attempt to reach youth and adolescents, preparing them for young adulthood.

With the decline of participation in daily PE, and the life stage, these guidelines seemed to be justifiable for the young adult college student population (Centers for Disease Control and Prevention, 2006). Given the role of career preparation for health education and practitioners, accordingly, these review methods provided more stringent health and exercise education standards since their use was intended to govern health-, sports medicine- and exercise science-related education and practices. The CPE courses in this study were not designed to prepare health education professionals; however, their related curricula was intended to fully instruct and provide quality experiences and support for health and fitness knowledge by providing competency-based health education. The use of such strict guidelines composing the modified content analysis system of this dissertation study was predicted to be appropriate, as it would reinforce the importance of the depth and breadth of conceptually-based PE for the college student population.

ACHA Standards of Practice for Health Promotion in Higher Education (SPHPHE)

ACHA appointed the Task Force on Health Promotion in Higher Education to study the health promotional practices in the higher education setting, as well as develop standards of professional practice in 1996. In 2001, the culmination of this research was released in the *Standards of Practice for Health Promotion in Higher Education (SPHPHE)*; by 2012, the third edition was published that continues to guide the assessment and quality assurance of health promotion in higher education settings (American College Health Association, 2012a).

Since these principles are intended to guide health promotion, they were deemed suitable to the content analysis of (CPE) programming in colleges and universities; therefore, these should have been evident throughout all content areas in the overall analysis. The SPHPHE principles are referenced in Appendix C.

CAAHEP Standards and Guidelines

CAAHEP is an accreditation system that has developed a set of standards and guidelines to support the training of entry-level practitioners for a number of allied health professions (Commission on Accreditation of Allied Health Education Programs, 2009). It relies on accreditation standards that function to serve as the minimum standards of quality in the preparation of allied health professionals. While these standards and guidelines are sought in the accreditation of programming, they serve to constitute the minimum standardized requirements within the educational courses and preparation to which allied health students are accountable (Commission on Accreditation of Allied Health Education Programs, 2009).

Among the CAAHEP standard and guideline criteria, those directly related to exercise science and personal fitness training education programs were referenced based on their accredited qualities and place in higher education. The CPE analyzed in this study was not health profession career preparation-related, in most cases; however, higher quality was still sought. The standards and guidelines predicted to be found in the overall course content in this study are listed in Appendix D.

NCHEC Responsibilities and Competencies for Health Education Specialists

The NCHEC is a commission designed to guide the certification of health educator specialists. It provides a comprehensive set of responsibilities and competencies that assist in defining the health education specialist role (National Commission for Health Education Credentialing, 2010). Its mission focuses on the certification, professional development and professional health education preparation. Its standards and guidelines are outlined to include competencies that are specifically tailored to professional competency as well as continued education and professional development for health educators. Their charge is to attempt to

ensure competency-based health education according to national standards of excellence, develop and administer a national competency-based examination; develop standards for professional preparation; and promote professional development through continuing education for health education professionals (National Commission for Health Education Credentialing, 2010).

Select NCHEC responsibilities and competencies were referenced due to their role of preparing health educators in higher education. These responsibilities and competencies were modified to include those directly related to health education, as a topic, while limiting those pertaining to professional development and administration. NCHEC-related factors examined are listed in Appendix E.

CDC Health Education Curriculum Analysis Tool (HECAT)

CDC promotes the health and well-being of the entire American population, including school health education programs for children and adolescents, enabling them to become healthy and productive adults (Centers for Disease Control and Prevention, 2012a). In part, the HECAT, serves as an assessment providing processes and tools to improve health education curriculum development (Centers for Disease Control and Prevention, 2009b). The HECAT is intended to provide guidance, appraisal methods and resources for conducting a clear, complete and consistent examination of health education curricula. It includes an overview of school health education; guidance to consider during a curriculum review; and methods to analyze commercially packaged or locally developed school-based health education curriculum (Centers for Disease Control and Prevention, 2009b).

The HECAT is composed of a number of standards and guidelines derived from the CDC and the Joint Committee on National Health Education Standards (Joint Committee on National Health Education Standards, 2007). It relies on primarily the CDC's effective health education characteristics, health topic modules and National Health Education Standards in its overview. This curriculum analysis tool is designed for those responsible in the selection, development and/or implementation of school health education curricula, and educators interested in improving health education (Centers for Disease Control and Prevention, 2009b). An overview of the HECAT can be found in Appendix F.

Characteristics of an Effective Health Education Curriculum CDC outlines characteristics of an effective health education program for adolescent and school health (Centers for Disease Control and Prevention, 2012a). This agency has recognized the need for health education curricula to reflect growing research that emphasizes teaching functional health information; shape personal values and beliefs, and group norms supporting healthy behaviors; and develop essential health skills integral to the adoption, practice and maintenance of health-enhancing behaviors (Centers for Disease Control and Prevention, 2012a). Based on input from experts in the health education field and reviews of effective programming, characteristics have been identified.

All CDC characteristics were intended to guide the review of the course components, description and objectives, curriculum, and/or select evaluation methods within this content analysis. Despite their school youth and adolescent health education focus, college students enrolled in the CPE courses of this study were predicted to be a likened target population based on their close proximity to age and experience. These characteristics are provided within the HECAT in Appendix F.

National Health Education Standards (NHES) The Joint Committee on National Health Education Standards was charged with developing the National Health Education Standards (NHES). This set of standards was developed to support health-enhancing behaviors for students and are intended to assist teachers, administrators, and policy makers in designing or selecting curricula, allocating instructional resources, and evaluating student achievement and progress (Centers for Disease Control and Prevention, 2009b). These standards are outlined within the HECAT in Appendix F.

Health Topic Modules The HECAT provides a number of health topics that are recommended to be included in health education curriculum. The specific health topic curricula is based on the ‘characteristics of effective health education curricula’ and National Health Education Standards. These health education topic modules are included in the HECAT in Appendix F.

CDC Physical Education Curriculum Analysis Tool (PECAT)

Like the HECAT, CDC has also developed the PECAT to aid in school health and PE programming. Proper development, implementation and evaluation of PE is vital to instill the importance and practice of PA and exercise in youth, adolescents and young adults enrolled in these courses. This curriculum analysis tool attempts to guide the review of PE; information about related curricula; methods to assess curriculum; and resources for developing a curriculum improvement plan (Centers for Disease Control and Prevention, 2006).

The PECAT relies on national standards developed by the National Association for Sport and Physical Education (NASPE) (National Association for Sport and Physical Education, 2004). Among those designated to utilize the PECAT include schools’ PE and health program

professionals; public health and social service professionals; parents, students; other administrators; as well as college/university PE faculty in teacher education courses. These standards are organized by specific grades in school.

Similar to the HECAT, the PECAT standards focus on grades 9-12, but seemed suitable for the college student population because of the closeness of age. The PE-related criteria were also chosen to be a part of this study's content analysis system due to the recognized pertinence of the proper understanding, demonstration, and assessment of PA and exercise, implying the need for regular PA. Excerpts from the PECAT are reprinted in Appendix G.

ACSM Knowledge, Skills and Abilities (KSAs)

ACSM has been internationally recognized as one of the foremost leaders in sports medicine and exercise science (American College of Sports Medicine, 2012b). This organization is scientifically grounded by a strong research component, and renowned for its contributions to the medical and professional sport- and exercise-related industries. Through groundbreaking research and collaboration, it fuels innovative progress throughout the fields of related science, practice, education and policy (American College of Sports Medicine, 2012a). ACSM has declared position stands, programming, and health and exercise recommendations for the public, as well as outlined a number of minimal competencies for sport medicine and exercise science professionals (American College of Sports Medicine, 2012b). Besides serving as a resource to healthcare providers, educators and practitioners, it is also an asset to public health in outlining numerous sport, exercise and health recommendations for the American population. ACSM offers its own personal certifications, as well as helps set the standards in the education and practice of professionals in the sports medicine and exercise science fields.

These standards are recognized as minimal competencies within a given practice area and/or content matter. These competencies are referred to as Knowledge, Skills and Abilities (KSAs). While the KSAs attempt to govern professional practices in sport medicine and exercise science, they also form a very firm foundation in the breadth of this type of knowledge that can be acquired in higher education (American College of Sports Medicine, 2010a).

The KSAs were broken down by practice, content matter and specific competencies; from which, some were selected and modified to enable the analysis of CPE courses in this study. In particular, the practice area chosen was geared for those individuals who wish to work with the general population; the content matter areas included material beneficial to general health and fitness knowledge such as exercise, disease pathology (including risk factors), nutrition, weight management, human behavior and counseling, and safety/injury prevention. In addition to identified health education topic modules, there were a number of KSAs proposed to be included in the curriculum-related segment of the study's content analysis. These selected KSAs are listed in Appendix H.

Proposed Additions and Modifications to Health Education Curricular Topics

For the curriculum segment of this study's content analysis, there were a number of additions and modifications to health education curricular topics proposed. These independently added topics were in addition to the standards and guidelines provided by the health modules within the HECAT, PECAT and ACSM's KSAs. While these referenced competencies were very applicable, there were omissions pertaining directly to CPE curriculum.

Proposed modifications rearranged and introduced more specific educational principles and content material to existing curricular topics. Body composition was proposed to be

included in the discussion of weight management. Due to the importance of understanding lean body mass and body fat as an important priority in weight management, this was viewed to be a justifiable change (Powell, 1989; J. F. Sallis, Calfas, Alcaraz, Gehrman, & Johnson, 1999; Slava & Corbin, 1984). Another modification proposed was the addition of prevention to disease pathophysiology and risk factors. Given the health promotional nature of CPE, the reduction of disease risk, especially by lifestyle-related preventive means, was viewed a vital component to the course material (Carr & Walker, 1968; CB Corbin & Laurie, 1978; Flath & Leigh, 1966; Hallatt, 1967).

Additions proposed pertained to non-physical aspects of health. At many higher education institutions, preliminary reviews of various CPE offerings suggested that the concept-based course was based on comprehensive wellness according to the course title, though there was uncertainty about whether the curriculum included other non-physically-related wellness topics. Propounded additional components included other aspects of wellness to be added to the current selection of health topics. While the other researched health education standards and guidelines did not adequately address comprehensive wellness, one of the current HECAT health module topics approached this by including mental and emotional health. However, stress management was not explicitly included. The topic of stress, its effects and management, was added based on its pertinence and relevance to the health of college students (Morrison, 2005; Powers, 2011). The inclusion of the wellness components of spiritual, social and environmental health was also raised due to their influence on the complex nature of health and wellness (I. C. Bell, V; Caspi, OC; Meek, P; Ferro, L, 2004; S. S. Hawks, T; Thomas, HG; Christley, HS; Meinzer, N; Pyne, A, 2007; Taliaferro, 2009). Table 5 provides a brief description of all of the content analysis criteria dependent variables.

Table 5 CPE Course Content Analysis Criteria Dependent Variables	
Components	
HECAT.CDC.C11 PECAT9-12.S3	Adequate time for instruction and learning Regular physical activity
Description and Objectives	
HECAT.CDC.C1 HECAT.CDC.C2 HECAT.CDC.C3 HECAT.CDC.C5 HECAT.CDC.C10	Clear health goals and related behavioral outcomes Research-based and theory-driven Inclusion of individual and group norms that support health-enhancing behaviors Inclusion of social pressures and influences Incorporation of culturally inclusive learning strategies, teaching methods and materials
Curriculum	
HECAT.M. PHW/CDC.C7 HECAT.M.PA/PECAT9-12.S2/ACSM.1.1 HECAT.M.HE/ACSM.1.8 ACSM.1.8 ACSM.1.2 DSADD.1* HECAT.CDC.C4,5/ACSM1.9 HECAT.M.ATD HECAT.M.SH HECAT.M.S HECAT.M.V HECAT.M.MEH DSADD.2* DSADD.3* DSADD.4*	Personal health and wellness Physical activity/fitness/exercise principles Nutrition and healthy eating Body composition* and weight management Disease pathophysiology and risk factors/prevention* Stress management Human behavior and counseling Alcohol, tobacco and other drugs Sexual health Safety Violence Mental and emotional health Spiritual health Social health Environmental health
Evaluation	
Post-Fitness Assessment PECAT9-12.S2	Understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities
Quizzes, Exams HECAT.S1	Comprehension of concepts related to health promotion and disease prevention to enhance health
Personal Improvement or Behavior Change Journals and/or Projects, Self-Evaluation, Reflection Paper Assignments HECAT.S2 HECAT.S5 HECAT.S6 HECAT.S7	Analysis of influence of family, peers, culture, media, technology and other factors on health behaviors Demonstration of decision-making skills to enhance health Demonstration of goal-setting skills to enhance health Demonstration of health-enhancing behaviors and avoid or reduce

	health risks
HECAT.CDC.C4	Personal perception of risk and harmfulness of engaging in specific health risk behaviors and reinforcing protective factors
HECAT.CDC.C5	Inclusion of social pressures and influences
HECAT.CDC.C6	Personal competence, social competence and self-efficacy
HECAT.CDC.C7	Functional health knowledge that is basic, accurate, and directly contributes to health-promoting decisions and behaviors
HECAT.CDC.C9	Age- and developmentally-appropriate information, learning strategies, teaching methods and materials
HECAT.CDC.C12	Opportunities to reinforce skills and positive health behaviors
PECAT9-12.S4	Achievement and maintenance of a health-enhancing level of physical fitness
PECAT9-12.S6	Appreciation of physical activity for health, enjoyment, challenge, self-expression and/or social interaction
Wellness research paper	
HECAT.S3	Demonstration of the ability to access valid information and products and services to enhance health
Small group discussions, activities and/or case studies	
HECAT.S4	Demonstration of the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks
HECAT.CDC.C3	Inclusion of individual and group norms that support health-enhancing behaviors
HECAT.CDC.C8	Use of strategies designed to personalize information and engage students
HECAT.CDC.C13	Opportunities to make positive connections with influential others
Community health advocacy/promotion project	
HECAT.S8	Students will demonstrate the ability to advocate for personal, family and community health
*	
ACSM.1.__	ACSM Knowledge, Skills and Abilities.General Population.
DSADD.__	Dissertation Study Added Component (criteria independently added by investigator)
HECAT.CDC.C__	Health Education Curriculum Analysis Tool.Centers for Disease Control.Characteristics of Effective Health Education.
HECAT.M__	Health Education Curriculum Analysis Tool.Health Topic Modules.
HECAT.S__	Health Education Curriculum Analysis Tool.National Health Education Standards.
PECAT9-12.S__	Physical Education Curriculum Analysis Tool for 9 th -12 th grade.Standards.

Data Analysis

Data collected from the content analysis was added to the already randomly selected cases in an Excel spreadsheet. First, data related to the primary hypothesis was the focus. The content of each of the different institutions' CPE programming was examined and analyzed. For statistical purposes, this newly acquired data was examined through the use of descriptive statistics. Data related to the second hypothesis was also examined. Likewise, the existence of PE requirements and CPE offerings in the selected colleges and universities was generally analyzed through descriptive statistics.

In instances of missing data, these cases were to be omitted from the content analysis. There was the possibility that necessary information from some institutions would not be gained and/or would not be capable of being matched up according to the modified content analysis system used in this study. Omission of this data was not predicted to affect the overall content analysis.

CHAPTER 4

Results and Discussion

Introduction

The purpose of this dissertation study was to conduct an exploratory content analysis on conceptually-based PE (CPE) courses available to students in randomized baccalaureate degree-offering colleges and universities located in the Southeastern United States. Each of these institutions was screened to determine whether PE and CPE courses were offered and/or required, followed by a closer examination of the CPE courses. It was hypothesized that all of the CPE courses would share many commonalities, as would their components, description and objectives, curriculum, and coursework/evaluation after content analysis. Secondary hypotheses predicted the likely existence of PE (ASPE and/or CPE) in the general education requirements, and offering of CPE at the participating institutions.

Results

This research study was designed to be a randomized exploratory content analysis (Higgins, 2010). The National Center for Education Statistics (NCES) was sought as a resource to identify four-year general education public and private liberal arts colleges and universities in the Southeastern region of the United States including the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia. According to NCES statistics, there were a total of 296 colleges and universities in this geographical area (National Center for Education Statistics, 2013a). All 296 institutions were assigned a number and entered into IBM'S Statistical Package for the Social Sciences (SPSS) (Brace, Kemp, & Snelgar, 2000). Prior to the randomized selection, it was

determined that a criterion was to be used to categorize similar educational and degree-offering institutions. This criterion was based on the Carnegie classification identifying baccalaureate degree-offering (in diverse fields or arts and sciences) institutions (National Center for Education Statistics, 2013b). Multiple randomized draws finally yielded a sample of 56 of these institutions. Minimally, a 30% response rate or securing data from at least 15 institutions were sought.

The initial phase of the research consisted of delving into the course website, particularly the college bulletin or catalog. Here, the following elements were closely surveyed: general education requirements; departments; as well as course offerings and descriptions. While looking at the general education core curriculum, the inclusion of PE and CPE courses were sought. If a CPE course was not included among the general education curriculum requirements, further examination was conducted on the courses available to determine whether a CPE course was among the overall offering of courses. The institution's academic departments were also reviewed in search of a PE-related department, its specific offerings and associated staff, including the Department Chair and possible CPE instructors. The information collected on all of the randomized institutions is provided in Appendix I.

For those institutions that offered CPE courses, an introductory letter was drafted to the Chair for the PE-related department of each of the 41 institutions. In this letter, the CPE exploratory content analysis study was introduced and a request was made for the consideration of participation in which. Three to four weeks later, the letter was followed up by an email to each of these department heads, specifically requesting CPE course information including course syllabus, schedule of topics to be covered, exam copies, and any other additional course handouts and instructional aids used in the delivery of the course material. Two weeks later, a

follow-up email was also sent to the unresponsive institutions, still seeking their participation and assistance. Samples of the study introductory letter and emails are included in Appendices J, K, and L.

Among the 41 institutions solicited, 20 offered assistance, for a response rate of 49%. The majority of the data provided came in the forms of a syllabus and topic schedule. Hence, attention was focused on these two primary sources from all of the CPE courses.

In the early stages of the data collection and analysis process, data gathered from the course materials provided were compared to dependent variables created from the standards provided by the HECAT, PECAT, KSAs, along with a small number of additions and modifications to the health education curricular topics. While a few contacts provided copies of exams, quizzes and assignment handouts, much of the course information collected consisted primarily of the syllabus and topic schedule. Therefore, these two sources were relied upon predominately in the content data analysis process. The course content analysis criteria dependent variables examined were separated into the following sections: components, description and objectives, curriculum, and evaluation. Throughout the data analysis, key terms or phrases of the criteria dependent variables were sought exclusively within each section. If these were not clearly or explicitly evident, further examination was conducted in an overview of the remaining sections. The completed CPE content analysis assessment instrument is presented in Appendix M.

Course Components

The components of the course were focused on and compared against select HECAT and PECAT criteria to determine whether adequate time was allotted for instruction and learning, as

well as regular PA opportunities were included in the class meetings. Based on the review of data concerning course components, it seemed that 100% of the examined courses provided an adequate period of time; all of which lasted a semester long, ranging from one to three credits. According to the review of these course syllabi, 75% provided regular PA participation opportunities once a week during the class meetings with the results being presented in Table 6.

Course Description and Objectives

Utilizing HECAT guidelines, course description and objectives were also analyzed on each of the course syllabi. The courses exhibited many similar characteristics; 75-100% of the courses indicated commonalities among most of the examined variables. These factors/characteristics of the course included indication of the following: proffering of clear health goals and behavioral outcomes, 100%; format and material based on research and driven by theory, 100%; inclusion of health-enhancing individual and group norms, 90%; and discussion of social pressures and influences, 75%. The one exception was the incorporation of culturally inclusive learning strategies and materials. Only four institutions (20%) explicitly recognized culturally inclusive methods. The results from this analysis are presented in Table 6.

Course Curriculum

A section of particular interest was curriculum which was scrutinized against a number of HECAT characteristics and health topic modules, ACSM KSAs, and proposed additions and modifications. Many commonalities, as well as distinct differences were found through the content analysis. The health education topics that shared similarities included: personal health and wellness, 100%; PA/fitness/exercise principles, 100%; nutrition and healthy eating, 95%; stress management, 90%; body composition and weight management, 85%; and disease

pathophysiology and risk factors/prevention, 75%. Sixty percent of the courses covered human behavior and counseling; and alcohol, tobacco and other drugs. Sexual health and safety were common among 50% of the courses. Differences, in terms of lower percentages, were also found. The topic of violence was only present in 15% of the courses. Further, the non-physical aspects were not a part of many CPE course curricula. Mental and emotional, and social health were only found in 35%, environmental health was among 20%, and spiritual health was only evident in 15% of the courses. The results for the curriculum analysis are displayed in Table 6.

Course Evaluation

Evaluation was the last section reviewed and compared against characteristics and standards from both the HECAT and PECAT. A number of these coursework requirements listed were included in many of the CPE courses. Exams and quizzes were common in 90% of the courses. Personal improvement projects/journals or self-evaluation and reflection assignments were also found in 80%. Fitness pre- and post-assessments were not as common and found in 55% of courses. Likewise, small group discussions, activities and/or case studies were evident 40% of the examined courses. Wellness article reviews or research papers were only assigned in 35% of the courses. The community health advocacy/promotion project received the least interest and was cited in only one course (5%). Results from the data analyses of all sections are provided in Table 6.

Following the conclusion of the preliminary data analyses, descriptive statistics were used to look at both the primary and secondary hypotheses. The primary hypothesis that was addressed concerning all of the CPE courses sharing many commonalities, including their components, description and objectives, curriculum, and coursework/evaluation after content

analysis was failed to be rejected. Descriptive statistics demonstrated this with many of the criteria dependent variables scoring 50% or higher. Likewise, the secondary hypothesis based on the likely inclusion of PE in general education requirements was also accepted with 40 out of the 56 randomized institutions requiring PE in the general education core curriculum, for 71%. Furthermore, of these, 29 out of 56 (52%) specifically had a CPE requirement. The other secondary hypothesis predicting the offering of CPE at each institution revealed that 41 out of the 56 (73%) randomized institutions offered a CPE-related course as either a required or elective course. Institutional requirements and CPE course offerings related to the secondary hypotheses are shown in the completed assessment instrument in Appendix M. A summary of all of this data is presented in Tables 6 and 7.

Table 6 <i>CPE Course Content Analysis Results</i>		
Criteria Dependent Variables	Institutions N=20	%
<i>Course Components:</i>		
Adequate time	20	100
Regular PA	15	75
<i>Description and Objectives:</i>		
Clear health goals, behavioral outcomes	20	100
Research-based, theory driven	20	100
Individual and group health-enhancing norms	18	90
Social pressures, influences	15	75
Culturally-inclusive teaching strategies, materials	4	20
<i>Curriculum:</i>		
Personal health and wellness	20	100
PA/fitness/exercise principles	20	100
Nutrition and healthy eating	19	95
Body composition and weight management	17	85
Pathophysiology and risk factors/prevention	15	75
Stress management	18	90
Human behavior and counseling	12	60
Alcohol, tobacco and other drugs	12	60
Sexual health	10	50
Safety	10	50
Violence	3	15
Mental and emotional health	7	35
Spiritual health	3	15
Social health	7	35
Environmental health	4	20
<i>Evaluation:</i>		
Fitness pre-, and post-assessment	11	55
Exams, quizzes	18	90
Personal improvement project; journal; self-evaluation	16	80
Wellness research paper	7	35
Small group discussions, activities, case studies	8	40
Community health advocacy/promotion assignment	1	5

Institutional Requirements/Course Offerings	Institutions N=56	%
PE General Education Requirement	40	71
CPE General Education Requirement	29	52
CPE Course Offering	41	73

Discussion

Results on the content of the randomized institutions' CPE courses supported the primary hypothesis and indicated many commonalities. Despite confounding factors based on uncertainties concerning the size of the responding institutions, the needs of their student population, and the related depth of their CPE and overall health and PE programming, as well as the precise amount of time spent covering health topics ranging from one to three credit hours, it was generally demonstrated that the courses from these participating institutions shared numerous similarities. Many scored >50% or greater in the inclusion or reference to the selected characteristics, standards and guidelines of the HECAT, PECAT and ACSM KSAs. In addition to commonalities, the similar content suggested that the randomized CPE courses were striving to incorporate the standards into the components, description and objectives, curriculum, and evaluation of the course; as well as follow the expert guidance of the CDC, Joint Committee on National Health Education Standards, NASPE, and ACSM authorities in attempt to meet health promotional recommendations.

Course components indicated strong similarities. All of the courses appeared to provide a sufficient amount of time for instruction and learning, as well as provided ample opportunity for

regular PA. Every class examined was worth one to three credits and lasted the entire length of a semester, approximately 15-16 weeks. A majority of the classes met two-three times a week. In addition, most syllabi also made it evident that PA participation was a regular weekly (one class/week) scheduled component of the course. It should be noted that there was a considerable range of credit hours between all of the courses, which questioned the true amount of course time. However, despite the differences in credit hours, it seemed the courses attempted to coordinate time for both lecture and laboratory exercise. Based on the results of the analysis of the components, it is apparent that each of the courses attempted to meet the criteria from the HECAT and PECAT stipulating the provision of adequate time for instruction and learning, and participation in regular PA were clearly demonstrated in the course components (Centers for Disease Control and Prevention, 2009b). The instructional and PA opportunities of CPE potentially serve as a viable means of intervention against the typical decline in PA in college students and the short- and long-term detrimental effects to their health (K. J. Calfas et al., 2000; Kulinna et al., 2009; Leslie et al., 2001; Sailors et al., 2010)

The course descriptions and objectives demonstrated many commonalities. While these sections often failed to exclusively provide the sought information, the remaining sections were also scrutinized in order to make a determination on whether the HECAT-derived dependent variables were present. Characteristics such as serving as a resource-based and theory-driven course stipulating clear health goals and behavioral outcomes were evident. Individual and group norms, social pressures and influences were less evident and the curriculum and evaluation sections were often referenced to determine the inclusion of these factors. Cultural inclusivity was barely identifiable in the given syllabi. Besides an occasional reference to the recognition and appreciation for cultural and individual diversity, it was not directly stated. It can be inferred

that all courses shared some degree of this characteristic. However, this is a criterion that should be proactively integrated into the course description and objectives in attempt to address the importance and practice of diversity in today's society (I. Bell, Cunningham, Caspi, Meek, & Ferro, 2004). In support of the ACHA *Healthy Campus 2010: Making It Happen*, CPE courses seem to be used to fulfill the health objectives related to education and increasing PA levels by introducing leading health indicators linked to public health concerns, including the identification of benefits and barriers to PA (American College Health Association, 2009). Inclusive CPE programming is serving to educate, motivate and support health behaviors and PA participation, which encourages students to overcome their barriers and engage in exercise, allowing them to garner the positive health effects and potentially accept a life-long commitment to the maintenance and improvement of their health (Marcus, Rakowski, et al., 1992; Marcus, Rossi, et al., 1992).

An examination of each institution's CPE course curriculum found that there were numerous similarities and some differences, as well. The topics suggested by the HECAT, PECAT and ACSM's KSAs were evident in nearly all curriculums: personal health and wellness, PA/fitness/exercise principles, nutrition and healthy eating, and body composition and weight management (American College of Sports Medicine, 2010a; Centers for Disease Control and Prevention, 2006, 2009b). With emphasis on PA, exercise prescription, and associated health behaviors as recognized components to optimal health and well-being, PE's qualities of educating through the physical, along with providing instruction and support has been associated with successful performance in school and life (Eldar & Ayvazo, 2009). Stress management was an add-on to the selected HECAT, PECAT and ACSM variables and found to be common to 90% of the CPE programs. The other physical aspects including disease pathophysiology and

risk factors/prevention, human behavior and counseling, substances, sexual health, and safety waned somewhat. Surprisingly, even violence was included in very few (15%) CPE curricula. Least notable were the components of mental and emotional, social, environmental, and especially spiritual health. This was surprising, given quite a few of the examined courses possessed the term “wellness” in their titles. These non-physical health components warrant more attention and should be granted greater consideration if the course title implies such (I. Bell et al., 2004; S. R. Hawks et al., 2007; L. Taliaferro, Rienzo, Pigg, Miller, & Dodd, 2009).

All of the aforementioned topics deserve greater attention based on the state of poor health and volatile environment with which college students are faced (O’Donovan, Neylan, Metzler, & Cohen, 2012; Roark, 1987; J. Sallis, 1991). Due to the nature of CPE, it should be inclusive and projected to be even more committed to health promotional efforts, thereby increasing the likelihood of the adoption of successful healthy behaviors (T. M. Adams II & Brynteson, 1993).

The evaluation portion of the content analysis yielded similarities but unique aspects, as well. Course content criteria dependent variables originating from HECAT and PECAT guided this analysis. The criteria related to the evaluation method of fitness pre- and post-assessment stipulated the importance of demonstrating the understanding of movement concepts, strategies and tactics as applied to the learning and performance of physical activities (Centers for Disease Control and Prevention, 2006). Unexpectedly, only 55% of the CPE courses included fitness pre- and post-assessments as requirements. It had been predicted that nearly all of the courses would include this important practical measure. Without it, properly gauging the beginning and emerging levels of fitness, along with personal progress and development during the course would be lacking. Ninety percent of all of the institutions’ CPE courses required exams and/or

quizzes to measure understanding of the material and comprehension of the concepts of health promotion and disease prevention to enhance health (Centers for Disease Control and Prevention, 2009b). Many also required a personal improvement project, or minimally a journal, as well as self-evaluation and/or reflection paper assignments, documenting individual understanding and growth throughout the duration of the course. Approximately 80% of the courses required such coursework in attempt to foster the student's analysis of social, media and other pressures and influences on health behaviors; ability to use decision-making, goal-setting skills in the implementation of health enhancing behaviors; facilitation of an increased personal perception of risk and reinforcing protective, preventive measures; development of personal competence and self-efficacy; provision of functional health knowledge and opportunities to reinforce skills and positive health behaviors; capability to value PA for health, enjoyment and self-expression; and encouragement for achievement of a health-enhancing physical fitness level (Centers for Disease Control and Prevention, 2006, 2009b). This course experience potentially facilitates self-awareness and recognition of influences, challenges, and benefits associated with PA and healthy behavior, thereby increasing students' motivation and success in PA participation and health improvement (CB Corbin & Laurie, 1978; Harne, 2005). Less than half of the courses required wellness article reviews and/or research papers demonstrating health literacy as recommended by HECAT in efforts to engage students in accessing valid information, products, and services to enhance health (Centers for Disease Control and Prevention, 2009b). This is a component that deserves greater attention. Besides self-awareness and improvement, CPE students need to be knowledgeable and confident as health consumers to increase the likelihood of responsible, healthy decision-making (Carr & Walker, 1968; CB Corbin & Laurie, 1978). In accordance with the HECAT-related variables including the ability to use

interpersonal communication skills and strategies designed to personalize information and engage students, identification of individual and group norms in support of health-enhancing behaviors, and provision of opportunities to positively connect with influential others, the use of small group discussions, activities, and/or case studies were also fairly prevalent (Centers for Disease Control and Prevention, 2009b). Such activities have proven advantageous in utilizing interpersonal communication, and individual, group and social norms to avoid or reduce health risks and enhance health (Leslie et al., 2001; Marcus, Rakowski, et al., 1992). An interesting evaluation method was referenced by one of HECAT's standards advocating for students to promote personal, family and community health (Centers for Disease Control and Prevention, 2009b). This consisted of an assignment based on community health advocacy/promotion. Only one of the 20 CPE courses required this type of requirement. Health advocacy/promotion coursework should be considered by more institutions' courses. A service-learning opportunity such as this can potentially have an indelible personal impact on the student and altruistic, meaningful impression on the population served through advocating for personal, family, campus, community and global health (S. R. Hawks et al., 2007).

In summary, the primary hypothesis concerning all of the examined CPE courses sharing many commonalities was proven true. Following the content analysis, descriptive statistics demonstrated similarities among the courses' components, descriptions and objectives, curriculum, and evaluation. Many of the examined course content criteria dependent variables scored 50% or higher, indicating commonalities among the examined CPE courses.

Results demonstrated a fairly optimal perspective on the importance of PE and CPE. From the findings of this study, it can be concluded that the proposed secondary hypotheses of the likely inclusion of PE in the general education core curriculum and offering of CPE can be

accepted. Based on the preliminary research conducted on all of the 56 randomized institutions, 71% required PE as an integral component of their general education curriculum. In fact, 52% of these same institutions required CPE, specifically, as a part of their general education requirements. With this percentage (52%), it is encouraging to see recognition of the vital importance of CPE programming as a specific, notable part of general education. Further, it was also quite favorable to find CPE offerings available at approximately 73% of the randomized institutions. This study yielded comparable results to earlier studies (Kulinna et al., 2009; Trimble & Hensley, 1990). In fact, it demonstrated a higher percentage of available CPE course offerings than Trimble and Hensley's results finding that approximately 50% of colleges and universities offered CPE and 33% accepted it as a general education requirement in 1990. Paralleled growth was also evident with 60% of higher education institutions offering CPE by 2000, and 73% currently, according to this study sample; though it appears that growth may have spiked at 90% in 2009 (Kulinna et al., 2009). Despite the slight decrease, CPE in higher education still remains high. However, even this decrease demonstrates the need for continued research and support in order to maintain and support CPE programming.

There were a number of confounders that arose during the content analysis process. There were varying sizes and student populations of the participating institutions that may have affected the breadth and depth of the associated PE and CPE programming. Upon examination, the courses all ranged between one to three credit hours, which also affected the amount of time available spent on each health topic and the total material possible to cover within a semester.

While all of the examined institutions and PE/CPE courses supported the hypotheses of this study, there is still room for improvement and further expansion of future study and programming. Additional study is warranted and should focus on efforts to establish standards,

guidelines and competencies specifically for CPE programming; develop a systematic content analysis method for this unique type of programming; and standardize the size and scope of the participating institutions during the research process, including the recognition of the student population's needs and course credit hour. In addition, future CPE programming could benefit from standardized programming as established by agencies directly concerned with CPE in higher education; and the availability of sequential CPE courses that could offer further opportunity to cover, as well as concentrate on more health and PE topics.

CHAPTER 5

Summary, Conclusion and Recommendations

Summary

The widespread prevalence of physical inactivity among the majority of the American population, including college students, poses an ominous risk to public health and requires serious intervention. While the US government and collaborating agencies have spearheaded a number of health promotional efforts, quite possibly one of the most effective methods is educational programming. All youth should have some exposure to health and PE throughout their formative primary and secondary school years.

However, such an integral educational component needs to be continued and re-visited during higher education, as well. Colleges and universities have offered courses in PE focusing on physical and skill development since the early 1800s, and declaring them as a requirement since post-World War II (Mitchell, 2012). Eventually, conceptually-based PE (CPE) courses were developed as an alternative to provide further activity and educational opportunity for the general college student population. In fact, many institutions have increasingly offered CPE as an elective course and even a requirement into the general education core curriculum. This conceptually-based programming has grown to educate students about the importance of a physically active lifestyle, as well as provide strategies and support to encourage PA and exercise with its experiential and intellectual qualities. At this level, it can serve as a viable, feasible means of intervention, since young adults are particularly more likely to engage in unhealthy behavior, and vulnerable to continue to do so over the life span (Sailors et al., 2010). Such programming has sought to reach and influence a large population of adults, providing

education and motivation to encourage healthier behaviors, especially the adoption of PA into their lifestyle (Fischer & Bryant, 2008).

Besides the more notable studies including Project GRAD, ARTEC Project, Project TEAM and the TIGER Study, other research supports CPE (Buckworth, 2001; Leslie et al., 2001; Sailors et al., 2010; J. Sallis et al., 1999). It has been reported in some literature that there are numerous effective conceptually-based PE programs that have proved successful in combatting physical inactivity in the young adult college student population (T. Adams II, 1992; T. M. Adams II & Brynteson, 1993; Buckworth, 2001; Carr & Walker, 1968; CB Corbin & Laurie, 1978; Flath & Leigh, 1966; Gibson, 1975; Going, 1984; Hallatt, 1967; Laurie, 1981; Leslie et al., 2001; Pearman et al., 1997; Sailors et al., 2010; J. Sallis et al., 1999; Slava & Corbin, 1984; Terry & Johnson, 1977; Trimble & Hensley, 1990).

This study explored and analyzed the content of conceptually-based PE (CPE) courses available to students in colleges and universities located in the Southeastern United States. The CPE courses were analyzed to determine commonalities among the programs. In addition, the possibility of the presence of PE requirements (including ASPE and CPE) was examined, along with the availability of a CPE course at each institution.

CPE course information data, mostly in the form of syllabi and topic schedules, was collected from 20 of the 41 randomized institutions that offered CPE and compared to standards provided by the HECAT, PECAT, KSAs, and a small number of additions and modifications to the health education curricular topics. The course content analysis criteria dependent variables examined were separated into the following sections: components, description and objectives, curriculum, and evaluation. Throughout the data analyses, key terms or phrases of the criteria

dependent variables were sought exclusively within each section. If these were not clearly or explicitly evident, further examination was conducted in an overview of the remaining sections.

When the course components concerning adequate time allotted for instruction and learning, as well as regular PA opportunities were examined, they seemed to be included in the class meetings for nearly all of the courses. Based on the review of data relative to course components, it seems that 100% of the courses examined provided an adequate period of time; all of which lasted a semester long, ranging from one to three credits. According to the review of these course syllabi, 75% provided regular weekly PA participation opportunities during the class meetings.

Course description and objectives were also examined exclusively on each of the course syllabi to determine demonstration of clearly stated health goals and behavioral outcomes; formats and material based on research and driven by theory; inclusion of health enhancing individual and group norms; discussion of social pressures and influences; and incorporation of culturally inclusive learning strategies and materials. The examined courses exhibited many of these characteristics. However, culturally inclusive methods were less apparent on the syllabus.

Curriculum was scrutinized against a number of HECAT characteristics and health topic modules, ACSM KSAs, and a few additions and modifications which were included. The following health education topics were sought: personal health and wellness; PA/fitness/exercise principles; nutrition and healthy eating; body composition and weight management; pathophysiology and risk factors/prevention; human behavior and counseling; alcohol, tobacco and other drugs; sexual health; safety; violence; and mental and emotional health. Additional characteristics/topics included stress management as well as spiritual, social and environmental

health aspects. Basic health promotional topics such as PA, nutrition and weight management, and stress management were shared among most institution's CPE courses. Other physical health-related dimensions waned somewhat, with a fairly low emphasis on the non-physical aspects including mental and emotional, spiritual, social, and environmental health.

Evaluation was the last section reviewed. As expected, exams and quizzes assessing students' understanding of the course material were prevalent among almost all of the CPE courses. Another common method of evaluation was self-awareness/improvement coursework, providing students the opportunity to monitor their behavior and apply concepts learned in the classroom to facilitate behavior change and health improvement. Less common were fitness pre- and post-assessments, which were required in only half of the courses, along with small group-based discussions and activities, and research papers which received less attention. A community health advocacy/promotion requirement was found in only one of the twenty courses examined among the responding institutions.

Following the conclusion of the preliminary data analyses, descriptive statistics were used to look at both the primary and secondary hypotheses. The primary hypothesis was accepted; all of the CPE courses shared many commonalities. Descriptive statistics revealed that many of the content criteria dependent variables scored 50% or higher, indicating commonalities. Likewise, the same descriptive statistics sufficed in accepting the secondary hypotheses. Based on the data collected and analyzed, 40 out of the 56 randomized institutions included a PE requirement as a part of their general education, for 71%. Furthermore, of these, 29 out of 56 (52%) specifically had a CPE requirement. The other secondary hypothesis regarding the offering of CPE at each institution revealed that 73% of the randomized institutions offered CPE as either a required or elective course.

Conclusion

This study yielded the following conclusions:

1. This sample of courses shared many commonalities which could suggest the generalization that most CPE courses are grounded by research and driven by theory, with clearly stated health goals and behavioral outcomes; last the duration of a semester and include regular PA; focus on physical health-related curriculum topics; and base evaluation on primarily exams and quizzes, and self-improvement coursework.
2. PE/CPE is an important component of higher education, with the majority of the baccalaureate degree-offering institutions in this sample including PE in their general education requirements. In addition, most offered CPE, with nearly half of these institutions specifically requiring a CPE course.
3. CPE extends students both the classroom concepts and lecture component with the experiential opportunity to participate in healthy activity, thereby encouraging life-long habits of regular PA and behaviors leading to improved health and well-being.
4. CPE principles should continue to be implemented to include health, PE, along with PA and exercise recommendations at the higher educational level for maximum effectiveness.
5. CPE is a very effective measure in positively impacting the lives of college students enrolled in the course, as well as combatting physical inactivity among this population of vulnerable young adults.
6. Further study is warranted into the curricular content of CPE courses to bolster present and future CPE programming.

Recommendations

Based on the findings of this study, the following recommendations are suggested for future research:

1. Develop a content analysis system specifically intended to evaluate and compare CPE courses in higher education.
2. Attempt to standardize size and scope of institutions from which data are sought.
3. Form a collegial relationship with participating institutions in efforts to attain entire request of course materials including the syllabus, topic schedule, exam copies, coursework and other instructional aids. This might include additional contact and/or visibility at health- and PE-related research and professional development opportunities.
4. Request access to CPE instructors' on-line classroom management platforms to gain additional course materials and perspective into the manner in which the courses were taught.
5. Inquire about the student enrollment in each course.
6. Use a panel of investigators designated to review all of the course materials, rather than just one primary investigator.

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APPENDIX A

HSCL #20501

Dear Suzanne,

Your recent submission (HSCL#20501), in which you are collecting course information and requirements from colleges and universities in the Southeastern United States, does not involve human subjects.

According to the federal regulations, human subject means a living individual about whom an investigator conducting research obtains:

- 1) Data through intervention or interaction with the individual, or
- 2) Identifiable private information

The project does not require HSCL approval and will be withdrawn.

You also indicated that you no longer needed your project HSCL #20242. Would you like me to mark that project as complete?

Best regards,

█

█

HSCL Assistant Coordinator
Research and Graduate Studies

█
█
█

APPENDIX B

CPE COURSE CONTENT ANALYSIS CRITERIA DEPENDENT VARIABLES

Dissertation Study
CPE Content Analysis Instrument
CPE Course Content Analysis Criteria Dependent Variables

Components

HECAT.CDC.C11 Provides adequate time for instruction and learning (semester duration)
 PECAT9-12.S3 Learner participates regularly in physical activity (% lecture, activity)

Description and Objectives

HECAT.CDC.C1 Focuses on clear health goals and related behavioral outcomes
 HECAT.CDC.C2 Is research-based and theory-driven
 HECAT.CDC.C3 Addresses individual and group norms that support health-enhancing behaviors
 HECAT.CDC.C5 Addresses social pressures and influences
 HECAT.CDC.C10 Incorporates learning strategies, teaching methods and materials that are culturally inclusive

Curriculum

HECAT.M. PHW/CDC.C7 Personal health and wellness
 HECAT.M.PA/PECAT9-12.S2/ACSM.1.1 Physical activity/fitness/exercise principles
 HECAT.M.HE/ACSM.1.8 Nutrition and healthy eating
 ACSM.1.8 **Body composition*** and weight management
 ACSM.1.2 Pathophysiology and risk factors/**prevention***
DSADD.1* **Stress management**
 HECAT.CDC.C4,5/ACSM1.9 Human behavior and counseling
 HECAT.M.ATD Alcohol, tobacco and other drugs
 HECAT.M.SH Sexual health
 HECAT.M.S Safety
 HECAT.M.V Violence
 HECAT.M.MEH Mental and emotional health
DSADD.2* **Spiritual health**
DSADD.3* **Social health**
DSADD.4* **Environmental health**

Evaluation

1. Pre-, post-fitness assessment

PECAT9-12.S2 The learner demonstrates understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities

2. Quizzes, exams

HECAT.S1 Students will comprehend concepts related to health promotion and disease prevention to enhance health

3. Personal improvement or behavior change journal and/or project, self-evaluation and reflection paper assignments

HECAT.S2 Students will analyze the influence of family, peers, culture, media, technology and other factors on health behaviors

HECAT.S5 Students will demonstrate the ability to use decision-making skills to enhance health

HECAT.S6 Students will demonstrate the ability to use goal-setting skills to enhance health

HECAT.S7 Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks

HECAT.CDC.C4 Focuses on increasing personal perception of risk and harmfulness of engaging in specific health risk behaviors and reinforcing protective factors

HECAT.CDC.C5 Addresses social pressures and influences

HECAT.CDC.C6 Builds personal competence, social competence and self-efficacy by addressing skills

HECAT.CDC.C7 Provides functional health knowledge that is basic, accurate, and directly contributes to health-promoting decisions and behaviors

HECAT.CDC.C9 Provides age- and developmentally-appropriate information, learning strategies, teaching methods and materials

HECAT.CDC.C12 Provides opportunities to reinforce skills and positive health behaviors

PECAT9-12.S4 The learner achieves and maintains a health-enhancing level of physical fitness

PECAT9-12.S6 The learner values physical activity for health, enjoyment, challenge, self-expression and/or social interaction

4. Wellness research paper

HECAT.S3 Students will demonstrate the ability to access valid information and products and services to enhance health

5. Small group discussions, activities and/or case studies

HECAT.S4 Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks

HECAT.CDC.C3 Addresses individuals and group norms that support health-enhancing behaviors

HECAT.CDC.C8 Uses strategies designed to personalize information and engage students

HECAT.CDC.C13 Provides opportunities to make positive connections with influential others

6. Community health advocacy/promotion project

HECAT.S8 Students will demonstrate the ability to advocate for personal, family and community health

Labels:

* Component added to existing criteria

ACSM.1.__ ACSM Knowledge, Skills and Abilities.General Population.

DSADD.__ Dissertation Study Added Component (criteria independently added by investigator)

HECAT.CDC.C__ Health Education Curriculum Analysis Tool.Centers for Disease Control.Characteristics of Effective Health Education.

HECAT.M__ Health Education Curriculum Analysis Tool.Health Topic Modules.

HECAT.S__ Health Education Curriculum Analysis Tool.National Health Education Standards.

PECAT9-12.S__ Physical Education Curriculum Analysis Tool for 9th-12th grade.Standards.

APPENDIX C

ACHA GUIDELINES

STANDARDS OF PRACTICE FOR HEALTH PROMOTION IN HIGHER EDUCATION

ACHA Guidelines

Standards of Practice for Health Promotion in Higher Education

1. Health is the capacity of individuals and communities to reach their potential
2. The specific purpose of health promotion in higher education is to support student success
3. Institutions of higher education are communities
4. Health promotion professionals in higher education practice prevention
5. Health promotion in higher education is facilitating, rigorous, and inclusive

Source: Association, A. C. H. (2012). ACHA Guidelines, Recommendations, and White Papers Retrieved September 10, 2012, from http://www.acha.org/publications/guidelines_whitepapers.cfm

APPENDIX D

CAAHEP SELECTED STANDARDS AND GUIDELINES

CAAHEP

Selected Standards and Guidelines

Curriculum: (1) Must ensure achievement of program goals and learning domains. (2) Instruction must be an appropriate sequence of classroom, laboratory, and clinical/practical activities. (3) Instruction must be based on clearly written course syllabi describing learning goals, course objectives, and competencies required for graduation. (4) Appropriate ACSM KSAs should be followed.

APPENDIX E

**NCHEC SELECTED RESPONSIBILITIES AND COMPETENCIES FOR HEALTH
EDUCATION SPECIALISTS**

NCHEC

Selected Responsibilities and Competencies for Health Education Specialists

- Competency 1.4 Examine relationships among behavioral, environmental and genetic factors that enhance or compromise health
- Competency 1.5 Examine factors that influence the learning process
- Competency 1.6 Examine factors that enhance or compromise the process of health education
- Competency 2.4 Develop a scope and sequence for the delivery of health education
- Competency 2.5 Address factors that affect implementation
- Competency 3.2 Monitor implementation of health education

Source: Credentialing, N. C. f. H. E. (2008). Responsibilities and Competencies for Health Education Specialists Retrieved September 12, 2012, from <http://www.ncheec.org/credentialing/responsibilities/>

APPENDIX F

CDC HEALTH EDUCATION CURRICULUM ANALYSIS TOOL (HECAT)

Health Education Curriculum Analysis Tool (HECAT)

INTRODUCTION

Health education is integral to the primary mission of schools. It provides young people with the knowledge and skills they need to become successful learners and healthy and productive adults. Health education is a fundamental part of an overall school health program. Increasing the number of schools that provide health education on key health problems facing young people is a critical health objective for improving our nation's health.¹

Health instruction in schools is shaped, in large part, by the health education curriculum. Choosing or developing the best possible health education curriculum is a critical step in ensuring that health education is effectively promoting healthy behaviors. The curriculum selection or development process, however, can lack structure and focus, which can result in choosing or developing curricula that are inadequate or ineffective. The **Health Education Curriculum Analysis Tool (HECAT)** provides processes and tools to improve curriculum selection and development.

The HECAT contains guidance, appraisal tools, and resources for carrying out a clear, complete, and consistent examination of health education curricula. Analysis results can help schools select or develop appropriate and effective health education curricula, strengthen the delivery of health education, and improve the ability of school health educators to influence healthy behaviors and healthy outcomes among school age youth.

The HECAT builds on the characteristics of effective health education curricula (page 4) and the *National Health Education Standards*² for schools. It addresses a comprehensive array of health topics, including modules addressing alcohol and other drug-free, healthy eating, mental and emotional health, personal health and wellness, physical activity, safety, sexual health, tobacco-free, violence prevention, and comprehensive health education curricula. The HECAT includes an overview of school health education, background information about reviewing and selecting health education curricula, guidance to consider during a curriculum review, and tools to analyze commercially packaged or locally developed school-based health education curricula.

The HECAT reflects the importance of

- Using science to improve practice.
- Parent and community involvement in the review and selection of curriculum.
- Local authority in setting health education priorities, determining health education content, and making curriculum selection decisions.
- Flexibility to accommodate different values, priorities, and curriculum needs of communities and schools.

Intended Users of the HECAT

The HECAT is designed to be used by those who select, develop or use school health education curricula and those who are interested in improving school health education curricula. For example,

1. State or regional education agency staff can use this tool to inform the development or review of
 - state health education standards or frameworks.
 - recommendations for conducting state or local curriculum review.
 - a list of state-recommended health education curricula.

2. Curriculum committees or educators at school districts, schools, or community- based organizations who work with schools can use this resource. They can use the HECAT, in conjunction with state standards and health education frame- works or other locally determined requirements, to
 - develop new or improved courses of study, frameworks, learning objectives, or curricula.
 - guide the selection of curricula available for purchase.
 - examine curricula currently in use.
3. Developers of nationally disseminated and packaged-curricula, such as non-govern- mental organizations and for-profit curriculum development companies, can use the HECAT to design health education curricula that best meet the needs of schools and the young people they serve.
4. Institutions of higher education teacher preparation programs can use the HECAT to improve their students’ understanding of health education, curriculum analysis, and development of instructional skills.

Organization of the HECAT

The HECAT includes guidance and tools for carrying out a thorough assessment of a health education curriculum.

- Chapter 1** (*Instructions*) provides step- by-step guidance for conducting a health education curriculum review. It includes essential background information and instructions for using the HECAT to review and improve locally developed curriculum.
- Chapter 2** (*General Curriculum Information*) guides the user in collecting descriptive information about the curriculum, including the developer and the year of development, topic areas, and grade levels.
- Chapter 3** (*Overall Summary Forms*) provides directions and templates for summarizing ratings scores for the appraisal of a single curriculum or comparing scores across curricula, using the analysis items from multiple chapters.
- Chapter 4** (*Preliminary Curriculum Considerations*) provides guidance and tools to appraise the accuracy and acceptability of curriculum content, feasibility of curriculum implementation, and affordability of the curriculum materials including cost of implementation.
- Chapter 5** (*Curriculum Fundamentals*) provides guidance and tools to appraise fundamental characteristics of a health education curriculum including learning objectives, teacher materials, curriculum design, instructional strategies and materials, and promotion of norms that value positive health behaviors.
- Chapter 6** (Health Topic Modules): The HECAT provides guidance and tools for appraising specific health-topic curricula based on characteristics of effective health education curricula (page 4) and the *National Health Education Standards*.² Chapter 6 includes a module for each of the following topics:
 - Module AOD: Alcohol and Other Drugs*
 - Module HE: Healthy Eating*
 - Module MEH: Mental and Emotional Health*
 - Module PHW: Personal Health and Wellness*
 - Module PA: Physical Activity*
 - Module S: Safety*
 - Module SH: Sexual Health*
 - Module T: Tobacco*
 - Module V: Violence*
 - Module CHE: Comprehensive Health Education*

- Appendices:** The appendices provide additional in-depth guidance for using the HECAT.
- Glossary:** The glossary defines many common terms used throughout the HECAT.

Rationale for the HECAT Development

Improving students' health and safety can yield educational benefits by increasing students' readiness to learn and reducing absenteeism.³ Well-designed, well-delivered school-based health interventions can enable students to prevent disease and injury.^{4,5,6} Health education is a critical component of many effective school health interventions. A health education curriculum is the primary means through which schools deliver health education.

A number of federal agencies have identified specific programs and curricula they have determined to be exemplary, promising, or effective in improving students' health-related behaviors (see Appendix 2, *Federal Agencies' Lists of Programs Considered Exemplary, Promising, or Effective*). However, these curricula do not always meet school district or school needs because

- The number of currently identified health curricula with evidence of effectiveness is limited.
- Few of the identified curricula address multiple health risk behaviors.
- Schools often cannot implement these curricula exactly as they were originally implemented in evaluation studies.
- Many other health education curricula, including those developed locally, have not undergone evaluation using rigorous research methods and therefore are not included on a federal list.
- Some health education curricula with evidence of effectiveness among particular populations of students or in particular settings might not be
 - o Readily available in a usable form.
 - o Effective with other populations or with a general student population.
 - o Effective in other settings.
 - o Appropriate or acceptable based on community values.
 - o Feasible due to instructional time limitations, excessive costs, or burdensome professional development requirements.

In addition, not all the programs on these federal lists have research evidence of changing behavior. Some lists that do include programs with such evidence are not updated regularly and might include outdated programs or lack recently evaluated programs.

When schools cannot use rigorously evaluated curricula, they can choose curricula that feature characteristics common to effective curricula as determined by research and experience (see *Characteristics of Effective Health Education Curricula*, page 4). The HECAT enables decision makers to assess the likelihood that a curriculum might be effective in promoting health behaviors by analyzing the extent to which it features key characteristics of curricula with proven effectiveness.

The HECAT draws upon a synthesis of research and bases its criteria on

- Findings of CDC’s guidelines for school health programs, which identify common characteristics of effective programs in priority health topic areas, including tobacco use,⁷ nutrition,⁸ physical activity,⁹ and unintentional injury and violence.¹⁰
- The National Health Education Standards.*²
- Guidance from the U.S. Department of Education’s Office of Safe and Drug-Free Schools¹¹ and the National Institute on Drug Abuse (DHHS).¹²
- Expertise of health education researchers and practitioners.

INFORMATION ABOUT HEALTH EDUCATION CURRICULA

Determining What is a Health Education Curriculum

The term “curriculum” has many possible meanings. It can refer to a written course of study that generally describes what students will know and be able to do (behavioral expectations and learning objectives) by the end of a single grade or multiple grades in a particular subject area, such as health education or tobacco prevention education. Curriculum can also refer to an educational plan incorporating a structured, developmentally appropriate series of intended learning outcomes and associated learning experiences for students; generally organized as a detailed set of directions, strategies, and a related combination of school-based materials, content, and events. Although the HECAT can inform the development or revision of a general course of study, it is intended to guide the analysis and appraisal of a detailed set of curricular materials.

For the purposes of using the HECAT, “health education curriculum” refers to those teaching strategies and learning experiences that provide students with opportunities to acquire the attitudes, knowledge, and skills necessary for making health-promoting decisions, achieving health literacy, adopting health-enhancing behaviors, and promoting the health of others. A health education curriculum is more than a collection of activities. A common set of elements characterize a complete health education curriculum, including

- A set of intended learning outcomes or learning objectives that are directly related to students’ acquisition of health-related knowledge, attitude, and skills.
- A planned progression of developmentally appropriate lessons or learning experiences that lead to achieving these objectives.
- Continuity between lessons or learning experiences that clearly reinforce the adoption and maintenance of specific health-enhancing behaviors.
- Accompanying content or materials that correspond with the sequence of learning events and help teachers and students meet the learning objectives.
- Assessment strategies to determine if students achieved the desired learning.

If materials do not meet all of these elements, they do not comprise a complete health education curriculum. But the materials could be considered resources for a curriculum – part of a curriculum, but not a complete curriculum. The HECAT guidance and tools are not intended to be used to appraise an individual curriculum resource material such as a textbook, or a collection of resources, unless these will be appraised as part of the overall curriculum in which they will be used. (See Appendix 3, *Using the HECAT for the Review of Health Education Resource Materials.*)

Characteristics of Effective Health Education Curricula

Today's state-of-the-art health education curricula reflect the growing body of research that emphasizes teaching functional health information (essential concepts); shaping personal values that support healthy behaviors; shaping group norms that value a healthy lifestyle; and developing the essential health skills necessary to adopt, practice, and maintain health-enhancing behaviors. Less effective curricula often overemphasize teaching scientific facts and increasing student knowledge.

Reviews of effective programs and curricula and input from experts in the field of health education have identified characteristics of effective health education curricula.^{13–24} These characteristics are summarized on the next two pages. The health behaviors, analysis items, and scoring criteria used in HECAT have been developed to be consistent with this research. Each characteristic includes a reference as to where it is addressed in the HECAT appraisal instruments. An effective health education curriculum includes the following:

- Focuses on clear health goals and related behavioral outcomes.** Curricula have a clear health-related goal and behavioral outcomes that directly relate to these goals. Instructional strategies and learning experiences are directly related to the behavioral outcomes. (Chapter 6.)
- Is research-based and theory-driven.** Instructional strategies and learning experiences build on theoretical approaches (for example, social cognitive theory and social inoculation theory) that have effectively influenced health-related behaviors among youth. The most promising curricula go beyond the cognitive level and address the health determinants, social factors, attitudes, values, norms, and skills that influence specific health-related behaviors. (Chapters 2 and 6.)
- Addresses individual values and group norms that support health-enhancing behaviors.** Instructional strategies and learning experiences help students accurately assess the level of risk-taking behavior among their peers (for example, how many of their peers use illegal drugs), correct misperceptions of peer and social norms, and reinforce health-enhancing attitudes and beliefs. (Chapters 5 and 6.)
- Focuses on increasing the personal perception of risk and harmfulness of engaging in specific health risk behaviors and reinforcing protective factors.** Curricula provide opportunities for students to assess their vulnerability to health problems, actual risk or engaging in harmful health behaviors, and exposure to unhealthy situations. Curricula also provide opportunities for students to validate health-promoting beliefs, intentions, and behaviors. (Chapter 6.)

- Addresses social pressures and influences.** Curricula provide opportunities for students to address personal and social pressures to engage in risky behaviors, such as media influence, peer pressure, and social barriers. (Chapter 6.)
- Builds personal competence, social competence and self-efficacy by addressing skills.** Curricula build essential skills, including communication, refusal, assessing accuracy of information, decision-making, planning and goal-setting, self-control, and self-management, that enable students to build personal confidence and ability to deal with social pressures and avoid or reduce risk behaviors. For each skill, students are guided through a series of developmental steps:
 1. Discussing the importance of the skill, its relevance, and relationship to other learned skills.
 2. Presenting steps for developing the skill.
 3. Modeling the skill.
 4. Practicing and rehearsing the skill using real-life scenarios.
 5. Providing feedback and reinforcement. (Chapter 6.)

- Provides functional health knowledge that is basic, accurate, and directly contributes to health-promoting decisions and behaviors.** Curricula provide accurate, reliable, and credible information for usable purposes so that students can assess risk, correct misperceptions about social norms, identify ways to avoid or minimize risky situations, examine internal and external influences, make behaviorally-relevant decisions, and build personal and social competence. A curriculum that provides information for the sole purpose of improving knowledge of factual information is incomplete and inadequate. (Chapters 5 and 6.)
- Uses strategies designed to personalize information and engage students.** Curricula include instructional strategies and learning experiences that are student centered, interactive, and experiential (for example, group discussions, cooperative learning, problem solving, role playing, and peer-led activities). Learning experiences correspond with students' cognitive and emotional development, help them personalize information, and maintain their interest and motivation while accommodating diverse capabilities and learning styles. Instructional strategies and learning experiences include methods for
 1. Addressing key health-related concepts.
 2. Encouraging creative expression.
 3. Sharing personal thoughts, feelings, and opinions.
 4. Developing critical thinking skills.(Chapters 5 and 6.)
- Provides age-appropriate and developmentally-appropriate information, learning strategies, teaching methods, and materials.** Curricula address students' needs, interests, concerns, developmental and emotional maturity levels, experiences, and current knowledge and skill levels. Learning should be relevant and applicable to students' daily lives. Concepts and skills are covered in a logical sequence. (Chapters 4, 5, and 6.)
- Incorporates learning strategies, teaching methods, and materials that are culturally inclusive.** Curricular materials are free of culturally biased information, but also include information, activities, and examples that are inclusive of diverse cultures and lifestyles (such as gender, race, ethnicity, religion, age, physical/mental ability, and appearance). Strategies promote values, attitudes, and behaviors that acknowledge the cultural diversity of students; optimize relevance to students from multiple cultures in the school community; strengthen students' skills necessary to engage in intercultural interactions; and build on the cultural resources of families and communities. (Chapters 4, 5, and 6.)
- Provides adequate time for instruction and learning.** Curricula provide enough time to promote understanding of key health concepts and practice skills. Affecting change requires an intensive and sustained effort. Short-term or "one shot" curricula, such as a few hours at one grade level, are generally insufficient to support the adoption and maintenance of healthy behaviors. (Chapter 6.)
- Provides opportunities to reinforce skills and positive health behaviors.** Curricula build on previously learned concepts and skills and provide opportunities to reinforce health-promoting skills across health topic areas and grade levels. This can include incorporating more than one practice application of a skill, adding "skill booster" sessions at subsequent grade levels, or integrating skill application opportunities in other academic areas. Curricula that address age-appropriate determinants of behavior across grade levels and reinforce and build on learning are more likely to achieve longer-lasting results. (Chapters 2 and 6.)
- Provides opportunities to make positive connections with influential others.** Curricula link students to other influential persons who affirm and reinforce health-promoting norms, beliefs, and behaviors. Instructional strategies build on protective factors that promote healthy behaviors and enable students to avoid or reduce health risk behaviors by engaging peers, parents, families, and other positive adult role models in student learning. (Chapters 5 and 6.)

□ **Includes teacher information and plans for professional development and training that enhance effectiveness of instruction and student learning.** Curricula are implemented by teachers who have a personal interest in promoting positive health behaviors, believe in what they are teaching, are knowledgeable about the curriculum content, and are comfortable and skilled in implementing expected instructional strategies. Ongoing professional development and training is critical for helping teachers implement a new curriculum or implement strategies that require new skills in teaching or assessment. (Chapters 2, 5, and 6.)

Setting Direction for Health Education: Standards and Frameworks

The National Health Education Standards delineate the essential knowledge and skills that every student should know and be able to do following the completion of a high quality instructional program in health education. (Figure 1, pg. 8). These standards provide a foundation for curriculum development, instructional delivery, and assessment of student knowledge and skills in health education, for students in grades pre-K–12. Many state boards of education, state departments of education, and local school boards have adopted their own state- or local- level health education standards using the *National Health Education Standards* as a guide. The appraisal tools in the HECAT health topic modules correspond with the *National Health Education Standards*.

Many school districts use standards and input from school staff, parents, and others, to develop and adopt a pre-K–12 curricular framework that outlines the scope of key health learning concepts and the sequence of essential knowledge and skills to be addressed at each grade level (also referred to as a “scope-and-sequence”). The scope-and-sequence aligns with the course of study and conveys the progression of health concepts and skills across different grade levels within a topic area. The learning experiences of students should progress from basic to more complex health concepts and skills as they advance from pre-kindergarten through grade 12. When assessing a curriculum, reviewers should consider the curriculum’s compatibility with their course of study and scope-and-sequence. The appraisal instruments in HECAT are designed to be adapted and accommodate variations that are necessary based on state standards, local health education courses of study, and local community needs.

School districts can also use the HECAT to help identify essential health education concepts and skills that could be used in the development or revision of a scope and sequence. More information about the application of the HECAT in the scope-and- sequence development process can be found in Appendix 4: *Using the HECAT to Develop a Scope-and-Sequence for Health Education*.

Some states do not include pre-kindergarten in their state standards or course of study. However, many state education agencies have worked with state partners to promote state-level, early learning standards and guidance for pre-school programs that include health education. More information about applying standards for pre-school programs can be found in Appendix 5, *Using the HECAT to Analyze Curricula for Early Childhood Programs*.

Figure 1: NATIONAL HEALTH EDUCATION STANDARDS

STANDARD #1: Students will comprehend concepts related to health promotion and disease prevention to enhance health. The acquisition of basic health concepts and functional health knowledge provides a foundation for promoting health-enhancing behaviors among youth. This standard includes essential concepts that are based on established health behavior theories and models.

STANDARD #2: Students will analyze the influence of family, peers, culture, media, technology and other factors on health behaviors. Health is impacted by a variety of positive and negative influences within society. This standard focuses on identifying and understanding the diverse internal and external factors that influence health practices and behaviors among youth including personal values, beliefs and perceived norms.

STANDARD #3: Students will demonstrate the ability to access valid information and products and services to enhance health. Accessing valid health information and health-promoting products and services is critical in the prevention, early detection, and treatment of health problems. This standard focuses on how to identify and access valid health resources and to reject unproven sources. Applying the skills of analysis, comparison and evaluation of health resources empowers students to achieve health literacy.

STANDARD #4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks. Responsible individuals use verbal and non-verbal skills to develop and maintain healthy personal relationships. The ability to organize and to convey information and feelings is the basis for strengthening interpersonal interactions and reducing or avoiding conflict.

STANDARD #5: Students will demonstrate the ability to use decision-making skills to enhance health. This standard includes the essential steps needed to make healthy decisions, which are essential for establishing and maintaining a healthy lifestyle. When applied to health issues, the decision-making process enables individuals to collaborate with others to improve quality of life.

STANDARD #6: Students will demonstrate the ability to use goal-setting skills to enhance health. This standard includes the critical steps needed to achieve both short-term and long-term health goals. These skills make it possible for individuals to have aspirations and plans for the future.

STANDARD #7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks. Many diseases and injuries can be prevented by avoiding or reducing harmful and risk taking behaviors. This standard promotes accepting personal responsibility for health and encourages the practice of healthy behaviors.

STANDARD #8: Students will demonstrate the ability to advocate for personal, family and community health. Advocacy skills help students adopt and promote healthy norms and healthy behaviors. This standard helps students develop important skills to target their health enhancing messages and to encourage others to adopt healthy behaviors.

Source: The Joint Committee on National Health Education Standards. *National Health Education Standards: Achieving Excellence (2nd Edition)*. Atlanta: American Cancer Society; 2007.

Health Education Curricula and Assessment of Student Performance

State-of-the-art health education curricula are based on succinct learning objectives, or standards, and include a variety of curriculum-embedded performance assessment strategies that are linked to those objectives or standards. Health education standards describe what a student should know (knowledge) and be able to do (skills) as a result of the instruction provided and learning experienced. Measuring student proficiency in meeting the health standards is best accomplished by assessing student performance.

The purpose of performance assessment is to improve student learning and instructional practice. It is important to consider the degree to which student assessment is included when appraising a health education curriculum. Exemplary health education curricula include a variety of student assessment strategies—linked to the relevant objectives/standards—that provide students with opportunities to demonstrate their understanding of key health concepts and apply learned skills to real-life situations. A high-quality student assessment process also includes criteria for examining student work (such as a rubric) and incorporates multiple measures over time.

The HECAT integrates student assessment into the curriculum analysis process and scoring criteria. Additional information about health education standards and student assessment can be found in Appendix 6: *Understanding Health Education Assessment*.

Community Review of Health Education Curricula

To increase relevance and acceptability within a community, health education curricula should reflect local school and community health interests, priorities, and values. School districts and, when appropriate, schools can establish a process for ensuring that key stakeholders from the school and community review curricular materials, typically through a health education curriculum review committee. This committee might be the entity that completes the HECAT analyses and appraisal of curricula or it might be a decision-making body that reviews and acts on reports from another committee that has completed an analysis using the HECAT appraisal instruments.

The organization of a health education curriculum review committee differs among communities. In some locations, it is a specific committee charged only with reviewing health education curricula. In other locations, it is a subcommittee of the district's school health council, school wellness council, school-based management council, or the district's broader curriculum selection committee.

Health education curriculum review committee membership usually includes

- Key school policy makers and staff, including school board members, principals, curriculum directors, administrators, and teachers who are responsible for implementing health education curricula, as well as representatives from other school health program components such as physical education and school health services.
- Representatives from relevant community agencies and organizations, such as the health department, health care providers, and youth serving organizations.
- Representatives from other groups within the community with interests in the positive health and development of students, such as the faith community.
- Parents and caregivers of students who will receive the curriculum.
- Students.

Health Education as Part of Other School and Community Health Promotion Efforts

Health education is not the only school-based strategy to improve health outcomes. Rather, it is only one component of a coordinated school health program. A coordinated school health program consists of eight interactive components, each of which plays a vital role in supporting the health of students, staff, and the community. In addition to health education, these components include physical education, health services, mental health and social services, nutrition services, healthy school environment, parent and family involvement, and health promotion for school staff. The effectiveness of school health education is enhanced when it is implemented as part of a larger school health program and when health education outcomes are reinforced by the other seven components.²⁵

The HECAT addresses only the health education component. CDC's *School Health Index [SHI]* was developed to help schools identify the strengths and weaknesses of their health and safety policies and programs across all components of the school health program. Information about the SHI is available at <http://www.cdc.gov/HealthyYouth/SHI>.

Schools have an important influence on the education, social development, and health of youth. But they are not the only societal institution responsible for achieving these outcomes. Families, faith-based organizations, voluntary organizations, health care providers, community youth-serving agencies, employers, media providers, public health agencies, social service agencies, and other government agencies play critical roles in promoting the health of youth. School health education should reflect and reinforce community health priorities. The HECAT acknowledges the need to consider these priorities in the analysis of a health education curriculum. However, the HECAT is not designed to analyze a community health promotion program.

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APPENDIX G

CDC PHYSICAL EDUCATION CURRICULUM ANALYSIS TOOL (PECAT)

EXCERPTS

CDC

Physical Education Curriculum Analysis Tool (PECAT)

Introduction

Establishing and implementing high-quality physical education programs can provide students with the appropriate knowledge, skills, behaviors, and confidence to be physically active for life. *Healthy People 2010*, the health goals for the nation, includes two specific objectives calling for greater student participation in physical education (1).

The physical education curriculum shapes physical education instruction in schools. Creating or selecting the best physical education curriculum is a critical step in ensuring that physical education is effective in developing physically educated individuals, who will choose to participate in physical activity throughout their lifetime.

The *Physical Education Curriculum Analysis Tool (PECAT)* is designed to help school districts conduct a clear, complete, and consistent analysis of physical education curricula. PECAT results can help school districts enhance, develop, or select appropriate and effective physical education curricula for delivering high-quality physical education in schools. This, in turn, will improve the ability of schools to positively influence knowledge, motor skills, and physical activity behaviors among school age youth.

The PECAT is based on the national standards for physical education (see Appendix) and includes an overview of high-quality physical education, information about physical education curricula, tools to assess a curriculum, and resources for developing a curriculum improvement plan. The PECAT can assist in assessing how closely the written curricula align with national standards for high-quality physical education programs. Decisions can then be made about curricula. For example, the PECAT can be used to identify where revisions might be needed in a locally developed curriculum. For those without a curriculum, the PECAT provides a vision of what should be included in a high-quality, written physical education curriculum. Alternatively, the PECAT can be used to compare strengths and weaknesses of various published physical education curricula under consideration.

Intended Users of the PECAT

The PECAT is designed to be used by a team of individuals representing district or school building personnel, such as physical education coordinators, curriculum specialists, and curriculum committee members. PECAT committees might include a district physical education curriculum director; physical education administrators; physical education teachers from elementary, middle, and high schools; members of the school health council; health education teachers; school health nurses; public health and social service professionals; parents; students; and other administrators. Additionally, college/university physical education faculty may use the PECAT as a teaching tool in teacher education courses.

The PECAT can be used at the district level to analyze curricula for all grades from kindergarten through grade 12. At the school building level, users should complete grade levels that pertain to their school and involve a similarly diverse set of team members as identified above. It is also strongly recommended that, when assessing a school building level curriculum (e.g., only kindergarten to grade 5), the feeder program's sequence, articulation, goals and objectives be considered when planning and enhancing the existing written curriculum.

Organization of the PECAT

The PECAT is divided into the following sections:

- Curriculum Description**, which requests basic information about the curriculum;
- Preliminary Curriculum Analyses (Accuracy, Acceptability, Feasibility, and Affordability Analyses)**, which feature questions to consider about the curriculum before analyzing content and student assessment components.
- Content and Student Assessment Analyses**, which feature scoring systems for rating the curriculum on how well it addresses each of the six national standards for physical education. The content and student assessment analyses are divided into four subsections that correspond to the grade-level ranges used in the national standards for physical education: K – 2, 3 – 5, 6 – 8, and 9 – 12. Each subsection begins with a list of what students are expected to achieve by the end of the identified grade-level range related to each of the national standards. These student expectations, developed by the National Association for Sport and Physical Education (NASPE), build the framework of the curriculum analysis process, as they identify what physically educated students are expected to know and be able to do by the end of each grade-level range.

This is followed by a one page content analysis (how well the curriculum covers the components of what students should know and be able to do) of each of the six standards, a one-page student assessment analysis of each standard (how well the curriculum integrates standards based assessment protocols for the knowledge and skills expected from students), and a scorecard that summarizes the scores from both analyses. A template for both content and student assessment analyses is available at the end of each grade- level range to allow state or local school physical education standards that are in addition to or different from the national standards to be incorporated.

Each analysis contains several critical components taken directly from the national physical education standards. For example, standard 1 (i.e., demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities) features four components: fundamental movement skills, specialized movement skills, combination of movement skills, and application of skills. Examples of appropriate concepts and skills that students should master are provided for each component. Keep in mind that these are simply examples; additional examples can be found in the materials listed in the resources section (see Appendix 4) (e.g., *Assessment Series, Concepts and Principles of Physical Education: What Every Student Needs to Know, Designing the Physical Education Curriculum*).

The content and student assessment analyses reflect the importance of a *sequential written curriculum*. The sequence identifies, defines, and describes the skills and activities that should be covered on a yearly basis. Of special importance is the sequence of instruction throughout students' educational experience (i.e., K - 12). All questions, across the grade levels, within the PECAT are based on the premise that students need to be taught increasingly advanced forms of physical activity skills and concepts as they progress through their educational experience. Therefore, each question for each standard is built on the previous grade level. For example, question 1 within content analysis for standard 1, grades K-2 asks how well a written curriculum includes specific lessons on fundamental movement skills. Question 1 within content analysis for standard 1, grades 3-5, asks whether the curriculum includes specific lessons on *mature* forms of fundamental movement skills. Additionally, each content analysis question for each grade level corresponds to a student assessment analysis question to assist users in identifying where weaknesses or gaps may appear between what is being taught (i.e., content analysis) and how the skills and concepts being taught are assessed (i.e., student assessment analysis).

The PECAT also includes the following:

- The Overall PECAT Scorecard** which allows users to visually identify gaps, strengths, and weaknesses of the written curriculum
- Multiple Curricula Comparison Scorecards** which allow users to compare scores of multiple curricula
- A Curriculum Improvement Plan** section which will help users plan for how to improve upon gaps and weaknesses identified in the curriculum and maintain strengths
- Appendices**, with an example of a completed scoring sheet, description of the six national standards for physical education, a glossary that defines many terms used in this document, and resources that can help you develop and implement a high-quality physical education program.

Rationale for the PECAT

Regular physical activity in childhood and adolescence improves strength and endurance; helps build healthy bones and muscles; helps control weight; reduces anxiety and stress; increases self-esteem, mood, and concentration; and may improve blood pressure and cholesterol levels (2, 3).

Physical education is an opportunity for students to gain necessary skills and knowledge for lifelong participation in physical activity (4); however, participation in daily physical education has declined from 1991 to 2003 (5). Schools can help improve the physical activity habits and health of young people by providing quality instruction, programs, and services that promote enjoyable, lifelong physical activity. A high quality physical education program is the cornerstone of a school's physical activity programming, and a well-written physical education curriculum is the foundation of a physical education program (6, 7).

A number of federal documents support the importance of providing high quality, daily physical education for all students. These documents include the following:

- Healthy People 2010 (1)*;
- Physical Activity and Health: A Report of the Surgeon General (2)*;
- Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People (8)*;
- School Health Index: A Self-Assessment and Planning Guide (9, 10)*;
- The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity (3)*; and,
- Promoting Better Health for Young People Through Physical Activity and Sports: A Report to the President from the Secretary of Health and Human Services and the Secretary of Education (11)*.

Although these documents describe the important characteristics of high-quality physical education, they do not provide specific directions for developing, implementing, and evaluating a high-quality physical education program. Before the PECAT was developed, physical educators did not have a tool to assess the quality of written curricula. The PECAT meets this need.

What is High Quality Physical Education?

Appropriate actions must be taken in four main areas to ensure a high quality physical education program: (1) curriculum, (2) policies and environment, (3) instruction, and (4) student assessment (6) Policy and environmental actions that support high quality physical education require the following:

- Adequate instructional time (at least 150 minutes per week for elementary school students and 225 minutes per week for middle and high school students),
- All classes be taught by qualified physical education specialists,
- Reasonable class sizes, and
- Proper equipment and facilities.

Instructional strategies that support high-quality physical education emphasize the following:

- The need for inclusion of all students,
- Adaptations for students with disabilities,
- Opportunities to be physically active most of the class time,
- Well-designed lessons,
- Out-of-school assignments to support learning, and
- Not using physical activity as punishment.

Regular student assessment within a high-quality physical education program features the following:

- The appropriate use of physical activity and fitness assessment tools,
- Ongoing opportunities for students to conduct self-assessments and practice self-monitoring of physical activity,
- Communication with students and parents about assessment results, and
- Clarity concerning the elements used for determining a grading or student proficiency system.

Physical Education Curriculum

A curriculum is a sequential system for delivering learning experiences to students. A physical education curriculum is the framework that provides guidance for teaching skills and providing physical activity instruction. A high quality physical education curriculum will be based on the national standards in the document *Moving Into the Future: National Standards for Physical Education (6)*, which describes what a physically educated student should know and be able to do. It emphasizes meaningful content, which includes the following:

- Instruction in a variety of motor skills designed to enhance child and adolescent development,
- Fitness education and assessment that allows for understanding and improvement of physical well-being,
- Development of cognitive concepts related to motor skills and fitness,
- Opportunities to improve social and cooperative skills, and
- Opportunities to increase the value placed on physical activity for health, enjoyment, self-expression, and confidence.

Appropriate sequencing of learning activities is critical to developing a high-quality physical education curriculum. Appropriate sequencing involves the following:

- Ensuring that motor skills, physical activity, and fitness assessments are age and developmentally appropriate,
- Methods of teaching motor and movement skills that ensure that basic skills lead to more advanced skills, and
- Plans to appropriately monitor, reinforce, and plan for student learning.

Physical Education in the Context of a Coordinated School Health Program

The effectiveness of school physical education is enhanced when it is implemented as an integral part of the Coordinated School Health Program (CSHP) and when physical education outcomes are reinforced by other components of a school health program. A CSHP includes eight integrated components: (1) physical education; (2) health education; (3) nutrition services; (4) health services; (5) healthy school environment; (6) counseling, psychological, and social services; (7) health promotion for staff; and (8) family and community involvement. All components play a vital role in supporting the health of students, staff, and the community. The impact of the overall school health program depends on the quality of each component as well as the quality of the coordination of the program. The PECAT can help strengthen the quality of the physical education component.

(Selected) Student Expectations at the End of Grade 12

Standard 2: The learner demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities.

By the end of grade 12, students should:

- Demonstrate the knowledge and understanding necessary to develop scientifically based personal activity plans that include self-selected physical activities and sports.
- Use complex movement concepts and principles to independently refine their skills and apply them to the learning of new skills.
- Integrate advanced physical activities so that the ability to learn, self-assess, and improve movement skills exists independently.
- Recognize elite-level performance.

Standard 3: The learner participates regularly in physical activity.

By the end of grade 12, students should:

- Fully recognize and understand the significance of physical activity in maintaining a healthy lifestyle and possess the skills, knowledge, interest, and desire to maintain an active lifestyle.
- Willingly participate on a regular basis in physical activities that contribute to the attainment and maintenance of personal physical activity goals.
- Make decisions about their physical activity participation and assume a role in managing their participation based on personal interests, capabilities, and resources.
- Possess adequate movement and behavioral skills that provide a basis for continued learning and regular physical activity participation.
- Independently apply appropriate training principles to their physical activity and use pertinent scientific principles to enhance their participation in a specific activity or sport.
- Demonstrate an understanding of how and why adult patterns of physical activity participation change over time.

Standard 4: The learner achieves and maintains a health-enhancing level of physical fitness.

By the end of grade 12, students should:

- Assume greater self-responsibility in their lives and display greater autonomy in their personal behaviors.
- Demonstrate responsibility for their health-related fitness status by participating on a regular basis in appropriate physical activities.
- Engage in activities in a variety of settings (e.g., school, home, workplace, community) for the purpose of achieving and maintaining health-related fitness.
- Interpret information from fitness tests and use the information to plan and design their own programs to achieve and maintain personal fitness goals that encompass all components of fitness.

Standard 6: The learner values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

By the end of grade 12, students should:

- Be more comfortable with their new interests and their physiques, thus once again enjoying movement for the sheer pleasure of moving.
- Enjoy the challenge of working hard to better their skills and feel satisfaction when they are successful in improving and while pursuing personal goals.
- Enjoy selected activities for regular participation either alone or with friends.
- Express several reasons why participation in regularly selected activities is enjoyable and desirable.

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APPENDIX H

ACSM SELECTED KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

ACSM

Selected Knowledge, Skills and Abilities (KSAs)

- 1.1 Exercise physiology and related exercise science
- 1.2 Pathophysiology and risk factors
- 1.7 Exercise prescription and programming
- 1.8 Nutrition and weight management
- 1.9 Human behavior and counseling
- 1.10 Safety, injury prevention, and emergency procedures

Source: Medicine, A. C. o. S. (2012). About ACSM Retrieved September 7, 2012, from <http://www.acsm.org/about-acsm>

APPENDIX I

CPE COURSE CONTENT ANALYSIS INSTITUTIONAL INFORMATION

CPE Content Analysis Institutional Information

Institution	Website	CPE Course/PE Requirement	Instructor, Department, Address
		PE 103 Sports and Physical Fitness (3cr)/Y: PE 103 (3cr)	
		N/N	
		KIN 135 Lifetime Wellness (2cr)/Y: KIN 135 (2cr)	
		PED 100 Theory of Wellness (1cr)/Y: PED 100 + PE activity course (1cr)	
		HE 354 Contemporary Health and Physical Education Activities (3cr)/N	
		PE 205 Lifetime Fitness (3cr)/N	

(Baccalaurate Colleges-Arts & Sciences)	PED 131 Wellness for Life (2cr)/Y: Sport Science Perspective (2cr) requirement may be satisfied by completing one Physical Fitness course and by completing one lifetime activity course. 2 semester hours.
	PE 122 Fitness for Life (2cr)/Y: 2 hours in PE
	HE 101 Wellness for Life (2cr)(health education?)/Y: 2 semester hours in fitness/phys activity

(Baccalauerate Colleges-Arts & Sciences)	PEH 100 Intro to Lifetime Health and Wellness (.5cr)/Y: PEH 100 (.5cr) + physical activity requirement (.25cr)
	PE 127 Fitness for Life (1cr)/Y: PE activity courses, 2 semesters (2cr)
	ESS 1351 Personal Fitness (1cr)/Y: ESS 1351 (1cr)
	N/N
	N/N
(Baccalauerate Colleges-Arts & Sciences)	PE 205 Principles of Wellness (2cr)/Y: PE 205 (2cr)
	ES 105 Wellness (2cr)/Y: ES 105 (2cr) + ES activity (1cr)

CPE Content Analysis Institutional Information

<p>(Baccalaurate Colleges-Arts & Sciences)</p>	<p>EHS 111 Concepts of Physical Fitness (1cr)/Y: EHS 111 + EHS activity course</p>
	<p>PER 1101 Prescriptive Fitness (1cr)/Y: PER 1101 (1cr)</p>
	<p>PED 2300 Personal and Community Health (3cr)/Y: PE activity course (1cr)</p>
	<p>ESS 109 Concepts of Fitness (1cr)/Y: ESS 109 (1cr)</p>
	<p>PE 151 Concepts in Physical Education, Fitness and Health (2cr)/Y: PE 151 (2cr) + PE 152 Personal Aerobics and General Fitness (1cr)</p>

(Baccalaurate Colleges-Arts & Sciences)	PHED 101 Fitness for Life (.5cr)/Y: PHED 101 (.5cr) +PHED 104 Physical Activity (1cr) + and additional physical activity course (.5cr)	
	CORE 201 Life Wellness (2cr)/Y: CORE 201 (2cr)	
(Baccalaurate Colleges-Arts & Sciences)	N/N	
	HPE 101 PE and Recreation (2-3cr)/Y: 2-3 cr of health- and fitness- related course	
	GE 185 Health Concepts (2cr)/Y: Health and PE (4cr)-GE 185 + 2 activity PE courses	

	<p>PE 1300 Lifetime Fitness (3cr)/Y: PE 1300 (3cr) + 2 physical activity elective courses (1cr/ea=2cr)</p>	
	<p>HHP 200 Health and Wellness Concepts (3cr)/Y: 1 activity course (1cr), incl. HHP 200 (2cr)</p>	
	<p>PTW 207 Principles of Fitness and Wellness (3cr)/N</p>	
	<p>PEDW 1402 Fitness and Lifestyle Assessment (1cr)/Y: 2cr of 1000-level PEDW courses (incl PEDW 1402)</p>	
	<p>PHED 1101 Choices for Life (1cr)/Y: PHED 1101 (1cr)+ activity courses (2cr)</p>	

CPE Content Analysis Institutional Information

	PED 301 Lifelong Wellness (1cr)/Y: 3 hrs of PE; PED 101 Personal Health (1cr), PED 201 First Aid and Safety (1cr), PED 301 Lifelong Wellness (1cr)		
	KIN 1100 Personal Fitness and Wellness (4cr)/Y: KIN 1100 (4cr)		
	(Baccalaurate Colleges-Arts & Sciences)		
(Baccalaurate Colleges-Arts & Sciences)	N/N		

<p>(Baccalauerate Colleges-Arts & Sciences)</p> <p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>EXP 1101 President's Seminar: Learning Through Experience (1cr): includes instruction on importance of health and wellness/Y: EXP (1cr) + PEC activity (1cr)</p>	
	<p>SSPE 304 Principles of Lifetime Fitness and Wellness (3cr)/N</p>	
	<p>N/N</p>	
	<p>PHED 225 Basic Wellness (3cr)/Y: 2-3 cr of PE: PHED 225 (3cr) or PHED 1001 (1cr) + activity (1cr)</p>	
	<p>P ED 165 Lifetime Wellness (3cr)/Y: P ED activity course (1cr)</p>	

<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>N/Y: Wellness - Each student must satisfactorily complete two courses in physical education at the 100 level. Courses do not affect student's cumulative grade point average (GPA); the courses are taken for 0 hours of credit (PHED, phys ed) activity courses.</p>	
	<p>PED 100 Fitness for College and Life (2cr), PED 200 Adult Fitness and Wellness (4cr)/Y: PED 100 traditional students; PED 200 for students 21 years and older</p>	

<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>N/Y: 3 half- semesters of no- credit PE courses, or participation in intercollegiate, club sports, or ROTC</p>	
<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>HHP 160 Fitness for Life (3cr)/Y: HHP 160 and 1 HHP activity course (1cr)</p>	
	<p>PE 101 Wellness Concept (3cr) and PE 123 Personal Health (3cr)/Y: PED 101 or 123 (3cr) + 4 seminars (5cr) + 2 activity courses (1-2cr)</p>	
	<p>HE 110C Personal Health and Fitness (3cr)/Y: HE 110A Health and Survival Skills (3cr) or HE110C (3cr)</p>	

<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>PHED 050 Wellness for Life (.5cr)/Y: PHED 050 (.5cr) + 2 physical activity courses (.25cr/ea=.5cr)</p>	
<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>N/Y: 2 PE courses (1 completed by end of FR year; 2nd by end of SOPH year)</p>	
<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>HPE 1010 Health and Fitness (1cr)/Y: HE 1010 (1cr) + 2 HPE activity courses (.5cr/ea=1cr)</p>	
	<p>N/N</p>	
	<p>N/N</p>	
<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>PER 143 Health and Wellness (2cr)/Y: 3 physical activity courses (1cr/ea=3cr) + PER 143 (2cr)</p>	

<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>SHPE 202 Fitness- Contemporary Living (2cr)/Y: 2-3 cr of health and PE courses</p>	
	<p>N/N</p>	
<p>(Baccalauerate Colleges-Arts & Sciences)</p>	<p>HPR 120 Health for Modern Living (2cr)/Y: HPR 120 and any 100-level activity course (1cr)</p>	

APPENDIX J

CPE COURSE CONTENT ANALYSIS LETTER TO INSTITUTION

[REDACTED]

Dear [REDACTED]:

This letter is intended to seek your involvement in an exploratory content analysis study that I am conducting in efforts to research conceptually-based physical education (CPE). Your institution is among 50 universities and colleges that have been randomly selected, and I sincerely hope that you can assist me in analyzing the content and importance of CPE programming. Specifically, I am interested in learning more about the course your department offers: [REDACTED]. An email request for your course content will be forthcoming.

Currently, I am working at Kentucky Wesleyan College assisting in Athletic Compliance and teaching a CPE course, while also working on dissertation research towards completing a Ph.D. in Health Education from the University of Kansas. My dissertation involves conducting an exploratory content analysis of CPE courses offered in Southeastern United States' universities and colleges offering baccalaureate degrees. It is my goal to collect information about CPE-related courses from randomized institutions in this region and examine the content for commonalities and differences. Having taught this type of course for approximately 13 years as an adjunct professor, lecturer and instructor in three higher education institutions, I have vested a great deal of interest and passion for CPE. I embrace this dissertation study as a means of examining the course content for this type of unique programming, its effectiveness, and importance in the lives of college students.

I will send you an email in 1-2 weeks requesting specific information about [REDACTED] (including course syllabus and schedule). If more appropriate, possibly you could forward this request to an(other) instructor of the course or a department program assistant? I would greatly appreciate all of your assistance in collecting this important information. Your participation is voluntary; though I believe your input is invaluable.

KU approval was sought (HSCL#20501); though because the study does not directly involve human subjects, it has been cleared and expedited. Institutions and names will be kept confidential at all times. Once the study has been completed and the data analyzed, the results will be available to you upon request.

The email requesting your CPE course content will follow shortly. Please accept this request if you are willing to assist me and participate in the study. In the meantime, if there is any additional information or clarification that I can provide you, please do not hesitate to contact me at swilliams@kwc.edu or 816-344-8991.

Thank you for time and consideration.

Sincerely,

Suzanne Williams

APPENDIX K

CPE COURSE CONTENT ANALYSIS EMAIL TO INSTITUTION

[REDACTED],

I hope that this email finds you well. I wrote you a short time ago concerning a conceptually-based physical education (CPE) exploratory content analysis study that I am conducting for my dissertation. I am optimistic that after due consideration, you would be willing to participate and/or forward this request to an(other) instructor of the course or a department program assistant to help me in my data collection?

I am seeking information regarding the components, course description, topic schedule and the general content of your CPE course, along with any additional pedagogical measures or aids that you might use over the course of the semester. I am in need of the following information from your [REDACTED] course:

1. Syllabus
 2. Schedule of topics
- + Exam copies, if possible
 - + Additional instructional aids, if used

If you could, please send the electronic copies of these items through email. My email address is swilliams@kwc.edu. If you cannot send through email (either as an attachment or part of the email message), let me know and I can send you a postage-paid envelope so that you may send by mail.

If you have any questions or would like additional information, please do not hesitate to contact me at swilliams@kwc.edu or on my cell at 816-344-8991. In addition, I would be more than happy to share the results of my study with you, please just let me know!

Thank you in advance for your assistance with this study; I appreciate all of the resources that you can provide.

Suzanne Williams
Academics/Compliance
Kentucky Wesleyan College
3000 Frederica Street
Owensboro, KY 42301

APPENDIX L

CPE COURSE CONTENT ANALYSIS FOLLOW-UP EMAIL TO INSTITUTION

[REDACTED],

I do not mean to take up too much of your time; however, I am still attempting to gather a sufficient amount of data for my dissertation study on conceptually-based physical education (CPE). I hope you will still please consider assisting me in my data collection.

If you are able to help me (or forward this request to an(other) instructor of the course or a department program assistant who could), I am seeking information regarding the components, course description, topic schedule and the general content of your CPE course, along with any additional pedagogical measures or aids that you might use over the course of the semester. I am in need of the following information from your [REDACTED] course:

1. Syllabus
2. Schedule of topics

If you have any questions or would like additional information, please do not hesitate to contact me at swilliams@kwc.edu or on my cell at 816-344-8991. I would be more than happy to share the results of my study with you, as well.

Again, I would greatly appreciate your input! Thank you for your consideration.

Suzanne Williams
Academics/Compliance
Kentucky Wesleyan College
3000 Frederica Street
Owensboro, KY 42301

APPENDIX M

CPE COURSE CONTENT ANALYSIS ASSESSMENT INSTRUMENT

Dissertation Study
CPE Content Analysis Assessment Instrument

Institution	CPE Course/PE Requirement	Course Comp		Course Description and Objectives					Course Curric					
		1-HEC	2-PECA	1-HEC	2-HEC	3-HEC	4-HEC	5-HEC	1-HEC	2-HEC	3-HEC	4-ACSI	5-ACSI	
(Baccalauerate Colleges-Arts & Sciences)	PE 103 Sports and Physical Fitness (3cr)/Y: PE 103 (3cr)													
	N/N													
	KIN 135 Lifetime Wellness (2cr)/Y: KIN 135 (2cr)													
	PED 100 Theory of Wellness (1cr)/Y: PED 100 + PE activity course (1cr)													
	HE 354 Contemporary Health and Physical Education Activities (3cr)/N	•	•	•	•	•	•			•	•	•	•	•
	PE 205 Lifetime Fitness (3cr)/N													
	PED 131 Wellness for Life (2cr)/Y: Sport Science Perspective (2cr) requirement may be satisfied by completing one Physical Fitness course and by completing one lifetime activity course. 2 semester hours.	•	•	•	•	•	•			•	•	•	•	•
	PE 122 Fitness for Life (2cr)/Y: 2 hours in PE													
	HE 101 Wellness for Life (2cr)(health education?)/Y: 2 semester hours in fitness/phys activity													
	PEH 100 Intro to Lifetime Health and Wellness (.5cr)/Y: PEH 100 (.5cr) + physical activity requirement (.25cr)	•	•	•	•	•				•	•	•	•	•
	ESS 1351 Personal Fitness (1cr)/Y: ESS 1351 (1cr)	•	•	•	•	•	•			•	•	•	•	
	N/N													
	PE 127 Fitness for Life (1cr)/Y: PE activity courses, 2 semesters (2cr)	•	•	•	•	•	•	•		•	•	•		
	N/N													
	PE 205 Principles of Wellness (2cr)/Y: PE 205 (2cr)	•	•	•	•	•				•	•	•	•	•
	(Baccalauerate Colleges-Arts & Sciences)	ES 105 Wellness (2cr)/Y: ES 105 (2cr) + ES activity (1cr)	•		•	•	•	•		•	•	•		
	EHS 111 Concepts of Physical Fitness (1cr)/Y: EHS 111 + EHS activity course													
	PER 1101 Prescriptive Fitness (1cr)/Y: PER 1101 (1cr)													
PED 2300 Personal and Community Health (3cr)/Y: PE activity course	•		•	•	•	•	•		•	•	•	•	•	
(Baccalauerate Colleges-Arts & Sciences)	ESS 109 Concepts of Fitness (1cr)/Y: ESS 109 (1cr)	•	•	•	•	•	•		•	•	•	•		

**Dissertation Study
CPE Content Analysis Assessment Instrument**

Institution	CPE Course/PE Requirement	Course Comp		Course Description and Objectives					Course Curriculum					
		1-HEC	2-PECA	1-HEC	2-HEC	3-HEC	4-HEC	5-HEC	1-HEC	2-HEC	3-HEC	4-ACSI	5-ACSI	
(Baccalauerate Colleges-Arts & Sciences)	CORE 201 Life Wellness (2cr)/Y: CORE 201 (2cr)	•	•	•	•	•	•	•	•	•	•	•	•	
	N/N													
(Baccalauerate Colleges-Arts & Sciences)	HPE 101 PE and Recreation (2-3cr)/Y: 2-3 cr of health- and fitness-related course													
	GE 185 Health Concepts (2cr)/Y: Health and PE (4cr)-GE185 + 2 activity PE courses													
(Baccalauerate Colleges-Arts & Sciences)	PE 1300 Lifetime Fitness (3cr)/Y: PE 1300 (3cr) + 2 physical activity elective courses (1cr/ea=2cr)	•	•	•	•				•	•	•	•	•	•
	HHP 200 Health and Wellness Concepts (3cr)/Y: 1 activity course (1cr), incl. HHP 200 (2cr)													
(Baccalauerate Colleges-Arts & Sciences)	PTW 207 Principles of Fitness and Wellness (3cr)/N	•	•	•	•	•			•	•	•	•	•	•
	PED 1005 Wellness Mgt (2cr)/Y: personal wellness (2hrs); PED 1005 or 2 PED activity courses (1cr/each)													
(Baccalauerate Colleges-Arts & Sciences)	PEDW 1402 Fitness and Lifestyle Assessment (1cr)/Y: 2cr of 1000-level PEDW courses (incl PEDW 1402)													
	PHED 1101 Choices for Life (1cr)/Y: PHED 1101 (1cr)+ activity courses (2cr)													
(Baccalauerate Colleges-Arts & Sciences)	PED 301 Lifelong Wellness (1cr)/Y: 3 hrs of PE; PED 101 Personal Health													
	KIN 1100 Personal Fitness and Wellness (4cr)/Y: KIN 1100 (4cr)	•	•	•	•	•			•	•	•	•	•	•
(Baccalauerate Colleges-Arts & Sciences)	SPST 109 Fitness for Living (2cr)/N													
(Baccalauerate Colleges-Arts & Sciences)	N/N													
(Baccalauerate Colleges-Arts & Sciences)	EXP 1101 President's Seminar: Learning Through Experience (1cr): includes instruction on importance of health and wellness/Y: EXP (1cr)+ PEC activity (1cr)													
	SSPE 304 Principles of Lifetime Fitness and Wellness (3cr)/N	•		•	•	•	•		•	•	•	•	•	•
(Baccalauerate Colleges-Arts & Sciences)	N/N													
	PHED 225 Basic Wellness (3cr)/Y: 2-3 cr of PE: PHED 225 (3cr) or PHED 1001 (1cr)+activity (1cr)	•		•	•	•	•		•	•	•	•	•	•

Dissertation Study
CPE Content Analysis Assessment Instrument

M1.2											Evaluation		Personal Improvement		
	6-DSA	7-HEC	8-HEC	9-HEC	10-HEC	11-HEC	12-HEC	13-DSA	14-DSA	15-DSA	Pre-PECAT	Post-PECAT	1-HEC	2-HEC	3-HEC
(Baccalauerate Colleges-Arts & Sciences)
(Baccalauerate Colleges-Arts & Sciences)															
	.											.			

(Baccalauerate Colleges-Arts & Sciences)															
(Baccalauerate Colleges-Arts & Sciences)															

(Baccalauerate Colleges-Arts & Sciences)

Dissertation Study
CPE Content Analysis Assessment Instrument

nt or Behavioral Change Project											Wellne	Small Group Discussions, A				Comm
AT.S6	4-HEC	5-HEC	6-HEC	7-HEC	8-HEC	9-HEC	10-HEC	11-PE	12-PE	HECAT	1-HEC	2-HEC	3-HEC	4-HEC	NHES.S	
(Baccalauerate Colleges-Arts & Sciences)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)										•						
(Baccalauerate Colleges-Arts & Sciences)	•	•	•	•	•	•	•	•	•							
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)	•	•	•	•	•	•	•	•	•		•	•	•	•		
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)	•	•	•	•	•	•	•	•	•	•						
(Baccalauerate Colleges-Arts & Sciences)	•	•	•	•	•	•	•	•	•							

Dissertation Study
CPE Content Analysis Assessment Instrument

Institution	CPE Course/PE Requirement	Course Comp		Course Description and Objectives					Course Curriculum				
		1-HEC	2-PECA	1-HEC	2-HEC	3-HEC	4-HEC	5-HEC	1-HEC	2-HEC	3-HEC	4-ACSI	5-ACSI
(Baccalauerate Colleges-Arts & Sciences)	P ED 165 Lifetime Wellness (3cr)/Y: P ED (1cr)	•		•	•	•	•		•	•			•
(Baccalauerate Colleges-Arts & Sciences)	satisfactorily complete two courses in physical education at the 100 level. These courses do not affect a student's cumulative grade point												
(Baccalauerate Colleges-Arts & Sciences)	PED 100 Fitness for College and Life (2cr), PED 200 Adult Fitness and Wellness (4cr)/Y: PED 100 trad	•	•	•	•	•	•	•	•	•	•	•	•
(Baccalauerate Colleges-Arts & Sciences)	N/Y: 3 halfsemesters of no-credit PE courses, or participation in intercollegiate or club sports, or												
(Baccalauerate Colleges-Arts & Sciences)	HHP 160 Fitness for Life (3cr)/Y: HHP 160 and 1 HHP activity course (1cr)	•	•	•	•		•		•	•	•	•	•
	PE 101 Wellness Concept (3cr) and PE 123 Personal Health (3cr)/Y: PED 101 or 123 (3cr) +4 seminars (5cr) + 2 activity courses (1-2cr)												
	HE 110C Personal Health and Fitness (3cr)/Y: HE 110A Health and Survival Skills (3cr) or HE110C (3cr)												
(Baccalauerate Colleges-Arts & Sciences)	PHED 050 Wellness for Life (.5cr)/Y: PHED 050 (.5cr)+ 2 physical activity courses (.25cr/ea=.5cr)												
(Baccalauerate Colleges-Arts & Sciences)	N/Y: 2 PE courses (1 completed by end of FR year; 2nd by end of SOPH year)												
(Baccalauerate Colleges-Arts & Sciences)	HPE 1010 Health and Fitness (1cr)/Y: HE 1010 (1cr)+2 HPE activity courses (.5cr/ea=1cr)	•	•	•	•	•	•		•	•	•	•	•
	N/N												
	N/N												
(Baccalauerate Colleges-Arts & Sciences)	PER 143 Health and Wellness (2cr)/Y: 3 physical activity courses (1cr/ea=3cr)+PER 143 (2cr)												
(Baccalauerate Colleges-Arts & Sciences)	SHPE 202 Fitness-Contemporary Living (2cr)/Y: 2-3 cr of health and PE courses												
	N/N												

Dissertation Study
CPE Content Analysis Assessment Instrument

											Evalua	Personal Improve				
											Pre-, P	Exams				
M1.2	6-DSA	7-HEC	8-HEC	9-HEC	10-HEC	11-HEC	12-HEC	13-DSA	14-DSA	15-DSA	PECAT	HECAT	1-HEC	2-HEC	3-HEC	
	•	•	•	•	•	•	•			•		•				
	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
(Baccalauerate Colleges-Arts & Sciences)	•		•	•							•	•	•	•	•	
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)	•	•	•									•				
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)																

Dissertation Study
CPE Content Analysis Assessment Instrument

Int or Behavioral Change Project											Welln	Small Group Discussions, Ad				Comm
AT.S6	4-HEC	5-HEC	6-HEC	7-HEC	8-HEC	9-HEC	10-HEC	11-PEC	12-PEC	HECAT	1-HEC	2-HEC	3-HEC	4-HEC	NHES.S	
											•	•	•	•	•	
	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
(Baccalauerate Colleges-Arts & Sciences)	•	•	•	•	•	•	•	•	•	•						
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)																
(Baccalauerate Colleges-Arts & Sciences)																

**Dissertation Study
CPE Content Analysis Assessment Instrument**

Institution	CPE Course/PE Requirement	Course Comp		Course Description and Objectives					Course Curriculum				
		1-HEC	2-PECA	1-HEC	2-HEC	3-HEC	4-HEC	5-HEC	1-HEC	2-HEC	3-HEC	4-ACSI	5-ACSI
(Baccalauerate Colleges- Arts & Sciences)	HPR 120 Health for Modern Living (2cr)/Y: HPR 120 and any 100-level activity course (1cr)	•	•	•	•	•	•		•	•	•	•	•

TOTALS	20/20	15/20	20/20	20/20	18/20	15/20	4/20	20/20	20/20	19/20	17/20	15/20
%	1	0.75	1	1	0.9	0.75	0.2	1	1	0.95	0.85	0.75

PE Requirement	40/56	0.71
CPE Requirement	29/56	0.52
CPE Offering	41/56	0.73

Dissertation Study
CPE Content Analysis Assessment Instrument

											Evaluation				
											Pre-Exam	Personal Improvement			
V1.2	6-DSA	7-HEC	8-HEC	9-HEC	10-HEC	11-HEC	12-HEC	13-DSA	14-DSA	15-DSA	PECAT	HECAT	1-HEC	2-HEC	3-HEC
(Baccalaurate Colleges-Arts & Sciences)	•		•	•								•			

18/20 12/20 12/20 10/20 10/20 3/20 7/20 3/20 7/20 4/20 11/20 18/20 16/20 16/20 16/20
0.9 0.6 0.6 0.5 0.5 0.15 0.35 0.15 0.35 0.2 0.55 0.9 0.8 0.8 0.8

Dissertation Study
CPE Content Analysis Assessment Instrument

Intervention or Behavioral Change Project											Wellness	Small Group Discussions, Activities				Community
AT.S6	4-HEC	5-HEC	6-HEC	7-HEC	8-HEC	9-HEC	10-HEC	11-PE	12-PE	HECAT	1-HEC	2-HEC	3-HEC	4-HEC	NHES.S	
(Baccalaurate Colleges-Arts & Sciences)											•	•	•	•	•	

16/20 16/20 16/20 16/20 16/20 16/20 16/20 16/20 16/20 16/20 7/20 8/20 8/20 8/20 8/20 1/20
0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.35 0.4 0.4 0.4 0.4 0.05