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Adherence to Appropriate Instructional Practice Guidelines in American College and University Physical Activity Programs

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Abstract

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Background/Purpose: Higher education physical activity programs (HEPAP) in physical education have existed in American college and universities for over 100 years. Initially used to teach physical education and promote physical activity to prepare students for potential wartime conflicts, they have evolved in response to changes in societal and educational purposes and needs. In 2008, NASPE published its updated *Guidelines for Appropriate Instructional Practice in Higher Education Physical Activity Programs*. The guidelines educate professionals about effective physical education for post-secondary students, but knowledge of their use is limited. The purpose of the study was to examine familiarity and adherence to these guidelines.

Method: Researchers developed and piloted an electronic survey to assess familiarity and adherence with the guidelines related to curriculum and instruction. The survey included 61-items arranged in pre-existing content areas: Administration/Support, Assessment, Instruction Strategies, Professionalism, Learning Environment, and Curriculum. The survey was distributed to HEPAP representatives at U.S. colleges/universities offering a physical education teaching degree (N=596).

Analysis/Results: In total, 159 participants (26.7%) initiated the survey with 90 (15.1%) providing usable responses and the remaining 69 (11.5%) excluded due to no HEPAP or incomplete data. The data were transformed into categorical levels indicating a high degree of overall familiarity (96.7% full or partially familiar) and adherence (99% full or partially adherent). Full adherence to the content areas ranged from 91.8% (Administration/Support) to 0% (Instruction Strategies). Significant associations between Administration/Support and location (AAHPERD district)($\chi^2(10, n=71) = 23.98, p= .008$) and Assessment and location ($\chi^2(10, n=90) =19.39, p=.036$) were seen.

Conclusions: College physical education programs have been called on to provide students opportunities to develop an appreciation for, and increased participation in lifetime activity. While overall adherence to relevant professional guidelines appears high among HEPAPs, there is room for improvement in selected areas including Instruction Strategies and Assessment.

Key Words: program evaluation, college physical activity program, college student

Dedication

This work is dedicated to my parents, Michael and Mary Stapleton, who in their own way, taught me the importance of education and the value of hard work and persistence. Their love and support have helped shape me into the person I am today and will continue wherever life takes me.

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Introduction

The physiological and psychological benefits associated with a physically active lifestyle have been well documented in the literature over the past two decades with respect to reduced risk for premature death, cardiovascular disease, diabetes, colon cancer, obesity, orthopedic ailment, depression, and anxiety (Centers for Disease Control and Prevention & American College of Sports Medicine, 1995; U.S. Department of Health and Human Services, 1996, 2001). Despite the well-established benefits associated with a physically activity lifestyle, only 25 percent of U.S. adults engage in regular moderate physical activity (PA) and 29 percent report no leisure time PA (Centers for Disease Control and Prevention, 2001). The PA levels observed among college-aged individuals also appear problematic, with 57 percent of males and 61 percent of females reporting no moderate or vigorous PA on at least three of seven days per week (American College Health Association, 2001). More recent data show 80.5 percent of college students do not meet American College of Sports Medicine and American Heart Association recommendations for moderate exercise and 73.7 percent do not meet recommendations for vigorous exercise per week (American College Health Association, 2011).

The documented decline in PA that occurs as age and year in school increases, which has been shown to worsen in college-aged individuals (Caspersen, Pereira, & Curran, 2000), is particularly disconcerting when one considers the persistence of sedentary behaviors through childhood and adolescence into adulthood. Leslie, Fotheringham, Owen, and Bauman (2001) examined PA participation rates of young Australian adults and found a 15 percent decline in vigorous activity and 10 percent decline in moderate PA from 18-19 year old adults to 25-29 year old adults. Sparling and Snow (2002), in a survey of college graduates, found that 85 percent of respondents who exercised regularly as a college senior remained active at the same

level or higher six years later. Conversely, 81 percent of those respondents who were not active as college seniors reported their PA level at or less than what it was during their senior year.

A number of personal, psychological, social, and environmental factors have been shown to influence PA levels and provide insight into the previously described trends among college students and other segments of the population (Buckworth & Dishman, 2002; Trost, Owen, Bauman, Sallis, & Brown, 2002). For example, social ecological models of health "focus on individual influences as well as on social and environmental factors that may facilitate or inhibit individual behaviors" (Spence & Lee, 2003, p. 8) and incorporate multiple levels of interaction regarding behaviors and behavior settings (McLeroy, Bibeau, Steckler, & Glanz, 1988; Stokols, 1992,1996). McLeroy et al. (1988) described five levels of influence: (a) intrapersonal, (b) interpersonal, (c) institutional, (d) community factors, and (e) public policy. The models recognize that behavior is influenced by both personal characteristics and environmental variables, suggesting that changes made at one level may impact all other levels (Spence & Lee, 2003). Social ecological models have been recommended for studying PA as a public health issue due to the relative complexity of the challenge (Sallis et al., 2006). The emphasis on "cross-level analyses of health problems" and "incorporating two or more analytic levels" supports the use of social ecological theory to examine both individual and "aggregate manifestations of health problems" (Stokols, 1996, p. 287).

Social ecological models can also be used to frame the determinants of PA behavior. Buckworth and Dishman (2002) described six categories of determinants: (a) demographic and biological factors, (b) psychological factors, (c) behavioral attributes and skills, (d) social and cultural factors, (e) physical environment factors, and (f) PA characteristics. The determinants most relevant to college students are: self-efficacy, perceived barriers, and social support (Nahas,

Goldfine, & Collins, 2003). Self-efficacy has been used to predict PA levels in children, adolescents, and adults with college students being more likely to participate in the types of activities they feel most competent (Hildebrand & Johnson, 2001). Perceived barriers to PA have been shown to exert a strong influence on the individual's behavior (Sallis & Owen, 1999), determining how active he or she becomes. Potential barriers include time, social support, accessibility, scheduling, cost, aversion to activity, and competing demands (Calfas, Sallis, Lovato, & Campbell, 1994; Nahas et al., 2003; Sechrist, Walker, & Pender, 1987). Social support, in the form of exercising together, talking, or encouragement from friends, family, or staff has been shown to positively influence activity levels (Nahas et al., 2003; Sallis & Owen, 1999). The barriers most commonly cited by college students include inconvenience (schedules and facilities), aversion, and competing demands (Calfas et al., 1994).

Despite the sedentary lifestyle that defines college living for many students and the numerous barriers that exist on campus, institutions of higher education are thought to be well positioned to provide an environment that is conducive to establishing positive health-related behaviors including regular PA (Sparling, 2003). The interaction of environmental and social influences available on most campuses emphasizes the potential contributions colleges and universities can make in facilitating the development of physically active lifestyles. In addition to the "built environment" (i.e., sidewalks and cross-walks, recreation facilities and green spaces, bike lanes and racks, facilities and equipment), most colleges and universities also provide students access to a wide range of recreational and instructional opportunities including formal physical education courses.

From a social ecological perspective, higher education physical activity programs (HEPAP), have the potential to positively influence college students of all backgrounds and

interests. Institutional policies governing the administration of HEPAPs, university degree requirements, curricular aspects, and personnel decisions can also influence the environment on campuses. Sallis and McKenzie (1991) contended college physical educators may have "the best opportunity to prepare students to maintain patterns of regular physical activity" (p. 134). Hensley (2000) supported this assertion, highlighting the unique ability of HEPAPs to influence knowledge, attitudes, and behavioral skills of college students related to developing and maintaining a physically active lifestyle.

Physical education programs in college and universities have been in existence for over 100 years. Initially designed to provide students with a break from "the rigor of academics," they have evolved over the past 60 years in response to changing societal demands and student needs. Most of the literature investigating HEPAPs has focused on "periodic monitoring of status and practices" of these programs (Trimble & Hensley, 1990, p. 65). The majority of these surveys have focused on a range of issues including availability of programs, requirements for graduation, curricular offerings, budgeting, personnel, credit hour value, and grading and assessment practices (Hensley, 2000; Hunsicker, 1954; Lumpkin & Avery, 1986; Miller, Dowell, & Pender, 1989; Oxendine, 1961, 1969, 1972, 1985; Oxendine & Roberts, 1978; Trimble & Hensley, 1984, 1990). More recent investigations have examined the trend of concepts based health and wellness (CBFW) courses (Hodges-Kulinna, Warfield, Jonaitis, Dean, & Corbin, 2009), while others have focused on the impact of these course offerings on college students (Adams & Brynteson, 1995; Brynetson & Adams, 1993; Slava, Laurie, & Corbin, 1984). In its entirety, this research indicates that HEPAPs have changed significantly since their inception in the late 1800's. Despite an overall decrease in the number of college and universities requiring physical education for graduation and a decrease in the actual number of programs, it appears

HEPAPs remain firmly established on college and university campuses. The mere presence of a HEPAP, however, does not necessarily indicate the level of program quality or effectiveness.

The Task Force on Community Preventive Services (Kahn et al., 2002) concluded there was insufficient evidence for college based physical education programs as PA intervention venues. The Task Force pointed out that the lack of evidence should not be interpreted as college physical education programs are ineffective, but rather, that additional investigations are necessary to provide evidence of effectiveness. The potential of HEPAPs to be an optimal venue for PA interventions due to their ability to influence large numbers of individuals has not yet been realized. In order for HEPAPs to remain viable, administrators must be able to demonstrate their value to students, alumni, and institutional leaders.

Calls for additional research focused on HEPAPs (Housner, 1993), have gone largely unheard, with the majority of the related research focused on changes in trends and status, with little attention given to the evaluation of program quality or effectiveness. Given the lack of attention to evaluation of program quality, an appropriate starting point may be the utilization of guidelines from professional organizations pertaining to HEPAPs. Investigations to determine the optimal program variables, such as faculty roles, institutional demographics, and program and course format, may be the first step in maximizing the effectiveness of PA interventions delivered using HEPAPs.

The National Association for Sport and Physical Education (NASPE) *Appropriate Instructional Practice Guidelines for Higher Education Physical Activity Programs* are intended to "educate professionals about effective programming and teaching within a higher education curriculum" (NASPE, 2008, p. 3). The guidelines provide students, faculty, administrators, and policy makers with a template for "program administration," a tool to assess the "quality of

instruction," and a framework to develop an effective program (p.3). Topic areas such as administration and support, assessment, instructional strategies, professional development, learning environments, staffing, and curricular evaluation are presented as a series of statements. The guidelines "represent expert consensus about appropriate and inappropriate practices observed in colleges/university instructional physical activity programs" (NASPE, 2008, p. 3), with the overall goal of ensuring that HEPAPs facilitate the development of physically educated persons.

The promotion of lifelong participation and an appreciation of PA is one of the commonly stated outcomes of HEPAPs (Hensley, 2000). However, based on current literature highlighting college student PA levels, HEPAPs may not be sufficiently accomplishing this desirable outcome. The disconnect between expected and actual outcomes leads to questions of the effectiveness of HEPAPs. The need for constant assessment in light of changing societal influences and student needs has led to calls for evaluation of college physical education programs (Evaul & Hilsendanger, 1993; Leslie, Sparling & Owen, 2001; Lumpkin & Avery, 1986; Sparling, 2003). The NASPE guidelines for HEPAPs provide a social ecological framework to evaluate the individual, intrapersonal, environmental, and policy influences of HEPAPs in order to promote college student participation in lifetime PA. Adherence to the NASPE guidelines may provide valuable information regarding the quality of HEPAPs. However, to date, no investigations have been conducted to examine the extent to which these guidelines have been adhered to. Therefore, the purpose of this study was to examine the level of familiarity with and the level of adherence to the NASPE Guidelines for appropriate instructional practices in HEPAPs.

Method

A lack of current research examining adherence to appropriate professional guidelines and the potential implications for HEPAP curriculum and instructional environment provide the primary justification for this study. The following sections include an overview of the methods proposed for population identification, research design, instrumentation, procedures and protocols, data collection, and data analysis.

Population Identification

Following IRB approval, the researcher recruited participants from an existent database of key department contacts at colleges and universities offering an undergraduate degree in physical education teacher education (PETE). The database was constructed for the purpose of a previous study and the process included Internet searches to identify all four year institutions of higher education that offer an undergraduate degree in PETE (N=644). It was presumed that college and universities offering a PETE degree would model appropriate professional practices in the preparation of future physical education teachers, and as a result, appropriate professional practices would carry over to their PA programs. Due to the small size, the entire population of key department contacts was surveyed excluding those randomly selected to participate in the pilot study.

Research Design

A non-experimental, cross-sectional descriptive survey research design was used. Cross-sectional surveys are effective for identifying behavior of a population at a given time (Gay, Mills, & Airasian, 2009). Most recently within this line of research, Hensley (2000) and Hodges Kulinna et al. (2009) distributed surveys to physical education department chairpersons to assess status and trends within college and university basic instruction programs. Additional support

for the use of a survey research design to measure adherence to professional guidelines is found out-of-field in McInnis, Hayakawa, and Balady (1997) and McInnis et al. (2001) who used mail-based surveys to assess adherence to cardiovascular emergency preparedness, and Kahanov, Furst, Johnson, and Roberts (2003) who assessed adherence to national drug-dispensation laws. Survey research, in general, has inherent advantages and disadvantages. The advantages include reduced cost, maintenance of anonymity and confidentiality, and ease of access to respondents (Gay et al., 2009). The disadvantages of survey research include an inability to follow up or explain items to respondents, the potential for multiple responses from a single participant, and the potential for low response rate (Gay et al., 2009). A target response rate of 17% (Hodges-Kulinna et al., 2009) was established for this study. The use of an Internet based survey delivery and management application, combined with rigorous development of the population database, survey instrument, and follow up procedures, addressed the other potential concerns.

Survey Instrument Development

The survey instrument was developed for the specific purpose of this study based on the *Appropriate Instructional Practice Guidelines for Higher Education Physical Activity Programs* (NASPE, 2008). In the original format the guidelines are grouped in the following categories: (a) Administration and Support, (b) Assessment, (c) Instruction Strategies, (d) Professionalism, (e) Learning Environment, (f) Program Staffing, and (g) Curriculum. Prior to their inclusion in the survey instrument for this study, each individual guideline was critiqued by the researcher and revised, re-written, or divided as needed into multiple statements to improve clarity and avoid the use of double-barreled statements. The resultant 107 prospective survey items were reviewed by another researcher for clarity and ease of understanding.

Given the rather extensive list of prospective survey items and the current research focus on curriculum and instructional environment, a panel of two reviewers with expertise in the area of HEPAP was purposefully selected to evaluate each survey item for content validity (reviewers identified below). For the purpose of this study, "Curriculum and Instructional Environment" (C&I) was operationally defined as those guidelines which have a direct influence on student behaviors, student outcomes, student knowledge, student abilities, and/or student skill development. Items may include, but are not limited to guidelines related to areas such as: effective teaching, lesson structure, practice opportunities, maximizing PA, instructional strategies, instructor behaviors, and so forth. "Administration and Institutional Support" (A&IS) was operationally defined as those guidelines which are departmental, program, or institutional administrative functions and/or those statements which do not have a direct influence on student behaviors, outcomes, knowledge, abilities, and/or skill development. Items may include, but are not limited to guidelines related to areas such as: program position, marketing, promotion, staffing, professional development, program evaluation, assessment, policy and procedures, and so forth. Reviewers were provided with a third category of "unclassified" for those items determined not to fit one of the previously provided definitions (Hinkin, 1998). The definitions identified reflect revisions made throughout the survey instrument development process.

The panelists were asked to sort 107 items into the corresponding categories using the definitions provided (Appendix B). Those items which both reviewers categorized in the C&I category were selected for inclusion in the final survey. Content validity was established when both reviewers sorted a statement as belonging to the C&I category. An overall interobserver agreement (IOA), calculated using the point-by-point agreement ratio, of greater than or equal to 80 percent (Hinkin, 1998; Kazdin, 2011) was used. Three rounds of categorization were

completed prior to achieving the target level of agreement (Drs. Lynn Housner and Valerie Wayda, round one; Drs. Emily Jones and Robert Wiegand, round two; Drs. Kacey DiGiacinto and Wes Meeteer, round 3). After each round, the investigator met with the reviewers to better understand the areas of disagreement. Following these meetings, the operational definitions were revised to include comments and/or suggestions from the reviewers. Upon revising the operational definitions, two new reviewers were solicited to sort the items (Appendix C). The final round of selection resulted in the reviewers agreeing that 61 of the statements were related to C&I (IOA of 88 percent). The reviewers were not asked to provide any additional statements or comments for inclusion as the intended purpose of the research study was to evaluate adherence to the guidelines as they are written.

The resulting 61 items were organized into a survey format that asked participants to rate their program's level of adherence to each guideline for best practice using a 5-point Likert scale, anchored at 5 (Fully Adhered To) and 1 (Not At All Adhered To) (Appendix D). Participants selected one score, indicating the level of adherence of their respective institution, to that particular statement. Participants were given an option of not applicable for each item. Familiarity with the guidelines was assessed using a single question in which participants were asked to rate their level of familiarity using a three point Likert scale, with 3 indicating full awareness, 2 indicating partial awareness, and 1 indicating no awareness at all. Participants were also asked to identify the size of their institution, the affiliation (public versus private), the number of full-time faculty teaching in the HEPAP, the number of part-time faculty teaching in the HEPAP, and the number of graduate teaching assistants teaching in the HEPAP. Participants were also asked to identify if physical education is a requirement for graduation at their respective institution. Each of the sixty-one items included was then linked back to the

corresponding statement from the guidelines. The corresponding guideline was included at the end of each statement as to facilitate the connection between the original guidelines and the instrument developed for the purpose of this study. The final sixty-one item survey was distributed to an additional panel of survey design experts for pre-testing and review of grammar, clarity of instructions, and other general administrative procedures (Kahanov et al., 2003; McInnis et al., 1997). Reviewers were asked to make comments related to those areas. Any comments, concerns, or issues were used to revise the instrument, procedures, or instructions prior to pilot testing.

Survey Pilot Testing

The pilot study employed an electronic survey format to help control administrative costs, minimize data entry errors, and expedite data collection and analysis. Survey Monkey™ (Menlo Park, CA) was used to manage survey administration and collection of participant responses. Survey Monkey™ is a publically accessible Internet-based software program that can be used to develop, deliver, and manage electronic survey projects. Participant responses were recorded, stored, and provided for analysis as Microsoft Excel spreadsheet files or Statistical Package for the Social Sciences™ (SPSS) data files. Response frequencies and percentages were calculated automatically. A hyperlink unique to the survey was included in the informational "cover sheet" email sent to all participants (Appendix E). The electronic survey was then distributed to a random sample of approximately 40 participants (Johanson & Brooks, 2010) from the previously described database (initial request sent March 9, 2012). Approximately two weeks after the initial email contact was made (March 20, 2012), a reminder email was sent to participants asking for responses. The pilot test was closed three weeks following the initial email contact due to time constraints and the overall goal of the pilot test.

The purpose of the pilot testing process was to check the functionality of the electronic survey, procedures for survey administration, and systems for data collection, management, and analysis. Data collected during this stage were not included in the final analyses.

Administrative Procedures

Following pilot testing, the final survey was distributed electronically (April 3, 2012) to all remaining participants using the PETE database previously described (N=604). Participants received a general informational/recruitment/instructional email (Appendix E) highlighting the purpose of the research, confidentiality procedures, instructions for accessing and completing the survey as well as the hyperlink to the survey. Participants identified their consent to participate via answering a single question prior to completing the electronic instrument. If the department representative identified in the database was not the most qualified individual to respond to the survey, he or she was asked to forward the information/recruitment/instructional email to the appropriate individual for completion.

Fourteen days following the initial email (April 17, 2012), a second email was sent thanking participants who had completed the survey and reminding those who had not yet done so of the importance of their participation. The same general and procedural information, instructions, and hyperlink were included. Two weeks following the second email (May 2, 2012), a third email was sent to all participants. Again, those having completed the survey were thanked and the importance of participation was highlighted for those who had not yet completed the survey.

Data Analysis

The data from the completed surveys were downloaded from Survey Monkey™ and converted for use in SPSS™ (version 19) for analysis. Descriptive statistics, including frequency of responses (and percentages) were calculated for all items using SPSS. To address the research

question related to the identification of familiarity with the NASPE Guidelines, frequencies for each level of familiarity (fully aware, somewhat aware, and not at all aware), median, and mode were determined. To address the research question related to identifying the level of adherence to the NASPE guidelines the overall adherence level was calculated for each completed survey. Likert-scale questions were analyzed by establishing a categorical level of adherence. Items rated a 5 or 4 on the Likert-scale were considered fully adhered to, 3 partially adhered to, and 2 or 1 as not at all adhered to. Linking each of the sixty-one statements included in the final survey instrument to the corresponding guideline allowed for the statements to be grouped using the original category titles (Appendix F). Utilizing the six categories represented in the final survey, an adherence level for each category was determined. The Likert-type data were transformed and re-coded into categories of Fully Adhered To, Partially Adhered, and Not at All Adhered to. A category was considered "Fully Adhered To" if adherence to 80% of the items in the particular category were rated as Fully Adhered To. Lack of adherence ("not at all adhered to") was defined as adherence to 80% of the items in the particular category being rated not at all adhered to. Partial Adherence was defined as not being fully adherent nor lacking adherence. Frequency distributions, including percentages, of adherence to individual guidelines (Table 2) and to the categories were constructed.

As the purpose of this investigation was to describe the level of familiarity with and adherence to the NASPE guidelines, χ^2 analyses were conducted. Comparisons were made based on (1.) overall familiarity and institutional variables, (2.) familiarity and overall adherence, (3.) overall adherence and institutional variables, and (4.) category adherence and institutional variables.

Results

Participants were HEPAP representatives as identified from a database of four year institutions of higher education within the United States offering an undergraduate program in PETE (N=596). Institutional demographics are displayed in Table 1. One hundred fifty nine participants out of 596 initiated the survey (26.7%) and 90 provided usable responses (15.1%). Of the remaining 69 participants, 20 indicated that their college/university had no HEPAP and 49 were not included in the analysis due to large quantities of missing survey data or large sections of the survey being skipped. One hundred thirty (82%) of responding institutions that initiated the survey, offered a HEPAP, with 77 (48.4%) requiring physical education for graduation. These numbers are slightly lower than previous reports (Hensley, 2000). One-hundred twenty-six (79.2%) HEPAPs were housed in the same department as the PETE program, with exercise science, health science, and recreation as the most commonly reported alternate if not in the same department (data not shown).

Of those respondents who completed the survey, 53 (60.9%) reported having a physical education requirement for graduation. The institutions responding represent a geographically diverse set, with 38 (42.7%) from the Southern AAHPERD District, 21 (23.6%) Midwest, 14 (15.7%) Central, 7 (7.9%), Northwest, 5 (5.6%) Southwest, and 4 (4.5%) Eastern. Institutional size was collapsed to Small (enrollment between 500 and 2500 students), Medium (2501-10,000), and Large (> 10,000) due to small sample sizes within each category, resulting in relatively equal distribution within each revised size category (Small, n=38, 42.7%; Medium, n=26, 29.2%; and Large, n=25, 28.1%). Institutional affiliation was also relatively equally distributed with 48 (53.9%) public and 41 (46.1%) private.

Familiarity with Guidelines

The results for overall familiarity with the Guidelines can be seen in Figure 1. Fifty (55.6%) participants reported being fully aware, 37 (41.1%) reported being partially aware, and 3 (3.3%) were totally unaware of the guidelines, indicating a moderate to high level of awareness overall. The results, when examined based on institutional variables (Appendix G) revealed a similarly high level of overall familiarity, independent of affiliation, student enrollment, location, and the presence of a physical education requirement for graduation. The χ^2 analyses revealed no significant associations between familiarity with the NASPE Guidelines and any of the institutional variables. However a pattern of higher percentages of full or partial awareness to the guidelines was seen among institutions requiring physical education for graduation and among those with smaller enrollments.

Adherence to Guidelines

Frequency distributions for adherence to each individual guideline can be seen in Table 2. Collectively, the majority of items were rated as being either fully or partially adhered to. Guideline 3.10.1B had the highest percentage of non-adherence (n = 22, 24%) and Guideline 1.3.1 had the highest percentage of full adherence (n= 73, 92%). Overall adherence to the Guidelines is displayed in Figure 2. Fifty (53.8%) of respondents indicated their institution was fully adherent to the guidelines; forty two (45.2%) were partially adherent, and one (1.1%) was completely non-adherent. Comparisons of overall adherence and institutional variables revealed similar patterns of high percentages of institutions partially or fully adhering to the Guidelines. Institutions with smaller enrollments had the highest percentages of partial (n=17, 18.9%) and full (n=20, 22.2%) adherence. As with familiarity, a pattern was observed among institutions

that require physical education for graduation having higher partial (n= 24, 26.7%) and full (n=30, 33.3%) adherence compared to those institutions not requiring PE for graduation (n=17, 18.9%; n=18, 20%); no such patterns were evident with respect to location or affiliation. There were no significant associations between overall adherence and the institutional variables though (Appendix H).

Association of Overall Adherence and Familiarity

There was a significant association ($\chi^2(4, n=90)= 11.16, p=.025$) between overall adherence and familiarity with the Guidelines (Figure 3 and Appendix I). This association confirmed the relationship between the high level of awareness and high levels of adherence seen in the data. It is reasonable to expect institutions reporting higher levels of awareness would also report higher levels of adherence. It is interesting to note that institutions that reported a lack of awareness of the Guidelines (n=3) were at least partially adherent to them.

Adherence by Category

General adherence to the categories identified from the guidelines is displayed in Figure 4 and Appendix J. The percentage of institutions fully adhering to the categories are as follows: Administration and Support, 91.8%; Assessment, 38.7%; Instruction Strategies, 0% (no institutions fully adhered to this category, 97.8% were in partial adherence); Professionalism, 76.7%; Learning Environment, 68.9%; and Curriculum, 67.4%. Overall, a high percentage of institutions either partially or fully adhere to all categories. Higher percentages of institutions that require physical education for graduation fully adhere to the Administration and Support (n= 42, 59.2%), Assessment (n=25, 27.8%), Professionalism (n=42, 48.3%), Learning Environment (n=40, 46%), and Curriculum (n=40, 46.5%) categories than those institutions that do not require physical education, however, the percentages did not reach statistical significance.

Public institutions have higher percentages of partial adherence to the Professionalism (n=13, 14.6%), Learning Environment (n=19, 21.3%), and Curriculum (n=17, 19.3%) categories than private institutions. There appears to be a pattern of decreasing frequencies of full adherence from smaller institutions to larger institutions, overall and across all categories. There was a significant association between adherence to the Administration and Support category and location ($\chi^2(10, n=71) = 23.98$, p= .008; Figure 5). This association may be related to the two (40%) institutions in the Northwest AAHPERD district being in full adherence with the Administration and Support category, compared to other districts which reported 89% full adherence or higher. Institutions within the Northwest district also had a higher percentage of partial adherence (n=2, 66.7%) to the Administration and Support category compared to institutions from other districts.

There was also a significant association between adherence to the Assessment category and location ($\chi^2(10, n=90) = 19.39$, p=.036; Figure 6). This association may be related to institutions within the Eastern AAHPERD district having the highest percentage of full adherence to the Assessment guidelines (n=3, 75%) compared to other districts, and institutions in the Northwest district having the lowest percentage (n=1, 14.3%). Additionally, there was a trend toward a significant association between adherence to Learning Environment guidelines and affiliation ($\chi^2(2, n=90) = 4.64$, p=.099; Figure 7), but was not large enough to reach statistical significance. This trend may be related to the larger number of public institutions partially adhering to the guidelines (n=19, 38.8%) compared to private institutions (n=8, 20%). Collectively, these data indicate a high level of adherence to the NASPE guidelines through the percentages of institutions either fully or partially adhering.

Table 1

Description of Respondents Based on Institutional Demographic Variables

Institutional Demographic		
Presence of HEPAP*	Frequency	Percentage
Yes	130	82
No	20	13
Unsure	1	1
Graduation Requirement**		
Yes	53	60.9
No	34	39.1
Affiliation**		
Public	48	53.9
Private	41	46.1
Student Enrollment**		
Small (500-2500)	38	42.7
Medium (2501 - 10,000)	26	29.2
Large (> 10,000)	25	28.1
AAHPERD District**		
Eastern	4	4.5
Southern	38	42.7
Midwest	21	23.6
Central	14	15.7
Southwest	5	5.6
Northwest	7	7.9

Note. * indicates data from all respondents. ** indicates data only from those respondents who completed the survey

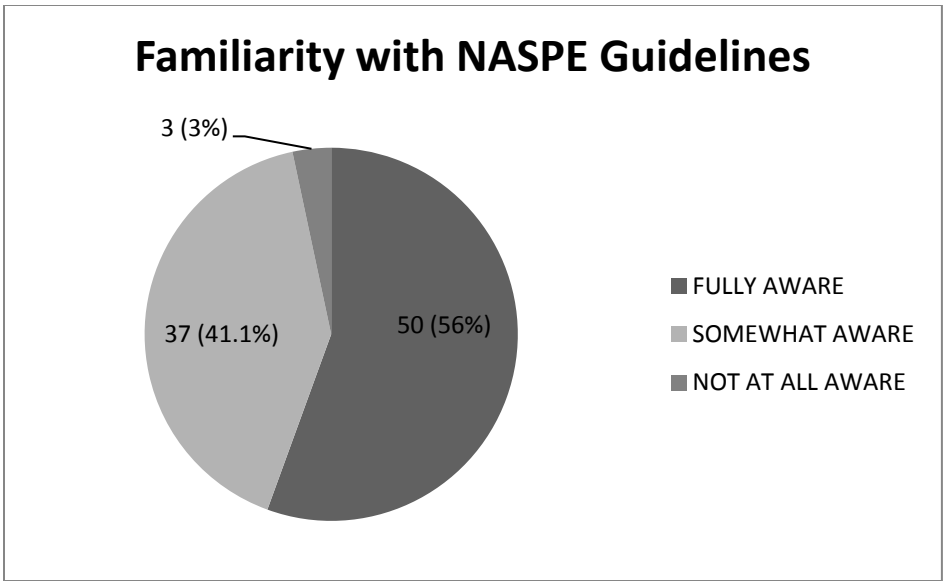


Figure 1. *Frequency Distribution of Respondents Familiarity with NASPE Guidelines*

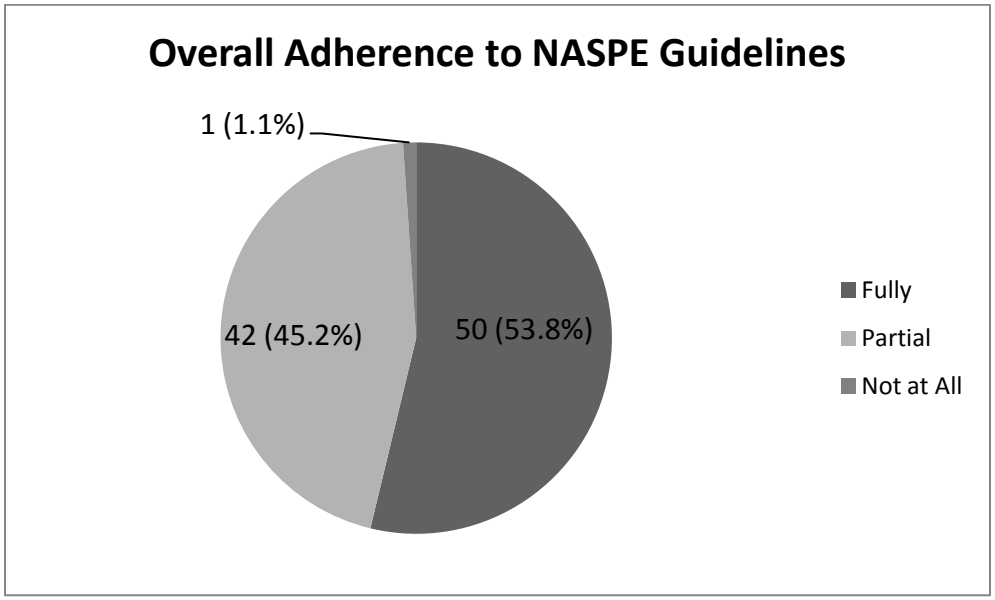


Figure 2. *Frequency Distribution of Respondents Overall Adherence to NASPE Guidelines*

Table 2

Frequency Distribution for Adherence to Individual Items Organized by Category

Associated Guideline	Item	n	Full Adherence	Partial Adherence	No Adherence
Administration and Support					
1.3.1	The program adheres to course policies consistent with all other credit-bearing coursework within the institution, including those regarding instructor and student responsibilities and expectations, administrative roles, and standards of professionalism.	*73*	67 (92)	3 (4)	3 (4)
Assessment					
2.1.1A	The program uses assessments to inform and help students progress toward intended outcomes.	73	59 (81)	7 (10)	7 (10)
2.1.1B	Formative and summative assessments constitute an ongoing and integral part of the learning process for all students	73	52 (71)	13 (18)	8 (11)
2.2.1	Instructors assess all domains (cognitive, affective, psychomotor and health-related fitness) systematically	**73**	**43 (59)**	**17 (23)**	**13 (18)**
2.2.2	The program conducts individual student evaluations though a variety of assessment techniques	83	59 (71)	17 (20)	7 (8)
2.2.3	Appropriate tests are used for students with disabling conditions.	80	58 (73)	13 (16)	9 (11)
2.3.1	Instructors are encouraged to use fitness assessments as part of the ongoing process of helping students understand, improve and maintain their physical fitness and well-being	83	61 (73)	15 (18)	7 (8)
2.4.1	Instructors create testing situations that are private, non-threatening, educational and encouraging	81	56 (69)	18 (22)	7 (9)
2.4.2	Instructors explain what the assessment is designed to measure.	82	62 (76)	16 (20)	4 (5)
2.4.3	Instructors encourage students to avoid comparisons and use the results as a catalyst for personal improvement	89	68 (76)	18 (20)	3 (3)
2.5.1	Assessment results are shared privately with students, with the aim toward developing personal goals and strategies for maintaining fitness and skill parameters.	88	68 (77)	13 (15)	7 (8)

2.5.2	Instructors provide students with progress reports regularly using a variety of continuous, formative evaluations and assessments	**90**	**49 (54)**	**24 (27)**	**17 (19)**
2.6.1	Grades are based on thoughtfully identified criteria that are aligned with exit outcomes.	88	66 (75)	12 (14)	10 (11)
2.6.2	Students know the components of and/or criteria included in their grades.	*89*	*80 (90)*	*5 (6)*	*4 (4)*
2.7.1	Program assessment is used to determine program effectiveness, to communicate goals to the student body, faculty and administration, and to revise curricula.	**89**	**65 (73)**	**9 (10)**	**15 (17)**
Instruction Strategies					
3.1.1	Instructors communicate clear outcomes for student learning and performance.	90	76 (84)	8 (9)	6 (7)
3.2.1	Instructors form pairs, groups and teams in a manner that facilitates learning and preserves dignity and self-respect for all students.	89	61 (69)	20 (22)	8 (9)
3.3.1A	Class begins with an anticipatory set and physical warm-up that precedes the instructional focus and fitness activities.	90	63 (70)	19 (21)	8 (9)
3.3.1B	Classes close with a cool-down, stretching and review of the content.	88	55 (63)	24 (27)	9 (10)
3.3.2	Activities are designed based on a pre-evaluation, outcome of the course and student needs.	**88**	**47 (53)**	**25 (28)**	**16 (18)**
3.4.1A	The instructor plans for skill and concept instruction	86	70 (81)	10 (12)	6 (7)
3.4.1B	The instructor allows enough time for practice, skill development, content acquisition and feedback based on (appropriate) skill analysis.	88	66 (75)	16 (18)	6 (7)
3.5.1	Instructors organize classes to maximize opportunities for all students to learn and be physically active.	89	75 (84)	9 (10)	5 (6)
3.5.2	Instructors use small sided games or mini-activities to allow students ample opportunity to participate.	89	67 (75)	15 (17)	7 (8)
3.6.1A	Instructors use a variety of direct and indirect teaching styles depending on outcomes, lesson content, and students' varied learning styles.	89	61 (69)	22 (25)	6 (7)
3.6.1B	Instructors emphasize critical thinking and problem solving tactics and strategies to help students apply concepts and skills to post-graduation experiences.	**90**	**51 (57)**	**23 (26)**	**16 (18)**
3.8.1	Students practice skills and achieve success appropriate to their individual skill level.	86	70 (81)	13 (15)	3 (3)

3.9.1	Students receive positive, constructive, and specific corrective feedback about performance.	*89*	*78* (*88*)	*7* (*8*)	*4* (*4*)
3.10.1A	Instructors include technology (e-mail, internet, video recording) to improve teaching effectiveness and class management.	89	57 (64)	21 (24)	11 (12)
3.10.1B	Instructors include technology to quantify activity (pedometers, heart rate monitors, etc).	**90**	**40 (44)**	**28 (31)**	**22 (24)**
Professionalism					
4.2.1A	Instructors demonstrate an understanding of basic motor skills.	88	73 (83)	10 (11)	5 (6)
4.2.1B	Instructors provide accurate demonstrations for dominant and non-dominant performance through teacher or student modeling or via visual aid.	88	66 (75)	17 (19)	5 (6)
4.3.1	Instructors continually seek new information to stay current in the field.	88	59 (67)	20 (23)	9 (10)
Learning Environment					
5.1.1	Instructors systematically plan for, develop, and maintain a positive learning environment that allows students to feel safe, supported and unafraid to make mistakes.	90	71 (79)	14 (16)	5 (6)
5.1.2	The environment is supportive of all students and promotes developing a positive self-concept	90	72 (80)	15 (17)	3 (3)
5.1.3	Fair and consistent classroom-management practices encourage student responsibility for learning.	90	77 (86%)	9 (10)	4 (4)
5.2.1A	Instructors promote exercise for its contribution to a healthy lifestyle.	*90*	*78* (*87*)	*8* (*9*)	*4* (*4*)
5.2.1B	Students are encouraged to participate in physical activity and exercise outside the class setting for skill development, enjoyment, and good health.	*90*	*78* (*87*)	*8* (*9*)	*4* (*4*)
5.3.1	Activities are carefully selected to ensure they match students' ability levels and are safe for all students regardless of ability level	90	65 (72)	17 (19)	8 (9)
5.3.2	Activities are carefully selected and modified to ensure a safe learning environment for students.	90	70 (78)	15 (17)	5 (6)
5.4.1	Instructors create an environment that is inclusive and supportive of all students, regardless of race, ethnic origin, gender, sexual orientation, religion, or physical ability.	89	76 (85)	9 (10)	4 (4)
5.5.1A	All students have equal opportunities for participating in and during activity time and interaction with the instructor.	*88*	*77* (*88*)	*7* (*8*)	*4* (*5*)

5.5.1B	All students, regardless of developmental level and ability, are challenged at an appropriate level.	88	66 (75)	17 (19)	5 (6)
5.5.2	Instructors use gender neutral and respectful language	88	71 (81)	12 (14)	5 (6)
5.6.1	Instructors implement the special education process for students with disabling conditions, as provided through student services.	86	64 (74)	17 (20)	5 (6)
5.6.2A	Lessons/activities are adapted for students with varied fitness and/or skill levels.	89	69 (78)	15 (17)	5 (6)
5.6.2B	Students are encouraged to participate at appropriate levels of activity for their own improvement.	*87*	*78* (*90*)	*9* (*10*)	*0* (*0*)
5.6.3	Instructors provide appropriate experiences for students with acute medical limitations (i.e. student with broken arm can ride exercise bike).	89	68 (76)	15 (17)	6 (7)
5.7.1A	Instructors help students recognize that adults engage in sport and exercise activities both to socialize and compete.	89	75 (84)	9 (10)	5 (6)
5.7.1B	A deeper understanding of competition is fostered, one that encourages students to reflect on ideas such as rivalry, competence, and affiliation.	84	46 (55)	27 (32)	11 (13)
Curriculum					
7.6.1	Instructors encourage students to extend experiences from in-class activity lessons to campus, community, and family activities that promote a physically active lifestyle.	89	68 (76)	16 (18)	5 (6)
7.7.1	Curriculum offerings provide opportunities for students to interpret and use assessment data to set personal goals, including developing a lifelong fitness plan.	89	60 (67)	16 (18)	13 (15)
7.8.1	The program establishes outcomes that reflect 4 domains (cognitive, affective, psychomotor, health-related fitness).	87	59 (68)	17 (20)	11 (13)
7.8.2	Program offerings include content that allows students to develop social skills and responsible behavior that will lead them to become productive members of society.	89	64 (72)	18 (20)	7 (8)
7.8.3	Course content aims to provide opportunities for all students to experience the satisfaction and joy that can result from participating regularly in physical activity.	89	71 (80)	13 (15)	5 (6)
7.8.4	Course content is delivered in a way that encourages students to recognize that physical activity is an important part of everyday living.	88	71 (81)	13 (15)	4 (5)

7.8.5A	Activities focus on health-related components of fitness.	89	72 (81)	9 (10)	8 (9)
7.8.5B	Skill related components of fitness are emphasized in their relation to skill development.	88	67 (76)	14 (16)	7 (8)
7.8.6	Instructors within sections of the same course use common course outcomes.	85	71 (84)	8 (9)	6 (7)
7.9.1A	The program has established exit outcomes which are listed on all course syllabi.	88	63 (72)	16 (18)	9 (10)
7.9.1B	Course content is related directly to exit outcomes.	88	66 (75)	13 (15)	9 (10)

Note. Items in bold print indicate those items with the highest frequencies of "Not At All Adhered To" ratings. Items in italics indicate those items with the highest frequencies of "Fully Adhered To" ratings.

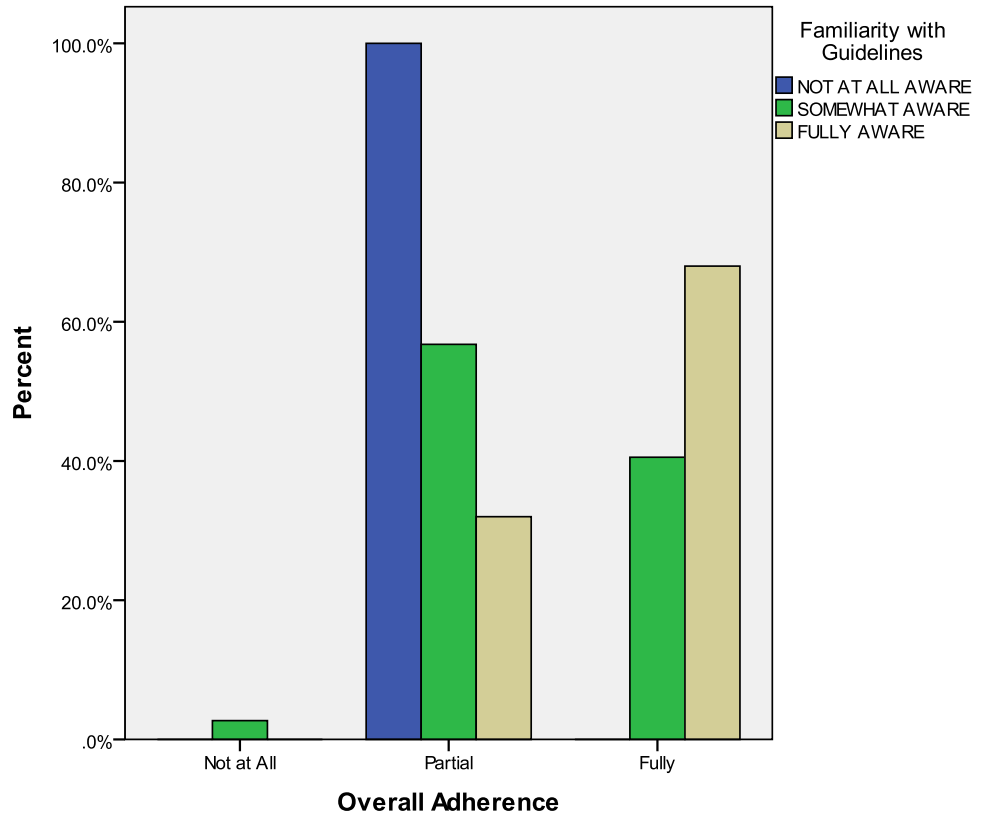
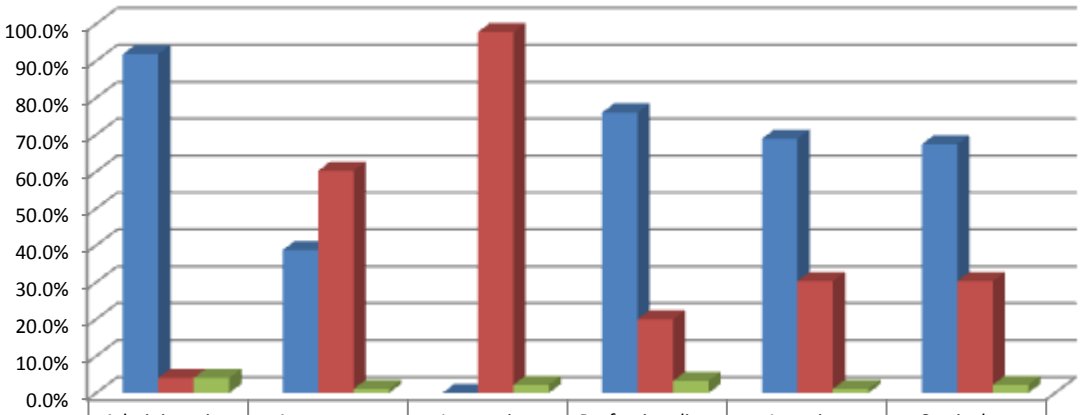


Figure 3. *Association of Overall Adherence and Familiarity with the Guidelines* $\chi^2(4, n=90) = 11.16, p=.025$



	Administration and Support	Assessment	Instruction Strategies	Professionalism	Learning Environment	Curriculum
Fully	91.8%	38.7%	0.0%	76.00%	68.9%	67.4%
Partial	4.1%	60.2%	97.8%	20.00%	30.3%	30.3%
Not at All	4.1%	1.1%	2.2%	3.30%	1.1%	2.2%

Figure 4. *Adherence to Individual Categories Within NASPE Guidelines*

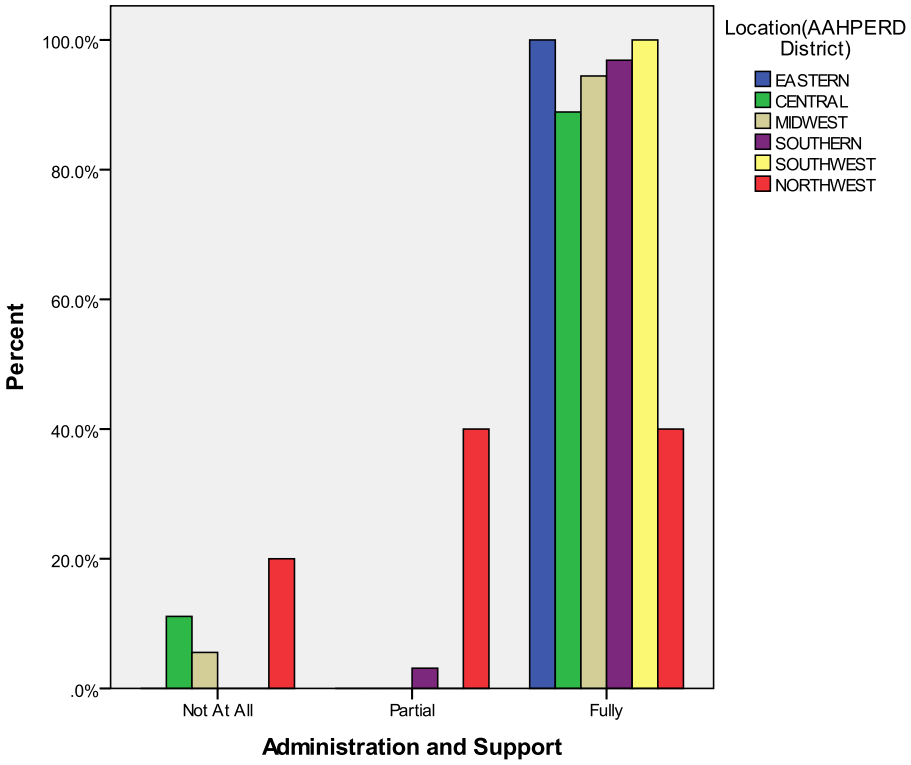


Figure 5. *Association Between Adherence to Administration and Support and Location* $\chi^2(10, n=71) = 23.98, p= .008$

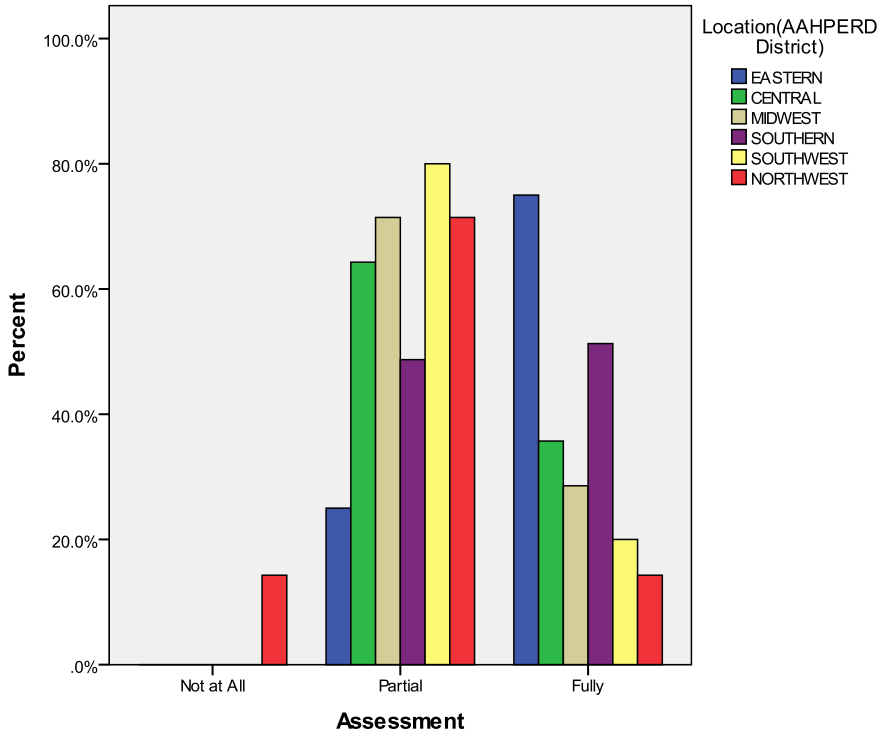


Figure 6. *Association Between Adherence to Assessment and Location* $\chi^2(10, n=90) =19.39, p=.036$

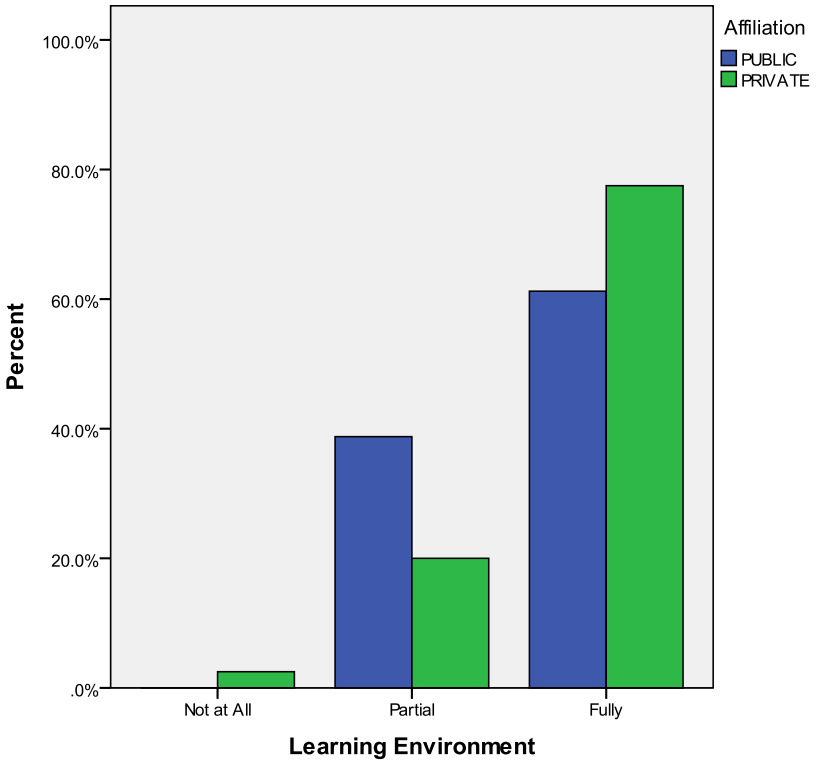


Figure 7. *Association Between Adherence to Learning Environment and Affiliation*
$\chi^2(2, n=90) = 4.64, p=.099$

Discussion

The purposes of this research study were to (a) determine the level of familiarity with those guidelines from NASPE's *Appropriate Instructional Practice Guidelines for Higher Education Physical Activity Programs* related to C&I, and (b) describe the level of adherence to these selected guidelines. The results from this study indicate a high level of familiarity and adherence to the Guidelines. The geographic location of an institution appears to have an association with adherence in the areas of Administration/Support and Assessment. The results also support an association between awareness of and adherence to the Guidelines. To the researcher's knowledge, this is the first study that has gone beyond an examination of status and trends in HEPAPs, to determine adherence to a series of professionally developed guidelines and to compare findings among institutions based on demographic characteristics as well. The discussion is organized by Guideline category and observed level of adherence: (a) Higher Adherence (Administration/Support and Professionalism), (b) Partial Adherence (Learning Environment and Curriculum), and (c) Lower Adherence (Instruction Strategies and Assessment).

Higher Adherence: Administration and Support and Professionalism

The guidelines, in their entirety, were developed with the intent of providing a framework for optimizing HEPAP effectiveness, and, as such, adherence is not mandatory. The high level of awareness of the guidelines suggests HEPAP administrators are interested in promoting best practice and making a concerted effort to provide physical education opportunities that are developmentally appropriate, instructionally sound, and aligned with professional recommendations (NASPE, 2008). The association between awareness of and adherence to the guidelines supports the importance of advocacy efforts for quality physical education programs

(McKenzie, 2007; NASPE, 2008). Continued advocacy, through the use of interdisciplinary teams composed of city government officials, city planners, community members, and faculty, has been suggested to further support and advance HEPAPs (Sweeney, 2011).

The high percentage of institutions fully adherent to the guidelines in the critical area of Administration and Support re-affirms the stability of HEPAPs on many college and university campuses (Hensley, 2000). Guideline 1.3.1 *(The program adheres to course policies consistent with all other credit-bearing coursework within the institution, including those regarding instructor and student responsibilities and expectations, administrative roles, and standards of professionalism)* had the highest percentage of fully adherent institutions of any of the 61 items included in this survey. This provides evidence of an administrative culture across institutions supportive of existing programs. The positive administrative culture displayed through these results may be valuable should HEPAP administrators attempt to implement changes to the program to address weaknesses related to areas such as assessment and effective instruction, discussed below. The high percentage of institutions fully adhering to this category should be interpreted with caution as the category contained a single item. The majority of guidelines related to Administration and Support were not included in the current study, as the purpose of this study was to examine adherence to the guidelines related to C&I.

High adherence to the guidelines for Professionalism supports that, when given appropriate support and expectations, instructors within HEPAPs engage in appropriate professional practice. The high percentage of institutions adherent to the single item related to Administration and Support may be associated with the high percentage of institutions fully adherent to those items pertaining to Professionalism due to the emphasis on "standards of professionalism" explicitly stated in Guideline 1.3.1. Adherence to the Professionalism category

should again be interpreted with caution as the category contained only three items. Additionally, while adherence to the items related to Professionalism was high, closer examination of the wording of specific items (4.2.1A and 4.2.1B) may reveal that they may fit better with the items within Instruction Strategies category. Shifting these items into the Instruction Strategies category may result in a reduction in the high level of adherence seen in the Professionalism category and a subsequent increase in the Instruction Strategies category.

Partial Adherence: Learning Environment and Curriculum.

Adherence to the guidelines related to Learning Environment and Curriculum did not have the highest level of full adherence, nor did they have the lowest. The moderate percentage of institutions reporting full adherence to these categories indicates HEPAPs are proficient, but have yet to demonstrate mastery of these areas. Five of the ten guidelines with the highest percentages of institutions with full adherence are related to Learning Environment (5.1.3, 5.2.1A, 5.2.1B, 5.4.1, 5.5.1A, and 5.6.2B). These guidelines focus on environmental control, inclusivity, and safety of the learning environment, emphasizing management of the physical education setting. The pattern of higher adherence to the guidelines related to Learning Environment at private institutions is not surprising given the traditional emphasis on the teaching and learning environment there. The moderate level of full adherence to these management related guidelines is consistent with the low level of full adherence and the high level of partial adherence to the guidelines related to Instruction Strategies as effective class management is a component of effective teaching. The discrepancy, however, may be related to the courses offered in the individual HEPAPs. For example, outdoor pursuit or adventure courses, such as rock climbing, hiking, backpacking, kayaking, etc., require inherently higher

levels of class management to maintain overall safety. It is plausible that programs offering courses like these are likely to have well managed classes, despite a lack of effective teaching.

Adherence to the guidelines related to Curriculum followed a similar pattern of adequacy, but lacking mastery. The items within the Curriculum category appear to be more related to administrative aspects of curriculum, such as program philosophy and program evaluation (7.8.1, 7.8.3, 7.8.6, 7.9.7A and 7.9.1B), as opposed to instructional aspects. The guidelines within this category do not prescribe a specific curricular model to follow, but rather, provide a general guide for the overall HEPAP curriculum. There is a strong connection between the development of course and program outcomes and assessment that is consistent throughout these guidelines. Adherence to these guidelines may serve as an opportunity for HEPAP administrators to forge a connection between the high administrative support and the lower adherence levels seen in the Assessment and Instruction Strategies guidelines. It is possible that adoption of a specific curricular model (i.e., Sport Education) may inherently promote effective instructional strategies and increased assessment (Meeteer, et al., 2011).

Adherence to the guidelines within this category have a high potential to significantly influence the PA of college students and are therefore of vital importance. This set of guidelines specifically addresses barriers to PA among college students including the development of social support networks, reasons for participation in PA (other than competition), and both cognitive and affective outcomes associated with PA (Buckworth & Dishman, 2002; Nahas et al., 2003). The moderate level of adherence to these guidelines is promising, as HEPAPs appear to be meeting recommendations for health and fitness, including promotion of skill development, and affording students with opportunities to develop behavioral skills, knowledge, and supportive social networks.

Lower Adherence: Instruction Strategies and Assessment

The percentage of responding institutions fully adherent to the guidelines related to Instruction Strategies (n=0, 0%) highlights a previously identified problem: the lack of effective teaching in HEPAPs (Housner, 1993; Poole, 1993). The three individual guidelines with the highest levels of non-adherence of all items were from this category (3.10.1B: 22%, n=24; 3.6.1B: 16%, n=18; 3.3.2: 16%, n=18). The low level of adherence to the items within this category further supports concern about effective teaching within HEPAPs. The extremely high (n=88, 98.7%) level of partial adherence to this category indicates a variety of less than ideal instructional practices are taking place. The shift in course offerings to meet the changing needs of students and society, the trend of fewer full-time, tenure-track faculty teaching, and increased usage of activity specialists and graduate teaching assistants (Evaul & Hilsendanger, 1993; Hensley, 2000) may be having a deleterious effect on the physical education of the general college student. Activity specialists, coaches, and graduate teaching assistants may be more knowledgeable about a specific activity in which they specialize, but they may lack adequate training in effective teaching strategies. Effective teaching requires intensive planning, and the ability to understand, utilize, and adapt complex teaching skills for individual students (Poole, 1993). Alternate approaches to traditional, command style teaching may be necessary to further the development of behavioral skills, knowledge, and the affective domain. Quality, in-service training and effective supervision have been suggested to assist graduate teaching assistants develop effective teaching skills (Poole, 1993) and may be appropriate for all HEPAP instructors in order to promote effective teaching practices. Training and supervision approaches, such as the four phase "instructor-development-and-support model" that is used at Auburn University

(Russell, 2011, p.22), may be appropriate not only for graduate teaching assistants, but for all HEPAP instructors to develop effective teaching practices.

The increase in frequency and popularity of CBFW courses (Hodges Kulinna et al., 2009) may also be contributing to the low level of full adherence to the Instruction Strategy guidelines. While these courses include a PA laboratory, they also include didactic educational sessions. The wording of the guidelines is consistent with traditional physical education courses and settings, and may not be interpreted to be applied only during the laboratory portion of the CBFW courses.

The relationship between effective teaching and student outcomes should be investigated more thoroughly if the primary outcomes of HEPAPs are to continue to assist students in developing behavioral skills, behavioral capabilities, and to find meaning in PA. Unfortunately, calls for investigations of effective physical education programs in higher education have gone largely unheard for decades (Corbin, 2002; Housner, 1993). Adherence to the Guidelines related to Assessment had the second lowest percentage of responding institutions fully adherent (n=36, 38.7%). Guidelines 2.5.2 and 2.7.1, related to use of assessments and evaluations and assessing program effectiveness, had two of the highest percentages of non-adherence (n=17, 27% and n=17, 15%, respectively). Together, these data support the traditional lack of assessment and program evaluation in college and university physical education. Continual assessment, improvement, and re-evaluation of program offerings are not new concepts (Considine, 1985; Meztler and Tjeerdsma, 1998). Evidence in this study indicates program evaluation is not a priority. Given the high level of administrative support for HEPAPs, adoption of a systematic program evaluation process, such as the Development, Research, and Improvement (DRI) model (Metzler & Tjeerdsma, 1998), may be beneficial not only for improvement of the individual

HEPAP through increased accountability, but also to increase knowledge and understanding of program evaluation practices within HEPAPs. This study provides a foundation for evaluating HEPAPs, providing analyses that describe the context and design of HEPAPs, contributing to an understanding of the extent to which these Guidelines are being utilized. Investigations to examine program philosophy, goals, and outcomes would contribute additional evidence for HEPAP administrators to utilize when making decisions to restructure, revise, or maintain current practices. Investigations of the factors that influence the levels of familiarity and adherence seen in this study were not addressed, but should be investigated in future research as to provide a more comprehensive understanding of the variables that impact program evaluation. Program evaluation in HEPAPs should investigate the influence of the institutional mission statement and strategic plans, as well as establish program outcomes of what students achieve through participation in HEPAP offerings (Sweeney, 2011). Higher education physical activity program administrators that have a higher level of understanding of their program, and are better equipped and prepared to evolve due to changing educational and societal environments, will have programs that are less likely to face elimination and will continue to flourish. Evaluation and assessment of current HEPAPs is an initial step in the development, dissemination, and adoption of evidence based physical education programs (Sallis et al., 2012) necessary to define the role HEPAPs will serve in the promotion of participation in lifetime PA. Despite the considerable evolution in HEPAPs over the past 50 years (Hensley, 2000; Lumpkin & Avery, 1986; Miller, Dowell, & Pender, 1989; Oxendine, 1961, 1969, 1972, 1985; Oxendine & Roberts, 1978; Trimble & Hensley, 1984, 1990), the lack of focus on assessment and program evaluation may be contributing to a lack of effective teaching.

While assessment in HEPAPs has traditionally focused on general program evaluation (Housner, 1993), only one of the guidelines relates directly to program evaluation, with the remaining emphasis on student assessment. Assessment of student knowledge, behavioral capabilities, and fitness has traditionally been conducted using an instructor designed, sometimes arbitrary approach (Housner, 1993). The practices recommended highlight the use of objective, regular, assessment with the intent of providing students with the information necessary to develop more educated consumers of and participants in PA. However, adherence to these recommendations is lacking, providing evidence that assessment practices may not have changed significantly over the past 30 years. The lack of adherence to the Assessment guidelines corresponds with the lack of adherence to the Instruction Strategy guidelines, as a basic tenant of effective teaching is the provision of feedback and assessment. This may be partially attributed to the individuals teaching HEPAP courses lacking training in effective teaching strategies as previously discussed. Additional in-service training, supervision, and professional development may provide instructors with information and strategies to increase teaching effectiveness, and subsequently, assessment practices (Russell, 2011). Incorporating electronic learning-management systems (LMS) may promote increased teaching effectiveness through increased instructor training capability, increased student assessment, and assist with program evaluation (Melton & Burdette, 2011). Increased use of technology, such as pedometers and heart rate monitors, within HEPAP offerings would further assist instructors with assessment of student activity and increased ability to track student achievements, while simultaneously addressing adherence to guideline 3.10.1B, the item with the highest level of non-adherence of all items in this study (n=22, 24%).

While familiarity was high across all institutions, the lack of adherence to recommendations for effective teaching in HEPAPs combined with the lack of adherence to recommendations for student assessment is especially concerning given the population. One of the underlying assumptions of this study was that institutions offering an undergraduate major in PETE would be more likely to be familiar with and adhere to recommendations for best practice due to the emphasis on preparation of future physical education teachers. However, the results of adherence to the guidelines from these two areas provide opportunity to question this assumption. Institutions offering an undergraduate major in PETE may have lower adherence in these areas due to an emphasis on instruction and assessment within the PETE program, potentially due in part to less focus on the practices within the HEPAP. Conversly, it is possible that institutions without an undergraduate PETE program may have higher adherence to the guidelines related to Instruction Strategies and Assessment as attention and resources would be channeled to the HEPAP. While these guidelines are intended to be a model of best practice for HEPAPs, the results indicate best practices are not occurring in two major areas of college-based physical education.

Limitations

The use of an internet based survey facilitated the administration and analysis of this research study. However, it contributed to a major limitation, low response rate. E-mail addresses were confirmed during the development of the population, resulting in few incorrect contacts and multiple follow-up messages were sent to facilitate participation. While lower than desired, the target response rate was reached (15-17% target, 15.1% actual) and is consistent with published response rates (Hodges-Kulinna et al., 2009). It has been demonstrated that late respondents tend to be similar to non-respondents, and comparisons based on response groups

may reveal useful information related to generalizability of the results (Miller & Smith, 1983). Comparisons of early responders (those who responded after the initial contact, but before the second contact) and late responders (those who responded after the second contact) revealed data indicating no significant associations between response group and familiarity with the guidelines, overall adherence, nor adherence by category. With late respondents assumed typical of non-respondents, the results discussed here may be generalized to the remainder of the population despite the low response rate (Miller & Smith, 1983).

It is possible however, that participants that did not respond, or did not complete the survey fully, had lower familiarity and adherence to the Guidelines. It is also possible that those participants that did respond have greater familiarity and adherence, and as such, were more likely to respond, contributing to a response bias. The lack of association in comparisons of response groups (described above), increases the generalizability of the current study. Finally, investigating familiarity with and adherence to the Guidelines at all four year colleges or universities, not just those that offer an undergraduate major in PETE, is an area for future investigation. Examining familiarity with and adherence to the NASPE guidelines at all four year US colleges and universities may reveal differences between institutions with PETE programs and those without.

Future Directions

The results of this study combined with previous research, suggest that important similarities and differences exist across HEPAPs. The current study demonstrated a high level of familiarity and moderate levels of adherence with the NASPE Guidelines that focus on "Curriculum and Instructional Environment." This study was limited, however, to those Guidelines identified as being oriented toward C&I leaving adherence to those related to A&IS

for future investigation. The current study expands the knowledge base related to HEPAPs, with additional investigations, utilizing a similar approach to the current study, contributing by developing a more thorough understanding of HEPAPs and the environments in which they exist. Future studies may assist in identifying strengths and areas in need of improvement within all ecological levels, in order to fully realize the potential of HEPAPs to promote PA. Investigations identifying adherence to the guidelines related to A&IS may provide additional evidence of the influences of environmental variables such as facilities, budgeting, institutional culture or philosophy, and advocacy approaches.

These guidelines provide HEPAP administrators with a tool to use in the assessment of program quality. The Guidelines do not, however, identify specific models of best practice (i.e., those programs most adherent), models of HEPAPs that use data-based outcomes, nor those that can demonstrate the impact of the program on the students served. Program evaluation reports that follow the DRI model (Metzler & Tjeerdsma, 1998) may be of research quality and would accomplish the goal of providing models of programs utilizing best practices. Additionally, by adhering to the DRI approach, data collected could be employed for data-based outcome assessments, and as such, demonstrate the impact of the program on student participation in PA and other outcomes identified through the program evaluation process. Identifying those programs fully adhering to the guidelines, and/or those having the largest impact on student participation in PA through an objective evaluation process may benefit all HEPAPs. The development, and adoption, of an external evaluation process to objectively examined adherence to these guidelines may provide an additional level of credibility to HEPAPs within the academic community and should be investigated.

The application of social ecological perspectives in this study extends the current literature base exploring HEPAPs. Given that little research has been devoted to examining the influence of HEPAPs on college student PA, adherence to the categories from the Guidelines provides evidence for the use of social ecological perspectives to investigate HEPAPs. The association between geographic location and adherence to the guidelines related to Assessment and Administration and Support highlights the influence of institutional variables on HEPAPs. The percentages of institutions either partially or fully adhering to Guidelines related to Curriculum, Learning Environment, and Instruction Strategies emphasize the ability of HEPAPs to influence behavioral capability, behavioral skill, knowledge, and social support for students engaged in HEPAP course offerings. These individual level variables have been shown to be barriers to PA (Nahas et al., 2003), thus highlighting the potential for HEPAPs to influence PA of college students. The emphasis on the interaction of influences between levels, key to SEM, highlights the need to investigate both individual and environmental level variables more fully. The associations between geographic location and adherence to the guidelines related to Assessment, and Administration and Support, as well as the trend toward an association between affiliation and adherence to the guidelines related to Learning Environment revealed in this study provide evidence of environmental influences on HEPAPs. Future investigations should further explore the impact of HEPAPs on individual variables, but also the extent to which other environmental variables, such as community support, relationships with other organizations on campuses, and curricular models, influence HEPAPs. Combining the results of this investigation with future studies examining adherence to the guidelines related to A&IS is necessary to identify those SEM variables most influential on HEPAPs and subsequently, college student PA.

Investigation of the curricular models employed in HEPAPs has been neglected in the literature (Housner, 1993). Assessments of curricular models adopted, descriptions of the variables that influence the design and implementation of curricula, and examinations of the effectiveness of the curricula (Housner, 1993) continue to be needed. Future investigations including comparisons of the impact of curricular models may be necessary to determine their effectiveness in promoting lifelong PA.

Conclusion

Adherence to the NASPE Guidelines for Appropriate Instructional Practice related to "Curriculum and Instructional Environment" is moderate to high, as is familiarity with these guidelines. The high level of awareness and adherence indicates HEPAPs at institutions offering an undergraduate PETE program are engaging in appropriate instructional practice. College physical education programs have been called on to provide students with opportunities to develop an appreciation for, and increased participation in, lifetime PA; it appears that HEPAPs, with minor adjustments, are well prepared to provide these opportunities.

References

Adams, T.M., & Brynteson, P. (1995). The effects of two types of required physical education. *Physical Educator, 52*(4), 203-211.

American College Health Association [ACHA] (2001). *American College Health Association-National College Health Assessment: Reference Group Data Report Fall 2000.* Baltimore, MD: American College Health Association.

American College Health Association. [ACHA] (2011). *American College Health Association – National College Health Assessment II: Reference Group Executive Summary Spring 2011.* Hanover, MD: American College Health Association.

Brynteson, P., & Adams, T.M. (1993). The effects of conceptually based physical education programs on attitudes and exercise habits of college alumni after 2 to 11 years of follow up. *Research Quarterly For Exercise and Sport, 64,* 208-212.

Buckworth, J., & Dishman, R.K. (2002). *Exercise psychology.* Champaign, IL: Human Kinetics.

Calfas, K.J., Sallis, J.F., Lovato, C.Y., & Campbell, J. (1994). Physical activity and its determinants before and after college graduation. *Medicine, Exercise, Nutrition and Health, 3,* 323-334.

Caspersen, C.J., Pereira, M.A., & Curran, K.M. (2000). Changes in physical activity patterns in the United States, by sex and cross-sectional age. *Medicine and Science in Sports and Exercise, 32*(9), 1601-1609.

Centers for Disease Control and Prevention. (2001). Increasing physical activity: A report on recommendations of the Task Force on Community Preventive Services. *Morbidity and Mortality Weekly Report, 50*(No. RR-18), 1-14.

Centers for Disease Control and Prevention & American College of Sports Medicine. (1995). Physical activity and public health: A recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *Journal of the American Medical Association, 273,* 402-407.

Considine, W.J. (1985). Basic instruction programs: A continuing journey. *Journal of Physical Education, Recreation, and Dance, 56*(7), 31-54.

Corbin, C.B. (2002). Physical activity for everyone: What every physical educator should know about promoting lifelong physical activity. *Journal of Teaching in Physical Education,* 21, 128-144.

Evaul, T., & Hilsendanger, D. (1993) Basic instruction programs: Issues and answers. *Journal of Physical Education, Recreation, and Dance, 64*(6), 37-40.

Gay, L.R., Mills, G.E., & Airasian, R. (2009). Survey research. In L.R. Gay, G.E. Mills, & R. Airasian (Eds.), *Educational Research; Competencies for Analysis and Applications.* 9th edition (pp.175-188). Columbus, OH: Pearson.

Hensley, L.D. (2000). Current status of basic instruction programs in physical education at American colleges and universities. *Journal of Physical Education, Recreation, and Dance, 71*(9), *30*-36.

Hildebrand, K.M., & Johnson, D.J. (2001). Determinants of college physical activity class enrollment: Implications for high school physical education. *Physical Educator, 58*(1), 51-57.

Hinkin, T.R. (1998). A brief tutorial on the development of measure for use in survey questionnaires. *Organizational Research Methods, 1*(1), 104-121.

Hodges-Kulinna, P., Warfield, W.W., Jonaitis, S., Dean, M., & Corbin, C. (2009). The progression and characteristics of conceptually based fitness/wellness courses at American universities and colleges. *Journal of American College Health, 58*(2), 127-131.

Hunsicker, P.A. (1954). A survey of service physical education programs in American colleges and universities. *Annual Proceedings of the College Physical Education Association, 57,* 29-30.

Housner, L.D. (1993). Research in basic instruction programs. *Journal of Physical Education, Recreation, and Dance, 64*(6), 53-58.

Johanson, G.A., & Brooks, G.P. (2010). Initial scale development: sample size for pilot studies. *Educational and Psychological Measurement, 70*(3), 394-400.

Kahanov, L., Furst, D., Johnson, S., & Roberts, J. (2003). Adherence to drug dispensation and drug-administration laws and guidelines in collegiate athletic training rooms. *Journal of Athletic Training, 38*(3), 252-258.

Kahn, E.B., Ramsey, L.T., Brownson, R.C., Heath, G.W., Howze, E.H., Powell, K.E., Stone, E.J., Rajab, M.W., Corso, P., & Task Force on Community Preventive Services. (2002). The effectiveness of interventions to increase physical activity. *American Journal of Preventive Medicine, 22*(4S), 73-107.

Kazdin, A.E. (2011). *Single Case Research Design: Methods for Clinical and Applied Settings*. 2nd ed. New York, NY: Oxford University Press.

Leslie, E., Fotheringham, M.J., Owen, N., & Bauman, A. (2001). Age-related differences in physical activity levels of young adults. *Medicine and Science in Sports and Exercise, 33*(2), 255-258.

Leslie, E., Sparling, P.B., & Owen, N. (2001). University campus setting and the promotion of physical activity in young adults: lessons from research in Australia and the USA. *Health Education, 101*(3), 116-125.

Lumpkin, A., & Avery, M. (1986). Physical education activity program survey. *Journal of Teaching in Physical Education, 5*(3), 185-197.

McInnis, K.J., Hayakawa, S., & Balady, G.J. (1997). Cardiovascular screening and emergency procedures at health clubs and fitness centers. *American Journal of Cardiology, 80,* 380-383.

McInnis, K.J., Herbert, W., Herbert, D., Herbert, J., Ribisl, P., & Franklin, B. (2001). Low compliance with national standards for cardiovascular emergency preparedness at health clubs. *Chest, 120,* 283-288.

McKenzie, T.L. (2007). The preparation of physical educators: A public health perspective. *Quest,* 59, 346-357.

McLeroy, K.R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly, 15*(4), 351-377.

Meeteer, W., Housner, L.D., Bulger, S.M., Hawkins, A., & Wiegand, R.L. (2011). Applying the Sport Education curriculum model in university basic instruction courses. In P. Hastie (Ed.) *Sport Education International Perspectives.* New York: Routledge.

Melton, B., & Burdette, T. (2011). Utilizing technology to improve the administration of instructional physical activity programs. *Journal of Physical Education, Recreation, and Dance, 82*(4), 27-32.

Metzler, M.W. & Tjeerdsma, B.L. (1998). PETE program assessment within a development, research, and improvement framework. *Journal of Teaching in Physical Education, 17(4),* 468-493.

Miller, G.A., Dowell, L.J., & Pender, R.H. (1989). Physical activity programs in colleges and universities: A status report. *Journal of Physical Education, Recreation, and Dance, 60*(6), 20-23.

Miller L.E., & Smith, K. (1983). Handling non-response issues. *Journal of Extension* On-line, 21(5). Available at: http://www.joe.org/joe/1983september/83-5-a7.pdf

Nahas, M.V., Goldfine, B., & Collins, M.A. (2003). Determinants of physical activity in adolescents and young adults: The basis for high school and college physical education programs to promote active lifestyles. *The Physical Educator, 60*(1), 42-56.

National Association for Sport and Physical Education [NASPE]. (2008). *Appropriate Instructional Practice Guidelines for Higher Education Physical Activity Programs. (2nd ed.).* Reston, VA: National Association for Sport and Physical Education.

Oxendine, J.B. (1961). The service program in 1960-1961. *Journal of Health, Physical Education, and Recreation, 32*(6), 37-38.

Oxendine, J.B. (1969). Status of required physical education programs in colleges and universities. *Journal of Health, Physical Education, and Recreation, 40*(1), 32-35.

Oxendine, J.B. (1972). Status of general instruction programs of physical education in four-year colleges and universities: 1971-72. *Journal of Health, Physical Education, and Recreation, 43*(3), 26-28.

Oxendine, J.B. (1985). 100 years of basic instruction. *Journal of Physical Education, Recreation, and Dance, 56*(7), 32-36.

Oxendine, J.B., & Roberts, J.E. (1978). The general instruction program in physical education at four-year colleges and universities: 1977. *Journal of Physical Education and Recreation, 49*(1), 21-23.

Poole, J.R. (1993). The search for effective teaching in basic instruction programs. *Journal of Physical Education, Recreation, and Dance, 64*(6), 41-58.

Russell, J.A. (2011). Graduate teaching-assistant development in college and university instructional physical activity programs. *Journal of Physical Education, Recreation, and Dance, 82*(4), 22-32.

Sallis, J.F., & Owen, N. (1999). *Physical activity and behavioral medicine.* Thousand Oaks, CA: Sage.

Sallis, J.F., Cervero, R.B., Ascher, W., Henderson, K.A., Kraft, M.K., & Kerr, J. (2006). An ecological approach to creating active living communities. *Annual Review of Public Health, 27,* 297-322.

Sallis, J.F., & McKenzie, T.L. (1991). Physical education's role in public health. *Research Quarterly for Exercise and Sport, 62*(2), 124-137.

Sallis, J.F., McKenzie, T.L., Beets, M.W., Beighle, A., Erwin, H., & Lee, S. (2012). Physical education's role in public health: Steps forward and backward over 20 years and HOPE for the future. *Research Quarterly for Exercise and Sport, 83*(2), 125-135.

Sechrist, K.R., Walker, S.N., & Pender, N.J. (1987). Development and psychometric evaluation of the exercise benefits/barriers scale. *Research in Nursing and Health, 10,* 403-425.

Slava, S., Laurie, D.R., & Corbin, C.B. (1984). Long-term effects of a conceptual physical education program. *Research Quarterly for Exercise and Sport, 55*(2), 161-168.

Spence, J.C., & Lee, R.E. (2003). Toward a comprehensive model of physical activity. *Psychology of Sport and Exercise, 4,* 7-24.

Sparling, P.B. (2003). College physical education: an unrecognized agent of change in combating inactivity-related diseases. *Perspectives in Biology and Medicine, 46*(4), 579-587.

Sparling, P.B., & Snow, T.K. (2002). Physical activity patterns in recent college alumni. *Research Quarterly for Exercise and Sport, 73,* 200-205.

Stokols, D. (1992). Establishing and maintaining health environments; toward a social ecology of health promotion. *American Psychologist, 47*(1), 6-22.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion, 10*(4), 282-298.

Sweeney, M.M. (2011). Initiating and strengthening college and university physical activity programs. *Journal of Physical Education, Recreation, and Dance, 82*(4), 17-21.

Trimble, R.T., & Hensley, L.D. (1984). The general instruction program in physical education at four-year colleges and universities: 1982. *Journal of Physical Education, Recreation, and Dance, 55*(5), 82-89.

Trimble, R.T., & Hensley, L.D. (1990). Basic instruction programs at four-year colleges and universities. *Journal of Physical Education, Recreation, and Dance, 61*(6), 64-73.

Trost, S.G., Owen, N., Bauman, A.E., Sallis, J.F., & Brown, W. (2002). Correlates of adults' participation in physical activity: review and update. *Medicine and Science in Sports and Exercise, 34,* 1996-2001.

U.S. Department of Health and Human Services. (1996). *Physical activity and health: A report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services,

Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

U.S. Department of Health and Human Services. (2001). *The Surgeon General's call to action to prevent and decrease overweight and obesity.* Washington, DC: U.S. Department of Health and Human Services, Public Health Service, and Office of the Surgeon General.

Appendix A: Extended Literature Review

This review of literature provides a rationale for the study. The conceptual framework is arranged into the following sections: (a) Physical inactivity and college students; (b) Social ecological model of health promotion; and (c) Higher education physical activity programs (HEAP) (also referred to as basic instruction programs (BIP) and/or college physical education).

Physical Inactivity and College Students

Despite the well-established benefits of physical activity (PA), roughly 50 percent of youth between 12 and 21 years of age are not physically active on a regular basis and approximately 14 percent report no PA at all (U.S. Department of Health and Human Services, 1996). It has also been shown that as age increases from childhood, progressing through adolescence and into adulthood, PA rates decline (Caspersen, Pereira, & Curran, 2000). Findings from the National College Health Risk Behavior Survey (NCHRBS) (Centers for Disease Control and Prevention, 1997) demonstrate similar patterns with only 37.8 percent of students participating in vigorous PA on three to seven days per week. The PA levels observed among college-aged individuals also appear problematic, with 57 percent of males and 61 percent of females reporting no moderate or vigorous PA on at least three of seven days per week (American College Health Association, 2001). More recent data show 80.5 percent of college students do not meet American College of Sports Medicine and American Heart Association recommendations for moderate exercise and 73.7 percent do not meet recommendations for vigorous exercise per week (American College Health Association, 2011). Leslie, Fotheringham, Owen, and Bauman (2001) examined participation rates in moderate and vigorous PA of young Australian adults and found similar patterns among Americans of comparable ages.

A 15 percent decline in vigorous activity and 10 percent decline in moderate PA was seen from 18-19 year old adults to the 25-29 years old.

This established decline in PA rates throughout the college years is particularly concerning due to the persistence of PA patterns from early adulthood into later adulthood. Sparling and Snow (2002), in a survey of recent college graduates found 85 percent of respondents who had regularly exercised as a college senior remained active at the same level or higher six years later. Additionally, 81 percent of those respondents who were not active as college seniors reported their PA level at or less than what it was during senior year. Due to the volume of evidence supporting the age related decline in PA, the American College Health Association (ACHA), has identified physical inactivity as a priority health risk for college students, calling for increased attention to promotion of PA on college campuses nationwide (ACHA, 2002). As such, college physical education programs have been identified as a potential arena for the development of healthy and physically active lifestyles.

However, the Task Force on Community Preventive Services (Kahn et al., 2002) cited "insufficient evidence" for college based physical education programs as PA intervention venues. The Task Force pointed out that the lack of evidence should not be interpreted as college physical education programs are ineffective, but rather, that additional investigations are necessary to provide evidence of effectiveness. The potential of HEPAPs to be an optimal venue for PA interventions due to their ability to influence large numbers of individuals has not yet been realized. In order for HEPAPs to remain viable, administrators must be able to demonstrate their value to students, alumni, and institutional leaders.

Social Ecological Model of Health Promotion

Multiple approaches have been used to develop and implement interventions to increase PA levels of college students. A common criticism of intervention research is the lack of use of a sound theoretical approach in designing the intervention for behavior change. One particular theoretical framework which is appropriate for use in colleges and universities is the social ecological model. One key theory is the social ecological model. While certain theoretical models address only personal determinants and other models address only environmental determinants, the social ecological model addresses determinants and barriers of PA from multiple levels, thus making it appropriate for discussion with respect to PA promotion and the influence of the HEPAP on college student PA.

The social ecological model focuses on "the nature of people's transactions with their physical and sociocultural surroundings" (Stokols, 1992, p. 7). The model suggests multiple levels of interaction of behaviors and behavior settings. Behavior settings are the "social and physical situations in which behaviors take place" (Sallis & Owen, 2002, p. 463). McLeroy, Bibeau, Steckler, and Glanz (1988) suggested the purpose of the model is to focus on and identify environmental causes of behavior and interventions to address these interactions.

The model has its roots in the work of Brofenbrenner (1979), who viewed behavior as being influenced by both individual and environmental determinants. He identified three levels of interactions between environment and individuals: the microsystem, mesosystem, and exosystem. The microsystem refers to interpersonal interactions such as family, social acquaintances and work groups. The mesosystem is defined as the interactions between family, school, and work. The broadest level of influence was defined as the exosystem, including such influences as cultural beliefs and values, political action, and economic forces. McLeroy et al.

(1988) expanded on Brofenbrenner's model, providing more in depth analysis. They suggest patterned behavior is the focus, and that behavior influences and is influenced by five factors: (a) intrapersonal factors, (b) interpersonal factors, (c) institutional factors, (d) community factors, and (e) public policy (McLeroy et al., 1988).

Intrapersonal factors are defined as those influences related to biological and psychological variables, including developmental history (McLeroy et al., 1988). Interventions focusing solely on variables borrowed from psychological models assume the impetus for behavioral change lies within the individual, and neglect the influence of the social environment. However, interventions at the intrapersonal level utilize multiple levels of intervention such as peer counseling, incentives, or support groups, with the theory of changing individuals by targeting characteristics of the individual, "such as knowledge, attitudes, skills, or intentions to comply with behavioral norms" (McLeroy et al., 1988, p. 356).

Interpersonal factors refers to "relationships with family members, friends, neighbors, contacts at work, and acquaintances" (McLeroy et al., 1988, p. 356) and are salient influences of behavior. Social relationships are important resources, mediators of stress, and contribute to well being. Social support, including emotional support, informational support, tangible aid, and general assistance with "obligations and responsibilities" are valuable contributors to social identity. The use of interpersonal strategies for health promotion have generally attempted to alter behavior through social influences, as opposed to "changing the norms or social groups to which individuals belong" (p. 357). Interventions designed using this approach should influence the interpersonal factors which "encourage, support and maintain undesirable behaviors" (McLeroy et al., 1988, p. 359).

Institutional factors include organizations, schools, health agencies, health care facilities and businesses or companies (McLeroy et al., 1988). Specifically, the role of organizational factors in an ecological perspective includes how the characteristics of the organization can support behavior, how organizational structure may be a target of change, and the "importance of organizational context" in the spread of promotion interventions. Due to the amount of time individuals spend associated with organizations (i.e., work, school, day care), the structure and function of an organization can exert significant influence, on the health and health related behaviors of its members. The social and economic support provided via organizations is also a significant source of influence. The social networks developed and the norms and values that spread serve as "mediators or mediating structures between individuals" and the environment (McLeroy et al., 1988, p. 360). The access, opportunity, and development of social support contribute to the attractiveness of organizations as behavioral change agents. Organizations are often used as agents of change in worksite wellness programs in order to promote healthier environments, as well as healthier employees. In the process of developing and implementing a health promotion program, the organization must first recognize a problem, identify and develop potential solutions, select a course of action, implement the program and ideally, over time, the program "becomes integrated into the organization" (p. 362). When integration occurs, the influence of the program and the organization is reciprocal. Organizational changes are "necessary to support long term behavioral changes among individuals," to create a culture of support, and are "prerequisites for the adoption, implementation, and institutionalization of health promotion programs" (McLeroy et al., 1988, p. 362).

Community factors involve the relationships between the institutional factors, including social networks, relationships among organizations, but within a defined area. The model

proposed by McLeroy et al. (1988) defines community with three meanings: (a) "mediating structures" or "groups to which individuals belong," (b) "the relationships among organizations and groups within a defined area," and (c) a geographical and political focus "characterized by one or more power structures" (p. 363). The "mediating structures" refer to the social connections of a community, including neighborhoods, churches and volunteer groups. Due to the strong connections between the group and the individual, attempting to change individuals without support from the community is challenging. The relationships among organizations and groups within a geographical region influences health promotion mainly in terms of competition for resources. Political and power structures within communities may influence the definition of a health problem and the allocation of resources to address that problem.

The final construct of an ecological model for health promotion is public policy. Public policy refers to laws, statutes, and policies at the local, state, national and global levels. The use of laws, statutes and policies to "protect the health of the community" is considered as one of the strongest influences of public health (McLeroy et al. 1988, p. 365). Within this framework, developing policies, advocating for public health policies, and analyzing policies are essential roles for health promoters.

The primary purpose of an "ecological model is to focus attention on the environmental causes of behavior and to identify environmental interventions" (McLeroy et al., 1988, p. 366). They also advocate for health promotion programs to develop "environmental and organizational support…necessary for…implementation and ultimate institutionalization," the use of environmental approaches to complement individual behavior change programs, and "the importance of evaluating health promotion programs at multiple levels" (p. 366). Social

ecological models stress that the effectiveness of an intervention is based on "the extent to which behavior contributes to health or illness" (McLeroy et al., 1988, p. 368).

Stokols (1992) stresses the importance of using an ecological approach to "provide environmental resources and interventions that promote enhanced well-being among occupants of an area" (p. 6). He also highlights five core principles of the social ecological perspective. First, ecological approaches recognize "environmental settings as having multiple physical, social, and cultural dimensions that can influence a variety of health outcomes" (Stokols, 1996, p. 285). Second, "human health is influenced not only by environmental circumstances but also by a variety of personal attributes" (p. 285). Social ecological approaches emphasize the relationships between these layers as opposed to focusing on only one aspect. Third, social ecological approaches attempt to understand "the dynamic relations between people and their environment" (p. 286). Fourth, social ecological approaches "emphasize the interdependence of environmental conditions within particular settings and the interconnections between multiple settings and life domains" (p. 286). Finally, social ecological perspectives are "inherently interdisciplinary" (p.286), providing the opportunity for integration of public health and epidemiological prevention strategies, individual level strategies of the medical model, and community wide interventions (Stokols, 1996).

Social Ecological Models and Physical Activity

Social ecological models have been recognized for their unique use in studying physical activity due to increasing complexity of current public health challenges (Sallis et al., 2006). Investigations of the characteristics of places that both promote and inhibit PA, as well as the "environmental and policy factors" that contribute to sedentary lifestyles have been identified as a priority. The emphasis on "cross-level analyses of health problems" and "incorporating two or

more analytic levels" supports the use of social ecological theory to examine both individual and "aggregate manifestations of health problems" (Stokols, 1996, p. 287). Spence and Lee (2003) developed the Ecological Model of Physical Activity (EMPA) to identify "ecological determinants and correlates of physical activity" (p. 16). This model expands on the work of McLeroy et al. (1988) and Stokols (1992, 1996) by applying social ecological principals to the study of PA. Five hypotheses were developed highlighting the interconnectedness of the environment, biological and genetic factors, and psychological factors which influence PA. The EMPA provides a direct link for the application of social ecological models to the investigation of PA.

Social ecological approaches have been used in PA research to examine: the determinants of PA of Australians (Giles-Corti & Donovan, 2002); the relative influence of determinants of PA for normal weight, overweight and obese individuals in Canada and the US (Blanchard et al., 2005); the influence of ecological variables on active living communities (Sallis et al., 2006); and the barriers to PA in students from seventh grade to first year college students (Gyurcsik, Spink, Bray, Chad, & Kawn, 2006). One of the main benefits of examining PA using a social ecological approach is the potential for the environment to influence multiple individual behaviors, that is "if a change is made at one level of influence, all other levels may be affected" (Spence & Lee, 2003, p. 9). Higher education physical activity programs have the potential to influence behavior of college students on intrapersonal, interpersonal, and institutional levels. The need to address issues related to individual characteristics, organizational influences, and policy decisions support the use of the social ecological model as a theoretical approach to addressing college student PA specifically.

Determinants of College Student Physical Activity

A determinant is any factor which influences behavior (Nahas, Goldfine, & Collins, 2003). The two general categories of determinants are facilitators and barriers. Facilitators are those factors which increase the likelihood of participation in PA. Consequently, barriers are those factors which reduce the likelihood of participation in PA. Buckworth and Dishman (2002) suggested six categories of determinants similar to the levels of the social ecological model: (a) demographic and biological factors, (b) psychological factors, (c) behavioral attributes and skills, (c) social and cultural factors, and (d) physical environment factors, and (e) physical activity characteristics. Demographic and biological factors include age, gender, occupation, general health status (including overweight/obesity, risk of heart disease), socio-economic status, and race/ethnicity. Psychological factors include attitude, perceived barriers to exercise, intention, self-efficacy, enjoyment, locus of control, expected benefits, and knowledge of health and exercise. Behavioral attributes and skills include childhood activity patterns, dietary habits, stage of change assessments, school sports participation, smoking, and coping skills. Social and cultural factors include school class size, group cohesion, family influences, and social support from friends, spouse, family, and staff. Physical environment refers to access (actual, perceived, and at home), environmental conditions (climate), costs and safety. Physical activity characteristics are the intensity, duration, type, and self-assessed effort of an activity engaged in (Buckworth & Dishman, 2002). Sallis and Owen (1999) suggested that the type and intensity of exercise may influence both facilitators and barriers to PA. There exists an extensive volume of literature investigating the determinants of PA. Due to the extensive nature of describing the impact of all determinants of PA, they will not be described here. For a comprehensive list and discussion of determinants of PA, see Trost, Owen, Bauman, Sallis, and

Brown (2002) and Buckworth and Dishman (2002). The psychological and environmental determinants most relevant to college student PA are: self-efficacy, perceived barriers, and social support (Nahas et al., 2003).

Self-efficacy refers to the perceived ability of an individual to be successful completing or participating in PA. It is specific to the activity and may change based on the activity being attempted. Self-efficacy is one of the strongest predictors of future PA (Nahas et al., 2003), and has been used to predict activity levels in children, adolescents, and adults. College students are more likely to participate in PA that they feel they are competent in (Hildebrand & Johnson, 2001).

Perceived barriers are identified by an individual, based on the perception of the individual and how he or she views or perceives the barrier. Barriers have been identified as personal (fatigue), situational (workload or weather conditions), or physical (lack of transportation, facilities or instruction) (Nahas et al., 2003). Perceived barriers to PA have been shown to exert a strong influence on the individual's PA behavior (Sallis & Owen, 1999), determining how active or he or she becomes. The most commonly cited perceived barrier to PA is "lack of time," despite suggestions that "lack of time" is a convenient excuse for not being physically active (Nahas et al., 2003). Other perceived barriers include: lack of social support (family and/or spouse), lack of accessibility, inconvenient schedule, cost, aversion to PA, worries and competing demands (Calfas, Sallis, Lovato, & Campbell, 1994; Sechrist, Walker, & Pender, 1987). Those most commonly cited by college students include inconvenience (schedules and facilities), aversion, and competing demands (Calfas et al., 1994).

Social support is considered an interpersonal variable, influencing behavior both directly and indirectly. Direct social support refers to "situations such as exercising together or doing

home tasks" (Nahas et al., 2003, p.50). Indirect support refers to talking or encouraging an individual to be more physically active. Social support from friends, family, or staff has been found to significantly influence PA (Sallis & Owen, 1999).

Health behaviors of college students are subject to change and are influenced by a variety of social, cultural, and environmental factors. In general there is support for barriers to PA changing throughout the lifespan. Milestones such as graduating from high school, attending college, graduating from college and entering the workforce have implications as major transitions through life. Attending college or university "represents a major step toward personal independence" and serves as a time when "lifestyle choices are explored and tested" (Leslie et al., 200, p. 119). Changes in social contexts and differences in "social, psychological, biological [and] cultural factors, may influence" barriers to PA and subsequently, PA level (Calfas et al., 1994, p. 323). Leslie et al. (2001) suggested a change in priorities, increased time demands, due to employment and family situations, as well as environmental barriers such as access and cost, as plausible explanations. Calfas et al. (2000) suggested beginning a career, getting married, and starting a family as transitional influences to further explain the age related decline in PA.

College Student Physical Activity Level and Patterns

Healthy Campus 2010 (ACHA, 2002), identified physical inactivity as one of the six priority health risk behaviors requiring immediate action. Findings from the National College Health Risk Behavior Survey (NCHRBS) (Centers for Disease Control and Prevention, 1997) indicated only 37.8 percent of students participate in vigorous PA on three to seven days per week. Dinger (1999) reported 50% of students fail to meet American College of Sports Medicine guidelines for adequate PA. More recently, data from the American College Health Association National College Health Assessment - II (ACHA, 2011) indicate 58 percent of

college students reported no moderate or vigorous PA. Additionally, 48.3 percent of college students did not meet the American College of Sports Medicine and American Heart Association recommendation of 30 minutes of moderate PA on 5 or more days per week, or 20 minutes of vigorous PA on 3 or more days per week. Leslie et al. (2001) examined PA participation rates of young Australian adults and found similar patterns to Americans of similar ages. A 15% decline in vigorous activity and 10% decline in moderate PA was seen from 18-19 year old adults to 25-29 year old adults. Gender differences in PA observed in other age populations are similar in college aged individuals, with men reporting greater PA rates than women (U.S. Department of Health and Human Services, 1996) and higher vigorous PA rates. However, the decline in PA is observed earlier in females, especially in vigorous activity. The decline of vigorous PA has been shown to start in males around age 14, and for females around age 12. The lowest levels of vigorous PA for males occurred at age 21 and age 20 for females (Caspersen et al., 2000).

The investigation of college student PA levels highlights not only an immediate public health concern, but also a long term issue as health behaviors established during the college years have been shown to persist into adulthood. Sparling and Snow (2002), found 84.7 percent of those who exercised regularly as college seniors remained physically active 6 years later. Additionally, 81.3 percent of those who were not active as college seniors remained inactive. These data highlight the persistence of PA levels from the college years into early adulthood and emphasizes the need to establish healthy levels of PA during the college years.

Despite the primarily sedentary lifestyle that appears to characterize college living for many students, colleges and universities provide both opportunity and an environment that is favorable for establishing positive health behaviors (Sparling, 2003). In addition to the "built environment" (i.e., sidewalks, recreation facilities, green spaces), most colleges and universities

provide physical environmental factors known to be positively associated with participation in PA including opportunity for activity, accessibility to facilities, safety, and aesthetic attributes. Higher education physical activity programs serve to influence knowledge, attitudes and behavioral skills of college students related to developing and maintaining a physically active lifestyle. The combination of environmental and personal strategies provides significant potential for colleges and universities to be influential in the establishment of healthy PA behaviors in this time of transition to independent living. Higher education physical education, in the form of a diverse, positive format may be able to influence college students of all PA levels. The historical background of the HEPAP, combined with more recent trends in programming and curricula further support the potential for the HEPAP to promote PA in college students. The following section will review the literature investigating HEPAPs in order to provide a deeper understanding of their future potential.

Higher Education Physical Activity Programs

Basic instruction programs have existed in institutions of higher education since the late 1800s, when the first physical education program was established at Amherst College in Massachusetts (Considine, 1985; Oxendine, 1985). The initial purpose of the BIP was to provide students with a coping mechanism to help "deal with the rigors of their academic work" (Lumpkin & Jenkins, 1993, p. 33). Through the use of European gymnastic elements, instructors attempted to increase strength, endurance and the overall health of their students. The University of Pennsylvania became the first major institution of higher education to require physical education for all students for 4 years as well as pass a swimming competency in order to graduate (Oxendine, 1985). World War I served as a significant influential force on required physical education. "One third of men drafted for military service were rejected as unfit to

serve" (p.32). Military leaders argued that low fitness levels diminished the ability of American men to serve effectively and ultimately reduced their ability to survive "the hardships of a war" (p. 32). Consequently, the time period from 1900 to 1930 saw an increase in the number of required physical education programs. Male and female physical education departments were separate, and as such, females focused on team and individual sports, while males focused on the team sports they coached. The overall emphasis of BIPs during this time was away from overall health and fitness, toward "psychomotor, character and intellectual objectives of the whole person" (Oxendine, 1985, p. 33).

The time from 1930 to 1950 was marked by significant growth for BIPs. Athletic departments and physical education departments merged, physical education's role in general education was linked via educational objectives, and the BIP was again used as an avenue to develop fitness, strength, and endurance of future soldiers to prepare them for war. The majority of colleges and universities required physical education, most for 2 or more years (Oxendine, 1985).

Following the conclusion of World War II, athletic departments separated from physical education programs primarily for financial reasons. An increase in the emphasis of the doctoral degree in physical education contributed to the initiation of the use of graduate assistants teaching within the BIP. Men's physical education programs were dominated by a competitive team sports emphasis, while women's programs focused on skill instruction and recreational activities.

The BIP of the 1960s and 1970s looked more like modern programs. Lifetime sports became popular, teaching assistants were used, fewer coaches taught, and team sports continued, as competition among females was gaining acceptance. From 1970 to 1980, the overall number

of institutions requiring physical education decreased, resulting in a decrease in the number of BIPs. However, students demanding additional freedom and control over their educational experience, forced remaining programs to shift curricular offerings toward fitness, outdoor activities, and lifetime sports (Oxendine, 1985). The overall purpose of the BIP again shifted from personal development to "fun, lifetime skill development and fitness" (p.34). From an administrative viewpoint, more classes were taught by teaching assistants, as doctoral trained faculty focused on higher level academic courses. Male coaches continued to teach, while female teachers started to coach. Students asked for activity courses which required specifically qualified instructors, such as scuba diving, skiing, and rock climbing.

From 1980 until the 1990s, the emphasis shifted in response to changing societal beliefs toward the development and maintenance of fitness and the inherent value of participation in physical activity in any form throughout lifespan. "Health-related outcomes again became the primary purpose" (Oxendine, 1985, p. 36) of the BIP. Administratively, the trend of using graduate teaching assistants, reduced faculty involvement, increased adjunct faculty usage, and increased budgetary pressure to be cost-effective continued.

Trimble and Hensley (1990) and Hensley (2000) continued the evaluation of changes within the BIP, reporting similar trends as previous investigations. The details of these investigations are discussed as they relate to trends in the BIP in the sections below. In general, the number of required programs decreased, the number of part-time faculty and graduate teaching assistants increased, course offerings continued to move toward individual, lifetime sports and activities, and the number of concepts based BIP courses grew.

From 2000 to 2011, even less is known. Shifts in curricular offerings have resulted in increased use of combination traditional lecture/physical activity laboratory courses (Hodges-

Kulinna, 2009). However, little research has focused on HEPAPs since Hensley (2000). While it is likely changes have continued to take place, the form and extent of these changes has not been described in the literature. The historical perspective of HEPAPs provides a background for trends that have occurred over the same 100 years. However, examining trends within the HEPAPs provides additional insight into the evolution and potential of the HEPAP to serves as a PA promotion arena.

Trends in Higher Education Physical Activity Programs

Hunsicker (1954) published the first assessment of the BIP (referred to as service physical education programs at the time). The original survey, gathered information related to: the requirement status of physical education (86 percent of institutions required physical education for at least 1 year, with 57 percent requiring physical education for 2 years); credit granted for physical education courses (77 percent yes); grading procedure (66 percent letter, 11 percent numerical and 23 percent pass/fail); the requirement of a swimming proficiency (70 percent no); common course offerings, the use of waivers (92 percent no); fitness testing (66 percent no); skill testing (60 percent no); knowledge testing (48 percent no); and questions related to the use of standard tests for fitness and/or activities. This original survey provided insight into the BIP nationwide and served as a baseline to track changes from the 1950s to 2000. From this initial investigation, the following themes were evaluated in subsequent investigations: institutional information (enrollment and affiliation), status of required physical education, assessment procedures, faculty involvement (including the use of graduate teaching assistants, coaches, and adjunct faculty), and curricular offerings.

Institutional size, affiliation, and physical education requirements. Hunsicker (1954) reported 90 percent of responding institutions had some requirement for physical education for

graduation. Greene (1955) reported 94 percent of responding institutions had such a requirement for graduation. Fornia (1959) reported 88 percent of public institutions and 64 percent of private institutions had co-educational programs, with the Southwest United States having the highest number. Additionally, she found similar results with regard to a graduation requirement, reporting 95 percent "of total respondents indicated that physical education was required for graduation" (p. 427), with both public and private affiliated institutions reporting similar results.

Oxendine (1961) was the first to examine the impact of institutional size "to determine if requirements and practices were influenced by enrollment" (p. 37). He reported data similar to Hunsicker (1954), with 84 percent of institutions requiring physical education for graduation. However, there was no association between institutional size and the status of a requirement. Oxendine (1969) reported 87 percent of institutions required physical education. Oxendine (1972) stated 95 percent of institutions included physical education in their curricula, with 74 percent reporting physical education as a requirement for graduation. This decrease signified the start of a downward trend that would not be reversed until the 1980s. This decrease was consistent among both public and private institutions, with larger institutions being less likely to maintain the requirement than smaller institutions. The decline in the requirement of physical education was reported again by Oxendine and Roberts (1978), with 57 percent of responding institutions having physical education as a graduation requirement. Similar to the 1972 results, larger, public institutions were more likely to drop the requirement than were smaller, private institutions. While the number of institutions requiring physical education for graduation decreased, the number of students electing to take classes in the BIP increased from the late 1970s to the mid-1980s, highlighting the interest of college students in BIP course offerings (Oxendine & Roberts, 1978; Trimble & Hensley, 1984).

Trimble and Hensley (1984) continued the investigation of BIP, reporting 94 percent of respondents offer physical education to their students. A slight increase to 60 percent of institutions requiring physical education was also reported, with smaller institutions reporting a higher percentage than larger institutions. More private institutions continued to maintain the requirement than did public institutions. Miller, Dowell, and Pender (1989), reported 92 percent of responding institutions at that point required physical education, down slightly from 1984. Forty-five percent of institutions reported having a physical education requirement, up slightly from 1984. Again, smaller institutions were more likely to require physical education than were their larger counterparts. However, no comparison between affiliations was made in this investigation. Trimble and Hensley (1990) re-examined the availability of BIPs, reporting 92 percent of reporting institutions provided some form of physical education to the general student. Sixty five percent of the respondents indicated physical education was required, indicating "the trend to eliminate the physical education requirement…has not only been abated, but appears to have been reversed" (p. 66). Hensley (2000), once again evaluated the status of a requirement of physical education for graduation and found 63 percent of respondents indicated it was required. Smaller institutions continued to maintain the requirement compared to larger institutions. Overall, from 1954 until 1972, the percentage of institutions requiring physical education for graduation remained fairly high, decreasing steadily until 1978, rising slightly until 1990, and then decreasing at the start of the 21st century. The trend of large, public institutions to eliminate required physical education for graduation was consistent over time, as was the trend for smaller, private institutions to maintain a physical education requirement.

Credit granting and waivers. Hunsicker (1954) reported 77 percent of respondents granted academic credit for physical education classes. This remained consistent, with Greene

(1955) reporting 78 percent of institutions awarded academic credit, with some credit being granted (or waived) for military service. The percentage of institutions awarding academic credit for physical courses rose to as high as 90 percent (Oxendine, 1972) and remained stable and high throughout the 1970s, 1980s, 1990s, and into 2000 (Oxendine & Roberts, 1978; Trimble & Hensley, 1984; Miller et al., 1989; Trimble & Hensley, 1990; Hensley, 2000). The granting of waivers for required physical education remained quite low, most commonly reported as less than 1 percent of responding institutions. The most common reasons provided for the provision of a waiver included military service, varsity sports participation, and medical reasons. The number of institutions requiring physical education that had a specific statement not allowing waivers increased to 19 percent in 1990, suggesting changes in curricular offerings afforded all students the opportunity to participate (Trimble & Hensley, 1990).

Assessment procedures, grading practices, and student evaluation. Grading and assessment in the BIP has remained largely unchanged. Hunsicker (1954) reported the majority of institutions using letter grades (66 percent), followed by pass or fail (23 percent), and numerical (11 percent). Oxendine (1961) reported 74 percent of respondents used letter grades with small institutions more likely to use pass/fail grading. Knowledge, fitness, and skill assessments were administered more frequently at smaller institutions compared to large institutions. Ten years later, while the use of letter grades remained relatively unchanged, the use of skill and fitness tests increased to 61 percent of institutions (Oxendine, 1969). Another shift in grading practices occurred a few years later with 41 percent of institutions reporting the use of pass/fail or credit/no credit grading systems (Oxendine, 1972). "Physical performance exams" were reported to be used more often than not, but a decrease in their use was reported in 1969. Several years later, proficiency testing or competency testing continued to rise (41

percent, compared to 34 percent in 1972), with larger institutions more likely to incorporate testing into the courses (Trimble & Hensley, 1984). Letter grading was reported as most frequently used (62 percent) with pass/fail grading decreasing from 31 percent to 24 percent, suggesting a tightening of grading practices, and a "more structured, more traditional approach" (Trimble & Hensley, 1984, p.85). The time period from the late 1980s until 2000 revealed little change in grading practices (Miller et al., 1989; Trimble & Hensley, 1990; Hensley, 2000). However, the use of proficiency exams did decrease slightly. More specific information related to student assessment in BIP courses is not available and leaves unanswered questions as to the evaluation practices and philosophies employed in the BIP.

More recently, Sweeney (2011) and Melton and Burdette (2011) discuss the role, and importance, of assessment in the BIP. Sweeney (2011) discussed the importance of both student assessment and program outcomes, emphasizing the importance of BIP philosophical alignment with institutional philosophy and program advocacy in order to contribute to the development of overall college student health. Melton and Burdetter (2011) take a different approach, however, addressing the use of technology to improve efficiency in assessment of students and in program evaluation. The use of electronic learning management systems, pedometers, and heart rate monitors are suggested as methods to facilitate technology use into BIP courses and programs, while simultaneously increasing assessment and evaluation practices (Melton & Burdette, 2011).

Faculty involvement, graduate teaching assistants, and teaching effectiveness. While the line of research investigating the BIP began in 1954, it was not until Oxendine (1969) that questions related to teaching staff were introduced. However, the data are limited, stating only that 59 percent of institutions increased the size of their teaching staff in response to larger enrollments. Oxendine and Roberts (1978) reported the percentage of tenure track faculty

teaching in the BIP at 42 percent. From this time period until 2000, the trend of tenure-track faculty teaching in the BIP continually declined. Larger institutions were more likely to report fewer tenure-track faculty teaching, but higher percentages of non-tenure track faculty, adjunct faculty, activity specialists, and graduate teaching assistants (Oxendine & Roberts, 1978; Trimble & Hensley, 1984; Miller et al., 1989; Hensley, 2000). Smaller institutions were more likely to report coaches and dual role individuals teaching within the BIP (Miller et al., 1989). A shift in and the growth of the curricular offerings of the BIP (discussed below), contributed to the increase in adjunct faculty with unique sport skill or experience in order to better meet student needs. The use of non-tenure track faculty, adjunct instructors, activity specialists, and graduate teaching assistants within the BIP has been an area of concern in relation to effective teaching in the BIP.

Evaul and Hilsendanger (1993) reported that "less than 10 percent of the service programs in large universities are taught by full-time faculty, with the majority being taught be [graduate assistants] (64%) and the rest by part-time faculty and coaches" (p. 37). They suggested the tendency of isolated, "second-class status" programs may be attributed to less involvement of full-time faculty. Poole (1993) suggested graduate teaching assistants may be subject to role conflict as they are expected to serve as "part-time teachers while also enrolled as full-time graduate students" (p. 41). Selection, training, and mentoring of graduate teaching assistants have been identified as potential issues facing BIP administrators when utilizing them for teaching BIP courses (Evaul & Hilsendanger, 1993). Poole (1993) recommended additional in-service training development for graduate teaching assistants. Continuing to explore the preparation and training of graduate teaching assistants, Russell (2008a) investigated perceptions of graduate teaching assistants regarding a supervisory system utilizing video analysis and

conferencing. The results revealed a higher level of preparedness and confidence teaching and an appreciation for exposure to the process of supervision and evaluation. Russell suggested further research be conducted examining "the socialization and development" (p. 19) of GTAs as their role continues to expand in BIPs. Russell (2011) expanded on the training, supervision and evaluation of GTAs, describing a four phase "instructor-development-and-support model" that is used at Auburn University. The four phases follow those suggested by Evaul and Hilsendanger (1993) as being imperative to GTA effectiveness: recruitment, pre-teaching preparation, pre-teaching orientation, and in-service development and support.

The BIP has also been identified as a potential source of research on effective teaching (Housner, 1993; Poole, 1993). Despite this potential, few institutions (2 percent) report utilizing the BIP for research purposes (Trimble and Hensley, 1990). De Knop (1986) examined teacher behaviors using university students enrolled in tennis camp. The students were grouped into a more effective class and a less effective class as determined via a skills test. The results of direct observation of behavior revealed significant differences in learning time in class, specific feedback provided, and receiving information. Buck, Harrison, and Bryce (1990) utilized a BIP course to investigate the relationship between learning and achievement of volleyball skills. A skills pre-test was administered, learning trials were tabulated for 22 class sessions and a skills post-test was then administered to determine the students' level of achievement. The results revealed total correct trials was the only significant factor in determining achievement of volleyball skills. The results highlighted the need "to structure the environment to improve the probability that more correct trials for all skills will occur" (Buck, et al., p. 151). Whether focused on the individuals providing the instruction, the instruction itself, or the composition of

the instructional faculty, the literature exploring teaching and teachers within the BIP provides additional support for the evaluation of BIPs.

Program objectives, philosophy, and outcomes. Not until Trimble and Hensley (1990) were objectives, philosophies, or outcomes of BIPs investigated. Seventy-nine percent of institutions reported having an official statement or objectives. Respondents were asked to rank order the three most important purposes of the BIP from a provided list. The purposes of the BIP identified as being most important were: (a) developing a commitment to lifelong participation; (b) fitness and health development; and (c) helping students enjoy participation in PA. These purposes were "generally consistent irrespective of size of the institution or its affiliation" (Trimble & Hensley, 1990, p. 66). Hensley (2000) expanded on this investigation, asking respondents to "rate the importance of selected outcomes and purposes of their BIPs using a five-point Likert Scale" (p. 34). Similar to Hensley and Trimble (1990), the most important outcomes were to: (a) develop a commitment to lifelong participation; (b) develop an enjoyment of PA; (c) fitness and health development; and (d) "help students understand the importance of movement in their lives" (Hensley, 2000, p. 34). Institutional size and affiliation again, had no impact on these outcomes, emphasizing that the main outcomes of the BIP are consistent and "have not changed very much over the last 10 to 12 years" (Hensley, 2000, p. 34).

Literature investigating the outcomes associated with BIPs has focused on perceptions of outcomes, reasons for enrollment, and student evaluation of the BIP. Boyce, Lehr, and Baumgartner (1986) assessed student perceptions of a series of outcomes generated by BIP faculty using a Likert-scale survey. Student perceptions of outcomes and benefits received from participating in BIP courses were compared to the "benefits and outcomes generated by an expert committee" (p. 290). The results indicated "students perceived their courses were beneficial" (p.

284) in achieving the outcomes developed by the BIP faculty, with 12 of the 15 outcomes being perceived similarly by students and committee members. Boyce et al. (1986) recommended obtaining student input for further development and improvement of BIPs.

In order to assess students' reasons for enrolling in BIP courses, Kisabeth (1986) surveyed students enrolled in BIP classes. The results revealed "significant differences by gender, activity class, and perceived skill level" for the purposes students' enrolled in BIP courses. This information may be of use to curricular designers and instructors in BIPs to facilitate understanding and to "accommodate the various students" who take BIP courses (p. 153). Savage (1998), Russell (2008b), and Hardin, Andrew, Koo, and Bemiller (2009) also surveyed students in BIP courses to assess their motivation for participation. The results from both studies were similar to the outcomes reported by Trimble and Hensley (1990) and Hensley (2000): fitness development, enjoyment, and skill development remained as primary motivating factors for participation in a BIP course. Academic benefit was an additional motivating factor identified by Hardin et al. (2009), predicting behavioral intentions in males. Taken collectively, the results indicate students' reasons for enrolling in BIP courses was largely unchanged over the past twenty years.

Literature examining student satisfaction with BIPs indicates those participating in the BIP are generally satisfied with the program/course (Crawford, Greenwell, & Andrew, 2007; Lumpkin & Avery, 1986; Russell, 2008b). Course content and the instructor were found to significantly influence satisfaction (Crawford et al., 2007). The results of these studies provide support to the argument that students will participate in the BIP if they perceive it to be of a high quality and they are satisfied with the quality of the experience. This provides promise for BIP administrators in light of decreasing numbers of BIPs, offerings, and student enrollment.

Changes in preferred offerings and student perceptions necessitate regular examination and evaluation of the program "to be sure it is relevant to students' needs and interests" (Lumpkin & Avery, 1986, p. 196).

Curricular offerings. Examination of the curricular offerings of BIPs began with Hunsicker (1954). Swimming was reported with the highest frequency (10.9 percent) followed by basketball (7.3 percent) and volleyball (6.7 percent). The majority of the curricular offerings during this time were individual and dual sports. Moving into the 1960s, Oxendine (1961) reported individual and dual sports, gymnastics, aquatics, and rhythmic activities increased since 1954, whereas team sports declined significantly with a more pronounced decline in larger institutions. This signified the beginning of a decline in team sports offerings in BIPs that persisted through the 1990s and into the 21st century. As team sports declined, "recreational," "fitness and weight control," and "lifetime and individual type" curricular offerings were reported more frequently (Oxendine, 1969, 1972; Oxendine & Roberts, 1978). Oxendine and Roberts (1978) reported fitness oriented courses (jogging, aerobics) and outdoor activities (backpacking, hiking, rock climbing), racquet sports, dance and winter sports (skiing) as more popular novel BIP offerings. Course offerings continued to reflect student interests: individual sports and fitness activities were most frequently offered; team sports continued to decline (Trimble & Hensley, 1984).

As BIPs continued to evolve in response to societal and student interests, fitness-related and individual sport course offerings continued to be reported as most commonly offered (Miller et al., 1989). The emergence of "multi-dimensional" health related fitness courses with a "cognitive component (p. 68) was observed, with a tendency to make such courses a requirement unto themselves (see more below on Concepts Based Fitness/Wellness courses) (Trimble &

Hensley,1990). The trend of the "multi-dimensional" concepts based health and wellness course grew, as Hensley (2000) reported 52 percent of responding institutions required such a course, with smaller institutions more likely to require this type of course than larger ones and 60% offered this type of course within the BIP (Hensley, 2000). Due to the increasing trend of required concepts based health and wellness courses, the following section will provide a more in depth exploration.

Concepts based fitness/wellness courses. Concepts-based Fitness/Wellness (CBFW) courses are courses offered by higher education institutions (Hodges-Kulinna et al., 2009). Conceptual information related to health, wellness, fitness, behavior change strategies, and self-management skills are developed in the lecture component; engagement in a variety of activities is emphasized in the PA laboratory. Originally developed in the 1960s, CBFW courses did not become entrenched in the academic or physical education departments until the late 1970s and early 1980s. It has been suggested that these courses can be used to develop skills, attitudes, knowledge and contribute to the adoption of health behaviors (Pearman et al., 1997). Trimble and Hensley (1990) first reported the trend of institutions offering a "multi-dimensional" course to satisfy a PE requirement. Hensley (2000) reported this percentage to be 60% of responding institutions, and Hodges-Kullinna et al. (2009) reported a significant increase to 90% of responding institutions offering a CBFW, suggesting the trend predicted by Trimble and Hensley (1990) had become reality.

Research focused on CBFW has focused primarily on the ability of the CBFW course to impact college students' health-related behaviors. Slava, Laurie, and Corbin (1984) compared the knowledge, attitudes and activity profiles of students who had taken a CBFW course to those who had not, finding significant differences between the groups, with the CBFW groups having

higher knowledge and activity scores. While traditional sports-based curricula inherent to college physical education programs may not provide adequate PA opportunities to those not skilled in the specific sport, positive change in PA behaviors as well as improvements in attitudes toward PA have been seen in conceptually based physical education offerings (Brynetson & Adams, 1993). Adams and Brynteson (1995) found significant differences in the perceptions of the value of a CBFW course in terms of knowledge of fitness, attitude toward fitness, the value of exercise, and current exercise habits of recent college alumni who had taken a CBFW course compared to those who had taken a traditional activity based courses. Sparling (2003) suggested CBFW courses as an agent of change for unhealthy behaviors of college students, continuing to support the increased percentage of institutions offering such courses. The long term impact of CBFW courses has yet to be explored, however, the combination of the trend of increased CBFW offerings, the ability of CBFW courses to have a significant impact on knowledge and attitude toward PA and increased PA levels, suggests CBFW courses may play a significant role in the transition of HEPAPs to promote PA and serve college students' needs.

The promotion of lifelong participation in and an appreciation of PA is one of the commonly stated goals of HEPAPs. Based on available literature highlighting college student PA levels, HEPAPs may not be sufficiently promoting PA among college students. This disconnect between expected outcomes and actual outcomes leads to questions of the effectiveness of HEPAPs. Researchers have called for evaluation of college physical education programs in order to determine their impact on students (Avery & Lumpkin, 1986; Evaul & Hilsendanger, 1993; Leslie et al., 2001; Sparling, 2003). The National Association for Sport and Physical Education (NASPE) published a series of guidelines to be used by HEPAP administrators as a self-measure of quality, addressing a majority of the trends described above.

The following section will discuss the evolution of the NASPE guidelines and their potential to be used as tool to evaluate HEPAPs.

National Association of Sport and Physical Education Guidelines for HEPAPs. The NASPE (1998) developed the first version of guidelines for HEPAP administrators to use "to facilitate and promote the use of practices that are in the best interests of college-aged students (appropriate) and to avoid those that are counterproductive or even harmful (inappropriate)" (p. 2). The first edition recommended five philosophical underpinnings for HEPAPs including having education as the central mission, emphasizing health-related PA and skill development, sensitivity to students' and societal needs, and promoting the value of lifelong participation in PA. The guidelines are organized in five content areas including: (1) administration and support, (2) curriculum, (3) instruction, (4) assessment, and (5) faculty standards. Within each of the content areas are forty statements consisting of an appropriate practice and an inappropriate practice, which define the guideline. To facilitate the use of these guidelines as a program evaluation tool, a "program appraisal rating scale" was included. Program administrators could rate each guideline as being either "fully met," "partially met," or "not met" (p. 12), providing a subtotal for each content area as well as an overall total. Utilizing the tool, administrators were encouraged to identify those guidelines being fully complied with as well as "to identify strategies to improve those guidelines where non-compliance could be a concern" (p. 12).
The second edition, published in 2008, expanded and clarified the position of NASPE with respect to "best practice" in HEPAP. The intent of these guidelines remained similar: to "educate professionals about effective programming and teaching within a higher education curriculum" (p. 3). The overall goals remained the same, with the guidelines to be used for assessment of the "quality of instruction" of the program and as a framework to develop an

effective program. Content areas remained similar to the first edition, however, the total number of guidelines increased to 74. The content areas of assessment, instructional strategies (instruction in the first edition), program staffing (faculty standards in first edition), and curriculum were expanded from the first edition. Content areas of professionalism and learning environment were added. The professionalism content area contains guidelines related to appearance/presentation, teaching, growth and advocacy. The learning environment area consists of guidelines including instructor planning, class management, safety, diversity, equity, inclusion, and socialization in sport/PA. The program appraisal tool included in the first edition was removed. The guidelines presented in the second version "represent pedagogical and administrative practices" to be used for program assessment, and offer "minimum standards for program administration and quality of instruction" (p. 6).

Summary

The need for constant assessment, improvement of teaching, and evaluation of program offerings in light of changing societal influences provide support for additional assessments of BIPs and HEPAPs. Despite what is known about HEPAP trends, little has been done to assess the quality of the HEPAPs. The NASPE guidelines for HEPAPs offer a framework to evaluate the potential of an HEPAP to promote participation in lifetime PA. To date, there are no published investigations of the level of adherence of HEPAPs to these guidelines. Therefore, utilizing the NASPE guidelines as a foundation to develop an assessment tool for HEPAPs may provide valuable information to program administrators to establish the level of quality of the HEPAP and potentially be used to promote PA of college students.

References

Adams, T.M., & Brynteson, P. (1995). The effects of two types of required physical education. *Physical Educator, 52*(4), 203-211.

American College Health Association [ACHA] (2001). *American College Health Association-National College Health Assessment: Reference Group Data Report Fall 2000.* Baltimore, MD: American College Health Association.

American College Health Association [ACHA]. (2002). *Healthy Campus 2010: Manual*. Baltimore, MD: American College Health Association.

American College Health Association [ACHA]. (2011). *American College Health Association – National College Health Assessment II: Reference Group Executive Summary Spring 2011*. Hanover, MD: American College Health Association.

Blanchard, C.M., McGannon, K.R., Spence, J.C., Rhodes, R.E., Nehl, E., Baker, F., & Bostwick, J. (2005). Social ecological correlates of physical activity in normal weight, overweight, and obese individuals. *International Journal of Obesity, 29,* 720-726.

Boyce, B.A., Lehr, C., & Baumgartner, T. (1986). Outcomes of selected physical education activity courses as perceived by university students. *Journal of Teaching in Physical Education, 5,* 280-292.

Brofenbrenner, U. (1979). *The Ecology of Human Development*. Cambridge, MA: Harvard University Press.

Brynteson, P., & Adams, T.M. (1993). The effects of conceptually based physical education programs on attitudes and exercise habits of college alumni after 2 to 11 years of follow up. *Research Quarterly For Exercise and Sport, 64*(2), 208-212.

Buck, M., Harrison, J.M., & Bryce, G.R. (1990). An analysis of learning trials and their relationshop to achievement in volleyball. *Journal of Teaching in Physical Education, 10,* 134-152

Buckworth, J., & Dishman, R.K. (2002). *Exercise psychology.* Champaign, IL: Human Kinetics.

Calfas, K.J., Sallis, J.F., Lovato, C.Y., & Campbell, J. (1994). Physical activity and its determinants before and after college graduation. *Medicine, Exercise, Nutrition and Health, 3,* 323-334.

Calfas, K.J., Sallis, J.F., Nichols, J.F., Sarkin, J. A., Johnson, M.F., Caparosa, S., Thompson, S., Gehrman, C.A., & Alcaraz, J.E. (2000). Project GRAD: two year outcomes of a randomized controlled physical activity intervention among young adults. *American Journal of Preventive Medicine, 18*(1), 28-37.

Caspersen, C.J., Pereira, M.A., & Curran, K.M. (2000). Changes in physical activity patterns in the United States, by sex and cross-sectional age. *Medicine and Science in Sports and Exercise, 32*(9), 1601-1609.

Centers for Disease Control and Prevention. (1997). Youth risk behavior surveillance: National college health risk behavior survey—United States, 1995. *Morbidity and Mortality Weekly Report. 46*(SS-6), 1-54.

Centers for Disease Control and Prevention. (2001). Increasing physical activity: a report on recommendations of the Task Force on Community Preventive Services. *Morbidity and Mortality Weekly Report*. *50*(No. RR-18), 1-14.

Considine, W.J. (1985). Basic instruction programs: A continuing journey. *Journal of Physical Education, Recreation, and Dance, 56*(7), 31-54

Crawford, S.Z., Greenwell, T.C., & Andrew, D.P. (2007). Exploring the relationship between perceptions of quality in basic instruction programs and repeat participation. *Physical Educator, 64*(2), 65-73.

DeKnop, P. (1986). Relationship to specified instructional teacher behaviors to student gain on tennis. *Journal of Teaching in Physical Education, 5*, 71-78.

Dinger, M.K. (1999). Physical activity and dietary intake among college students. *American Journal of Health Studies, 15*(3), 139-148.

Evaul, T., & Hilsendanger,D. (1993) Basic instruction programs: Issues and answers. *Journal of Physical Education, Recreation, and Dance, 64*(6), 37-40.

Fornia, D.L. (1959). Coedcuational physical education in institutions of higher learning. *The Research Quarterly of the American Association for Health, Physical Education, and Recreation, 30*(4), 423-429.

Giles-Corti, B., & Donovan, R.J. (2002). The relative influence of individual, social, and physical environmental determinants of physical activity. *Social Science and Medicine, 54*, 1793-1812.

Greene, M.M. (1955). Physical education as a college graduation requirement. *Journal of Health, Physical Education, and Recreation, 26*(9), 25-26.

Gyurcsik, N.C., Spink, K.S., Bray, S.R., Chad, K., & Kwan, M. (2006). An ecologically based examination of barriers to physical activity in students from grade seven through first-year university. *Journal of Adolescent Health, 38,* 704-711.

Hardin, R., Andrew, D.P., Koo, G., & Bemiller, J. (2009). Motivational factors for participating in basic instruction programs. *Physical Educator, 66*(2), 71-85.

Hensley, L.D. (2000). Current status of basic instruction programs in physical education at American colleges and universities. *Journal of Physical Education, Recreation, and Dance, 71*(9), *30*-36.

Hildebrand, K.M., & Johnson, D.J. (2001). Determinants of college physical activity class enrollment: Implications for high school physical education. *Physical Educator*, *58*(1), 51-57.

Hodges-Kulinna, P., Warfield, W.W., Jonaitis, S., Dean, M., & Corbin, C. (2009). The progression and characteristics of conceptually based fitness/wellness courses at American universities and colleges. *Journal of American College Health, 58(2),* 127-131.

Housner, L.D. (1993). Research in basic instruction programs. *Journal of Physical Education, Recreation, and Dance. 64*(6), 53-58.

Hunsicker, P.A. (1954). A survey of service physical education programs in American colleges and universities. *Annual Proceedings of the College Physical Education Association, 57,* 29-30.

Kahn, E.B., Ramsey, L.T., Brownson, R.C., Heath, G.W., Howze, E.H., Powell, K.E., Stone, E.J., Rajab, M.W., Corso, P., & Task Force on Community Preventive Services. (2002). The effectiveness of interventions to increase physical activity. *American Journal of Preventive Medicine, 22*(4S), 73-107.

Kisabeth, K.L. (1986). Basic instruction programs: A search for personal meaning. *Physical Educator, 43,* 150-154.

Leslie, E., Fotheringham, M.J., Owen, N., & Bauman, A. (2001). Age-related differences in physical activity levels of young adults. *Medicine and Science in Sports and Exercise, 33*(2), 255-258.

Leslie, E., Sparling, P.B., & Owen, N. (2001). University campus setting and the promotion of physical activity in young adults: Lessons from research in Australia and the USA. *Health Education, 101*(3), 116-125.

Lumpkin, A., & Avery, M. (1986). Physical education activity program survey. *Journal of Teaching in Physical Education, 5*(3), 185-197.

Lumpkin, A., & Jenkins, J. (1993). Basic instruction programs: A brief history. *Journal of Physical Education, Recreation, and Dance, 64*(6), 33-36.

McLeroy, K.R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly, 15*(4), 351-377.

Melton, B., & Burdette, T. (2011). Utilizing technology to improve the administration of instructional physical activity programs. *Journal of Physical Education, Recreation, and Dance, 82*(4), 27-32.

Miller, G.A., Dowell, L.J., & Pender, R.H. (1989). Physical activity programs in colleges and universities: A status report. *Journal of Physical Education, Recreation, and Dance, 60*(6), 20-23.

Nahas, M.V., Goldfine, B., & Collins, M.A. (2003). Determinants of physical activity in adolescents and young adults: The basis for high school and college physical education programs to promote active lifestyles. *The Physical Educator, 60*(1), 42-56.

National Association for Sport and Physical Education (NASPE). (1998). *Guidelines for Appropriate Practice in College/University Physical Activity Programs.* Reston, VA: National Association for Sport and Physical Education.

National Association for Sport and Physical Education (NASPE). (2008). *Appropriate Instructional Practice Guidelines For Higher Education Physical Activity Programs. (2nd ed.).* Reston, VA: National Association for Sport and Physical Education.

Oxendine, J.B. (1961). The service program in 1960-1961. *Journal of Health, Physical Education, and Recreation, 32*(6), 37-38.

Oxendine, J.B. (1969). Status of required physical education programs in colleges and universities. *Journal of Health, Physical Education, and Recreation, 40*(1), 32-35.

Oxendine, J.B. (1972). Status of general instruction programs of physical education in four-year colleges and universities: 1971-72. *Journal of Health, Physical Education, and Recreation, 43*(3), 26-28.

Oxendine, J.B. (1985). 100 years of basic instruction. *Journal of Physical Education, Recreation, and Dance, 56*(7), 32-36.

Oxendine, J.B., & Roberts, J.E. (1978). The general instruction program in physical education at four-year colleges and universities: 1977. *Journal of Physical Education and Recreation, 49*(1), 21-23.

Pearman, S.N., Valois, R.F., Sargent, R.G., Saunders, R.P., Drane, J.W., & Macera, C.A. (1997). The impact of a required college health and physical education course on the health status of alumni. *Journal of American College Health, 46*(2), 77-85.

Poole, J.R. (1993). The search for effective teaching in basic instruction programs. *Journal of Physical Education, Recreation, and Dance, 64*(6), 41-58.

Russell, J.A. (2008a). An examination of kinesiology GTAs' perceptions of an instructional development and evaluation model. *Physical Educator, 65*(1), 2-20.

Russell, J.A. (2008b). Utilizing qualitative feedback to investigate student perceptions of a basic instruction program. *Physical Educator, 65*(2), 68-82.

Russell, J.A. (2011). Graduate teaching-assistant development in college and university instructional physical activity programs. *Journal of Physical Education, Recreation, and Dance, 82*(4), 22-32.

Sallis, J.F., & Owen, N. (1999). *Physical activity and behavioral medicine.* Thousand Oaks, CA: Sage.

Sallis, J.F., & Owen, N. (2002). Ecological models of health behavior. In: Glanz, K., Rimer, B.K., & Marcus-Lewis, F. (Eds.) *Health Behavior and Health Education* (3rd Edition). pp. 462-470). San Francisco, CA: Jossey-Bass

Sallis, J.F., Cervero, R.B., Ascher, W., Henderson, K.A., Kraft, M.K., & Kerr, J. (2006). An ecological approach to creating active living communities. *Annual Review of Public Health, 27,* 297-322.

Savage, M.P. (1998). University students' motivation for participation in a basic instruction program. *College Student Journal, 32*(1), 58-66.

Sechrist, K.R., Walker, S.N., & Pender, N.J. (1987). Development and psychometric evaluation of the exercise benefits/barriers scale. *Research in Nursing and Health, 10,* 403-425.

Slava, S., Laurie, D.R., & Corbin, C.B., (1984). Long-term effects of a conceptual physical education program. *Research Quarterly for Exercise and Sport, 55*(2), 161-168.

Sparling, P.B. (2003). College physical education: an unrecognized agent of change in combating inactivity-related diseases. *Perspectives in Biology and Medicine, 46*(4), 579-587.

Sparling, P.B., & Snow, T.K. (2002). Physical activity patterns in recent college alumni. *Research Quarterly for Exercise and Sport, 73,* 200-205.

Spence, J.C., & Lee, R.E. (2003). Toward a comprehensive model of physical activity. *Psychology of Sport and Exercise, 4,* 7-24.

Stokols, D. (1992). Establishing and maintaining health environments; toward a social ecology of health promotion. *American Psychologist, 47*(1), 6-22.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion, 10*(4), 282-298.

Sweeney, M.M. (2011). Initiating and strengthening college and university physical activity programs. *Journal of Physical Education, Recreation, and Dance, 82*(4), 17-21.

Trimble, R.T., & Hensley, L.D. (1984). The general instruction program in physical education at four-year colleges and universities: 1982. *Journal of Physical Education, Recreation, and Dance, 55*(5), 82-89.

Trimble, R.T., & Hensley, L.D. (1990). Basic instruction programs at four-year colleges and universities. *Journal of Physical Education, Recreation, and Dance, 61*(6), 64-73.

Trost, S.G., Owen, N., Bauman, A.E., Sallis, J.F., & Brown, W. (2002). Correlates of adults' participation in physical activity: review and update. *Medicine and Science in Sports and Exercise, 34*(12), 1996-2001.

U.S. Department of Health and Human Services. (1996). *Physical activity and health: A report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Appendix B: Item Selection Instrument

Assessment of Appropriate Instruction Practice Guidelines for Higher Education Physical Activity Programs

The purpose of this assessment is to categorize a list of statements adapted from the NASPE Appropriate Instruction Practice Guidelines for Higher Education Physical Activity Programs (2nd edition, 2009). This assessment is the first step in a project to assess the level of adherence of Higher Education Physical Activity Programs to the NASPE guidelines. The following categories regarding these guidelines have been developed and are defined below.

1. **Curriculum and Instruction (C&I):**
    a. Those guidelines which have a direct influence on student behaviors, student outcomes, student knowledge, student abilities, and/or student skill development
    b. Items may include, but are not limited to guidelines related to areas such as: effective teaching, lesson structure, practice opportunities, maximizing physical activity, instructional strategies, instructor behaviors, etc.

2. **Administration and Institutional Support (A&IS):**
    a. Those guidelines which are departmental, program, or institutional administrative functions and/or those statements which do not have a direct influence on student behaviors, outcomes, knowledge, abilities, and/or skill development
    b. Items may include, but are not limited to guidelines related to areas such as: program position, marketing, promotion, staffing, professional development, program evaluation, assessment, policy and procedures, etc.

3. **Unclassified:**
    a. Those items that do not fit the C&I **OR** A&IS definitions stated above

Instructions for Completion:

Using the definitions provided, please select the most appropriate category for each statement. Place an "X" in the box corresponding to the category in which you feel the statement best belongs.

Statement	C & I	A & IS	Unclassified
1. A full time faculty member administers the program and is responsible for logistics			

2. The program is positioned as an integral part of a department, to provide health-related physical activity opportunities central to the institution's mission			
3. The program is positioned to ensure an understanding of the value of PA to the college/university community			
4. The administration supports the program with quality facilities and equipment, budget, and professional development opportunities			
5. The administration promotes the program actively throughout the college/university community			
6. The program adheres to course policies consistent with all other credit-bearing coursework within the institution, including those regarding instructor and student responsibilities and expectations, administrative roles, and standards of professionalism.			
7. Faculty and staff members receive a program manual documenting instructor and student responsibilities, expectations, roles, and/or standards of professionalism			
8. Administrators set class size limits based on student safety, available equipment, facility space, instructors' teaching abilities, and/or the minimum number of students necessary to justify the class			
9. The program is delivered by a credit-generating department (i.e., physical education, kinesiology, etc) from which it receives enough funding to allow for quality instruction, equipment and/or facilities			
10. Activity courses are schedules as college/university priorities and classes are not displaced for athletics or intramurals			
11. A central administrator schedules shared facilities			
12. Designated financial support is allocated to the program to cover instruction and equipment costs			
13. Resources are allocated for program coordinators' and instructors/ in-service training and participation in conferences and professional development clinics			
14. The program receives equipment that is appropriate and adequate, to promotes student participation and provide instructors with varied teaching opportunities			
15. The equipment is inventoried and inspected routinely			
16. Facilities are cleaned and inspected for safety routinely			
17. Assigned supervisors oversee storage, organization, maintenance and cleanliness			

18. The program uses assessments to inform and help students progress toward intended outcomes			
19. Formative and summative assessments constitute an ongoing and integral part of the learning process for all students			
20. Instructors assess all domains (cognitive, affective, psychomotor and health-related fitness) systematically			
21. The program conducts individual student evaluations though a variety of assessment techniques			
22. Appropriate tests are used for students with disabling conditions			
23. Instructors are encouraged to use fitness assessments as part of the ongoing process of helping students understand, improve and maintain their physical fitness and well-being			
24. Instructors create testing situations that are private, non-threatening, educational and encouraging			
25. Instructors explain what the assessment is designed to measure			
26. Instructors encourage students to avoid comparisons and use the results as a catalyst for personal improvement			
27. Assessment results are shared privately with students, with the aim toward developing personal goals and strategies for maintaining fitness and skill parameters			
28. Instructors provide students with progress reports regularly using a variety of continuous, formative evaluations and assessments			
29. Grades are based on thoughtfully identified criteria that are aligned with exit outcomes			
30. Students know the components of and/or criteria included in their grades			
31. Program assessment is used to determine program effectiveness, to communicate goals to the student body, faculty and administration, and to revise curricula			
32. Instructors communicate clear outcomes for student learning and performance			
33. Instructors form pairs, groups and teams in a manner that facilitates learning and preserves dignity and self-respect for all students			
34. Class begins with an anticipatory set and physical warm-up that precedes the instructional focus and fitness activities			
35. Classes close with a cool-down, stretching and review of the content			
36. Activities are designed based on a pre-evaluation, outcome of the course and student needs			

37. The instructor plans for skill and concept instruction			
38. The instructor allows enough time for practice, skill development, content acquisition and feedback based on (appropriate) skill analysis			
39. Instructors organize classes to maximize opportunities for all students to learn and be physically active			
40. Instructors use small sided games or mini-activities to allow students ample opportunity to participate			
41. Instructors use a variety of direct and indirect teaching styles depending on outcomes, lesson content, and students' varied learning styles			
42. Instructors emphasize critical thinking and problem solving tactics and strategies to help students apply concepts and skills to post-graduation experiences			
43. Instructors demonstrate enthusiasm for an active, healthy lifestyle			
44. Students practice skills and achieve success appropriate to their individual skill level			
45. Students receive positive, constructive, specific corrective feedback about performance			
46. Instructors include technology (e-mail, internet, video recording) to improve teaching effectiveness and class management			
47. Instructors include technology to quantify activity (pedometers, heart rate monitors, etc)			
48. Instructors are on time, use appropriate language and wear clean, neat attire that is appropriate for the activity			
49. Instructors demonstrate an understanding of basic motor skills			
50. Instructors provide accurate demonstrations for dominant and non-dominant performance through teacher or student modeling or via visual aids			
51. Instructors seek new information continually to stay current in the field			
52. The program coordinator and/or instructor informs administrators, policymakers, and the campus community regularly about the program's goals, outcomes and local, state and national initiatives			
53. The program coordinator and/or instructor foster(s) a culture on campus that encourages physical activity			
54. Instructors systematically plan for, develop and maintain a positive learning environment that allows students to feel safe, supported and unafraid to make mistakes			

55. The environment is supportive of all students and promotes developing a positive self-concept			
56. Fair and consistent classroom-management practices encourage student responsibility for learning			
57. Instructors promote exercise for its contribution to a healthy lifestyle			
58. Students are encouraged to participate in physical activity and exercise outside the class setting for skill development, enjoyment and good health			
59. Activities are carefully selected to ensure they match students' ability levels and are safe for all students regardless of ability level			
60. Activities are carefully selected and modified to ensure a safe learning environment for students			
61. Instructors maintain up-to-date CPR, First Aid and AED certifications			
62. Instructors create an environment that is inclusive and supportive of all students, regardless of race, ethnic origin, gender, sexual orientation, religion or physical ability.			
63. All students have equal opportunities for participating in and during activity time and interaction with the instructor			
64. All students, regardless of developmental level and ability, are challenged at an appropriate level			
65. Instructors use gender neutral and respectful language			
66. Instructors implement the special education process for students with disabling conditions, as provided through student services			
67. Lessons/activities are adapted for students with varied fitness and/or skill levels			
68. Students are encouraged to participate at appropriate levels of activity for their own improvement			
69. Instructors provide appropriate experiences for students with acute medical limitations (i.e. student with broken arm can ride exercise bike)			
70. Instructors help students recognize that adults engage in sport and exercise activities both to socialize and compete.			
71. A deeper understanding of competition is fostered, one that encourages students to reflect on ideas such as rivalry, competence and affiliation			
72. The instructional physical activity program director/coordinator holds a full-time position within the academic unit in which the			

program is housed. The position requires a master's degree or higher, with a specialty in physical education or allied health area			
73. The director/coordinator has experience and formal training in pedagogical practices, programming and managing and evaluating physical activity programs. He/she also has expertise to assist in selecting program instructors.			
74. Minimum standards for hiring are the same as for any other full-time faculty position within the college or university			
75. Faculty members/instructors are expected to be fully contributing members of the academic department and higher education community with responsibilities similar to those of faculty members in other programs			
76. Advancement opportunities are similar to those for other faculty members of similar rank across the college/university and are based on approved position descriptions			
77. Part-time faculty members/instructors teach activities in which they demonstrate extensive teaching experience and skills			
78. Part time faculty/instructors are competent in pedagogical skills			
79. Graduate teaching assistants enrolled in master's or doctoral degree program within exercise science, physical education, sport psychology or related allied health areas are selected based on their potential to contribute effectively to the program			
80. Graduate teaching assistants are assigned to classes in which they have demonstrated sufficient content knowledge as well as pedagogical and psychomotor skills			
81. Athletics coaches teach in their areas of expertise			
82. Athletics coaches are interviewed, hired, trained and reviewed via procedures consistent with those used with other instructors			
83. All instructors participate in professional development endeavors (workshops, conference attendance, etc)			
84. Instructor orientation, in-service training, and mentorship programs are provided			
85. Students within activity courses have the same opportunities to evaluate instruction and instructors as they do with other college/university courses			
86. Instructors are observed, evaluated and counseled routinely by an experienced teacher or director/coordinator on their instructional and course administrative responsibilities			
87. Courses offered reflect students' varied interests, knowledge, and abilities as well as regional opportunities and current trends			

88. Courses are offered in various activities at beginning, intermediate, and advanced levels.			
89. Multiple course levels follow a scope and sequence designed to scaffold prior learning and develop mature forms of skills and strategies			
90. Credit for physical activity courses is limited to regularly scheduled courses approved by the department and/or institution (no credit given for related experiences such as ROTC, band, athletics, etc)			
91. The program makes provisions within courses for students with disabling conditions.			
92. Separate courses or sections are offered to accommodate all students with disabling conditions.			
93. A syllabus is developed for each course in the program that follows a format consistent with institutional policies for all courses			
94. Syllabi are provided to all students enrolled in a course			
95. Syllabi are made available to other constituents including administrators, supervisors, mentors and/or other faculty members			
96. Class size is determined by facilities, equipment, safety, the nature of course content and appropriate instructional practice.			
97. Instructors encourage students to extend experiences from in-class activity lessons to campus, community and family activities that promote a physically active lifestyle			
98. Curriculum offerings provide opportunities for students to interpret and use assessment data to set personal goals, including developing a lifelong fitness plan			
99. The program establishes outcomes that reflect all 4 domains (cognitive, affective, psychomotor, health-related fitness)			
100. Program offerings include content that allows students to develop social skills and responsible behavior that will lead them to become productive members of society			
101. Course content aims to provide opportunities for all students to experience the satisfaction and joy that can result from participating regularly in physical activity			
102. Course content is delivered in a way that encourages students to recognize that physical activity is an important part of everyday living			
103. Activities focus on health-related components of fitness.			

104. Skill related components of fitness are emphasized in their relation to skill development.			
105. Instructors within sections of the same course use common course outcomes.			
106. The program has established exit outcomes which are listed on all course syllabi			
107. Course content is related directly to exit outcomes			

Appendix C: Item Selection Results

	Round 1		Round 2		Round 3	
STATEMENT	**Rev A**	**Rev B**	**Rev C**	**Rev D**	**Rev E**	**Rev F**
1	2	2	2	2	2	2
2	3	2	2	2	2	1
3	3	2	2	2	2	1
4	2	2	2	2	2	2
5	3	2	2	2	2	2
6	2	2	2	2	1	1
7	**1**	2	**2**	2	2	2
8	2	2	2	2	2	2
9	2	2	1	2	2	2
10	2	2	2	2	2	2
11	2	2	2	2	2	2
12	2	2	2	2	2	2
13	**1**	2	**2**	2	2	2
14	2	2	1	2	1	2
15	2	2	2	2	2	2
16	2	2	2	2	2	2
17	2	2	2	2	2	2
18	**1**	3	**1**	1	1	1
19	**1**	1	**1**	1	1	1
20	**1**	1	**1**	1	1	1
21	**1**	3	**1**	1	1	1
22	**1**	1	**1**	1	1	1
23	**1**	1	**1**	1	1	1
24	**1**	1	**1**	1	1	1
25	**1**	1	**1**	1	1	1
26	**1**	1	**1**	1	1	1
27	**1**	1	**1**	1	1	1
28	**1**	1	**1**	1	1	1
29	**1**	1	**1**	1	1	1
30	**1**	1	**1**	1	1	1
31	2	2	2	2	1	1
32	**1**	1	**1**	1	1	1
33	**1**	1	**1**	1	1	1
34	**1**	1	**1**	1	1	1
35	**1**	1	**1**	1	1	1
36	**1**	1	**1**	1	1	1
37	**1**	1	**1**	1	1	1

38	**1**	1	**1**	1	1	1
39	**1**	1	**1**	1	1	1
40	**1**	1	**1**	1	1	1
41	**1**	1	**1**	1	1	1
42	**1**	1	**1**	1	1	1
43	**1**	1	**1**	3	3	1
44	**1**	1	**1**	1	1	1
45	**1**	1	**1**	1	1	1
46	**1**	1	**1**	1	1	1
47	**1**	1	**1**	1	1	1
48	**1**	3	**blank**	3	3	1
49	**1**	1	**1**	1	1	1
50	**1**	1	**1**	1	1	1
51	**1**	3	**1**	3	1	1
52	2	2	2	2	2	2
53	3	2	2	3	2	1
54	2	1	1	1	1	1
55	**1**	1	**1**	1	1	1
56	**1**	1	**1**	1	1	1
57	**1**	1	**1**	1	1	1
58	**1**	1	**1**	3	1	1
59	**1**	1	**1**	1	1	1
60	**1**	1	**1**	1	1	1
61	2	2	1	3	2	2
62	**1**	1	**1**	3	1	1
63	**1**	1	**1**	3	1	1
64	**1**	1	**1**	3	1	1
65	**1**	1	**1**	3	1	1
66	**1**	1	**1**	3	1	1
67	**1**	1	**1**	1	1	1
68	**1**	1	**1**	1	1	1
69	**1**	1	**1**	3	1	1
70	**1**	1	**1**	3	1	1
71	**1**	1	**1**	3	1	1
72	2	2	2	2	2	2
73	2	2	2	2	2	2
74	3	2	2	2	2	2
75	3	2	2	2	2	2
76	3	2	2	2	2	2
77	3	2	1	2	2	2
78	3	2	1	1	2	2

79	3	2	2	2	2	2
80	3	2	2	1	2	2
81	3	2	3	2	2	3
82	3	2	2	2	2	3
83	3	2	2	3	2	2
84	3	2	2	3	2	2
85	**1**	2	**2**	2	2	2
86	**1**	2	**1**	2	2	2
87	3	2	**1 or 2**	2	2	2
88	**1**	2	**1 or 2**	2	1	2
89	**1**	2	**1 or 2**	1	1	2
90	3	2	2	2	2	2
91	**1**	2	**1 or 2**	3	1	2
92	**1**	2	**1 or 2**	3	2	2
93	2	3	2	2	2	2
94	2	1	1	2	2	1
95	2	3	2	2	2	2
96	2	2	2	2	2	2
97	3	1	1	3	1	1
98	**1**	3	**1**	3	1	1
99	**1**	2	**1**	1	1	1
100	**1**	2	**1**	3	1	1
101	**1**	2	**1**	3	1	1
102	**1**	3	**1**	3	1	1
103	**1**	1	**1**	3	1	1
104	**1**	1	**1**	3	1	1
105	2	2	2	2	1	1
106	2	2	1	2	1	1
107	2	1	1	1	1	1
		68		**75**		**95**
		0.63551402		**0.70093458**		**0.88785047**
		A:B		**C:D**		**E:F**
				24 unclass		

Appendix D: Final Survey Instrument

Assessment of Appropriate Instructional Practice Guidelines for Higher Education Physical Activity Programs

Survey Objective: To explore the level of adherence to the National Association for Sport and Physical Education (NASPE) Guidelines for Appropriate Instructional Practices in Higher Education Physical Activity Programs (HEPAP).

Survey completion is voluntary, with submission serving as consent to participate in the research study. All results will remain anonymous and confidential.

Thank you in advance for your time and cooperation.

Instructions: Please answer the following questions based on your knowledge and/or experience.

1.	Does your institution offer a Physical Activity Program? (may also be referred to as basic instruction program, service program, activity program, etc.)	**YES**		**NO**
2.	Rate your familiarity with the NASPE Appropriate Instructional Practice Guidelines for Higher Education Physical Activity Programs	**Very Familiar 3**	**2**	**Not Familiar At All 1**

Instructions: Please reflect on your institution and program using the questions and rating scale below.

	Fully Adhered To				**Not At All Adhered To**	
1. The program adheres to course policies consistent with all other credit-bearing coursework within the institution, including those regarding instructor and student responsibilities and expectations, administrative roles, and standards of professionalism. 1.3.1	5	4	3	2	1	N/A
2. The program uses assessments to inform and help students progress toward intended outcomes. 2.1.1	5	4	3	2	1	N/A
3. Formative and summative assessments constitute an ongoing and integral part of the learning process for all students.2.1.1	5	4	3	2	1	N/A

4. Instructors assess all domains (cognitive, affective, psychomotor and health-related fitness) systematically. 2.2.1	5	4	3	2	1	N/A
5. The program conducts individual student evaluations though a variety of assessment techniques. 2.2.2	5	4	3	2	1	N/A
6. Appropriate tests are used for students with disabling conditions.2.2.3	5	4	3	2	1	N/A
7. Instructors are encouraged to use fitness assessments as part of the ongoing process of helping students understand, improve and maintain their physical fitness and well-being.2.3.1	5	4	3	2	1	N/A
8. Instructors create testing situations that are private, non-threatening, educational and encouraging.2.4.1	5	4	3	2	1	N/A
9. Instructors explain what the assessment is designed to measure. 2.4.2	5	4	3	2	1	N/A
10. Instructors encourage students to avoid comparisons and use the results as a catalyst for personal improvement 2.4.3	5	4	3	2	1	N/A
11. Assessment results are shared privately with students, with the aim toward developing personal goals and strategies for maintaining fitness and skill parameters. 2.5.1	5	4	3	2	1	N/A
12. Instructors provide students with progress reports regularly using a variety of continuous, formative evaluations and assessments. 2.5.2	5	4	3	2	1	N/A
13. Grades are based on thoughtfully identified criteria that are aligned with exit outcomes. 2.6.1	5	4	3	2	1	N/A
14. Students know the components of and/or criteria included in their grades. 2.6.2	5	4	3	2	1	N/A
15. Program assessment is used to determine program effectiveness, to communicate goals to the student body, faculty and administration, and to revise curricula. 2.7.1	5	4	3	2	1	N/A
16. Instructors communicate clear outcomes for student learning and performance. 3.1.1	5	4	3	2	1	N/A
17. Instructors form pairs, groups and teams in a manner that facilitates learning and preserves dignity and self-respect for all students. 3.2.1	5	4	3	2	1	N/A
18. Class begins with an anticipatory set and physical warm-up that precedes the instructional focus and fitness activities. 3.3.1	5	4	3	2	1	N/A

19. Classes close with a cool-down, stretching and review of the content. 3.3.1	5	4	3	2	1	N/A
20. Activities are designed based on a pre-evaluation, outcome of the course and student needs. 3.3.2	5	4	3	2	1	N/A
21. The instructor plans for skill and concept instruction. 3.4.1	5	4	3	2	1	N/A
22. The instructor allows enough time for practice, skill development, content acquisition and feedback based on (appropriate) skill analysis. 3.4.1	5	4	3	2	1	N/A
23. Instructors organize classes to maximize opportunities for all students to learn and be physically active. 3.5.1	5	4	3	2	1	N/A
24. Instructors use small sided games or mini-activities to allow students ample opportunity to participate. 3.5.2	5	4	3	2	1	N/A
25. Instructors use a variety of direct and indirect teaching styles depending on outcomes, lesson content, and students' varied learning styles. 3.6.1	5	4	3	2	1	N/A
26. Instructors emphasize critical thinking and problem solving tactics and strategies to help students apply concepts and skills to post-graduation experiences. 3.6.1	5	4	3	2	1	N/A
27. Students practice skills and achieve success appropriate to their individual skill level. 3.8.1	5	4	3	2	1	N/A
28. Students receive positive, constructive, and specific corrective feedback about performance. 3.9.1	5	4	3	2	1	N/A
29. Instructors include technology (e-mail, internet, video recording) to improve teaching effectiveness and class management. 3.10.1	5	4	3	2	1	N/A
30. Instructors include technology to quantify activity (pedometers, heart rate monitors, etc). 3.10.1	5	4	3	2	1	N/A
31. Instructors demonstrate an understanding of basic motor skills. 4.2.1	5	4	3	2	1	N/A
32. Instructors provide accurate demonstrations for dominant and non-dominant performance through teacher or student modeling or via visual aid. 4.2.1	5	4	3	2	1	N/A
33. Instructors continually seek new information to stay current in the field. 4.3.1	5	4	3	2	1	N/A
34. Instructors systematically plan for, develop,	5	4	3	2	1	N/A

and maintain a positive learning environment that allows students to feel safe, supported and unafraid to make mistakes. 5.1.1						
35. The environment is supportive of all students and promotes developing a positive self-concept. 5.1.2	5	4	3	2	1	N/A
36. Fair and consistent classroom-management practices encourage student responsibility for learning. 5.1.3	5	4	3	2	1	N/A
37. Instructors promote exercise for its contribution to a healthy lifestyle. 5.2.1	5	4	3	2	1	N/A
38. Students are encouraged to participate in physical activity and exercise outside the class setting for skill development, enjoyment, and good health. 5.2.1	5	4	3	2	1	N/A
39. Activities are carefully selected to ensure they match students' ability levels and are safe for all students regardless of ability level. 5.3.1	5	4	3	2	1	N/A
40. Activities are carefully selected and modified to ensure a safe learning environment for students. 5.3.2	5	4	3	2	1	N/A
41. Instructors create an environment that is inclusive and supportive of all students, regardless of race, ethnic origin, gender, sexual orientation, religion, or physical ability. 5.4.1	5	4	3	2	1	N/A
42. All students have equal opportunities for participating in and during activity time and interaction with the instructor. 5.5.1	5	4	3	2	1	N/A
43. All students, regardless of developmental level and ability, are challenged at an appropriate level. 5.5.1	5	4	3	2	1	N/A
44. Instructors use gender neutral and respectful language. 5.5.2	5	4	3	2	1	N/A
45. Instructors implement the special education process for students with disabling conditions, as provided through student services. 5.6.1	5	4	3	2	1	N/A
46. Lessons/activities are adapted for students with varied fitness and/or skill levels. 5.6.2	5	4	3	2	1	N/A
47. Students are encouraged to participate at appropriate levels of activity for their own improvement. 5.6.2	5	4	3	2	1	N/A
48. Instructors provide appropriate experiences for students with acute medical limitations (i.e. student with broken arm can ride exercise bike). 5.6.3	5	4	3	2	1	N/A

49. Instructors help students recognize that adults engage in sport and exercise activities both to socialize and compete. 5.7.1	5	4	3	2	1	N/A
50. A deeper understanding of competition is fostered, one that encourages students to reflect on ideas such as rivalry, competence, and affiliation. 5.7.1	5	4	3	2	1	N/A
51. Instructors encourage students to extend experiences from in-class activity lessons to campus, community, and family activities that promote a physically active lifestyle.7.6.1	5	4	3	2	1	N/A
52. Curriculum offerings provide opportunities for students to interpret and use assessment data to set personal goals, including developing a lifelong fitness plan. 7.7.1	5	4	3	2	1	N/A
53. The program establishes outcomes that reflect 4 domains (cognitive, affective, psychomotor, health-related fitness). 7.8.1	5	4	3	2	1	N/A
54. Program offerings include content that allows students to develop social skills and responsible behavior that will lead them to become productive members of society. 7.8.2	5	4	3	2	1	N/A
55. Course content aims to provide opportunities for all students to experience the satisfaction and joy that can result from participating regularly in physical activity. 7.8.3	5	4	3	2	1	N/A
56. Course content is delivered in a way that encourages students to recognize that physical activity is an important part of everyday living. 7.8.4	5	4	3	2	1	N/A
57. Activities focus on health-related components of fitness. 7.8.5	5	4	3	2	1	N/A
58. Skill related components of fitness are emphasized in their relation to skill development. 7.8.5	5	4	3	2	1	N/A
59. Instructors within sections of the same course use common course outcomes. 7.8.6	5	4	3	2	1	N/A
60. The program has established exit outcomes which are listed on all course syllabi. 7.9.1	5	4	3	2	1	N/A
61. Course content is related directly to exit outcomes. 7.9.1	5	4	3	2	1	N/A

Demographic Information.

Please answer the following questions about your institution.

a. The overall student enrollment at your institution is
    a) 500-1000
    b) 1001 - 2500
    c) 2,501- 5,000
    d) 5,001 –10,000
    e) 10,001 – 20,000
    f) >20,000
    g) I don't know

b. Your institutional affiliation is
    a) Private
    b) Public

c. Is physical education required for graduation? Yes/no (circle one)
d. The number of full time faculty who teach in your HEPAP is: _____
e. The number of part-time faculty who teach in your HEPAP is: _____
f. The number of graduate teaching assistants who teach in your HEPAP is: _____

Appendix E: IRB Cover Letter

July 25, 2012

Dear Participant,

This letter is a request for you to take part in a research project to assess adherence to National Association for Sport and Physical Education (NASPE) Guidelines for Appropriate Instructional Practices in Higher Education Physical Activity Programs (HEPAPs). This project is being conducted by Drue Stapleton in the College of Physical Activity and Sports Sciences at WVU with supervision of Dr. Sean Bulger, an assistant professor in the College of Physical Activity and Sports Sciences, for a doctoral dissertation. Your participation in this project is greatly appreciated and will take approximately 20 minutes to complete the questionnaire. If there is an individual within your department who is better suited to complete this survey (i.e. HEPAP Coordinator), please forward this information.

Your involvement in this project will be kept as confidential as legally possible. All data will be reported in the aggregate. You must be 18 years of age or older to participate. I will not ask any information that should lead back to your identity as a participant. Your participation is completely voluntary. You may skip any question that you do not wish to answer and you may discontinue at any time. West Virginia University's Institutional Review Board acknowledgement of this project is on file.

I hope that you will participate in this research project, as it could be beneficial in determining adherence to NASPE guidelines and may provide valuable information about HEPAPs. Thank you very much for your time. Should you have any questions about this letter or the research project, please feel free to contact Drue Stapleton at (304) 293-0866 or by e-mail at drue.stapleton@mail.wvu.edu.

Thank you for your time and help with this project.

Sincerely,

Drue Stapleton, MEd, ATC, CSCS
Sean Bulger, EdD, CSCS

Directions:
This 61-item survey consists of Likert-type scale rating items and demographic information. The survey requires approximately 20 minutes of your time. Please click on the link below to begin the survey. The link will open the survey in a new Internet window. Upon completing the survey, please click on the icon “Done” (located at the bottom of the survey) to submit your responses. Thank you for participating.
(LINK TO SURVEY)

Appendix F: Final Instrument Mapping

Mapping Guidelines to Final Instrument

Instrument Item	Associated Guideline	Subcategory
1	1.3.1	**1.0 ADMINISTRATION/SUPPORT**
2	2.1.1	**2.0: ASSESSMENT**
3	2.1.1	
4	2.2.1	
5	2.2.2	
6	2.2.3	
7	2.3.1	
8	2.4.1	
9	2.4.2	
10	2.4.3	
11	2.5.1	
12	2.5.2	
13	2.6.1	
14	2.6.2	
15	2.7.1	
16	3.1.1	**3.0 INSTRUCTION STRATEGIES**
17	3.2.1	
18	3.3.1	
19	3.3.1	
20	3.3.2	
21	3.4.1	
22	3.4.1	
23	3.5.1	
24	3.5.2	
25	3.6.1	
26	3.6.1	
27	3.8.1	
28	3.9.1	
29	3.10.1	
30	3.10.1	
31	4.2.1	**4.0: PROFESSIONALISM**
32	4.2.1	
33	4.3.1	
34	5.1.1	**5.0: LEARNING**

		ENVIRONMENT
35	5.1.2	
36	5.1.3	
37	5.2.1	
38	5.2.1	
39	5.3.1	
40	5.3.2	
41	5.4.1	
42	5.5.1	
43	5.5.1	
44	5.5.2	
45	5.6.1	
46	5.6.2	
47	5.6.2	
48	5.6.3	
49	5.7.1	
50	5.7.1	
51	7.6.1	**7.0 CURRICULUM**
52	7.7.1	
53	7.8.1	
54	7.8.2	
55	7.8.3	
56	7.8.4	
57	7.8.5	
58	7.8.5	
59	7.8.6	
60	7.9.1	
61	7.9.1	

6.0 PROGRAM STAFFING
no guidelines included

Appendix G: Familiarity and Institutional Variables

Crosstabs

Notes

Output Created		07-Jun-2012 14:01:59
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	159
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=GradReqmt Affiliation Enrollment AAHPERDDist BY FamOver /FORMAT=DVALUE TABLES /STATISTICS=CHISQ CC PHI LAMBDA /CELLS=COUNT EXPECTED ROW COLUMN TOTAL /COUNT ROUND CELL /BARCHART.
Resources	Processor Time	00 00:00:01.281
	Elapsed Time	00 00:00:01.327
	Dimensions Requested	2
	Cells Available	174762

[DataSet1] F:\Dissertation\Dissertation DataSPSS.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PE Graduation Requirement * Familiarity with Guidelines	87	54.7%	72	45.3%	159	100.0%
Affiliation * Familiarity with Guidelines	89	56.0%	70	44.0%	159	100.0%
Enrollment * Familiarity with Guidelines	89	56.0%	70	44.0%	159	100.0%
Location(AAHPERD District) * Familiarity with Guidelines	89	56.0%	70	44.0%	159	100.0%

PE Graduation Requirement * Familiarity with Guidelines

Crosstab

			Familiarity with Guidelines			
			NOT AT ALL AWARE	SOMEWHAT AWARE	FULLY AWARE	Total
PE Graduation Requirement	NO	Count	1	15	18	34
		Expected Count	1.2	13.7	19.1	34.0
		% within PE Graduation Requirement	2.9%	44.1%	52.9%	100.0%
		% within Familiarity with Guidelines	33.3%	42.9%	36.7%	39.1%
		% of Total	1.1%	17.2%	20.7%	39.1%
	YES	Count	2	20	31	53
		Expected Count	1.8	21.3	29.9	53.0
		% within PE Graduation Requirement	3.8%	37.7%	58.5%	100.0%
		% within Familiarity with Guidelines	66.7%	57.1%	63.3%	60.9%
		% of Total	2.3%	23.0%	35.6%	60.9%
Total		Count	3	35	49	87
		Expected Count	3.0	35.0	49.0	87.0
		% within PE Graduation Requirement	3.4%	40.2%	56.3%	100.0%

	% within Familiarity with Guidelines	100.0%	100.0%	100.0%	100.0%
	% of Total	3.4%	40.2%	56.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.365[a]	2	.833
Likelihood Ratio	.364	2	.834
Linear-by-Linear Association	.143	1	.705
N of Valid Cases	87		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.17.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		PE Graduation Requirement Dependent	.000	.000	.[b]	.[b]
		Familiarity with Guidelines Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	PE Graduation Requirement Dependent	.004	.014		.835[c]
		Familiarity with Guidelines Dependent	.003	.012		.752[c]

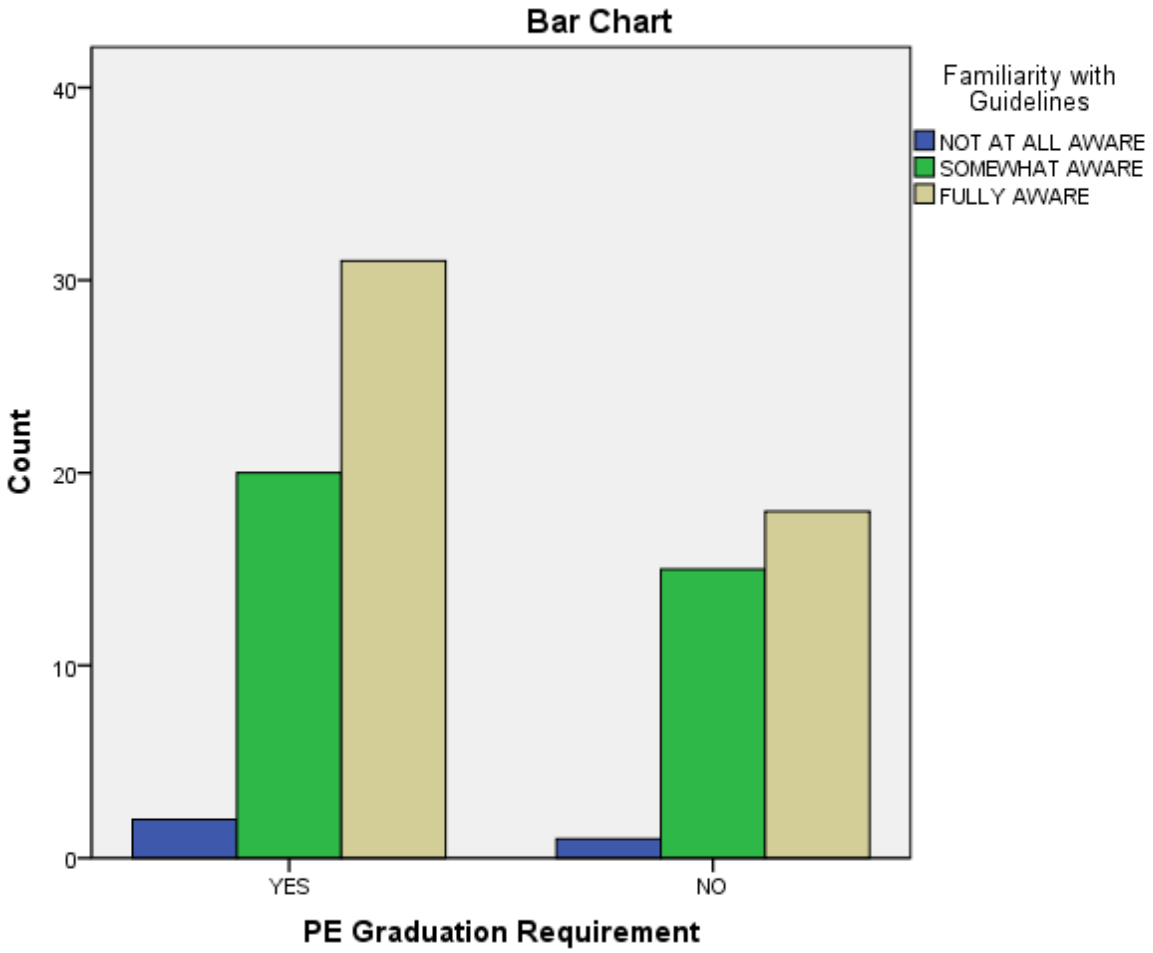
a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.065	.833
	Cramer's V	.065	.833
	Contingency Coefficient	.065	.833
N of Valid Cases		87	



Affiliation * Familiarity with Guidelines

Crosstab

			Familiarity with Guidelines			
			NOT AT ALL AWARE	SOMEWHAT AWARE	FULLY AWARE	Total
Affiliation	PRIVATE	Count	0	18	23	41
		Expected Count	1.4	17.0	22.6	41.0
		% within Affiliation	.0%	43.9%	56.1%	100.0%
		% within Familiarity with Guidelines	.0%	48.6%	46.9%	46.1%
		% of Total	.0%	20.2%	25.8%	46.1%
	PUBLIC	Count	3	19	26	48
		Expected Count	1.6	20.0	26.4	48.0
		% within Affiliation	6.3%	39.6%	54.2%	100.0%
		% within Familiarity with Guidelines	100.0%	51.4%	53.1%	53.9%
		% of Total	3.4%	21.3%	29.2%	53.9%
Total		Count	3	37	49	89
		Expected Count	3.0	37.0	49.0	89.0
		% within Affiliation	3.4%	41.6%	55.1%	100.0%
		% within Familiarity with Guidelines	100.0%	100.0%	100.0%	100.0%
		% of Total	3.4%	41.6%	55.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.677[a]	2	.262
Likelihood Ratio	3.819	2	.148
Linear-by-Linear Association	.461	1	.497
N of Valid Cases	89		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.38.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		Affiliation Dependent	.000	.000	.[b]	.[b]
		Familiarity with Guidelines Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	Affiliation Dependent	.030	.007		.266[c]
		Familiarity with Guidelines Dependent	.003	.004		.773[c]

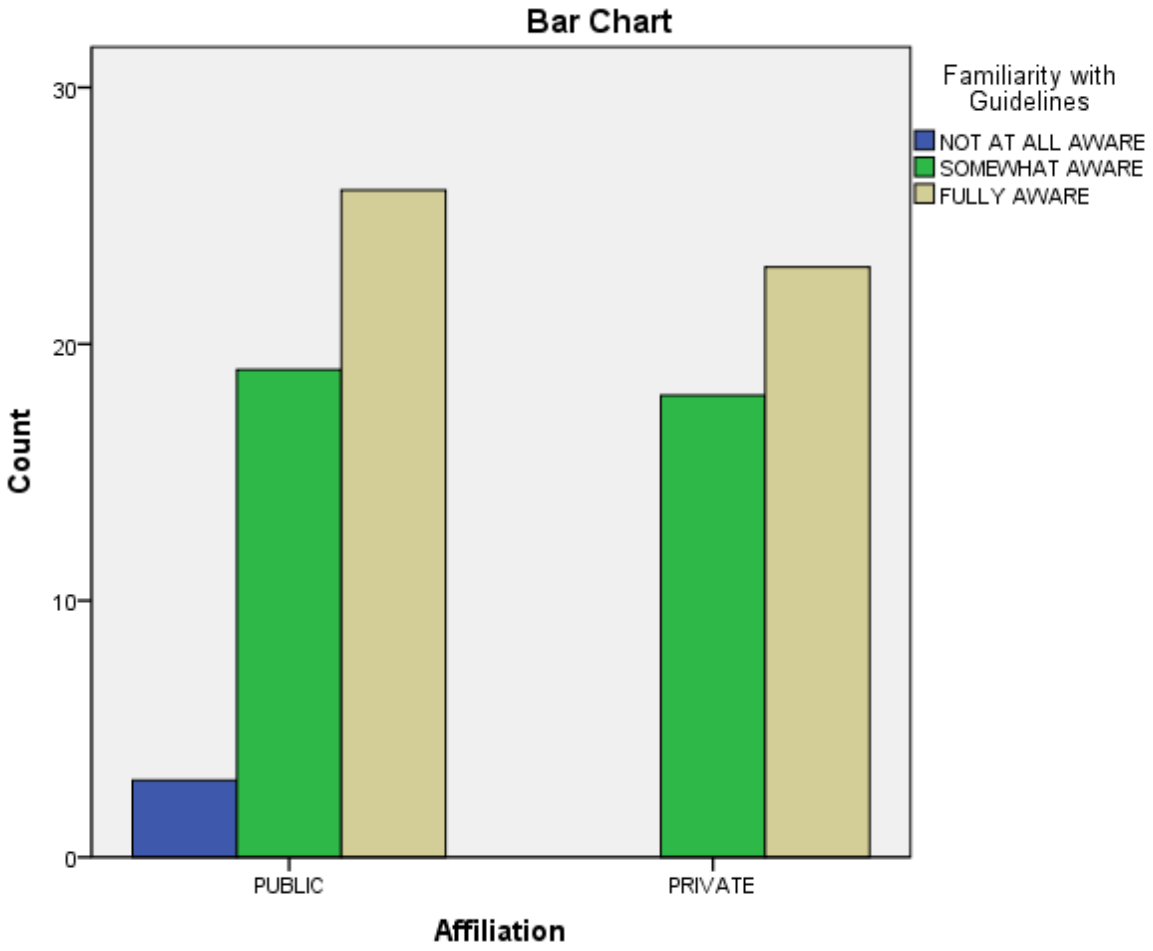
a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.173	.262
	Cramer's V	.173	.262
	Contingency Coefficient	.171	.262
N of Valid Cases		89	



Enrollment * Familiarity with Guidelines

Crosstab

		Familiarity with Guidelines			
		NOT AT ALL AWARE	SOMEWHAT AWARE	FULLY AWARE	Total
Enrollment Large (>10,000)	Count	1	11	13	25
	Expected Count	.8	10.4	13.8	25.0
	% within Enrollment	4.0%	44.0%	52.0%	100.0%
	% within Familiarity with Guidelines	33.3%	29.7%	26.5%	28.1%
	% of Total	1.1%	12.4%	14.6%	28.1%

	Medium (2501-10000)	Count	2	9	15	26
		Expected Count	.9	10.8	14.3	26.0
		% within Enrollment	7.7%	34.6%	57.7%	100.0%
		% within Familiarity with Guidelines	66.7%	24.3%	30.6%	29.2%
		% of Total	2.2%	10.1%	16.9%	29.2%
	Small (500-2500)	Count	0	17	21	38
		Expected Count	1.3	15.8	20.9	38.0
		% within Enrollment	.0%	44.7%	55.3%	100.0%
		% within Familiarity with Guidelines	.0%	45.9%	42.9%	42.7%
		% of Total	.0%	19.1%	23.6%	42.7%
Total		Count	3	37	49	89
		Expected Count	3.0	37.0	49.0	89.0
		% within Enrollment	3.4%	41.6%	55.1%	100.0%
		% within Familiarity with Guidelines	100.0%	100.0%	100.0%	100.0%
		% of Total	3.4%	41.6%	55.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.256[a]	4	.516
Likelihood Ratio	4.164	4	.384
Linear-by-Linear Association	.265	1	.606
N of Valid Cases	89		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .84.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.022	.015	1.430	.153
		Enrollment Dependent	.039	.027	1.430	.153

		Familiarity with Guidelines Dependent	.000	.000	.[c]	.[c]
	Goodman and Kruskal tau	Enrollment Dependent	.020	.012		.488[d]
		Familiarity with Guidelines Dependent	.007	.012		.881[d]

a. Not assuming the null hypothesis.

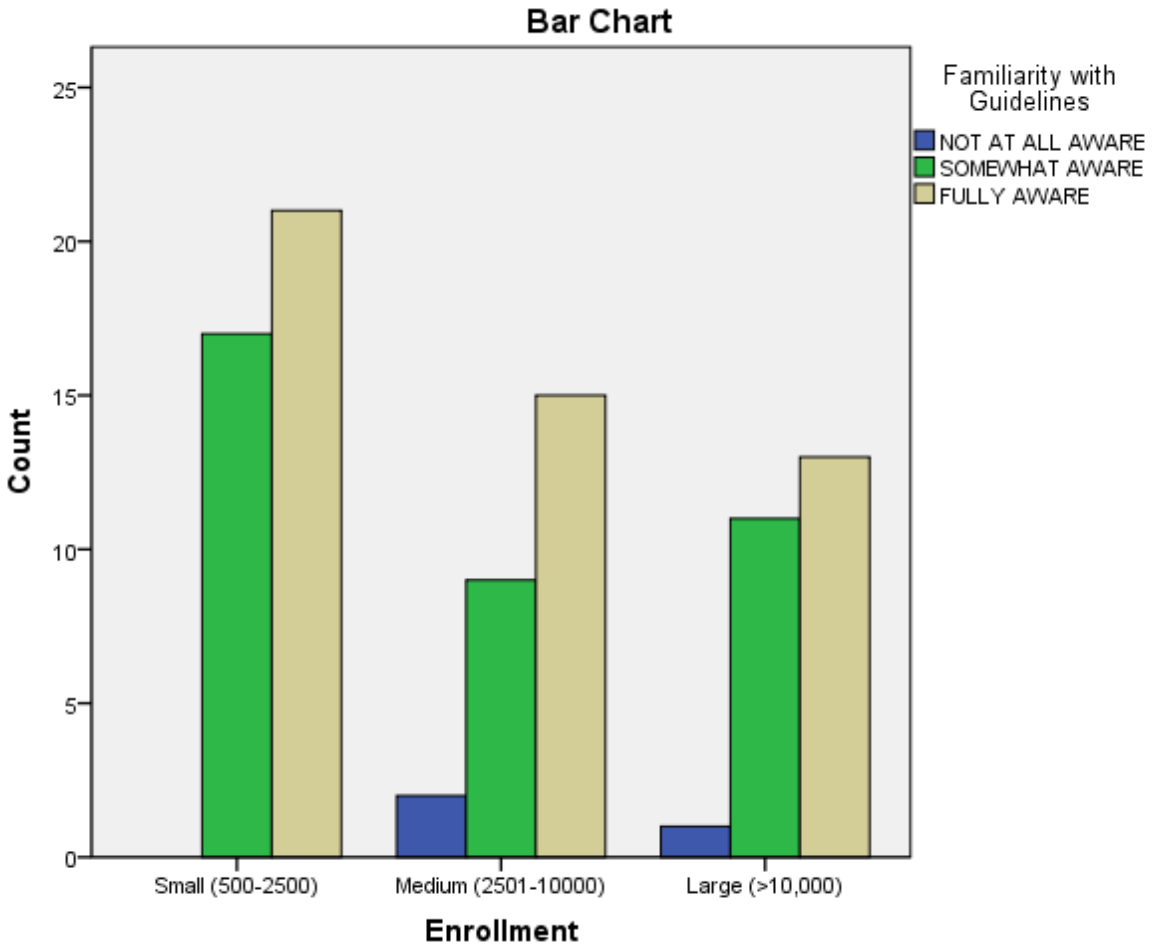
b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.191	.516
	Cramer's V	.135	.516
	Contingency Coefficient	.188	.516
N of Valid Cases		89	



Location(AAHPERD District) * Familiarity with Guidelines

Crosstab

			Familiarity with Guidelines			
			NOT AT ALL AWARE	SOMEWHAT AWARE	FULLY AWARE	Total
Location(AAHPERD District)	NORTHWEST	Count	0	3	4	7
		Expected Count	.2	2.9	3.9	7.0
		% within Location(AAHPERD District)	.0%	42.9%	57.1%	100.0%
		% within Familiarity with Guidelines	.0%	8.1%	8.2%	7.9%
		% of Total	.0%	3.4%	4.5%	7.9%
	SOUTHWEST	Count	0	3	2	5
		Expected Count	.2	2.1	2.8	5.0

	% within Location(AAHPERD District)	.0%	60.0%	40.0%	100.0%
	% within Familiarity with Guidelines	.0%	8.1%	4.1%	5.6%
	% of Total	.0%	3.4%	2.2%	5.6%
SOUTHERN	Count	1	21	16	38
	Expected Count	1.3	15.8	20.9	38.0
	% within Location(AAHPERD District)	2.6%	55.3%	42.1%	100.0%
	% within Familiarity with Guidelines	33.3%	56.8%	32.7%	42.7%
	% of Total	1.1%	23.6%	18.0%	42.7%
MIDWEST	Count	2	3	16	21
	Expected Count	.7	8.7	11.6	21.0
	% within Location(AAHPERD District)	9.5%	14.3%	76.2%	100.0%
	% within Familiarity with Guidelines	66.7%	8.1%	32.7%	23.6%
	% of Total	2.2%	3.4%	18.0%	23.6%
CENTRAL	Count	0	6	8	14
	Expected Count	.5	5.8	7.7	14.0
	% within Location(AAHPERD District)	.0%	42.9%	57.1%	100.0%
	% within Familiarity with Guidelines	.0%	16.2%	16.3%	15.7%
	% of Total	.0%	6.7%	9.0%	15.7%
EASTERN	Count	0	1	3	4
	Expected Count	.1	1.7	2.2	4.0
	% within Location(AAHPERD District)	.0%	25.0%	75.0%	100.0%
	% within Familiarity with Guidelines	.0%	2.7%	6.1%	4.5%

	% of Total	.0%	1.1%	3.4%	4.5%
Total	Count	3	37	49	89
	Expected Count	3.0	37.0	49.0	89.0
	% within Location(AAHPERD District)	3.4%	41.6%	55.1%	100.0%
	% within Familiarity with Guidelines	100.0%	100.0%	100.0%	100.0%
	% of Total	3.4%	41.6%	55.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.960[a]	10	.226
Likelihood Ratio	14.222	10	.163
Linear-by-Linear Association	1.314	1	.252
N of Valid Cases	89		

a. 12 cells (66.7%) have expected count less than 5. The minimum expected count is .13.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.077	.112	.672	.501
		Location(AAHPERD District) Dependent	.020	.115	.169	.866
		Familiarity with Guidelines Dependent	.150	.149	.930	.352
	Goodman and Kruskal tau	Location(AAHPERD District) Dependent	.051	.028		.014[c]
		Familiarity with Guidelines Dependent	.097	.052		.071[c]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.077	.112	.672	.501
		Location(AAHPERD District) Dependent	.020	.115	.169	.866
		Familiarity with Guidelines Dependent	.150	.149	.930	.352
	Goodman and Kruskal tau	Location(AAHPERD District) Dependent	.051	.028		.014[c]
		Familiarity with Guidelines Dependent	.097	.052		.071[c]

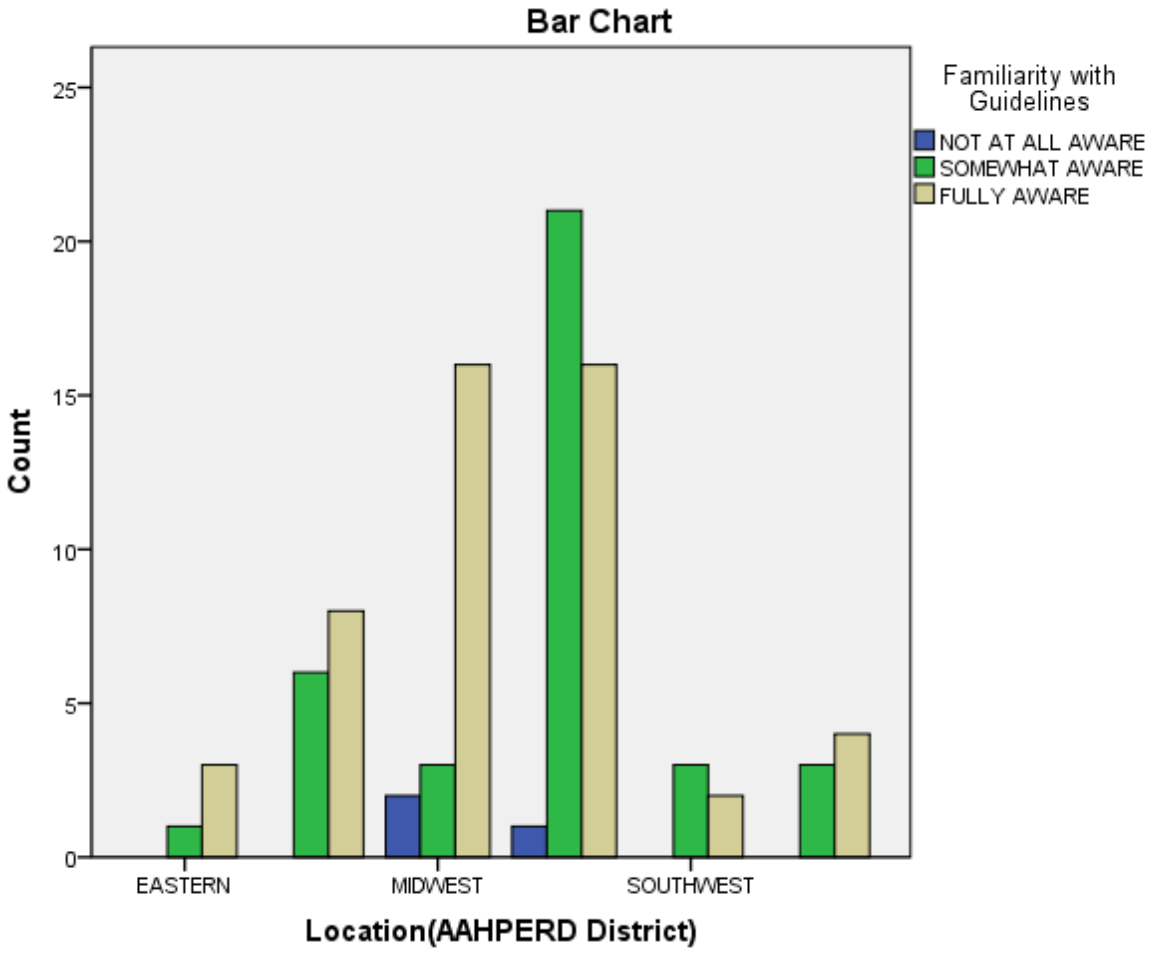
a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.382	.226
	Cramer's V	.270	.226
	Contingency Coefficient	.357	.226
N of Valid Cases		89	


Bar Chart
Familiarity with Guidelines
NOT AT ALL AWARE
SOMEWHAT AWARE
FULLY AWARE
Count
25
20
15
10
5
0
EASTERN
MIDWEST
SOUTHWEST
Location(AAHPERD District)

Appendix H: Overall Adherence and Institutional Variables

Crosstabs

Notes

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[DataSet1] F:\Dissertation\Dissertation DataSPSS.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PE Graduation Requirement * Overall Adherence	90	56.6%	69	43.4%	159	100.0%
Affiliation * Overall Adherence	90	56.6%	69	43.4%	159	100.0%
Enrollment * Overall Adherence	90	56.6%	69	43.4%	159	100.0%
Location(AAHPERD District) * Overall Adherence	90	56.6%	69	43.4%	159	100.0%

PE Graduation Requirement * Overall Adherence

Crosstab

			Overall Adherence			
			Not at All	Partial	Fully	Total
PE Graduation Requirement	NO	Count	0	17	18	35
		Expected Count	.4	15.9	18.7	35.0
		% within PE Graduation Requirement	.0%	48.6%	51.4%	100.0%
		% within Overall Adherence	.0%	41.5%	37.5%	38.9%
		% of Total	.0%	18.9%	20.0%	38.9%
	YES	Count	1	24	30	55
		Expected Count	.6	25.1	29.3	55.0
		% within PE Graduation Requirement	1.8%	43.6%	54.5%	100.0%
		% within Overall Adherence	100.0%	58.5%	62.5%	61.1%
		% of Total	1.1%	26.7%	33.3%	61.1%
Total		Count	1	41	48	90
		Expected Count	1.0	41.0	48.0	90.0
		% within PE Graduation Requirement	1.1%	45.6%	53.3%	100.0%
		% within Overall Adherence	100.0%	100.0%	100.0%	100.0%
		% of Total	1.1%	45.6%	53.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.790[a]	2	.674
Likelihood Ratio	1.138	2	.566
Linear-by-Linear Association	.013	1	.909
N of Valid Cases	90		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .39.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		PE Graduation Requirement Dependent	.000	.000	.[b]	.[b]
		Overall Adherence Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	PE Graduation Requirement Dependent	.009	.009		.677[c]
		Overall Adherence Dependent	.002	.008		.856[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

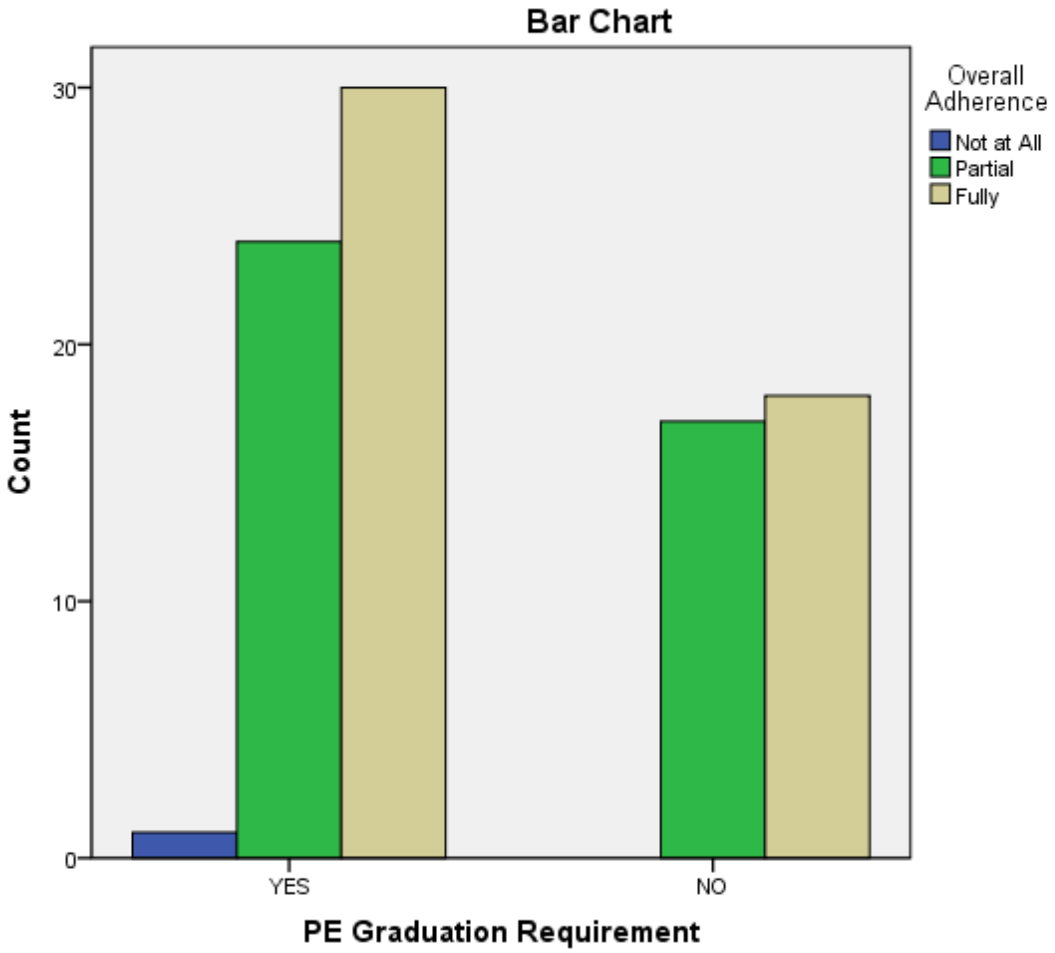
c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.094	.674
	Cramer's V	.094	.674
	Contingency Coefficient	.093	.674

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.094	.674
	Cramer's V	.094	.674
	Contingency Coefficient	.093	.674
N of Valid Cases		90	



Affiliation * Overall Adherence

Crosstab

			Overall Adherence			
			Not at All	Partial	Fully	Total
Affiliation	PRIVATE	Count	1	18	22	41
		Expected Count	.5	18.2	22.3	41.0
		% within Affiliation	2.4%	43.9%	53.7%	100.0%
		% within Overall Adherence	100.0%	45.0%	44.9%	45.6%
		% of Total	1.1%	20.0%	24.4%	45.6%
	PUBLIC	Count	0	22	27	49
		Expected Count	.5	21.8	26.7	49.0
		% within Affiliation	.0%	44.9%	55.1%	100.0%
		% within Overall Adherence	.0%	55.0%	55.1%	54.4%
		% of Total	.0%	24.4%	30.0%	54.4%
Total		Count	1	40	49	90
		Expected Count	1.0	40.0	49.0	90.0
		% within Affiliation	1.1%	44.4%	54.4%	100.0%
		% within Overall Adherence	100.0%	100.0%	100.0%	100.0%
		% of Total	1.1%	44.4%	54.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.209[a]	2	.546
Likelihood Ratio	1.586	2	.452
Linear-by-Linear Association	.123	1	.726
N of Valid Cases	90		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .46.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.012	.012	1.006	.315

		Affiliation Dependent	.024	.024	1.006	.315
		Overall Adherence Dependent	.000	.000	.[c]	.[c]
	Goodman and Kruskal tau	Affiliation Dependent	.013	.003		.550[d]
		Overall Adherence Dependent	.000	.001		.961[d]

a. Not assuming the null hypothesis.

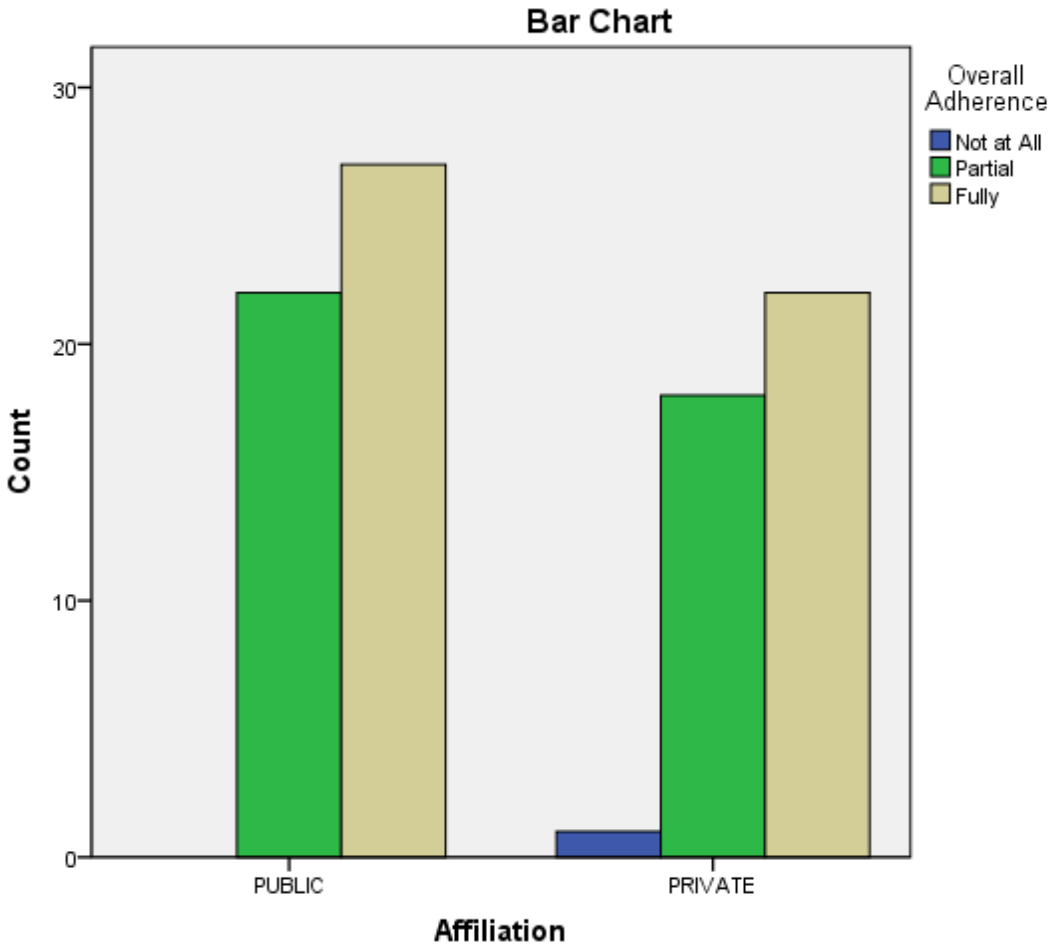
b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.116	.546
	Cramer's V	.116	.546
	Contingency Coefficient	.115	.546
N of Valid Cases		90	



Enrollment * Overall Adherence

Crosstab

			Overall Adherence			Total
			Not at All	Partial	Fully	
Enrollment	Large (>10,000)	Count	0	14	11	25
		Expected Count	.3	11.1	13.6	25.0
		% within Enrollment	.0%	56.0%	44.0%	100.0%
		% within Overall Adherence	.0%	35.0%	22.4%	27.8%
		% of Total	.0%	15.6%	12.2%	27.8%
	Medium (2501-10000)	Count	0	9	18	27
		Expected Count	.3	12.0	14.7	27.0
		% within Enrollment	.0%	33.3%	66.7%	100.0%

		% within Overall Adherence	.0%	22.5%	36.7%	30.0%
		% of Total	.0%	10.0%	20.0%	30.0%
	Small (500-2500)	Count	1	17	20	38
		Expected Count	.4	16.9	20.7	38.0
		% within Enrollment	2.6%	44.7%	52.6%	100.0%
		% within Overall Adherence	100.0%	42.5%	40.8%	42.2%
		% of Total	1.1%	18.9%	22.2%	42.2%
Total		Count	1	40	49	90
		Expected Count	1.0	40.0	49.0	90.0
		% within Enrollment	1.1%	44.4%	54.4%	100.0%
		% within Overall Adherence	100.0%	100.0%	100.0%	100.0%
		% of Total	1.1%	44.4%	54.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.135[a]	4	.388
Likelihood Ratio	4.491	4	.344
Linear-by-Linear Association	.068	1	.794
N of Valid Cases	90		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .28.

Directional Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal Lambda	Symmetric	.032	.053	.601	.548
	Enrollment Dependent	.000	.000	.[c]	.[c]
	Overall Adherence Dependent	.073	.117	.601	.548

	Goodman and Kruskal tau	Enrollment Dependent	.022	.016		.413[d]
		Overall Adherence Dependent	.030	.035		.252[d]

a. Not assuming the null hypothesis.

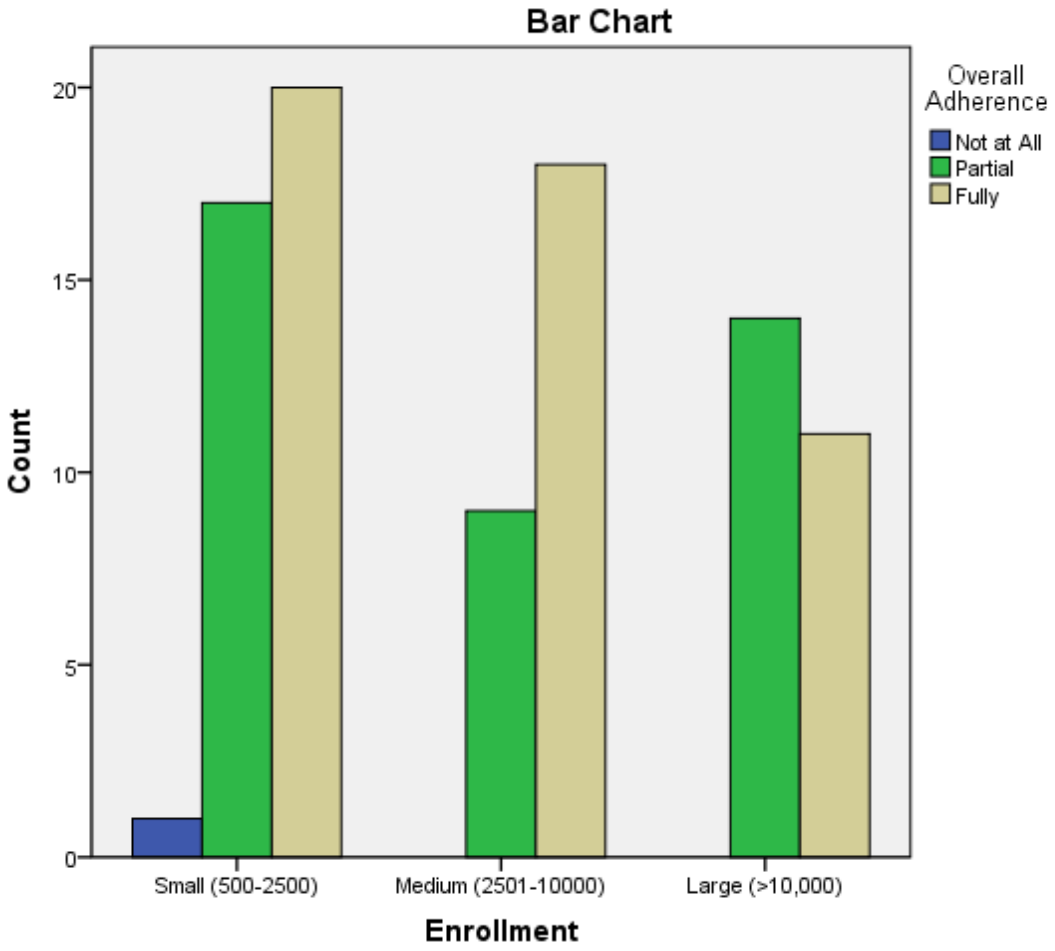
b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.214	.388
	Cramer's V	.152	.388
	Contingency Coefficient	.210	.388
N of Valid Cases		90	



Location(AAHPERD District) * Overall Adherence

Crosstab

			Overall Adherence			
			Not at All	Partial	Fully	Total
Location(AAHPERD District)	NORTHWEST	Count	1	3	3	7
		Expected Count	.1	3.1	3.8	7.0
		% within Location(AAHPERD District)	14.3%	42.9%	42.9%	100.0%
		% within Overall Adherence	100.0%	7.5%	6.1%	7.8%
		% of Total	1.1%	3.3%	3.3%	7.8%
	SOUTHWEST	Count	0	1	4	5
		Expected Count	.1	2.2	2.7	5.0

	% within Location(AAHPERD District)	.0%	20.0%	80.0%	100.0%
	% within Overall Adherence	.0%	2.5%	8.2%	5.6%
	% of Total	.0%	1.1%	4.4%	5.6%
SOUTHERN	Count	0	18	21	39
	Expected Count	.4	17.3	21.2	39.0
	% within Location(AAHPERD District)	.0%	46.2%	53.8%	100.0%
	% within Overall Adherence	.0%	45.0%	42.9%	43.3%
	% of Total	.0%	20.0%	23.3%	43.3%
MIDWEST	Count	0	10	11	21
	Expected Count	.2	9.3	11.4	21.0
	% within Location(AAHPERD District)	.0%	47.6%	52.4%	100.0%
	% within Overall Adherence	.0%	25.0%	22.4%	23.3%
	% of Total	.0%	11.1%	12.2%	23.3%
CENTRAL	Count	0	7	7	14
	Expected Count	.2	6.2	7.6	14.0
	% within Location(AAHPERD District)	.0%	50.0%	50.0%	100.0%
	% within Overall Adherence	.0%	17.5%	14.3%	15.6%
	% of Total	.0%	7.8%	7.8%	15.6%
EASTERN	Count	0	1	3	4
	Expected Count	.0	1.8	2.2	4.0
	% within Location(AAHPERD District)	.0%	25.0%	75.0%	100.0%
	% within Overall Adherence	.0%	2.5%	6.1%	4.4%

	% of Total	.0%	1.1%	3.3%	4.4%
Total	Count	1	40	49	90
	Expected Count	1.0	40.0	49.0	90.0
	% within Location(AAHPERD District)	1.1%	44.4%	54.4%	100.0%
	% within Overall Adherence	100.0%	100.0%	100.0%	100.0%
	% of Total	1.1%	44.4%	54.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.197[a]	10	.164
Likelihood Ratio	7.588	10	.669
Linear-by-Linear Association	.374	1	.541
N of Valid Cases	90		

a. 12 cells (66.7%) have expected count less than 5. The minimum expected count is .04.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.011	.050	.218	.827
		Location(AAHPERD District) Dependent	.020	.019	1.006	.315
		Overall Adherence Dependent	.000	.109	.000	1.000
	Goodman and Kruskal tau	Location(AAHPERD District) Dependent	.020	.003		.551[c]
		Overall Adherence Dependent	.028	.028		.889[c]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.011	.050	.218	.827
		Location(AAHPERD District) Dependent	.020	.019	1.006	.315
		Overall Adherence Dependent	.000	.109	.000	1.000
	Goodman and Kruskal tau	Location(AAHPERD District) Dependent	.020	.003		.551[c]
		Overall Adherence Dependent	.028	.028		.889[c]

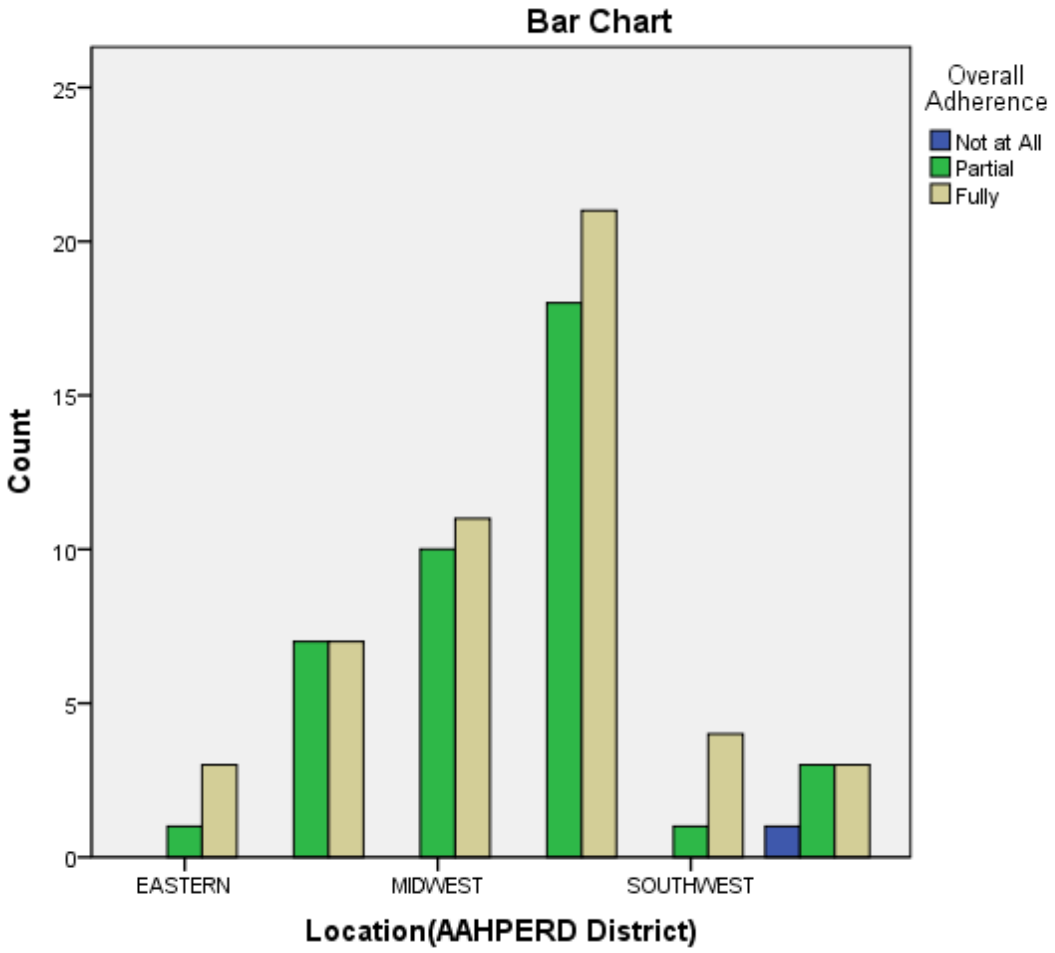
a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.397	.164
	Cramer's V	.281	.164
	Contingency Coefficient	.369	.164
N of Valid Cases		90	


Bar Chart
Overall Adherence
Not at All
Partial
Fully
Count
25
20
15
10
5
0
EASTERN
MIDWEST
SOUTHWEST
Location(AAHPERD District)

Appendix I: Familiarity and Overall Adherence

Familiarity with Guidelines * Overall Adherence Crosstabulation

			Overall Adherence			
			Not at All	Partial	Fully	Total
Familiarity with Guidelines	FULLY AWARE	Count	0	16	34	50
		Expected Count	.6	22.2	27.2	50.0
		% within Familiarity with Guidelines	.0%	32.0%	68.0%	100.0%
		% within Overall Adherence	.0%	40.0%	69.4%	55.6%
		% of Total	.0%	17.8%	37.8%	55.6%
	SOMEWHAT AWARE	Count	1	21	15	37
		Expected Count	.4	16.4	20.1	37.0
		% within Familiarity with Guidelines	2.7%	56.8%	40.5%	100.0%
		% within Overall Adherence	100.0%	52.5%	30.6%	41.1%
		% of Total	1.1%	23.3%	16.7%	41.1%
	NOT AT ALL AWARE	Count	0	3	0	3
		Expected Count	.0	1.3	1.6	3.0
		% within Familiarity with Guidelines	.0%	100.0%	.0%	100.0%
		% within Overall Adherence	.0%	7.5%	.0%	3.3%
		% of Total	.0%	3.3%	.0%	3.3%
Total		Count	1	40	49	90
		Expected Count	1.0	40.0	49.0	90.0
		% within Familiarity with Guidelines	1.1%	44.4%	54.4%	100.0%
		% within Overall Adherence	100.0%	100.0%	100.0%	100.0%
		% of Total	1.1%	44.4%	54.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.155[a]	4	.025
Likelihood Ratio	12.674	4	.013
Linear-by-Linear Association	10.230	1	.001

N of Valid Cases	90		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .03.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.185	.124	1.390	.165
		Familiarity with Guidelines Dependent	.150	.142	.978	.328
		Overall Adherence Dependent	.220	.135	1.458	.145
	Goodman and Kruskal tau	Familiarity with Guidelines Dependent	.080	.048		.007[c]
		Overall Adherence Dependent	.105	.051		.001[c]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.352	.025
	Cramer's V	.249	.025
	Contingency Coefficient	.332	.025
N of Valid Cases		90	

Appendix J: Category Adherence and Institutional Variables

Crosstabs

Notes

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	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
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Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
AdminandSupport * PEGradReq	71	44.7%	88	55.3%	159	100.0%
AdminandSupport * AAHPERDDist	71	44.7%	88	55.3%	159	100.0%
AdminandSupport * Affiliation	71	44.7%	88	55.3%	159	100.0%
AdminandSupport * EnrollmentCondense	71	44.7%	88	55.3%	159	100.0%
Assessment * PEGradReq	90	56.6%	69	43.4%	159	100.0%
Assessment * AAHPERDDist	90	56.6%	69	43.4%	159	100.0%
Assessment * Affiliation	90	56.6%	69	43.4%	159	100.0%
Assessment * EnrollmentCondense	90	56.6%	69	43.4%	159	100.0%
InstrStrat * PEGradReq	87	54.7%	72	45.3%	159	100.0%
InstrStrat * AAHPERDDist	89	56.0%	70	44.0%	159	100.0%
InstrStrat * Affiliation	89	56.0%	70	44.0%	159	100.0%
InstrStrat * EnrollmentCondense	89	56.0%	70	44.0%	159	100.0%
Professionalism * PEGradReq	87	54.7%	72	45.3%	159	100.0%
Professionalism * AAHPERDDist	89	56.0%	70	44.0%	159	100.0%
Professionalism * Affiliation	89	56.0%	70	44.0%	159	100.0%
Professionalism * EnrollmentCondense	89	56.0%	70	44.0%	159	100.0%
LearningEnvironment * PEGradReq	87	54.7%	72	45.3%	159	100.0%
LearningEnvironment * AAHPERDDist	89	56.0%	70	44.0%	159	100.0%
LearningEnvironment * Affiliation	89	56.0%	70	44.0%	159	100.0%
LearningEnvironment * EnrollmentCondense	89	56.0%	70	44.0%	159	100.0%

Curriculum * PEGradReq	86	54.1%	73	45.9%	159	100.0%
Curriculum * AAHPERDDist	88	55.3%	71	44.7%	159	100.0%
Curriculum * Affiliation	88	55.3%	71	44.7%	159	100.0%
Curriculum * EnrollmentCondense	88	55.3%	71	44.7%	159	100.0%

AdminandSupport * PEGradReq

Crosstab

			PEGradReq		
			YES	NO	Total
AdminandSupport	Not At All	Count	1	2	3
		Expected Count	1.8	1.2	3.0
		% within AdminandSupport	33.3%	66.7%	100.0%
		% within PEGradReq	2.3%	7.1%	4.2%
		% of Total	1.4%	2.8%	4.2%
	Partial	Count	0	2	2
		Expected Count	1.2	.8	2.0
		% within AdminandSupport	.0%	100.0%	100.0%
		% within PEGradReq	.0%	7.1%	2.8%
		% of Total	.0%	2.8%	2.8%
	Fully	Count	42	24	66
		Expected Count	40.0	26.0	66.0
		% within AdminandSupport	63.6%	36.4%	100.0%
		% within PEGradReq	97.7%	85.7%	93.0%
		% of Total	59.2%	33.8%	93.0%
Total		Count	43	28	71
		Expected Count	43.0	28.0	71.0
		% within AdminandSupport	60.6%	39.4%	100.0%
		% within PEGradReq	100.0%	100.0%	100.0%
		% of Total	60.6%	39.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.264[a]	2	.119
Likelihood Ratio	4.891	2	.087
Linear-by-Linear Association	2.551	1	.110
N of Valid Cases	71		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .79.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.091	.061	1.359	.174
		AdminandSupport Dependent	.000	.000	.[c]	.[c]
		PEGradReq Dependent	.107	.075	1.359	.174
	Goodman and Kruskal tau	AdminandSupport Dependent	.039	.036		.066[d]
		PEGradReq Dependent	.060	.031		.122[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.245	.119
	Cramer's V	.245	.119
	Contingency Coefficient	.238	.119

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.245	.119
	Cramer's V	.245	.119
	Contingency Coefficient	.238	.119
N of Valid Cases		71	

AdminandSupport * AAHPERDDist

Crosstab

			AAHPERDDist						
			EASTERN	CENTRAL	MIDWEST	SOUTHERN	SOUTHWEST	NORTHWEST	Total
AdminandSupport	Not At All	Count	0	1	1	0	0	1	3
		Expected Count	.2	.4	.8	1.4	.1	.2	3.0
		% within AdminandSupport	.0%	33.3%	33.3%	.0%	.0%	33.3%	100.0%
		% within AAHPERDDist	.0%	11.1%	5.6%	.0%	.0%	20.0%	4.2%
		% of Total	.0%	1.4%	1.4%	.0%	.0%	1.4%	4.2%
	Partial	Count	0	0	0	1	0	2	3
		Expected Count	.2	.4	.8	1.4	.1	.2	3.0
		% within AdminandSupport	.0%	.0%	.0%	33.3%	.0%	66.7%	100.0%
		% within AAHPERDDist	.0%	.0%	.0%	3.1%	.0%	40.0%	4.2%
		% of Total	.0%	.0%	.0%	1.4%	.0%	2.8%	4.2%
	Fully	Count	4	8	17	31	3	2	65
		Expected Count	3.7	8.2	16.5	29.3	2.7	4.6	65.0
		% within AdminandSupport	6.2%	12.3%	26.2%	47.7%	4.6%	3.1%	100.0%
		% within AAHPERDDist	100.0%	88.9%	94.4%	96.9%	100.0%	40.0%	91.5%
		% of Total	5.6%	11.3%	23.9%	43.7%	4.2%	2.8%	91.5%
Total		Count	4	9	18	32	3	5	71

	Expected Count	4.0	9.0	18.0	32.0	3.0	5.0	71.0
	% within AdminandSupport	5.6%	12.7%	25.4%	45.1%	4.2%	7.0%	100.0%
	% within AAHPERDDist	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	5.6%	12.7%	25.4%	45.1%	4.2%	7.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.979[a]	10	.008
Likelihood Ratio	15.995	10	.100
Linear-by-Linear Association	2.186	1	.139
N of Valid Cases	71		

a. 15 cells (83.3%) have expected count less than 5. The minimum expected count is .13.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.044	.075	.579	.563
		AdminandSupport Dependent	.000	.333	.000	1.000
		AAHPERDDist Dependent	.051	.050	1.007	.314
	Goodman and Kruskal tau	AdminandSupport Dependent	.217	.137		.001[c]
		AAHPERDDist Dependent	.050	.024		.066[c]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.044	.075	.579	.563
		AdminandSupport Dependent	.000	.333	.000	1.000
		AAHPERDDist Dependent	.051	.050	1.007	.314
	Goodman and Kruskal tau	AdminandSupport Dependent	.217	.137		.001[c]
		AAHPERDDist Dependent	.050	.024		.066[c]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.581	.008
	Cramer's V	.411	.008
	Contingency Coefficient	.502	.008
N of Valid Cases		71	

AdminandSupport * Affiliation

Crosstab

			Affiliation		
			PUBLIC	PRIVATE	Total
AdminandSupport	Not At All	Count	2	1	3
		Expected Count	1.6	1.4	3.0
		% within AdminandSupport	66.7%	33.3%	100.0%
		% within Affiliation	5.1%	3.1%	4.2%
		% of Total	2.8%	1.4%	4.2%

	Partial	Count	3	0	3
		Expected Count	1.6	1.4	3.0
		% within AdminandSupport	100.0%	.0%	100.0%
		% within Affiliation	7.7%	.0%	4.2%
		% of Total	4.2%	.0%	4.2%
	Fully	Count	34	31	65
		Expected Count	35.7	29.3	65.0
		% within AdminandSupport	52.3%	47.7%	100.0%
		% within Affiliation	87.2%	96.9%	91.5%
		% of Total	47.9%	43.7%	91.5%
Total		Count	39	32	71
		Expected Count	39.0	32.0	71.0
		% within AdminandSupport	54.9%	45.1%	100.0%
		% within Affiliation	100.0%	100.0%	100.0%
		% of Total	54.9%	45.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.809[a]	2	.245
Likelihood Ratio	3.946	2	.139
Linear-by-Linear Association	1.215	1	.270
N of Valid Cases	71		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is 1.35.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		AdminandSupport Dependent	.000	.000	.[b]	.[b]

		Affiliation Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	AdminandSupport Dependent	.025	.023		.179[c]
		Affiliation Dependent	.040	.016		.250[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.199	.245
	Cramer's V	.199	.245
	Contingency Coefficient	.195	.245
N of Valid Cases		71	

AdminandSupport * EnrollmentCondense

Crosstab

			EnrollmentCondense			
			Small (500-2500)	Medium (2501-10000)	Large (>10,000)	Total
AdminandSupport	Not At All	Count	1	0	2	3
		Expected Count	1.3	1.0	.8	3.0
		% within AdminandSupport	33.3%	.0%	66.7%	100.0%
		% within EnrollmentCondense	3.3%	.0%	11.1%	4.2%
		% of Total	1.4%	.0%	2.8%	4.2%
	Partial	Count	1	0	2	3
		Expected Count	1.3	1.0	.8	3.0
		% within AdminandSupport	33.3%	.0%	66.7%	100.0%

		% within EnrollmentCondense	3.3%	.0%	11.1%	4.2%
		% of Total	1.4%	.0%	2.8%	4.2%
	Fully	Count	28	23	14	65
		Expected Count	27.5	21.1	16.5	65.0
		% within AdminandSupport	43.1%	35.4%	21.5%	100.0%
		% within EnrollmentCondense	93.3%	100.0%	77.8%	91.5%
		% of Total	39.4%	32.4%	19.7%	91.5%
Total		Count	30	23	18	71
		Expected Count	30.0	23.0	18.0	71.0
		% within AdminandSupport	42.3%	32.4%	25.4%	100.0%
		% within EnrollmentCondense	100.0%	100.0%	100.0%	100.0%
		% of Total	42.3%	32.4%	25.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.659[a]	4	.155
Likelihood Ratio	7.364	4	.118
Linear-by-Linear Association	2.246	1	.134
N of Valid Cases	71		

a. 6 cells (66.7%) have expected count less than 5. The minimum expected count is .76.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by	Lambda	Symmetric	.043	.050	.820	.412

Nominal		AdminandSupport Dependent	.000	.000	.[c]	.[c]
		EnrollmentCondense Dependent	.049	.058	.820	.412
	Goodman and Kruskal tau	AdminandSupport Dependent	.069	.051		.047[d]
		EnrollmentCondense Dependent	.040	.026		.229[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.306	.155
	Cramer's V	.217	.155
	Contingency Coefficient	.293	.155
N of Valid Cases		71	

Assessment * PEGradReq

Crosstab

			PEGradReq		
			YES	NO	Total
Assessment	Not at All	Count	1	0	1
		Expected Count	.6	.4	1.0
		% within Assessment	100.0%	.0%	100.0%
		% within PEGradReq	1.8%	.0%	1.1%
		% of Total	1.1%	.0%	1.1%
	Partial	Count	29	25	54
		Expected Count	33.0	21.0	54.0
		% within Assessment	53.7%	46.3%	100.0%

		% within PEGradReq	52.7%	71.4%	60.0%
		% of Total	32.2%	27.8%	60.0%
	Fully	Count	25	10	35
		Expected Count	21.4	13.6	35.0
		% within Assessment	71.4%	28.6%	100.0%
		% within PEGradReq	45.5%	28.6%	38.9%
		% of Total	27.8%	11.1%	38.9%
Total		Count	55	35	90
		Expected Count	55.0	35.0	90.0
		% within Assessment	61.1%	38.9%	100.0%
		% within PEGradReq	100.0%	100.0%	100.0%
		% of Total	61.1%	38.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.451[a]	2	.178
Likelihood Ratio	3.843	2	.146
Linear-by-Linear Association	1.866	1	.172
N of Valid Cases	90		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .39.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		Assessment Dependent	.000	.000	.[b]	.[b]
		PEGradReq Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	Assessment Dependent	.031	.035		.063[c]
		PEGradReq Dependent	.038	.036		.182[c]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		Assessment Dependent	.000	.000	.[b]	.[b]
		PEGradReq Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	Assessment Dependent	.031	.035		.063[c]
		PEGradReq Dependent	.038	.036		.182[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.196	.178
	Cramer's V	.196	.178
	Contingency Coefficient	.192	.178
N of Valid Cases		90	

Assessment * AAHPERDDist

Crosstab

			AAHPERDDist						Total
			EASTERN	CENTRAL	MIDWEST	SOUTHERN	SOUTHWEST	NORTHWEST	
Assessment	Not at All	Count	0	0	0	0	0	1	1
		Expected Count	.0	.2	.2	.4	.1	.1	1.0
		% within Assessment	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
		% within AAHPERDDist	.0%	.0%	.0%	.0%	.0%	14.3%	1.1%
		% of Total	.0%	.0%	.0%	.0%	.0%	1.1%	1.1%

	Partial	Count	1	9	15	19	4	5	53
		Expected Count	2.4	8.2	12.4	23.0	2.9	4.1	53.0
		% within Assessment	1.9%	17.0%	28.3%	35.8%	7.5%	9.4%	100.0%
		% within AAHPERDDist	25.0%	64.3%	71.4%	48.7%	80.0%	71.4%	58.9%
		% of Total	1.1%	10.0%	16.7%	21.1%	4.4%	5.6%	58.9%
	Fully	Count	3	5	6	20	1	1	36
		Expected Count	1.6	5.6	8.4	15.6	2.0	2.8	36.0
		% within Assessment	8.3%	13.9%	16.7%	55.6%	2.8%	2.8%	100.0%
		% within AAHPERDDist	75.0%	35.7%	28.6%	51.3%	20.0%	14.3%	40.0%
		% of Total	3.3%	5.6%	6.7%	22.2%	1.1%	1.1%	40.0%
Total		Count	4	14	21	39	5	7	90
		Expected Count	4.0	14.0	21.0	39.0	5.0	7.0	90.0
		% within Assessment	4.4%	15.6%	23.3%	43.3%	5.6%	7.8%	100.0%
		% within AAHPERDDist	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.4%	15.6%	23.3%	43.3%	5.6%	7.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.391[a]	10	.036
Likelihood Ratio	13.034	10	.222
Linear-by-Linear Association	1.769	1	.183
N of Valid Cases	90		

a. 12 cells (66.7%) have expected count less than 5. The minimum expected count is .04.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.045	.073	.604	.546
		Assessment Dependent	.081	.170	.458	.647
		AAHPERDDist Dependent	.020	.019	1.006	.315
	Goodman and Kruskal tau	Assessment Dependent	.082	.052		.146[c]
		AAHPERDDist Dependent	.039	.019		.070[c]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.464	.036
	Cramer's V	.328	.036
	Contingency Coefficient	.421	.036
N of Valid Cases		90	

Assessment * Affiliation

Crosstab

			Affiliation		
			PUBLIC	PRIVATE	Total
Assessment	Not at All	Count	0	1	1
		Expected Count	.5	.5	1.0
		% within Assessment	.0%	100.0%	100.0%
		% within Affiliation	.0%	2.4%	1.1%
		% of Total	.0%	1.1%	1.1%
	Partial	Count	28	25	53

		Expected Count	28.9	24.1	53.0
		% within Assessment	52.8%	47.2%	100.0%
		% within Affiliation	57.1%	61.0%	58.9%
		% of Total	31.1%	27.8%	58.9%
	Fully	Count	21	15	36
		Expected Count	19.6	16.4	36.0
		% within Assessment	58.3%	41.7%	100.0%
		% within Affiliation	42.9%	36.6%	40.0%
		% of Total	23.3%	16.7%	40.0%
Total		Count	49	41	90
		Expected Count	49.0	41.0	90.0
		% within Assessment	54.4%	45.6%	100.0%
		% within Affiliation	100.0%	100.0%	100.0%
		% of Total	54.4%	45.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.470[a]	2	.479
Likelihood Ratio	1.849	2	.397
Linear-by-Linear Association	.645	1	.422
N of Valid Cases	90		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .46.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.013	.013	1.006	.315
		Assessment Dependent	.000	.000	.[c]	.[c]
		Affiliation Dependent	.024	.024	1.006	.315
	Goodman and Kruskal	Assessment Dependent	.003	.010		.765[d]

tau	Affiliation Dependent	.016	.012		.483[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.128	.479
	Cramer's V	.128	.479
	Contingency Coefficient	.127	.479
N of Valid Cases		90	

Assessment * EnrollmentCondense

Crosstab

			EnrollmentCondense			
			Small (500-2500)	Medium (2501-10000)	Large (>10,000)	Total
Assessment	Not at All	Count	1	0	0	1
		Expected Count	.4	.3	.3	1.0
		% within Assessment	100.0%	.0%	.0%	100.0%
		% within EnrollmentCondense	2.6%	.0%	.0%	1.1%
		% of Total	1.1%	.0%	.0%	1.1%
	Partial	Count	24	12	17	53
		Expected Count	22.4	15.9	14.7	53.0
		% within Assessment	45.3%	22.6%	32.1%	100.0%
		% within EnrollmentCondense	63.2%	44.4%	68.0%	58.9%
		% of Total	26.7%	13.3%	18.9%	58.9%

	Fully	Count	13	15	8	36
		Expected Count	15.2	10.8	10.0	36.0
		% within Assessment	36.1%	41.7%	22.2%	100.0%
		% within EnrollmentCondense	34.2%	55.6%	32.0%	40.0%
		% of Total	14.4%	16.7%	8.9%	40.0%
Total		Count	38	27	25	90
		Expected Count	38.0	27.0	25.0	90.0
		% within Assessment	42.2%	30.0%	27.8%	100.0%
		% within EnrollmentCondense	100.0%	100.0%	100.0%	100.0%
		% of Total	42.2%	30.0%	27.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.147[a]	4	.273
Likelihood Ratio	5.441	4	.245
Linear-by-Linear Association	.069	1	.792
N of Valid Cases	90		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .28.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.056	.101	.543	.587
		Assessment Dependent	.081	.135	.578	.563
		EnrollmentCondense Dependent	.038	.100	.378	.705
	Goodman and Kruskal tau	Assessment Dependent	.040	.041		.125[c]

	EnrollmentCondense Dependent	.028	.021		.282[c]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.239	.273
	Cramer's V	.169	.273
	Contingency Coefficient	.233	.273
N of Valid Cases		90	

InstrStrat * PEGradReq

Crosstab

			PEGradReq		
			YES	NO	Total
InstrStrat	Not at All	Count	1	1	2
		Expected Count	1.2	.8	2.0
		% within InstrStrat	50.0%	50.0%	100.0%
		% within PEGradReq	1.9%	2.9%	2.3%
		% of Total	1.1%	1.1%	2.3%
	Partial	Count	52	33	85
		Expected Count	51.8	33.2	85.0
		% within InstrStrat	61.2%	38.8%	100.0%
		% within PEGradReq	98.1%	97.1%	97.7%
		% of Total	59.8%	37.9%	97.7%
Total		Count	53	34	87
		Expected Count	53.0	34.0	87.0
		% within InstrStrat	60.9%	39.1%	100.0%
		% within PEGradReq	100.0%	100.0%	100.0%

Crosstab

			PEGradReq		
			YES	NO	Total
InstrStrat	Not at All	Count	1	1	2
		Expected Count	1.2	.8	2.0
		% within InstrStrat	50.0%	50.0%	100.0%
		% within PEGradReq	1.9%	2.9%	2.3%
		% of Total	1.1%	1.1%	2.3%
	Partial	Count	52	33	85
		Expected Count	51.8	33.2	85.0
		% within InstrStrat	61.2%	38.8%	100.0%
		% within PEGradReq	98.1%	97.1%	97.7%
		% of Total	59.8%	37.9%	97.7%
Total		Count	53	34	87
		Expected Count	53.0	34.0	87.0
		% within InstrStrat	60.9%	39.1%	100.0%
		% within PEGradReq	100.0%	100.0%	100.0%
		% of Total	60.9%	39.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.103[a]	1	.749		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.100	1	.752		
Fisher's Exact Test				1.000	.632
Linear-by-Linear Association	.101	1	.750		
N of Valid Cases	87				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .78.

b. Computed only for a 2x2 table

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		InstrStrat Dependent	.000	.000	.[b]	.[b]
		PEGradReq Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	InstrStrat Dependent	.001	.008		.750[c]
		PEGradReq Dependent	.001	.008		.750[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.034	.749
	Cramer's V	.034	.749
	Contingency Coefficient	.034	.749
N of Valid Cases		87	

InstrStrat * AAHPERDDist

Crosstab

			AAHPERDDist						
			EASTERN	CENTRAL	MIDWEST	SOUTHERN	SOUTHWEST	NORTHWEST	Total
InstrStrat	Not at All	Count	0	1	0	0	0	1	2
		Expected Count	.1	.3	.4	.9	.1	.2	2.0

		% within InstrStrat	.0%	50.0%	.0%	.0%	.0%	50.0%	100.0%
		% within AAHPERDDist	.0%	7.1%	.0%	.0%	.0%	14.3%	2.2%
		% of Total	.0%	1.1%	.0%	.0%	.0%	1.1%	2.2%
	Partial	Count	4	13	20	39	5	6	87
		Expected Count	3.9	13.7	19.6	38.1	4.9	6.8	87.0
		% within InstrStrat	4.6%	14.9%	23.0%	44.8%	5.7%	6.9%	100.0%
		% within AAHPERDDist	100.0%	92.9%	100.0%	100.0%	100.0%	85.7%	97.8%
		% of Total	4.5%	14.6%	22.5%	43.8%	5.6%	6.7%	97.8%
Total		Count	4	14	20	39	5	7	89
		Expected Count	4.0	14.0	20.0	39.0	5.0	7.0	89.0
		% within InstrStrat	4.5%	15.7%	22.5%	43.8%	5.6%	7.9%	100.0%
		% within AAHPERDDist	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.5%	15.7%	22.5%	43.8%	5.6%	7.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.709[a]	5	.173
Likelihood Ratio	6.190	5	.288
Linear-by-Linear Association	.303	1	.582
N of Valid Cases	89		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .09.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.019	.019	1.006	.315
		InstrStrat Dependent	.000	.000	.[c]	.[c]
		AAHPERDDist Dependent	.020	.020	1.006	.315
	Goodman and Kruskal tau	InstrStrat Dependent	.087	.075		.178[d]
		AAHPERDDist Dependent	.017	.003		.179[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.294	.173
	Cramer's V	.294	.173
	Contingency Coefficient	.282	.173
N of Valid Cases		89	

InstrStrat * Affiliation

Crosstab

			Affiliation		Total
			PUBLIC	PRIVATE	
InstrStrat	Not at All	Count	1	1	2
		Expected Count	1.1	.9	2.0
		% within InstrStrat	50.0%	50.0%	100.0%
		% within Affiliation	2.0%	2.5%	2.2%
		% of Total	1.1%	1.1%	2.2%

Partial	Count	48	39	87
	Expected Count	47.9	39.1	87.0
	% within InstrStrat	55.2%	44.8%	100.0%
	% within Affiliation	98.0%	97.5%	97.8%
	% of Total	53.9%	43.8%	97.8%
Total	Count	49	40	89
	Expected Count	49.0	40.0	89.0
	% within InstrStrat	55.1%	44.9%	100.0%
	% within Affiliation	100.0%	100.0%	100.0%
	% of Total	55.1%	44.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.021[a]	1	.884		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.021	1	.885		
Fisher's Exact Test				1.000	.700
Linear-by-Linear Association	.021	1	.885		
N of Valid Cases	89				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .90.

b. Computed only for a 2x2 table

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		InstrStrat Dependent	.000	.000	.[b]	.[b]

		Affiliation Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	InstrStrat Dependent	.000	.003		.885[c]
		Affiliation Dependent	.000	.003		.885[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.015	.884
	Cramer's V	.015	.884
	Contingency Coefficient	.015	.884
N of Valid Cases		89	

InstrStrat * EnrollmentCondense

Crosstab

			EnrollmentCondense			
			Small (500-2500)	Medium (2501-10000)	Large (>10,000)	Total
InstrStrat	Not at All	Count	1	0	1	2
		Expected Count	.8	.6	.6	2.0
		% within InstrStrat	50.0%	.0%	50.0%	100.0%
		% within EnrollmentCondense	2.7%	.0%	4.0%	2.2%
		% of Total	1.1%	.0%	1.1%	2.2%
	Partial	Count	36	27	24	87
		Expected Count	36.2	26.4	24.4	87.0
		% within InstrStrat	41.4%	31.0%	27.6%	100.0%

	% within EnrollmentCondense	97.3%	100.0%	96.0%	97.8%
	% of Total	40.4%	30.3%	27.0%	97.8%
Total	Count	37	27	25	89
	Expected Count	37.0	27.0	25.0	89.0
	% within InstrStrat	41.6%	30.3%	28.1%	100.0%
	% within EnrollmentCondense	100.0%	100.0%	100.0%	100.0%
	% of Total	41.6%	30.3%	28.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.005[a]	2	.605
Likelihood Ratio	1.545	2	.462
Linear-by-Linear Association	.054	1	.816
N of Valid Cases	89		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .56.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		InstrStrat Dependent	.000	.000	.[b]	.[b]
		EnrollmentCondense Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	InstrStrat Dependent	.011	.012		.608[c]
		EnrollmentCondense Dependent	.005	.004		.635[c]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		InstrStrat Dependent	.000	.000	.[b]	.[b]
		EnrollmentCondense Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	InstrStrat Dependent	.011	.012		.608[c]
		EnrollmentCondense Dependent	.005	.004		.635[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.106	.605
	Cramer's V	.106	.605
	Contingency Coefficient	.106	.605
N of Valid Cases		89	

Professionalism * PEGradReq

Crosstab

			PEGradReq		Total
			YES	NO	
Professionalism	Not at All	Count	2	1	3
		Expected Count	1.8	1.2	3.0
		% within Professionalism	66.7%	33.3%	100.0%
		% within PEGradReq	3.8%	2.9%	3.4%
		% of Total	2.3%	1.1%	3.4%
	Partial	Count	9	7	16

		Expected Count	9.7	6.3	16.0
		% within Professionalism	56.3%	43.8%	100.0%
		% within PEGradReq	17.0%	20.6%	18.4%
		% of Total	10.3%	8.0%	18.4%
	Fully	Count	42	26	68
		Expected Count	41.4	26.6	68.0
		% within Professionalism	61.8%	38.2%	100.0%
		% within PEGradReq	79.2%	76.5%	78.2%
		% of Total	48.3%	29.9%	78.2%
Total		Count	53	34	87
		Expected Count	53.0	34.0	87.0
		% within Professionalism	60.9%	39.1%	100.0%
		% within PEGradReq	100.0%	100.0%	100.0%
		% of Total	60.9%	39.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.209[a]	2	.901
Likelihood Ratio	.208	2	.901
Linear-by-Linear Association	.030	1	.863
N of Valid Cases	87		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.17.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		Professionalism Dependent	.000	.000	.[b]	.[b]
		PEGradReq Dependent	.000	.000	.[b]	.[b]

	Goodman and Kruskal tau	Professionalism Dependent	.001	.007		.884[c]
		PEGradReq Dependent	.002	.011		.902[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.049	.901
	Cramer's V	.049	.901
	Contingency Coefficient	.049	.901
N of Valid Cases		87	

Professionalism * AAHPERDDist

Crosstab

			AAHPERDDist						
			EASTERN	CENTRAL	MIDWEST	SOUTHERN	SOUTHWEST	NORTHWEST	Total
Professionalism	Not at All	Count	0	1	1	0	0	1	3
		Expected Count	.1	.5	.7	1.3	.2	.2	3.0
		% within Professionalism	.0%	33.3%	33.3%	.0%	.0%	33.3%	100.0%
		% within AAHPERDDist	.0%	7.1%	5.0%	.0%	.0%	14.3%	3.4%
		% of Total	.0%	1.1%	1.1%	.0%	.0%	1.1%	3.4%
	Partial	Count	0	4	2	9	1	2	18
		Expected Count	.8	2.8	4.0	7.9	1.0	1.4	18.0
		% within Professionalism	.0%	22.2%	11.1%	50.0%	5.6%	11.1%	100.0%

		% within AAHPERDDist	.0%	28.6%	10.0%	23.1%	20.0%	28.6%	20.2%
		% of Total	.0%	4.5%	2.2%	10.1%	1.1%	2.2%	20.2%
	Fully	Count	4	9	17	30	4	4	68
		Expected Count	3.1	10.7	15.3	29.8	3.8	5.3	68.0
		% within Professionalism	5.9%	13.2%	25.0%	44.1%	5.9%	5.9%	100.0%
		% within AAHPERDDist	100.0%	64.3%	85.0%	76.9%	80.0%	57.1%	76.4%
		% of Total	4.5%	10.1%	19.1%	33.7%	4.5%	4.5%	76.4%
Total		Count	4	14	20	39	5	7	89
		Expected Count	4.0	14.0	20.0	39.0	5.0	7.0	89.0
		% within Professionalism	4.5%	15.7%	22.5%	43.8%	5.6%	7.9%	100.0%
		% within AAHPERDDist	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.5%	15.7%	22.5%	43.8%	5.6%	7.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.667[a]	10	.564
Likelihood Ratio	9.979	10	.442
Linear-by-Linear Association	.488	1	.485
N of Valid Cases	89		

a. 13 cells (72.2%) have expected count less than 5. The minimum expected count is .13.

Directional Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda Symmetric	.014	.014	1.006	.315

		Professionalism Dependent	.000	.000	.[c]	.[c]
		AAHPERDDist Dependent	.020	.020	1.006	.315
	Goodman and Kruskal tau	Professionalism Dependent	.047	.033		.606[d]
		AAHPERDDist Dependent	.023	.009		.432[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.312	.564
	Cramer's V	.221	.564
	Contingency Coefficient	.298	.564
N of Valid Cases		89	

Professionalism * Affiliation

Crosstab

			Affiliation		
			PUBLIC	PRIVATE	Total
Professionalism	Not at All	Count	1	2	3
		Expected Count	1.7	1.3	3.0
		% within Professionalism	33.3%	66.7%	100.0%
		% within Affiliation	2.0%	5.0%	3.4%
		% of Total	1.1%	2.2%	3.4%
	Partial	Count	13	5	18
		Expected Count	9.9	8.1	18.0
		% within Professionalism	72.2%	27.8%	100.0%

		% within Affiliation	26.5%	12.5%	20.2%
		% of Total	14.6%	5.6%	20.2%
	Fully	Count	35	33	68
		Expected Count	37.4	30.6	68.0
		% within Professionalism	51.5%	48.5%	100.0%
		% within Affiliation	71.4%	82.5%	76.4%
		% of Total	39.3%	37.1%	76.4%
Total		Count	49	40	89
		Expected Count	49.0	40.0	89.0
		% within Professionalism	55.1%	44.9%	100.0%
		% within Affiliation	100.0%	100.0%	100.0%
		% of Total	55.1%	44.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.069[a]	2	.216
Likelihood Ratio	3.170	2	.205
Linear-by-Linear Association	.542	1	.462
N of Valid Cases	89		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.35.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.016	.028	.578	.563
		Professionalism Dependent	.000	.000	.[c]	.[c]
		Affiliation Dependent	.025	.043	.578	.563
	Goodman and Kruskal tau	Professionalism Dependent	.022	.027		.148[d]

	Affiliation Dependent	.034	.036		.219[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.186	.216
	Cramer's V	.186	.216
	Contingency Coefficient	.183	.216
N of Valid Cases		89	

Professionalism * EnrollmentCondense

Crosstab

			EnrollmentCondense			
			Small (500-2500)	Medium (2501-10000)	Large (>10,000)	Total
Professionalism	Not at All	Count	2	0	1	3
		Expected Count	1.2	.9	.8	3.0
		% within Professionalism	66.7%	.0%	33.3%	100.0%
		% within EnrollmentCondense	5.4%	.0%	4.0%	3.4%
		% of Total	2.2%	.0%	1.1%	3.4%
	Partial	Count	6	4	8	18
		Expected Count	7.5	5.5	5.1	18.0
		% within Professionalism	33.3%	22.2%	44.4%	100.0%
		% within EnrollmentCondense	16.2%	14.8%	32.0%	20.2%

		% of Total	6.7%	4.5%	9.0%	20.2%
	Fully	Count	29	23	16	68
		Expected Count	28.3	20.6	19.1	68.0
		% within Professionalism	42.6%	33.8%	23.5%	100.0%
		% within EnrollmentCondense	78.4%	85.2%	64.0%	76.4%
		% of Total	32.6%	25.8%	18.0%	76.4%
Total		Count	37	27	25	89
		Expected Count	37.0	27.0	25.0	89.0
		% within Professionalism	41.6%	30.3%	28.1%	100.0%
		% within EnrollmentCondense	100.0%	100.0%	100.0%	100.0%
		% of Total	41.6%	30.3%	28.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.587[a]	4	.332
Likelihood Ratio	5.246	4	.263
Linear-by-Linear Association	.649	1	.421
N of Valid Cases	89		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .84.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.027	.050	.535	.592
		Professionalism Dependent	.000	.000	.[c]	.[c]
		EnrollmentCondense Dependent	.038	.071	.535	.592

	Goodman and Kruskal tau	Professionalism Dependent	.034	.037		.198[d]
		EnrollmentCondense Dependent	.024	.020		.367[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.227	.332
	Cramer's V	.161	.332
	Contingency Coefficient	.221	.332
N of Valid Cases		89	

LearningEnvironment * PEGradReq

Crosstab

			PEGradReq		
			YES	NO	Total
LearningEnvironment	Not at All	Count	1	0	1
		Expected Count	.6	.4	1.0
		% within LearningEnvironment	100.0%	.0%	100.0%
		% within PEGradReq	1.9%	.0%	1.1%
		% of Total	1.1%	.0%	1.1%
	Partial	Count	12	14	26
		Expected Count	15.8	10.2	26.0
		% within LearningEnvironment	46.2%	53.8%	100.0%
		% within PEGradReq	22.6%	41.2%	29.9%
		% of Total	13.8%	16.1%	29.9%
	Fully	Count	40	20	60

	Expected Count	36.6	23.4	60.0
	% within LearningEnvironment	66.7%	33.3%	100.0%
	% within PEGradReq	75.5%	58.8%	69.0%
	% of Total	46.0%	23.0%	69.0%
Total	Count	53	34	87
	Expected Count	53.0	34.0	87.0
	% within LearningEnvironment	60.9%	39.1%	100.0%
	% within PEGradReq	100.0%	100.0%	100.0%
	% of Total	60.9%	39.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.855[a]	2	.146
Likelihood Ratio	4.153	2	.125
Linear-by-Linear Association	1.849	1	.174
N of Valid Cases	87		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .39.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.033	.082	.393	.695
		LearningEnvironment Dependent	.000	.000	.[c]	.[c]
		PEGradReq Dependent	.059	.145	.393	.695
	Goodman and Kruskal tau	LearningEnvironment Dependent	.034	.039		.053[d]
		PEGradReq Dependent	.044	.041		.149[d]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.033	.082	.393	.695
		LearningEnvironment Dependent	.000	.000	.[c]	.[c]
		PEGradReq Dependent	.059	.145	.393	.695
	Goodman and Kruskal tau	LearningEnvironment Dependent	.034	.039		.053[d]
		PEGradReq Dependent	.044	.041		.149[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.210	.146
	Cramer's V	.210	.146
	Contingency Coefficient	.206	.146
N of Valid Cases		87	

LearningEnvironment * AAHPERDDist

Crosstab

			AAHPERDDist						
			EASTERN	CENTRAL	MIDWEST	SOUTHERN	SOUTHWEST	NORTHWEST	Total
LearningEnvironment	Not at All	Count	0	0	0	0	0	1	1
		Expected Count	.0	.2	.2	.4	.1	.1	1.0
		% within LearningEnvironment	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%

		% within AAHPERDDist	.0%	.0%	.0%	.0%	.0%	14.3%	1.1%
		% of Total	.0%	.0%	.0%	.0%	.0%	1.1%	1.1%
	Partial	Count	1	4	6	12	1	3	27
		Expected Count	1.2	4.2	6.1	11.8	1.5	2.1	27.0
		% within LearningEnvironment	3.7%	14.8%	22.2%	44.4%	3.7%	11.1%	100.0%
		% within AAHPERDDist	25.0%	28.6%	30.0%	30.8%	20.0%	42.9%	30.3%
		% of Total	1.1%	4.5%	6.7%	13.5%	1.1%	3.4%	30.3%
	Fully	Count	3	10	14	27	4	3	61
		Expected Count	2.7	9.6	13.7	26.7	3.4	4.8	61.0
		% within LearningEnvironment	4.9%	16.4%	23.0%	44.3%	6.6%	4.9%	100.0%
		% within AAHPERDDist	75.0%	71.4%	70.0%	69.2%	80.0%	42.9%	68.5%
		% of Total	3.4%	11.2%	15.7%	30.3%	4.5%	3.4%	68.5%
Total		Count	4	14	20	39	5	7	89
		Expected Count	4.0	14.0	20.0	39.0	5.0	7.0	89.0
		% within LearningEnvironment	4.5%	15.7%	22.5%	43.8%	5.6%	7.9%	100.0%
		% within AAHPERDDist	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.5%	15.7%	22.5%	43.8%	5.6%	7.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.127[a]	10	.217
Likelihood Ratio	6.582	10	.764
Linear-by-Linear Association	1.754	1	.185

N of Valid Cases	89		

a. 13 cells (72.2%) have expected count less than 5. The minimum expected count is .04.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.013	.034	.378	.705
		LearningEnvironment Dependent	.000	.087	.000	1.000
		AAHPERDDist Dependent	.020	.020	1.006	.315
	Goodman and Kruskal tau	LearningEnvironment Dependent	.022	.028		.950[c]
		AAHPERDDist Dependent	.019	.003		.587[c]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.384	.217
	Cramer's V	.272	.217
	Contingency Coefficient	.359	.217
N of Valid Cases		89	

LearningEnvironment * Affiliation

Crosstab

			Affiliation		
			PUBLIC	PRIVATE	Total
LearningEnvironment	Not at All	Count	0	1	1
		Expected Count	.6	.4	1.0
		% within LearningEnvironment	.0%	100.0%	100.0%
		% within Affiliation	.0%	2.5%	1.1%
		% of Total	.0%	1.1%	1.1%
	Partial	Count	19	8	27
		Expected Count	14.9	12.1	27.0
		% within LearningEnvironment	70.4%	29.6%	100.0%
		% within Affiliation	38.8%	20.0%	30.3%
		% of Total	21.3%	9.0%	30.3%
	Fully	Count	30	31	61
		Expected Count	33.6	27.4	61.0
		% within LearningEnvironment	49.2%	50.8%	100.0%
		% within Affiliation	61.2%	77.5%	68.5%
		% of Total	33.7%	34.8%	68.5%
Total		Count	49	40	89
		Expected Count	49.0	40.0	89.0
		% within LearningEnvironment	55.1%	44.9%	100.0%
		% within Affiliation	100.0%	100.0%	100.0%
		% of Total	55.1%	44.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.635[a]	2	.099
Likelihood Ratio	5.106	2	.078
Linear-by-Linear Association	1.706	1	.191
N of Valid Cases	89		

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.635[a]	2	.099
Likelihood Ratio	5.106	2	.078
Linear-by-Linear Association	1.706	1	.191
N of Valid Cases	89		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .45.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.029	.114	.254	.799
		LearningEnvironment Dependent	.000	.000	.[c]	.[c]
		Affiliation Dependent	.050	.192	.254	.799
	Goodman and Kruskal tau	LearningEnvironment Dependent	.035	.037		.045[d]
		Affiliation Dependent	.052	.039		.101[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.228	.099
	Cramer's V	.228	.099
	Contingency Coefficient	.222	.099

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.228	.099
	Cramer's V	.228	.099
	Contingency Coefficient	.222	.099
N of Valid Cases		89	

LearningEnvironment * EnrollmentCondense

Crosstab

			EnrollmentCondense			
			Small (500-2500)	Medium (2501-10000)	Large (>10,000)	Total
LearningEnvironment	Not at All	Count	1	0	0	1
		Expected Count	.4	.3	.3	1.0
		% within LearningEnvironment	100.0%	.0%	.0%	100.0%
		% within EnrollmentCondense	2.7%	.0%	.0%	1.1%
		% of Total	1.1%	.0%	.0%	1.1%
	Partial	Count	9	6	12	27
		Expected Count	11.2	8.2	7.6	27.0
		% within LearningEnvironment	33.3%	22.2%	44.4%	100.0%
		% within EnrollmentCondense	24.3%	22.2%	48.0%	30.3%
		% of Total	10.1%	6.7%	13.5%	30.3%
	Fully	Count	27	21	13	61
		Expected Count	25.4	18.5	17.1	61.0
		% within LearningEnvironment	44.3%	34.4%	21.3%	100.0%
		% within EnrollmentCondense	73.0%	77.8%	52.0%	68.5%
		% of Total	30.3%	23.6%	14.6%	68.5%
Total		Count	37	27	25	89

	Expected Count	37.0	27.0	25.0	89.0
	% within LearningEnvironment	41.6%	30.3%	28.1%	100.0%
	% within EnrollmentCondense	100.0%	100.0%	100.0%	100.0%
	% of Total	41.6%	30.3%	28.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.443[a]	4	.168
Likelihood Ratio	6.571	4	.160
Linear-by-Linear Association	1.630	1	.202
N of Valid Cases	89		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .28.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.038	.056	.656	.512
		LearningEnvironment Dependent	.000	.000	.[c]	.[c]
		EnrollmentCondense Dependent	.058	.086	.656	.512
	Goodman and Kruskal tau	LearningEnvironment Dependent	.054	.049		.051[d]
		EnrollmentCondense Dependent	.035	.024		.192[d]

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.038	.056	.656	.512
		LearningEnvironment Dependent	.000	.000	.[c]	.[c]
		EnrollmentCondense Dependent	.058	.086	.656	.512
	Goodman and Kruskal tau	LearningEnvironment Dependent	.054	.049		.051[d]
		EnrollmentCondense Dependent	.035	.024		.192[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.269	.168
	Cramer's V	.190	.168
	Contingency Coefficient	.260	.168
N of Valid Cases		89	

Curriculum * PEGradReq

Crosstab

			PEGradReq		
			YES	NO	Total
Curriculum	Not at All	Count	1	1	2
		Expected Count	1.2	.8	2.0
		% within Curriculum	50.0%	50.0%	100.0%
		% within PEGradReq	1.9%	3.0%	2.3%

		% of Total	1.2%	1.2%	2.3%
	Partial	Count	12	14	26
		Expected Count	16.0	10.0	26.0
		% within Curriculum	46.2%	53.8%	100.0%
		% within PEGradReq	22.6%	42.4%	30.2%
		% of Total	14.0%	16.3%	30.2%
	Fully	Count	40	18	58
		Expected Count	35.7	22.3	58.0
		% within Curriculum	69.0%	31.0%	100.0%
		% within PEGradReq	75.5%	54.5%	67.4%
		% of Total	46.5%	20.9%	67.4%
Total		Count	53	33	86
		Expected Count	53.0	33.0	86.0
		% within Curriculum	61.6%	38.4%	100.0%
		% within PEGradReq	100.0%	100.0%	100.0%
		% of Total	61.6%	38.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.067[a]	2	.131
Likelihood Ratio	4.017	2	.134
Linear-by-Linear Association	3.578	1	.059
N of Valid Cases	86		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .77.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.033	.082	.393	.695
		Curriculum Dependent	.000	.000	.[c]	.[c]

		PEGradReq Dependent	.061	.150	.393	.695
	Goodman and Kruskal tau	Curriculum Dependent	.043	.043		.025[d]
		PEGradReq Dependent	.047	.047		.134[d]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.217	.131
	Cramer's V	.217	.131
	Contingency Coefficient	.213	.131
N of Valid Cases		86	

Curriculum * AAHPERDDist

Crosstab

			AAHPERDDist						
			EASTERN	CENTRAL	MIDWEST	SOUTHERN	SOUTHWEST	NORTHWEST	Total
Curriculum	Not at All	Count	0	1	0	0	0	1	2
		Expected Count	.1	.3	.5	.9	.1	.2	2.0
		% within Curriculum	.0%	50.0%	.0%	.0%	.0%	50.0%	100.0%
		% within AAHPERDDist	.0%	7.1%	.0%	.0%	.0%	14.3%	2.3%
		% of Total	.0%	1.1%	.0%	.0%	.0%	1.1%	2.3%
	Partial	Count	1	4	7	11	1	3	27

		Expected Count	1.2	4.3	6.1	11.7	1.5	2.1	27.0
		% within Curriculum	3.7%	14.8%	25.9%	40.7%	3.7%	11.1%	100.0%
		% within AAHPERDDist	25.0%	28.6%	35.0%	28.9%	20.0%	42.9%	30.7%
		% of Total	1.1%	4.5%	8.0%	12.5%	1.1%	3.4%	30.7%
	Fully	Count	3	9	13	27	4	3	59
		Expected Count	2.7	9.4	13.4	25.5	3.4	4.7	59.0
		% within Curriculum	5.1%	15.3%	22.0%	45.8%	6.8%	5.1%	100.0%
		% within AAHPERDDist	75.0%	64.3%	65.0%	71.1%	80.0%	42.9%	67.0%
		% of Total	3.4%	10.2%	14.8%	30.7%	4.5%	3.4%	67.0%
Total		Count	4	14	20	38	5	7	88
		Expected Count	4.0	14.0	20.0	38.0	5.0	7.0	88.0
		% within Curriculum	4.5%	15.9%	22.7%	43.2%	5.7%	8.0%	100.0%
		% within AAHPERDDist	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.5%	15.9%	22.7%	43.2%	5.7%	8.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.067[a]	10	.526
Likelihood Ratio	7.673	10	.661
Linear-by-Linear Association	.340	1	.560
N of Valid Cases	88		

a. 13 cells (72.2%) have expected count less than 5. The minimum expected count is .09.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.013	.033	.378	.705
		Curriculum Dependent	.000	.084	.000	1.000
		AAHPERDDist Dependent	.020	.020	1.006	.315
	Goodman and Kruskal tau	Curriculum Dependent	.025	.029		.932[c]
		AAHPERDDist Dependent	.020	.006		.570[c]

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.321	.526
	Cramer's V	.227	.526
	Contingency Coefficient	.306	.526
N of Valid Cases		88	

Curriculum * Affiliation

Crosstab

			Affiliation		
			PUBLIC	PRIVATE	Total
Curriculum	Not at All	Count	1	1	2
		Expected Count	1.1	.9	2.0
		% within Curriculum	50.0%	50.0%	100.0%
		% within Affiliation	2.1%	2.5%	2.3%
		% of Total	1.1%	1.1%	2.3%
	Partial	Count	17	10	27

		Expected Count	14.7	12.3	27.0
		% within Curriculum	63.0%	37.0%	100.0%
		% within Affiliation	35.4%	25.0%	30.7%
		% of Total	19.3%	11.4%	30.7%
	Fully	Count	30	29	59
		Expected Count	32.2	26.8	59.0
		% within Curriculum	50.8%	49.2%	100.0%
		% within Affiliation	62.5%	72.5%	67.0%
		% of Total	34.1%	33.0%	67.0%
Total		Count	48	40	88
		Expected Count	48.0	40.0	88.0
		% within Curriculum	54.5%	45.5%	100.0%
		% within Affiliation	100.0%	100.0%	100.0%
		% of Total	54.5%	45.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.114[a]	2	.573
Likelihood Ratio	1.124	2	.570
Linear-by-Linear Association	.724	1	.395
N of Valid Cases	88		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .91.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		Curriculum Dependent	.000	.000	.[b]	.[b]

		Affiliation Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	Curriculum Dependent	.011	.021		.373[c]
		Affiliation Dependent	.013	.024		.577[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.112	.573
	Cramer's V	.112	.573
	Contingency Coefficient	.112	.573
N of Valid Cases		88	

Curriculum * EnrollmentCondense

Crosstab

			EnrollmentCondense			
			Small (500-2500)	Medium (2501-10000)	Large (>10,000)	Total
Curriculum	Not at All	Count	1	0	1	2
		Expected Count	.8	.6	.6	2.0
		% within Curriculum	50.0%	.0%	50.0%	100.0%
		% within EnrollmentCondense	2.7%	.0%	4.0%	2.3%
		% of Total	1.1%	.0%	1.1%	2.3%
	Partial	Count	11	5	11	27
		Expected Count	11.4	8.0	7.7	27.0

		% within Curriculum	40.7%	18.5%	40.7%	100.0%
		% within EnrollmentCondense	29.7%	19.2%	44.0%	30.7%
		% of Total	12.5%	5.7%	12.5%	30.7%
	Fully	Count	25	21	13	59
		Expected Count	24.8	17.4	16.8	59.0
		% within Curriculum	42.4%	35.6%	22.0%	100.0%
		% within EnrollmentCondense	67.6%	80.8%	52.0%	67.0%
		% of Total	28.4%	23.9%	14.8%	67.0%
Total		Count	37	26	25	88
		Expected Count	37.0	26.0	25.0	88.0
		% within Curriculum	42.0%	29.5%	28.4%	100.0%
		% within EnrollmentCondense	100.0%	100.0%	100.0%	100.0%
		% of Total	42.0%	29.5%	28.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.093[a]	4	.278
Likelihood Ratio	5.646	4	.227
Linear-by-Linear Association	1.070	1	.301
N of Valid Cases	88		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .57.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	.[b]	.[b]
		Curriculum Dependent	.000	.000	.[b]	.[b]

		EnrollmentCondense Dependent	.000	.000	.[b]	.[b]
	Goodman and Kruskal tau	Curriculum Dependent	.047	.042		.088[c]
		EnrollmentCondense Dependent	.026	.020		.347[c]

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.241	.278
	Cramer's V	.170	.278
	Contingency Coefficient	.234	.278
N of Valid Cases		88	

Appendix K: Current CV

Drue T. Stapleton, M.Ed, ATC, CSCS

123 Sturm Street
Clarksburg, WV 26301
email: drue.stapleton@mail.wvu.edu

Home: (304) 624-5669
Work: (304) 293-0866

Education

Doctor of Philosophy: Kinesiology — Anticipated Completion Date
West Virginia University Morgantown, WV — Summer 2012
Dissertation: Adherence to Appropriate Instructional Practice Guidelines in American College and University Physical Activity Programs
(Sean M. Bulger, EdD, Chair)

Master of Education: Post-Secondary Education — Degree Conferred
Salisbury University, Salisbury, MD — May 2004
Research Project: Pedagogical Training of CAAHEP Accredited Undergraduate Athletic Training Educators

Bachelor of Science: Athletic Training and Physical Education — Degree Conferred
State University of New York, College at Cortland — December, 2001

Associate of Arts: Physical Education Studies — Degree Conferred
Hudson Valley Community College — May, 1999

Professional Certifications

National Athletic Trainers' Association Board of Certification Certified Athletic Trainer (NATABOC-ATC); certification # 100202017

National Strength and Conditioning Association Certified Strength and Conditioning Specialist (NSCA-CSCS); certification # 200216880

Academic Appointments

Date	Institution	Position/Title
2011 – Present	Pierpont Community and Technical College	Adjunct Instructor
2009 - Present	West Virginia University	Athletic Training Education Graduate Teaching Assistant; Invited Guest Lecturer, Doctoral Candidate
2009 – Present	West Virginia Wesleyan College	Adjunct Instructor
2007-2009	West Virginia Wesleyan College	Clinical Coordinator of Athletic Training Education
2008-2009	West Virginia Wesleyan College	Assistant Professor, Exercise

		Science/Athletic Training
2006-2008	West Virginia Wesleyan College	Instructor, Exercise Science/Athletic Training
2005-2006	West Virginia Wesleyan College	Visiting Instructor, Exercise Science/Athletic Training
2002-2004	Salisbury University	Graduate Assistant Athletic Trainer

Research Interests

- Negative health outcomes associated with metabolic diseases (obesity, diabetes)
- Interventional strategies to promote physical activity (children, adolescents, college students, adults, elderly)
- Program evaluation
- Professional development and mentoring of undergraduate and graduate students

Honors/Awards

- College of Physical Activity and Sport Sciences Graduate Student Travel Award - 2012
- Patricia K. Fehl Graduate Student Scholarship – 2011-2012

Teaching Activities

Pierpont Community and Technical College (2011- Present)

Primary Instructor

- HLCA 1170 (3 credits): Anatomy and Physiology; 25 undergraduate students
- HLCA 1171 (1 credit): Anatomy and Physiology Lab; 25 undergraduate students

West Virginia University (2009 – Present)

Primary Instructor

- ATTR 101 (1 credit): Prospective Athletic Training; 117-130 undergraduate students
- ATTR 121 (3 credits): Sports Injury Control and Management; 50 non-athletic training undergraduate students
- ATTR 122 (1 credit): Sports Injury Control and Management Lab; 40 undergraduate Pre-Athletic Training majors

Team Instructor

- Medical Student III Orthopedic Workshop; approximately 50 medical students

Lab Assistant

- ATTR 218 (1 credit): Gross Anatomy (cadaver); 13-15 athletic training students

Invited Lecturer

- ATTR 219 Gross Anatomy; 200 undergraduate students
- ATTR 426 Medical Aspects of Athletic Training; 17 undergraduate athletic training students
- ATTR 625 Science and Theory of Rehabilitation: 15 graduate students
- PET 167 Introduction to Physical Education; 100 undergraduate students

West Virginia Wesleyan College (2005-Present)

Primary Instructor

- EXSC 360/560 (3 credits): Foundations of Strength and Conditioning; 30 undergraduate students, 5 graduate students.

- PHED 130 (3 credits): Personal and Community Health; Designed and implemented online course; 30 undergraduate students traditional, 15 undergraduate students online
- PHED 240 (3 credits): Fundamentals of Human Nutrition; Designed and implemented online course; 50 undergraduate students traditional format, 10 undergraduate students online
- PHED 140 (2 credits): First Aid and Safety; 30 undergraduate students
- EXSC 155 (1 credit): Introduction to Athletic Training; 60 undergraduate students
- EXSC 160 (3 credits): Athletic Training I; 15 undergraduate students
- EXSC 163(1 credit): Athletic Training Taping Laboratory; 15 undergraduate students
- EXSC 213 (4 credits): Clinical Techniques of Athletic Training I; 12 undergraduate students

Team Instructor

- PHED 150 (4 credits): Physical Education Majors I; 20 undergraduate students; taught Health Related Physical Fitness section

Salisbury University (2002-2004)

- Guest lecturer in undergraduate athletic training education classes

Clinical Experience

2010- Present	Healthworks Rehabilitation and Fitness *Morgantown, WV*	▪ Outreach athletic trainer: JamFest, AAU basketball tournaments
2009-Present	West Virginia University *Morgantown, WV*	▪ Approved Clinical Instructor, ▪ Coordinator of Prospective Athletic Training Student (PATS) program, ▪ Visiting Team Liaison Athletic Trainer: football
2005 – 2009	West Virginia Wesleyan College *Buckhannon, WV*	▪ Approved Clinical Instructor ▪ Head Football athletic trainer ▪ Men's & Women's Golf athletic trainer ▪ Strength and Conditioning Coordinator: Women's Soccer, Football ▪ NCAA drug testing site coordinator
2004 – 2005	State University of New York College at New Paltz *New Paltz, NY*	▪ Approved Clinical Instructor (Marist College Athletic Training Education program) ▪ Assistant athletic trainer (15 Varsity sports)
2002 – 2004	Salisbury University *Salisbury, MD*	▪ Graduate Assistant Athletic Trainer: football, track and field, off-season rehabilitation coordinator ▪ Approved Clinical Instructor
2002	Columbia Physical Therapy, PC *East Greenbush, NY*	▪ Head Athletic Trainer for three area high schools ▪ Assistant Athletic Trainer and Strength and Conditioning Coach for one area high school

Peer Reviewed Publications

Stapleton, D. & Bulger, S.M. (in preparation). Higher Education Physical Activity Programs: An Ecological Perspective. *Quest.*

Stapleton, D. & Hawkins, A. (in preparation). Single Case Research Design in Athletic Training. *Athletic Training Education Journal.*

Book Chapters

Stapleton, D., Stilger, V.G., & Koester, M.C. (2011). Safety issues in strength and conditioning. In Koester, M.C (Ed), *National Federation of State High School Associations Sports Medicine Handbook, 4th Ed.* p.59-61. Indianapolis, IN: National Federation of High Schools.

Stapleton, D. & Thomas, C. (2009) Introduction, Section 6. Research on Physical Education Teacher Education. In Housner, L.D, Metzler, M.M., Schempp, P. G. and Templin, T. (Eds.) *Historic Traditions and Future Directions of Research on Teaching and Teacher Edu cation in Physical Education.* pp. xx-xxii. Morgantown, WV: Fitness Information Technology.

DiGiacinto, K. & **Stapleton, D.** (2009) Introduction, Section 4. Impediments and Challenges. In Housner, L.D, Metzler, M.M., Schempp, P. G. and Templin, T. (Eds.) *Historic Traditions and Future Directions of Research on Teaching and Teacher Education in Physical Education.* pp. xvi-xviii. Morgantown, WV: Fitness Information Technology.

Abstracts and Platform Presentations

Stapleton, D.(2011). University Basic Instruction Programs: Past, Present, Future? Presented at WVAHPERD Conference Flatwoods,WV.

Stapleton, D. (2011). Single Case Design in Athletic Training. Presented at WVAHPERD Conference, Flatwoods,WV.

Stapleton, D. & Potter, B. (2008). Use of video analysis software for upper extremity biomechanical analysis , WV Athletic Trainers' Association Annual Meeting, Buckhannon, WV.

Stapleton, D. (2008). Bridging the Gap: Student to Certified. Presented at MAATA Annual Meeting, Student Symposium.

Stapleton, D. & Sibold, J. (2007). Athletic Pubalgia and Adductor Tendon Avulsion Repair in a Collegiate Football Player. Poster Presentation, EATA Annual Meeting and Symposium.

Stapleton, D. (2004). The Instructional Methods of CAAHEP-Accredited Undergraduate Athletic Training Educators. Unpublished Master's research project.

Invited Research Symposia

Stapleton, D. (2012). Single case research design in athletic training; an alternative strategy for evidence based practice. SUNY Cortland Sports Medicine Symposium, Cortland, NY.

Departmental Service

- 2012: developed Athletic Training Education Graduate Assistant Handbook
- 2009 – present: WVU Student academic advisor

- 2009 – present: WVU Athletic Training webpage coordinator
- 2009 – present: maintained Prospective Athletic Training Student Handbook
- 2009 – present: recruiting appointments with prospective students and families
- 2006-2009: WVWC Student academic advisor
- 2006 – 2009: WVWC: recruiting appointments with prospective students and families

Institutional Service

- 2009 – present: WVU new student orientation advisor
- 2008-2009: Chair; WVWC Institutional Research Review Board
- 2007-2009: Faculty advisor; WVWC Ski Club
- 2006 – 2008: member; WVWC Institutional Research Review Board
- 2006: Chairperson, WVWC Co-Curricular Think Tank
- 2006: Member, WVWC e-Learning Think Tank

State/District/National Service

- 2012 – present: WV Athletic Trainers' Association (WVATA) President
- 2008 – present: WV representative, Mid-Atlantic Athletic Trainers' Association (MAATA) Scholarship committee
- 2007 – present: WV representative, MAATA Public Relations committee
- 2007-present: Chair, WVATA public relations committee
- 2011, 2012: WVATA Annual Meeting Program Co-Coordinator
- 2010-2012: WVATA President Elect
- 2008-2010: WVATA Secretary
- 2008: WVATA Annual Meeting Program Coordinator

Memberships

- 2011- present: member, National Association of Kinesiology and Physical Education in Higher Education (NAKPEHE)
- 2010 – present: member, WV Alliance of Health, Physical Education, Recreation and Dance (WVAHPERD)
- 2010 – present: member, American Alliance of Health, Physical Education, Recreation and Dance (AAHPERD)
- 2005- present: member, WVATA
- 2002- present: NATABOC certified examiner
- 2002 – present: member, National Athletic Trainers' Association (NATA) District III

Meetings Attended

- 2012: MAATA Annual Meeting; Greenville, SC.
- 2012: AAHPERD Annual Meeting; Boston, MA.
- 2012: WVATA Annual Meeting, Morgantown, WV
- 2011: WVATA Annual Meeting, Morgantown, WV.
- 2011: WVAHPERD Annual Meeting, Flatwoods, WV.
- 2010: National Athletic Trainers' Association (NATA) Annual Meeting, Philadelphia, PA.
- 2009: WVATA Annual Meeting: Charleston, WV

- 2007: WVATA Annual Meeting, Charleston, WV.
- 2007: MAATA Annual Meeting and Symposium, Virginia Beach, VA.
- 2008: WVATA Annual Meeting, Buckhannon, WV.
- 2008: MAATA Annual Meeting, Virginia Beach, VA.
- 2006: Eastern Athletic Trainers' Association (EATA) Annual Meeting, Boston, MA.
- 2006: NATA Annual Meeting, Atlanta, GA.
- 2005: NATA Annual Meeting, Indianapolis, IN.
- 2004: MAATA Annual Meeting and Symposium, Virginia Beach, VA.
- 2004: NATA Annual Meeting, Baltimore, MD.
- 2003: EATA Annual Meeting, Boston, MA.
- 2003: MAATA Annual Meeting and Symposium, Virginia Beach, VA.