Discovering the Perceptions of Pre-Service/Novice Elementary Educators Toward Health Education and Health Instruction in the Elementary Classroom

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ABSTRACT

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Objectives: The impact of unhealthy choices on Americans is no longer an "adult's only" issue. Health disparities previously affecting adults are appearing at ever-increasing rates in children. A strategy to address this examines the likelihood that elementary teachers act as healthy role models while providing quality health instruction. Therefore, the purpose of this study was to assess the effect of the preservice elementary teacher training experience on the potential delivery of elementary classroom health instruction by clarifying the impact of programmatic training influences on the attitudes and behavioral intent of preservice elementary educators to teach health.

Methods: A sample of 157 candidates were selected for this study consisting of preservice (in their final semester) and novice elementary educators (within 3 years from graduation) from an accredited teacher training program in WV. Participants responded to an anonymous, electronic survey containing demographic and attitudinal questions focused on health education experiences during and after their undergraduate, teacher training experience. Frequencies and analyses of variance were used to examine responses and compare survey items.

Results: 93 participants responded to the 38-item questionnaire. 23 items assessed the three levels of behavioral intent: attitude (A), subjective norms (SN), and perceived behavioral control (PBC). Findings indicated that attitude was most affected by health education teacher training ($p \leq .003$), whether or not respondents recalled specific training (three or more curricular components ($p \leq .042$), one or two ($p \leq .0074$), or none at all ($p \leq .004$)). Correlations were found between measures of personal health and *Attitude* (health status: $p \leq .034$; exercise frequency: $p \leq .044$) and *Subjective Norms* (health status: $p \leq .025$; exercise frequency: $p \leq -.005$). As recall of training on specific curricular components increased, the discipline of *Health* increased in importance when compared to math, science, technology and reading/language arts (no recall = 4.17, recall of one or two =3.85, recall of three or more = 3.48).

Conclusions: *Required* training profoundly affected *attitudes* toward health education. There was a significant relationship between attitude and measures of personal health. Powerful others (SN) played an impressive role in influencing perceptions of *value* regarding the discipline of Health Education. No particular group of course components influenced *behavioral intent* and *attitude* as much as the completion of a training program requirement on specific/organized curricula in health education. Training improved Health Education's academic ranking.

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Chapter 1

INTRODUCTION

There is a void in the research that examines influences that promote or limit the likelihood that educators will integrate and effectively teach health education in their classrooms. This study seeks to examine the perceptions of preservice elementary educators toward health education and their intent to teach it based on influences central to their preservice teacher training experience. This is important information in that a clearer understanding of these influences could offer preservice training program coordinators and teacher-educators the evidence needed to modify or design training. Recommendations include the provision of health education content along with substantial increases in opportunities that build their experiential teaching skills. It is rare and nearly impossible to find research focusing on the evaluation of preservice elementary teachers' "intent to teach health." After completing a thorough examination of the literature on elementary health education, only sixteen studies were located which occurred over a seventeen year time-frame, focused primarily on best practices but targeted *post* service training (Auld, Romaniello, Heimendinger, Hambidge, & Hambidge 1999, Burak 2002, Cameron 1991, Davis, Jelsma, & VanValey 1985, Everett, Price, Telljohann, & Durgin 1996, Gates, McDonald, & Dalton 1994, Gingiss & Hamilton 1989, Patterson, Cinelli, Sankaran, Brey, & Nye 1996, Perry-Casler, Price, Telljohann, & Chesney 1997, Pigg, Bailey, Seffrin, Torabi, & Lave 1985, Reynolds 1995, Telljohann, Everett, Durgin & Price 1996, Thackeray, Neiger,Bartle, Hill, & Barnes 2002, Tricker & Davis 1988, and Wiley 1993). Post-instructional evaluation generally documents training or curricular implementation with practicing classroom teachers. This investigation seeks to ascertain and clarify the elementary major's/novice elementary teacher's perceived influence of the preservice teacher training

experience on teaching attitudes and intent regarding health instruction and what if any relationship exists between that experience, the program content and their attitudes and intent to teach health. Prior research in the area of elementary school health education points to novice teacher perceptions' regarding their teacher preparation in health education as a most powerful predictor of teaching intent.

Background

It was not until the 1920's that health education became formally recognized as a separate educational area. By 1992, 32 states provided endorsement or add-on teaching certification for health education but only 17 provided a statewide knowledge test for health. Many states still only appreciate health education as a response to a health emergency rather than ongoing, active prevention through early education. Today, most states support (but fail to require) some type of statewide testing on health education for elementary teaching certification. In itself, this necessitates the inclusion of a teaching methods course in health education. Conflicting messages prevail in the debate; while many teacher preparation programs began removing health courses from teacher education graduation requirements in the early 90's, several states responded to the Healthy Goals 2000 report by mandating it in their teacher certification requirements (Bennett & Peel, 1994).

The transition in school health education from the early 1900's courses in hygiene and basic growth and development to the late 1990's mission to reduce and prevent risky health behaviors required a responsive approach from teacher preparation programs to include and *require* appropriate health education (Luebke & Bohnenblust 1994). Research has shown that teachers with limited preparation and training are least likely to present or address highly controversial health education issues. They frequently and more readily accept packaged

curricula with little to no understanding of key components or quality evaluation measures. Ignorance of the underlying health principles, instructional continuity, and curricular integrity toward accurate health education curriculum indicates an illiteracy of overall health principles, child health issues, and current discoveries in the literature. It is crucial that teachers receive adequate instruction on the foundations of health content and education through required preservice experience, so that opportunities for later post-certification workshops appeal to their desire to review and update health information (Gingiss & Basen-Engquist 1994). Research shows that the most successful and beneficial education efforts regarding health promotion/disease prevention are interactive/experiential; yet these are also the most difficult to implement in the classroom setting and unfortunately, least used by inexperienced teachers. Feelings of discomfort caused by a lack of basic health knowledge and instructional skill is the primary reason noted by teachers who avoided experiential teaching applications such as: brainstorming, student presentations, role-playing, group discussions, event simulations, problem-solving exercises, peer instruction, peer tutoring, peer mediation, peer leadership, cross-age mentoring, cooperative learning, and youth service activities (Allensworth 1993, Haignere, Culhane, Balsley, & Legos, 1996). Whether topics/issues seem controversial, politically risky, time consuming, or out of the realm of one's teaching responsibility, elementary educators report *extreme discomfort* as the primary reason they avoid health instruction. Lack of familiarity with strategies promoting: parental involvement, knowledge of consequences, issue advocacy, public commitment, peer leadership, refusal skills, and self-esteem are all listed as responsibilities creating great discomfort for teachers. Yet, these are foundational mechanisms for the successful presentation of health education issues. This provides insight, helping explain why many teachers, untrained in health education, avoid the subject entirely (Hill, Piper, & King 1993).

The Centers for Disease Control and Prevention (CDC) and the Division of Adolescent and School Health (DASH) funded a collaborative study that examined the integration of health education into teacher preparation programs. Findings from this study suggested that teaching strategies implemented by teacher-trainers were important determinants for later utilization by classroom teachers (Lovato & Rybar 1995). A 1994 study found that teachers trained through live workshops incorporating classroom participation, successfully integrated more of the suggested teaching strategies into classroom situations while adhering to curricular integrity. The confidence to present health topics using complex or unfamiliar skills coincided with the comfort gained through rehearsals occurring during live training situations (Basen-Engquist, O'Hara-Tompkins, Lovato, Lewis, Parcel, & Gingiss 1994).

Along with health instruction, elementary classroom teachers are charged with identifying students who may be experiencing health problems or emotional difficulties. For example, all fifty states carry mandates requiring teachers to report incidences of suspected child abuse or neglect. To watch for and identify signs of depression, stress or coping difficulties, learning problems, eating disorders, vision, hearing, or growth abnormalities, and communicable diseases is also part of their job. They must also provide prevention information regarding emerging health concerns such as contagious diseases such as Human Immuno-deficiency Virus (HIV), violent interactions, acts of sexual harassment, and indicators of gang affiliation – these are only a few of their other health-specific responsibilities (Wood, 1996).

For health education to prompt a positive behavior change, schools must guarantee that students receive a minimum of 50 hours of quality health instruction per year. Currently, 26 states require elementary teachers to complete preservice health education course-work to qualify for elementary certification. Only nine of those 26 require the completion of a health

education methods and resources course prior to certification. Only 12 states include health education within their public school K-12 standardized testing. The obvious omission from required statewide/standardized tests reinforces the de-valuing of health education, encouraging elementary educators to afford it little-to-no time in their elementary classrooms (Telljohann et al. 1996). In a 1990 survey of 286 elementary classroom teachers from Texas, over 40% indicated never taking a formal health education course during their teacher preparation program and less than 27% reported ever having pursued continuing *health* education by attending an instructional workshop, once licensed. Thirty-one percent described feeling inadequately prepared by their teacher preparation programs to teach health education in the classroom setting. An important outcome of that study: once teachers become certified, they rarely, if ever, attempt to upgrade their teaching skills in health education (Wiley 1993). A 1995-96 study targeted five health components and 55 sub-areas of health for investigation. One-hundred elementary teacher-candidates in California were surveyed on beliefs and preferences regarding their preservice health education training experience. Respondents identified 53 of the 55 instructional areas of health education as "important" to "essential" to the overall success of their preservice training (Wood, 1996). This research again indicates a strong relationship between teacher confidence to incorporate health education into the classroom setting and the completion of prerequisites in health education prior to graduation/teaching certification. According to Luebke & Bohnenblust (1994), tomorrow's teachers must be prepared to design innovative, outcome-based learning experiences that integrate student-learning strategies based on their awareness of factual, quality health education curricula. Recognizing that health behaviors established during early childhood influence the status of one's later adult health, it is critically important to provide

a strong health education focus that is integrated throughout the elementary education program (Patterson et al., 1996).

STATEMENT OF THE PROBLEM

The focus of this study is to clarify the impact of programmatic training influences on the attitudes and behavioral intent of preservice elementary educators to teach health education. This study will design, implement, and evaluate a survey instrument that addresses this problem. The instrument will target preservice program content variables specific to health education and their relationship to teaching intent. The point is to determine which if any institutional factors influence attitudes and intent to teach health. The majority of schools across the nation expect elementary classroom teachers to teach health while institutions of higher learning often limit the requisite training critical for accomplishing this task. The training dedicated to health education is diverse between preparatory programs, and little is known about its impact on teacher attitudes or intention. This instrument offers a means to gather information on the relationship between the learning experiences of preservice teachers and the likelihood that they will teach health in the future. This investigation focuses on self-described comparisons of preservice training preparedness between intention and each of the following:

- exposure to health and wellness principles
- exposure to current health issues critical to elementary children
- exposure to comprehensive health content that includes instructional scope and sequence;
- exposure to modeled experiential/applied teaching strategies;
- exposure to the rehearsal of experiential/applied teaching strategies; and
- exposure to the Coordinated School Health Programming Model.

Purpose of the Study

The purpose of this study is to assess the perceived influence of the preservice elementary teacher training experience on the potential delivery of health instruction in the elementary classroom. An examination of the data will help determine the level of instructional commitment of teacher candidates and novice teachers in the field regardless of training, by assessing programmatic influences on preparation to teach health. Training limitations suggested by previous research may include insufficiencies in: programmatic health education course requirements, inadequate course offerings in health teaching methods and content, inexperienced/uninspiring instructors, and/or program flexibility that restricts elective learning opportunities. A combined influence of these limitations tends to weaken the resolve of preservice teachers to pursue non-compulsory training, to understand relevant, timely, and accurate health information, and to overcome confusion regarding conflicting, distorted health information when its academic value is not reflected in their preservice training. One measure for predicting future implementation and integration of health education is the intent to pursue and utilize health information, innovative resources, and creative teaching strategies in the future.

RESEARCH QUESTIONS

To gain insight into the attitudes regarding and intentions toward health of teacher candidates and novice teachers of elementary children, the following research questions will be investigated:

RQ1: How does a preservice training requirement in health education influence the behavioral intent of elementary candidates and novice teachers toward health education?

Null Hypothesis: There is no significant difference in behavioral intent scores toward health education when comparing the levels of behavioral intent (attitude, subjective norms, and

perceived behavioral control) (dependent variable) after completion of a required health course (factor of independent variable).

RQ2: How does an institutional factor like a *course content requirement* in health education influence behavioral intent toward health instruction?

Null Hypothesis: There is no significant difference in intention scores when comparing training on specific course content.

RQ3: How does an institutional factor like a *course content requirement* in health education influence attitude toward health instruction?

Null Hypothesis: There is no significant difference in attitudinal scores when comparing training on specific course content.

RQ4: To what extent is an institutional factor like the curricular content of a health education course associated with the value held for health education?

Null Hypothesis: There is no significant relationship between training on curricular content (course components) and value for health education.

In addition to the prior research questions, this study will examine in descriptive fashion, the following question:

RQ5 - Descriptive: What, if any relationship exists between levels of behavioral intent for health education (attitude, subjective norms, and perceived behavioral control) and measures of personal health (health status and physical activity)?

Null Hypothesis: There is no significant relationship between the levels of behavioral intent and measures of personal health.

- Correlations will be performed between *attitude* and: the principles of health and wellness; current health issues critical to elementary children; comprehensive health

content; the CDC's 6 critical risk areas (tobacco use, alcohol and other drug use, injury, inactivity, poor dietary choices, and risky sexual behaviors); health education scope and sequence; the modeling of experiential/applied teaching strategies; the rehearsal of experiential/applied teaching strategies; and coordinated school health programming.

- Correlations will be performed between *intent* and: the principles of health and wellness; current health issues critical to elementary children; comprehensive health content; the CDC's 6 critical risk areas (tobacco use, alcohol and other drug use, injury, inactivity, poor dietary choices, and risky sexual behaviors); health education scope and sequence; the modeling of experiential/applied teaching strategies; the rehearsal of experiential/applied teaching strategies; and coordinated school health programming.

Additional Null Hypotheses

- There will be no significant differences in attitudinal scores between groups based on (a) age, (b) gender, or c) professional status.

JUSTIFICATION

This research is important as it could provide critical evidence to decision-makers in a number of scenarios. First, given the wealth of data tying health to academic achievement, this results of this study could contribute to the data supporting the improved health status of children. Local school boards and/or local school administrators could use the results of this study to guide local practice in determining curricular requirements for elementary children. In essence, local school districts could schedule health education instruction as an element of "local school control" without waiting for curricular mandates from state legislators or boards of education. In so much as the primary purpose of education is the academic performance of students, many school administrators would embrace any program that could collaboratively improve the health

status of children. Employing elementary teachers with a prescribed background in health education facilitates formal initiatives that include health education as part of the basic elementary school curriculum. Emphasis should target the delivery of formal health education instruction to students, rather than spotlight serendipitous moments that have often driven the instruction of health education for elementary school children.

Second, findings from this study could provide valuable information to policy-makers who set teacher certification standards. Whether for national and/or state level standards, updated information could lead to changes in teacher-training protocols. Concomitantly, any changes in teacher certification standards would have a direct impact on university teacher preparation coordinators as they update existing or develop new health education courses to meet new certification standards that support an increase in the amount and quality of the classroom health education experience.

Findings from this study could influence preservice elementary teacher education programs to invest a significant amount of the limited (2-3 hour) course time on affective, experiential learning applications over that of content knowledge. Potentially, program requirements might specify one course focusing on the development of content knowledge while another might be dedicated to the application and rehearsal of strategies that target attitude. Accredited teacher training programs are somewhat uniform in their design and delivery, yet novice teachers may not use the information and skills on which they have been trained. It would be helpful for instructors-of-teachers to discover which factors within programs are most influential. With this discovery, programs could invest more time and energy integrating those areas.

Third, the research found that positive perceptions toward health education were tied to its implementation. In order to change and improve the delivery of elementary classroom health instruction, a clearer understanding of teachers' attitudes and intention must be achieved. To clarify teacher perceptions regarding health instruction, an assessment of perceived influences must also occur. A thorough review of the literature regarding:

- teacher attitudes toward the subject of health education and
    - the teaching of its many sub-topics,
- current instructional practices for health education in elementary classrooms
- foci and strategies of health instruction training for teachers
- limitations of available research on:
    - the characteristics of elementary education preservice training programs to health education
    - the preservice training program's level of influence on elementary teachers' perception of health education, and
    - the perceptions of preservice teachers on the training provided in preparing them to teach health education,

indicates further research is required to predict the health teaching behaviors of prospective elementary educators. Therefore, a key component of this research is the assessment of preservice teachers' attitudes toward their professional teacher preparation experience. Because preservice training offers one of the greatest opportunities to influence future teaching behaviors, this assessment will focus heavily on the characteristics of and experiences provided within that training.

If people believe an issue important, they will invest their time and energy on it. America is facing a health crisis of epidemic proportions, which will affect this country at so many levels. The vehicle for changing this problem may lie in educating tomorrow's leaders before unhealthy lifelong behaviors become habits. This might be most easily accomplished through societal education offered during the elementary years.

LIMITATIONS/ASSUMPTIONS/DEFINITIONS

Study Limitations

The study will be limited by the following criteria:

- Results will be generalizable to the population of elementary education majors or graduates from Fairmont State University.
- The inherent unreliability of self-reported data.

Study Delimitations

The study will be delimited by the following criteria:

- Participants must be enrolled in or graduated from Fairmont State University (FSU).
- Participants must be enrolled in or graduated from the elementary education teacher-training program.
- Enrolled participants must hold "Senior" academic ranking.
- Enrolled participants must have completed all preservice coursework prior to the teaching block experience.
- Enrolled participants must be currently enrolled in teaching block or working in their student- teaching field-experience.
- "Graduated" participants must have completed their program of study within the past three years.

Assumptions

The following assumptions will be made regarding the study:

- Participants will complete survey items, which include perceptual measures and demographic information.
- Each participant will complete their own survey, understanding that their responses are anonymous and confidential.
- Respondents will understand the questions, terminology, and format for completing the survey.
- Each respondent will receive access to the survey electronically, in paper format, or may be contacted by phone along with instructions for its completion. If they choose paper format, a postage-paid return envelope will be provided.
- This researcher will make survey findings available to all respondents upon request.

Definition of Terms

Preservice refers to the undergraduate training and experience prior to graduation and employment as a teacher in a classroom setting.

Domains of thought as they apply to learning:

Cognitive involves the acquisition of **knowledge**/facts/information on an intellectual level; how one learns/knows/thinks about and remembers health information through processes of: knowing, comprehending, applying, analyzing, synthesizing, and evaluating (Bloom 1956; Borich 1996).

Affective involves the processing and changing of emotions/feelings/**attitudes**/personal interests/values after the acquisition (acceptance or rejection) of new ideas/information; the level of understanding and the impact of health concepts drive willingness to apply behavioral

modification(s) using processes of: receiving, responding, valuing, organizing, and characterizing (Bloom 1956; Borich 1996).

Psychomotor involves the application of physical **skills**/abilities; requires an accumulation of knowledge and attitudes prior to rehearsal/practice of the behavior/action; refers to the use of cues, readiness to act, imitation/practice, habituated rehearsal, automatic performance (quick, accurate, coordinated), performance modification in adapting to situational variations, and performance creativity to meet the requirements of a specific situation/problem (Simpson 1972).

The long-term goal of health education is the adoption of voluntary (not forced) practice of behaviors conducive to health.

The following components of Ajzen & Fishbein (1980) Theory of Planned Behavior are direct predecessors (reinforcers/prompters/reminders) for "intention" to act:

Attitudes (A) are positive/negative feelings toward health education/information or health instruction, whether perceived to be important/valuable/worthy.

Subjective Norms (SN) are influences of significant/powerful others, perceived to be important/relevant. Behavioral choices made by individuals of perceived influence/importance (principal/coworkers/peers/close friends/parents/professionals/experts) are valued/weighted. Extreme consideration/value is given to the opinions of those individuals regarding health and what to do.

Perceived Behavioral Controls (PBC) are beliefs regarding one's perceptions of control over instructional performance. PBC holds motivational implications over one's intent to teach, by assessing the level of importance or impact of that teaching. PBC considers perceptions on scarcity/availability of opportunities/resources that motivate/interfere with instruction. The influence of past experiences and anticipated or real obstacles/barriers/restrictions make

instruction easier/more difficult. PBC can help predict teaching behavior along with attitude and subjective norms, and of the three factors and independent of intention, may be the most direct predictor of behavior.

Study Variables

Demographics

- Respondent: age; gender; personal health status, and frequency of exercise.
- Program: course completion; and course content.

Dependent Variable(s) – behavioral intent;

Levels of the dependent variable: attitude, subjective norms, perceived behavioral control.

Independent Variable(s) – course requirement, course content, training experience;

Levels of the independent variable: the principles of health and wellness, the current health issues/needs critical to elementary children, comprehensive health content focusing on instructional scope and sequence, the behavioral areas most at risk to health and life as identified by the CDC, opportunities to see and practice experiential and cooperative teaching strategies, and the eight component coordinated school health programming model plus a description of how the model's components complement each other when implemented in the school setting.

Chapter 2

THE LITERATURE REVIEW

Introduction

Second only to their parents and immediate family, teachers influence and contact with America's youth is unparalleled. The general attitudes and behaviors of teachers continue to be powerful influences on their students, as are those specifically related to health. Elementary educators have a unique opportunity to become potent social inoculators promoting healthy lifelong choices by guiding children through their formative years of behavioral and attitudinal development. From this perspective, investigations might target one of many foci regarding the trainee/novice educator. One such focus examines teacher perceptions regarding health education as a learning component within the diverse spectrum of professional teaching responsibilities of the elementary curriculum.

This study's focus will examine attitudes and perceptions regarding health education of individuals classified as "preservice" (in teacher training) or "novice" (experientially teaching in elementary classrooms) in an effort to determine the likelihood that the training experience promotes their delivery of quality health instruction once they enter the classroom. In order to delineate research specific to this investigation, this literature review examines significant studies from the last 50 years that are responsible for steering the course of school health. Pertinent research from the last 25 years will be classified into the following three categories: Teaching Practice in Health Education; Educator Attitudes Regarding Health Education; and The Training of Elementary Educators in Health Education.

Teaching Practice in Health Education

Teaching practice in health education in the elementary classroom will be the focus of this section. The description of health instruction in the elementary classroom comes from an

overview of investigative findings occurring over the last fifty years. A discussion regarding these studies' influence on current instructional practice is included.

Discussions on the effective delivery of health instruction have been ongoing since the early 1900's. The debate on acceptable standards and requirements ranged from 5 minutes-a-day to 75 minutes-a-week and from one to 5 periods a week (Means 1975) with little consistency or agreement between states or within the educational curriculum. Continued limitations in research have impeded our clear understanding of classroom teaching practice in health education. Within the last 50 years, only three major initiatives have targeted the assessment of current teaching practice and/or the promotion/delivery of health instruction on a grand scale.

The School Health Education Study (SHES) occurred in the early 1960's and was the first major endeavor to determine and define the type and amount of health instruction taking place in schools. This privately funded project attempted to collect data on school health at a national level. Responses came from 1460 schools (1101, elementary), 135 school systems, and 38 states. Findings were deemed educationally and professionally "appalling" yet crucial in transforming the practice of health education in America's schools. Health instruction evolved from "crisis/disease-of-the moment" presentations to one specifically defined by 10 key health concepts that teachers addressed through physical, mental, and social dimensions (Sliepcevich, 1964). Results advanced the discipline of health education from a delivery of "disease-specific" informational units to a "concept-based" approach that ultimately evolved into today's "comprehensive, holistic, coordinated" approach.

Secondly, findings from the SHES spearheaded the recruitment and selection of health programs and elementary classroom demonstration sites in the 1980's for what became the School Health Education Evaluation (SHEE). This federally funded venture involved more than

1071 teachers and 30,000 children in 1071 classrooms from 20 states. There was a significant relationship found between effective health instruction and program implementation (measures of cost and time-on-task) and improvements in student knowledge, attitude and self-reported practices. This study proved that health education worked, it worked better when there was more of it, and worked best when highly motivated teachers delivered (at least) foundational health content. Administrative support and promotion of teacher training, health materials integration, and continuity across grades were critical factors for success (Green, Cook, Doster, Fors, Hambleton, Smith, & Walberg 1985). The SHEE's 1985 summary of findings noted the impact of "teacher-choice" on teaching performance. Comparisons between the initial baseline measures for instructional delivery and those occurring one-year after training were remarkable. The control group of teachers was required to implement health curriculum with strict consistency. With these restrictions, they delivered less than 45 hours of instruction over the first year. In the second year, their delivery decreased by time, percent of units covered, and curricular fidelity. Using matched curricula, the experimental group was encouraged to incorporate personal adaptations and modifications. Given this liberty, the experimental group averaged almost 53 hours of instruction in year one, then increased their time-on-task in year two. In this case, teacher attitude and curricular flexibility were influential factors for teaching practice, both proving beneficial for student exposure (Connell, Turner, and Mason, 1985).

Thirdly, throughout the early 1990's, the U.S. Department of Education funded individual demonstration projects across the country based on SHEE findings related to training and curricular implementation. These projects were designed to assess and improve the delivery of health instruction in America's elementary classrooms. Data from fifty-one states (100% responded), 502 districts (413 responded, 82%), 766 schools (607 responded, 79%), and the

classroom and teaching practices of 1650 randomly selected middle/junior and senior high level teachers was collected, analyzed (1040 responded, 63%) and published under the School Health Programs and Policies Study (SHPPS). Findings noted the common, nationwide difficulty of identifying elementary teachers who felt responsible for delivering health instruction (Collins, Small, Kann, Pateman, Gold, and Kolbe, 1995).

In 1992, a Joint Committee of the two leading professional health educator organizations, the American Alliance of Health Educators (AAHE) and the American School Health Association (ASHA), reported that although there was a push to make comprehensive school health education a national priority in the 1980's, very little had changed for K-12 grade students. By 1993, recommendations from both the SHEE and the ASHA found health education to be sub-par at the elementary level. Only five states required more than the 50 *recommended* hours at the elementary level, 11 designated/allocated specific elementary time for health education, 13 combined it with physical education, and 32 required a "sometime during the K-12 experience" provision for health education (Allensworth 1993).

Delivery of health instruction content was often found to be scattered in pieces throughout the school curriculum, within various courses (i.e. religion, Bible studies, home economics, social studies, life sciences, and languages), rather than delivered through a course dedicated solely to health education. Information gathered on teaching practice at the elementary level was very discouraging: only 9.8% of states and 18.7% of districts required the delivery of a separate course in health education; 5.9% of states required health education certification for elementary educators but only 5.4% of all elementary educators currently teaching classroom health had majored in health education. Findings continued to indicate a greater likelihood that those trained in school health education would teach it and spend more time on each health topic

than would "infused-health educators" (a self-classification made by teachers). Teachers trained in health education more frequently utilized a diverse repertoire of teaching applications and resources as well as those known to be most effective in health education instruction (i.e. lecture, large and small group discussion, seatwork, cooperative, experiential, and problems-based activities, the world-wide web and audio-visual materials) when compared to general classroom teachers, untrained as health educators. Lack of teacher preparation and continued reliance on "on-the-job training" for school health instruction were suggested explanations for many problematic or failed program/curricular implementations (Collins et al, 1995, Kann, Collins, Pateman, Small, Ross, and Kolbe, 1995).

In 2001, a meta-analysis was performed on updated results from the Centers for Disease Control and Prevention's SHPPS regarding state, and district level requirements, policies, standards, guidelines, evaluations, collaboration, staffing, and professional preparation. Student, curricular, and instructional assessments occurred at the classroom level. Throughout the country, K-12 grade teachers of health education completed these classroom level surveys. Fifty-one state level agencies responded, samples from 741 districts (497 responded, 67%), 1321 schools (920 responded, 70%), and 1706 classrooms (1534 responded, 90%) provided inferential data on health instruction occurring throughout the nation's schools.

For health education it was discovered that:

- 80.4% of states required elementary health instruction; 86.1% of districts required elementary schools to teach SOME health education
- 55.1% of states provided a list of health curricula; 39.2% of districts provided a list of *recommended* health curricula

- 53.1% of states provided a health education scope and sequence chart while only 42.2% of districts did.
- 51% of states provided health education lesson plans and learning activities while only 52.7% districts did.
- 44% of states provided plans for student assessment/evaluation in health education while only 38.7% of districts did.
- 42.9% of states actually provided health education curricula while only 57.4% of districts did.

For elementary health education it was discovered that:

- 21.6% of state agencies had developed their own health education curricula while 60% of districts had.
- Only 15.7% of all states required testing in health education of elementary students.

At the elementary level, it was discovered that:

- 32.7% of schools required health instruction at the kindergarten level, which increased to 44.1% by grade five.
- 58.1% of elementary schools reported providing 450 minutes of health education per grade/per year.
- 42.8% of elementary schools reported providing 900 minutes of health education per grade/per year.
- 19.5% of elementary schools reported providing 1800 minutes of health education per grade/per year.
- 5.2% of elementary schools reported providing 3600 minutes of health education per grade/per year.

- 3.8% of elementary schools used health education specialists to teach required health education.
- 1.7% of elementary schools used physical education specialists to teach required health education.
- 24% of elementary schools used regular classroom teachers to teach required health education.

Elementary schools generally allowed their teachers to set up a unit in health education rather than required its delivery through a structured health education course. Although 50 hours were recommended, only twenty-seven hours-per-year were dedicated to health instruction at the elementary level. As previously stated in their 1990 definition of health education, the CDC re-affirmed their recommendations of 40-50 instructional hours and its delivery by specially trained educators in health (Kann, Brener and Allensworth, 2001).

Although states expect preservice training programs to produce elementary generalists who are well prepared and will teach health in their classrooms, only one-third reported having any previous teacher preparation in health education; 80% were not currently required to teach health; 7% were prohibited from teaching health; and over 57% utilized an on-site health educator working in their school/district. Respondents working with an on-site health educator reported offering health once-a-week-or-less. Fifty-six percent of the respondents had not taught health education in the past year (Burak, 2002).

Another study involving 31 teachers assigned to teach health and enrolled in a graduate-level comprehensive health education workshop, discovered that untrained, non-health teaching specialists were less effective health educators when it became their responsibility in additional to their primary academic area. They conveyed less health information and were distracted from

and less aware of the real health concerns of their students than were trained health education specialists. Those scoring highest in the delivery of health instruction taught it separately rather than integrating it within other courses (Jiaja-Rusth, Kingery, Holcomb, Pruitt, and Buckner, 1992).

A 2002 study examined the experiences of elementary school teachers in order to identify perceived barriers and enablers in delivering classroom health-instruction. One-hundred-seven elementary classroom educators from 31 schools responded; none were trained health education specialists. Fifty-one participated in focus groups and 56 participated in one-on-one interviews. The one-on-one interviews generated a list of categories, themes, teaching patterns, and coding data. Three themes emerged: 1) existing policies and instructional guidelines, 2) teaching preferences, and 3) time restrictions. Findings from theme #1: all academic subjects were important but reading received the primary educational push; there was insufficient time to cover "extra" subjects (such as health, art, music, etc.) beyond the core school curriculum; and end-of-level "tested" subjects commanded nearly all instructional energy. From theme #2: their personal interests and perceived importance/value for health education did not necessarily equal their instructional delivery; they preferred integrated over segregated delivery and wanted to improve their ability to integrate health information throughout the curricula. From theme #3: they felt a professional responsibility to teach diverse content beyond the basic/core curriculum, but lacked the health related materials/resources and resented the additional time this required; they felt it too expensive to replace consumable resources, and believed outdated textbooks were the norm.

Researchers discovered a cognitive disconnect in teachers understanding regarding the achievement of student's overall health and improved academic outcomes. Teachers identified "lack of time" as the primary barrier to the delivery of classroom health instruction, These

researchers noted however, that if/when teachers could find another trained health professional to assume this teaching responsibility, time was found. They rarely taught health independently. Many admitted confusion and discomfort regarding its integration. Teachers were generally "reactionary" health disseminators, investing little energy on primary prevention and no vision regarding overall student health (Thackeray, Neiger, Bartle, Hill, and Barnes, 2002).

Table I refers to twenty-three published studies associated with the practice of teaching in health education. Of twenty-three studies, two specifically target the impact of preservice training on classroom teaching collecting this data from 287 practicing classroom teachers and 84 programs of study. Six of the twenty-three studies provided information on the instructional delivery of health reported at the state and national levels. The remaining thirteen studies generally focused on classroom teachers' self-reported (rather than observed) behaviors. Since 2000, only six studies have focused on the practice of health instruction. The most recent study (Vamos and Zhou, 2009) collected data from 14 preservice respondents and 16 practicing teachers. A fifteen-year lapse separated that study and its predecessor (Cleary and Groer, 1994); these two are the only investigations published in the last 25 years involving preservice teachers. The 2001 SHPPS study provided a collection of information regarding health instruction occurring at the state, district, and campus levels. None however, addressed the impact of the preservice training experience on their teaching practice – one of the primary questions for this investigation.

Summary

A major limitation of the existing research focusing on the practice of classroom health instruction is the general collection of self-reported data rather than observed instruction. Then

again, the impetus for data collection has often been the determination of post-training application regarding a specific curricula or strategy. Currently, there is no mechanism in place to ascertain the annual delivery of health instruction by grade, by school, or by state. Over the last 50 years, investigations have repeatedly taught us that there is a need for more and improved instruction and there exist expansive limitations in its delivery.

Table I: Research/Studies on Teaching Practice

Date	Researcher	# participants	Pre-service teachers	Practicing teachers	other	Variables	Statistics, F/P values
2009	Vamos & Zhou	14 / 16	X	X		Participation in school health initiatives	Findings reported in narrative form; no p values
2003	Lytle, Ward, Nader, Pedersen, & Williston	96		X		Participation in a school health initiative	Findings reported in narrative form; no p values
2002	Burak	181		X		Instructional delivery of H	p<.01
2002	Hahn, Noland, Rayens, & Christie	45		X		Training, attitude, teaching	Findings reported in %; 80% taught with 72% curricular fidelity
2002	Seabert, Pigg, Weiler, Behar-Horenstein, Miller, & Varnes	287		X		Preservice affect on elem. teaching	Combined H/PE methods p=1.000 H methods only p=.281 Separate H + PE methods p=.001
2001	Kann, Brener, & Allensworth	50			X	SHPPS - state, district & school delivery of H	Findings reported only by %
1999	Auld, Romaniello, Heimendinger, Hambridge, & Hambridge	19		X		determine attitudes regarding H curricula	p<.001
1999	Grant-Petersson, Dietrich, Sox, Winchell, & Stevens	24			X	Campus-wide faculty knowledge and attitudes re: health curriculum	P values for 13 items (<.55 to .001)
1999	McKay & Barrett	84			X	Preservice training program components	Findings reported by % in narrative

1999	Pateman, Grunbaum, & Kann	50 states; 413 districts; 607 schools; 1040 teachers			X	SHPPS - state, district & school comparisons re: H instruction	Results provided in narrative form; no p values or %
1996	Patterson, Cinelli, Sankaran, Brey, & Nye	79		X		Competency, responsibility for instruction	p=.05
1995	Collins, Small, Kann, Pateman, Gold, & Kolbe	50			X	National rpt of state level occurrence of H instruction	Findings reported # and %
1995	Page, Marten, & Follett	197		X		Level of instruction on specific health topics	No p values; reported only % for health topic and sub-topics
1994	Gingiss & Basen-Engquist	269		X		Status of H instruction	28 p values/areas of evaluation (.04 to .001)
1994	Cleary & Groer	19	X	X		Making decisions during instruction	P values for 20 measures ranging p<.05 to p< .001
1993	Allensworth	50			X	Compares goals to reality re: elementary H instruction	Findings reported by # in narrative; no p values
1993	Butler	56			X	Barriers to curricular implementation	Lack of adequately prepared teachers most problematic F=11.07;df 5; p=.05
1993	Smith, McCormick, Steckler, & McLeroy	136		X		Implementing varied types (3) of health curricula	Year one – year two With training p=.13 - p=.93 With help p=.01 - p=.42 Administration p=.03 – p=.48

							Separately p=.45 - p=.14 Format p=.48 - p=.43 District size p=.23 - p=.78 Condition p=.16 - p=.89
1993	Wiley	286		X		Instructor backgrounds, practices, attitudes	Findings reported % responding; no p values
1992	Jibaja-Rusth, Kingery, Holcomb, Pruitt, & Buckner	31		X		Differences in H instruction between H specialists vs. non H specialists	p<.05; p< .05; p<.001; p<.01
1991	Cameron	85		X		Impact of training on instruction	F= 3.23, df 2,38, p=.05
1985	Connell, Turner, & Mason	20/1071		X	X	National rpt on teacher knowledge, attitude practice regarding specific health curricula by state	Findings reported in %; no p values
1985	Fors & Doster	1071		X		Teaching practice, curricular fidelity by state	Findings reported in %; completed training= 80%; partial training=70%; no training=60%
1984	Folio, Elliott, Baker, & Hott	85		X		Instructional delivery	F=14.81, p=.0001

Educator Attitudes Regarding Health Education

An account of educator perceptions regarding health education and its instruction is the focus of this section. Investigative findings from studies occurring over the past twenty-five years on instructor attitudes and perceptions regarding health and their impact on teacher training, the integration and innovation in teaching applications and the status of elementary school health instruction is included.

Research has shown that training effectively influences the traits, attitudes and behaviors of prospective teachers in many academic areas, but the influential degree of the preservice training experience regarding elementary school health is relatively unknown because evaluation opportunities and consistency throughout preservice programs are lacking. Health is an area that often targets sensitive discussions on sometimes-controversial topics. Since our environment and prevailing social conditions shape our attitudes and values over time, it is difficult to believe that the limited-to-short trainings generally utilized for health education could be truly effective. Most teachers believe that health education is an important subject but report giving it less attention when compared to subjects included on standardized tests. Higher education's preservice training programs tend to mirror society's inattentive, often erratic pursuit of or consideration for health. Therefore, training design in this area must affect positive changes in teaching behavior rather than simply inform. Successful trainings that incorporate practical, experiential activities in health education more often result in positive changes in teacher's health attitudes and behaviors (Lawrenz, 1984, Hedrick 1999).

Efforts to influence teacher attitudes regarding health were addressed by Carter and Frankel (1983). Their investigation sought to first clarify the attitudes and perceptions of 85 teacher trainees in order to predict their level of willingness to utilize experiential health

materials. The personal views of trainees ranging from conservative to liberal, tended to affect their acceptance of information and methods deemed "controversial". The attitude of the in-service instructor profoundly influenced participating trainees' type and degree of attitude toward the health topic. It is important to note that "exposure to instruction" increased their knowledge but participants identified "instructor attitude" as *critical* for curricular adoption.

Elementary teachers often report feeling over-burdened with the numerous tasks that characterize their rigorous daily teaching schedule. Novice teachers describe feeling pressured to focus their time on subjects included on standardized tests. As for health instruction, they invest their energy where they see the greatest results often using student involvement and interest/enthusiasm to evaluate their teaching success rather than measures of students' actual learning, attitudinal change, or behavioral application (Lawrenz 1984, Thackeray et al 2002, Wiley 2002). Non-specialized teachers regularly report feeling overwhelmed and ill equipped to teach health because they lack adequate preservice training. They define "feeling unable to teach" as being uncomfortable with some of the topics, and unprepared to respond to students' questions regarding personal health issues (Myers-Clack and Christopher, 2001). Health education training facilitates the development of positive attitudes toward its delivery while helping to increase educators' confidence in their abilities to teach it (Meyer, 1982).

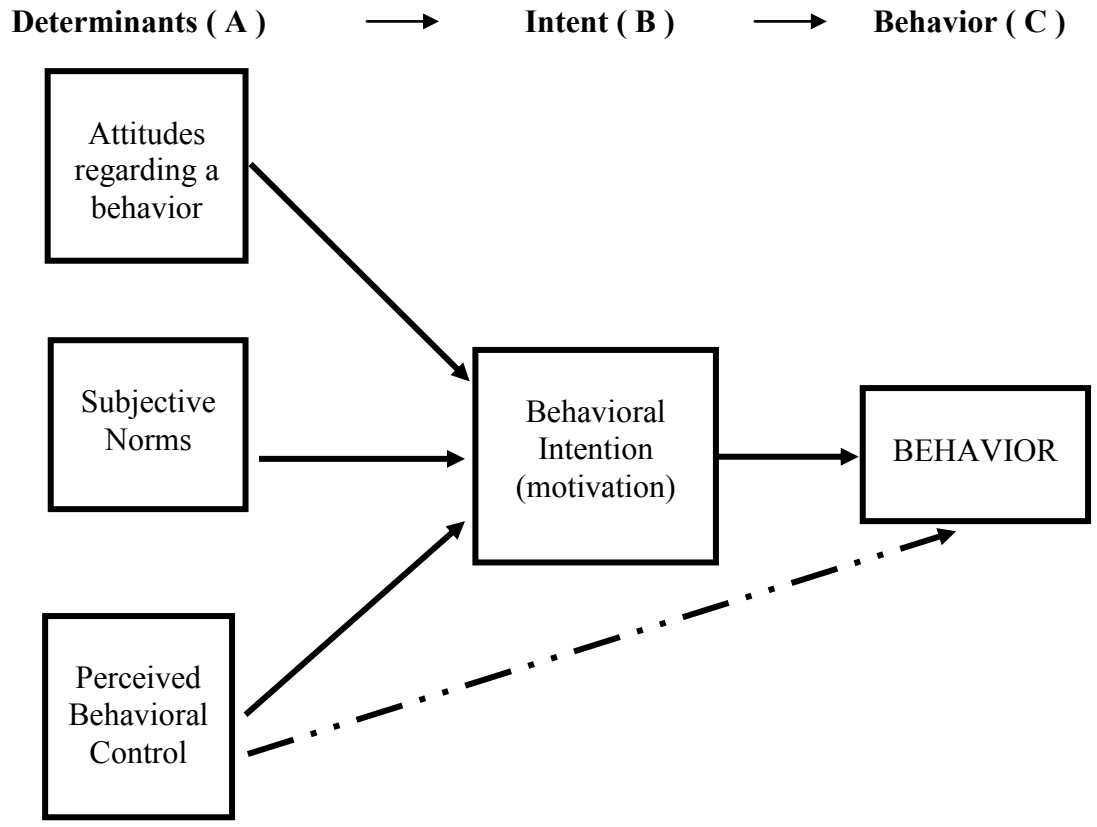
The elementary years are a critical period for attitudinal development in children, a time when youth are most impressionable, often positioning and accepting their teachers as role models. Because negative bias tends to reinforce rigid behaviors and restrict personal growth and creativity, the development of an enlightened teacher/role model can positively influence children by dispelling myths instead of reinforcing them (i.e. negative comments such as racial slurs or other derogatory comments). One study involving 95 undergraduate elementary

education majors examined issues of bias and prejudice related to sexual orientation. Consequently, the discovery of teacher trainees' positive or negative attitudes in this area was invaluable for teacher trainers (Butler and Byrne, 1992).

One's intent to teach health is influenced by attitudes (supportive and oppositional), subjective norms (influential individuals) and perceived behavioral controls (one's perception of interest and value for health, preparedness and professional responsibility to teach health, and confidence, ability and comfort regarding health applications) (Fishbein and Ajzen 1975, Ajzen and Madden 1986, Burak 2002, Ajzen and Fishbein 2005). The need to better understand teachers' perceptions regarding health education was discovered after a review of the literature revealed that the majority of existing research focused and was often limited to determining correlations between content knowledge in health and teaching practice. Evaluators often ignore the assessment of attitudes toward using materials and the training experience because of difficulty of the task. Research using the "Theory of Planned Behavior" points toward a clarification of one's *perceived behavioral controls* (perceptions of interest, value, preparedness, responsibility, confidence, ability, and comfort) as most revealing in identifying factors that positively influence an educators' intent to successfully deliver health education in the elementary classroom (refer to Figure 1).

Figure 1. Model for the Theory of Planned Behavior

Ajzen and Madden's 1986 "Theory of Planned Behavior" (TPB), which is an extension of Fishbein and Ajzen's 1975 Theory of Reasoned Action (TRA), provides an excellent model for predicting the intent/future teaching behaviors of preservice teachers. The TPB focuses primarily on the performance of behaviors or actions that are under voluntary and involuntary control. Behavior (C) is directly determined by intention (B); determinants of intention (A) are influences of behavior and include: attitudes toward the behavior, subjective norms/interest in what others think about the behavior, and perceived behavioral control regarding the behavior. "Attitudes + Subjective Norms + Perceived Behavioral Control > Intentions > Behavior" however research finds PBC to be the most influential determinant of the three.



To predict the impact of training on participants "intent to teach health," Burak assessed 181 elementary K-6 classroom teachers enrolled in a graduate level research and methods course on health teaching practices and preparedness. Attitudes, subjective norms, and perceived behavioral controls toward health education were examined using Azjen and Fishbein's *Theory of Planned Behavior* (Ajzen and Fishbein 1980) (refer to Figure 1). The passage of time often affords elementary teachers moments of revelation regarding their preservice training experience. Unfortunately, socialization into the school's academic routine often results in conformity toward a comfortable fit regarding their limited capabilities. A report from the Centers for Disease Control and Prevention regarding school health (Kann, Brener, and Allensworth, 2001) affirmed the long-held belief that the early childhood years are critical for establishing positive health attitudes. Resulting positive behaviors, once established, are then more resistant to change in later life. Because elementary health education is such an important instructional need for young children, its delivery must not continue to fall to individuals so often ill prepared, so overloaded, and less interested in its success.

Table II refers to the thirty-seven published studies associated with educator attitudes regarding various aspects of health education. Of those thirty-seven studies, only fifteen include preservice teachers and only six of those examine perceived ability, comfort, and confidence, constructs deemed powerful in predicting *intent* and *future teaching behavior.* The six expressly focusing on teachers' perceived abilities examined self-reported measures of comfort, confidence, and skill regarding the use of health materials and particular teaching strategies. The remaining preservice respondent studies targeted various other topics: perceived quality of varied training types; influence of the teacher-trainer's attitude; perceived influence of the training (on preparedness, on eagerness/willingness to teach); impact of a pre-service course on trainees'

perceived value for Health Education; probability that future training will influence teacher attitudes regarding Health Education; influence of topic specific training on trainees' value for Health Education; and attitudes toward a particular Health topic.

Of the thirty-seven attitudinal studies in this area, twenty-two included 3509 practicing teachers in their data collection. Nine of the twenty-two gathered data from 1510 teachers on perceptions of comfort, confidence, ability, and self-efficacy to deliver Health Instruction. The remaining studies targeted perceptions regarding: the certification process for Health Education; impact of training on attitude/intent; teaching barriers/enablers; value for preservice training in Health Education; resentment regarding the expected instruction of Health; teaching concerns; influence of personal backgrounds on Health Instruction; reservations based on controversial health topics; and the impact of teacher attitudes on student attitudes. This investigation could provide information on ways to increase educators' perceptual value for Health Education, a discipline often placed on the fringes of educational curricula. This could dramatically improve its instructional effectiveness especially in individuals with limited training and teaching experience yet responsible for its delivery.

Summary

The void in the existing research focusing on the attitudes of teachers who "are not health education specialists but frequently expected to teach it" (such as elementary teachers) is a major limitation of this study. Teachers often provide input on curricular packages or training experiences but are rarely queried on their perceptions toward health education as a discipline, an "added" teaching responsibility, a valuable investment of instructional time, and/or an area that challenges their ability to effectively present its varied topics. Only 37 studies over twenty-seven years targeted the discovery of teaching attitudes regarding Health Education. Few-to-none

tackled the issue on any comprehensive level. There are currently no assessments in existence designed to gather this information. If pre-service teacher training professionals could discover their students' attitudes toward a particular discipline (such as Health) and/or sub-discipline (such as injury prevention, sexual orientation, or suicide) at the onset of their training, program designers and instructors could emphasize experiential practice to improve their perceived abilities, comfort, and confidence in these areas. Improved "perceived behavioral control" will influence their perceived value and professional teaching responsibility for Health.

Table II: Research/Studies on Educator Attitude

date	Researcher	# participants	Pre-service teachers	Practicing teachers	other	Variables	P/F value
2009	Vamos & Zhou	14 / 16	X	X		Teaching comfort, with knowledge, skill; perceived deficits, curricular adequacy	Findings reported in narrative form; no p values
2007	Vamos	5 / 92		X	X	Teacher influence on student attitudes	Student wellness: $p<.05$
2007	Vamos & Zhou	78 / 166	X	X		Perceptions on H Ed. btwn preservice & practicing teachers	Practicing vs. Preservice: Skill: $F(1,188)=4.87$, $p<.05$ Value: $F(1,211)=59.33$, $p<.001$ Content satisfaction: $F(1,191)=195.77$, $p<.001$
2004	Perez, Luquis & Allison	137		X		Teacher attitude & comfort re: health topics	Investigation to design a valid & reliable survey instrument No p values reported - only correlations
2003	Bernhardt, Videto, Widdall, Chen, Airhihenbuwa & Allegrante	506 / 105		X	X	Perceptions re: professional certification process in H.Educ	Findings primarily reported in %; Individual accreditation status: $p<.05$ Institutional accreditation status: $p<.001$ Faculty support to improve program quality: $p=.22$
2003	King & Snyder	410			X	Perceptions re: impact of high school health education	Perceived impact on knowledge $F(9,400)=1.88$, $p=.05$ Perceived impact on behaviors $F(1,389)=3.98$, $p=.047$

						experience on college students	Perceived course importance F(1,404)=4.05, p=.045 Perceived value to adopt healthy behavior F(10,371)=3.65, p<.001 Perceived effectiveness by # of classes F(9,395)=3.25, p=.001 Perceived effectiveness/grade F(9,380)=2.23, p=.02
2002	Burak	181		X		Using TPB to predict *intent* to teach Health in future	p<.01
2002	Fahlman, Singleton & Kliber	86	X			Impact of H courses on perceived comfort, confidence, ability	38 p values / p<0.05
2002	Hahn, Noland, Rayens, & Christie	45		X		Impact of training on attitude and teaching re: H education	Findings reported in %; 97% trained were involved compared to 78% who failed to complete training (p=.02)
2002	Kandakai & King	905	X			Perceptions re: type of training provided for health	Gender/belief in program: F(7,820)=2.86, p=.006 Level of program training: F(7,763)=4.43, p<.001 Certification level: F(28,2958)=2.42, p<.001 Program effect on sch envir.: F(32,3066)=2.30, p=.022
2002	Thackeray, Neiger, Bartle, Hill, &	107		X		Perceived barriers/enablers re:	None

	Barnes					H instruction	
2001	Birch, Duplaga, Seabert, & Wilbur	199		X		Perceived need/ importance re: preservice training	Findings reported rankings in narrative
2001	Kirchofer, Price, & Telljohann	292		X		Efficacy expectations, outcome expectations, outcome values	F=3.596, df=2,288, p=.02; F=0.843, df=2,288, p=.43; F=1.369, df=2,288, p=.26 t=5.83, p=.001
2001	Myers-Clack & Christopher	119	X			Post training perceptions of value & confidence re: H instruction	28 different p values; p=.012
1999	Auld, Romaniello, Heimendinger, Hambridge, & Hambridge	19		X		Perceptions re: the expected delivery of H education with/without support	p<.001
1999	Butler	154	X			Influence of instructor attitudes on students attitudes	p<.001
1999	Hedrick	142	X			Post training perceptions re: influence of H course on elem. majors value for H education	Findings reported in narrative; No p values
1997	Maney & Cain	170	X			Perceived comfort w health topic	Range 14-90, x=61.9. SD=16, p<.001
1997	Perry-Casler, Price, Telljohann,	505		X		Perceived ability to effectively delivery	F=61.5, SD=10.7, r=.83, p<.001

	& Chesney					H information post training	
1996	Acosta-Deprez & Monroe	150	X			Likelihood that increased training improves teacher attitude toward H education	Findings reported in %; 70% felt unprepared w/out training (no p values)
1996	Everett, Price, Telljohann, & Durgin	150		X		Measures of teaching intent & self efficacy re: H education	F=13, df 1,95; p<.001
1996	Haignere, Culhane, Balsley, & Legos	98		X		Perceived comfort/ confidence to teach H education & use strategies	70% were comfortable; 60% felt confident; p=.007
1996	Wood	77	X			Impact of topic specific training to improve perceived value for H education	Content: F=6.76; p ≤ .01 Strategies: F=4.31; p ≤ .05 Identifying H problems: F=7.32; p ≤ .01
1995	Colwell, Forman, Ballard, & Smith	302			X	Parent opinions re: H instruction	Findings reported % using Likert scale responses
1995	Hausman & Ruzek	100		X		Value, comfort responsibility, re: H education	(p=.0001), 92% felt prepared (p=.008)
1994	Gates, McDonald, & Dalton	824		X		Identify perceived concerns with H topic	p<.001
1994	Kingery, Holcomb, Jibaja-Rusth, Pruitt, & Buckner	31		X		Assess health teaching self-efficacy	11 p values: p=.04; p=.00; p=.04; p=.01; p=.05; p=.00; p=.00; p=.00; p=.046; p=.000; p=.006

1993	Wiley	286		X		Impact of personal backgrounds, practices, & attitudes on H instruction delivery	Findings reported % responding; no p values
1992	Butler & Byrne	95	X			Measure of knowledge & attitude re: H education	r=.2, p<.01
1990	Ballard, White & Glascoff	157	X			Identify/assess attitudes re: H topic	X^2 =12,8, p=.0001
1989	Carter & Lee	30	X			Impact of teacher attitude re: H education on teaching practice	Findings reported in %; Success = teacher planning (68%); failure = student behavior (89%)
1989	Gingiss & Hamilton	47		X		Impact of concerns w/H topic on teaching delivery	Findings reported in %; Value post training = 85%, felt responsible = 89%; felt comfortable = 86%
1989	Levenson-Gingiss & Hamilton	47		X		Impact of training on attitude toward a H curriculum	Responsibility to students p<.001; Comfort teaching p.003; Comfort with material p<.007; Comfort with strategies p<.006; Adequately prepared p<.02; Student involvement p<.001; Student cooperation p<.001; Attitude toward experience p<.006

1989	Levenson-Gingiss & Hamilton	59		X		Impact of training on teaching intent	p<.05
1985	Molnar-Stickles	222	X			Comfort w H topic	F= 2,231, p<.05
1983	Carter & Frankel	95		X		Impact of teacher attitudes re: H topic on student attitudes	p = .05
1982	Meyer	234	X			Impact of training on perceived preparedness to teach H education	p=.01

Training Elementary Educators to Teach Health Education

A discussion of the training of elementary generalists to teach health education in the elementary classroom will be the focus of this section. An examination of research targeting training procedures, health foci, participant perceptions, and post-training resource/curricular implementation over the last twenty-five years is included.

A review of the literature identified the various points of investigation for this study (Cleary and Gobble 1990, Hedrick 1999, Gingiss and Basen-Engquist 1994, Weinstein and Rosen 2003, Basen-Engquist, O'Hara-Tompkins, Lovato, Lewis, Parcel, & Gingiss, 1994, Lovato & Rybar, 1995, Wood, 1996). Some prior research has focused on unique training variables while other studies examined a select group of variables. The majority of research sought to discover information regarding participant knowledge of a specific training topic, a training type, or a curricular focus rather than the perception of best teaching practice experience or value of the information/strategies provided within a training.

The discovery that only 5.9% of all states required certification for elementary educators assigned to teach health education motivated the United States Department of Education to fund many elementary health education demonstration projects throughout the early 1990's. Teacher preparation inadequacies encouraged most projects to include a training component for classroom teachers in school health. Findings from these projects motivated a nationwide collection of data that became the 1994 SHPPS. This report failed to include a data collection on existing undergraduate training requirements for elementary health education. It was determined that 98% of states and almost 87% of districts provided health education in-service trainings to classroom teachers but often limited them to specific health topics (i.e. the prevention of HIV or

alcohol-and-other-drug-use prevention) rather than comprehensive-health-education instruction including the fourteen topical areas (Collins, Small, Kann, Pateman, Gold, and Kolbe 1995).

When the SHPPS was repeated in 2000 it was discovered that health instruction qualifications for elementary teaching staff were far less rigorous than for middle and high school. Less than one third (30.4%) of states required newly hired elementary classroom teachers who taught health education to have undergraduate or graduate level training in the field while 33.9% of districts did. Of the elementary schools requiring health, 3.8% would only allow health education specialists to teach it while 1.7% would only allow physical education specialists to teach it. Interestingly, elementary generalists were the only teachers to teach required health in 24% of schools. Encouragingly, 47.4% of elementary schools hiring new elementary generalists were requiring them to have completed *some* undergraduate or graduate level training in health, a figure from which to start (Kann Brener and Allensworth 2001).

As recently as 2002, one study found that most participating elementary classroom teachers had little-to-no preservice health education training and once employed had sought little-to-no post certification training (Thackeray et al 2002).

By the third SHPPS (2006) it was discovered that 34% of all states (up from 30.4%) and 33.7% of all school districts (down from 33.9%) had written and adopted policy requiring undergraduate or graduate level training in health education prior to hiring at the elementary level. At the school level only 35.5% required this prior to hiring (down from 47.4% in 2000). (Kann, Telljohann and Wooley 2007).

Program variations from state-to-state and institution-to-institution in the elementary health education preparation of teachers currently confound the possibility of professional homogeny within the cadre of American elementary educators. In the original SHPPS, only three

states required *some* health education preservice coursework to qualify their teacher candidates for elementary certification. By 2000, 26 states had added this and one went so far as to *require* its elementary teachers to obtain a certification in health education. Twenty-one states had begun to offer an "elementary health education specialist" certification. Nine states required training in "personal health" and "health methods and materials;" nine required training only in "health methods and materials;" and seven required training only in "personal health." The majority of preservice, teacher-preparation-program-hours obligate students to complete a specific set of required courses leaving minimal flexibility for elective offerings. Even when available, it is unlikely they will take elective health courses other than those required by their program or state (Everett, Price, Telljohann, & Durgin 1996).

Compared to that of other subjects within the preservice experience, the integration of instructional requirements and training for health promotes the development of positive attitudes toward health education in preservice teachers (Hausman and Ruzek 1995). Further, programs that incorporate student rehearsal of instructor-modeled teaching of health, provide opportunities for practice/laboratory teaching in health, and incorporate experiential and cooperative activities have proven most effective in positively influencing preservice educators' attitudes toward health instruction (Black 1997, Pateman, Grunbaum, and Kann 1999, Allensworth 1994, Acosta-DePrez, and Monroe 1996, Hausman and Ruzek 1995, Seabert, et al 2002). Most elementary education preservice training programs generally fail to define specific requirements or components within their health education training courses yet assume competent teaching performance from their graduates.

Although knowledge can improve one's approach to health instruction, our attitudes and behaviors are personal, less academic, and reflective of our personalities (Doster 1985). A 2001

Centers for Disease Control and Prevention report stated that health behaviors established during the elementary years of childhood are longstanding and those most difficult to alter in later life. Second only to their parents and immediate family, teachers influence and contact with America's youth is unparalleled. Studies have shown that students will often adopt their teacher's attitudes regarding health, health behaviors and health education issues (English and Duke 1995, Black 1997, Acosta-DePrez, & Monroe 1996). When teachers adhere to curricular guidelines and increase time for health instruction, improvements in student attitudes toward health (directly *linked* to behavior) surpass that of content knowledge (*less predictive* of behavior) (Gunn et al, 1985). Therefore, it would be valuable to know whether education professionals are aware of their power to influence the health of children and whether they feel adequately prepared to use methods proven to promote and improve the health of school-age children.

Prospective teacher candidates generally reported feeling insecure and unprepared to teach health unless afforded specific experiential training that prioritized health throughout the experience. Experienced teachers working in the field, tended to dismiss their responsibility to deliver health instruction, giving a variety of reasons. The many demands of beginning teachers along with strategic inexperience, content shallowness, personal and social barriers, personal style, training deficits/lack of training opportunities, and attitudinal and behavioral irresponsibility to function as healthy role models profoundly influences the potential success of health instruction. Once certified, elementary generalists participate in trainings only when coerced by districts, administrators, or institutions of higher learning. They fail to grasp or acknowledge the importance of health as it relates to the overall academic performance of

children. Because states fail to hold elementary educators accountable for health instruction, they are often content to ignore it.

Findings from the 2000 SHPPS noted the importance of staff development in health education since preservice professional teacher training was found to leave most classroom teachers feeling ill-prepared to deliver it. Specifically, for elementary teacher preparation:

- 88% of states had a health education coordinator or supervisor; 63.8% of districts did.
- 94% of states offered some type of teacher certification/licensure/endorsement for health education
- 63.6% of states offered K-12 health education certification
- 28.6% of states offered specific elementary certification in health education
- 30.4% of states required training in health education prior to elementary certification; 33.9% of districts did.
- 26.7% of states required health education certification along with elementary certification; 30.9% of districts did. (Kann et al 2001)

Table III refers to 29 studies spanning 27 years that are associated with the training of elementary educators in health education. Of those 29 studies, three gather data from 741 preservice respondents and target their impressions of distance versus face-to-face training (2008); self-reports on type and amount of preservice training (1998); and comfort with health topic (1985). Twenty-two studies involved the training of 11,067 practicing elementary teachers; five of those 22 focused on perceived ability/preparedness/skill, comfort, and confidence to teach health post training – key factors defining teaching *intent*. Seven examined such issues as: the status of health teacher certification at the national level; the utilization of staff development at the national level; impact of one type of training compared to another; institutional adequacy of

preservice; training consistency; program descriptions; and influence of school board on curricular implementation. The earliest investigation included here focusing on the health training of elementary teachers was published in 1981, the most recent in 2008. The research spanning 27 years in this area has uncovered very little information that could help describe and characterize effective training programs (i.e. content, components, resources and/or teaching strategies and applications) – a task that might be achieved with this study.

Table III. Research/Studies on the Training of Elementary Educators

date	Researcher	# participants	Pre-service teachers	Practicing teachers	other	Variables	P/F value		
2008	Serna & Meeder	26	X			Distance vs. face2face training	Findings reported in narrative; no p values		
2004	Jones, Brener, & McManus	50			X	Influence & utilization of staff development in H educ. nationally	Findings reported in % in narrative		
2002	Hahn, Noland, Rayens, & Christie	45		X		Perceptions on training; impact on attitude & teaching	Findings reported in %; 40% of sample actually completed training		
2002	Hendrix, Gilbert, Kozlowski, Bradley, Austin, & Valois	97		X		Impact on critical thinking skill & inquiry	Six p values: p=.015;p=.038; p=.054; p=.0009; p=.05; p=.003		
2002	Seabert, Pigg, Weiler, Behar-Horenstein, Miller, & Varnes	287		X		Impact of preservice training on elem. teaching	Combined H + PE methods p=1.000 Only H methods p=.281 Separate H + PE methods p=.001		
2000	Bennett, Perko & Herstine	50			X	Status of teacher health certification	Issued 1988: 42 1992: 43 1998: 47	Add-ons 1988: 31 1992: 32 1998: 34	Test students 1992: 17 1998: 8
2000	Helitzer, Yoon, Wallerstein, & Garcia-Velardi	98			X	Impact of varied training types	Findings reported in %; post training confidence = 94%		

1999	Ubbes, Cottrell, Ausherman, Black, Wilson, Gill & Snider	50			X	Institutional adequacy of preservice	Findings reported in narrative; type of trainings institutions provide
1999	Torabi, Ellis, Alborn, Wantz, Tappe, & Jeng	84 / 1609		X		Impact of collaborative, comprehensive health training on teachers' knowledge & skill	Knowledge $F(2,80)=8.29$, $p<.01$ Skills $F(2,78)=3.61$, $p<.05$
1998	Anderson & Thorsen	493	X			Self reported type & amount of preservice training for elementary education majors	Findings reported in %; no p values
1996	Telljohann, Everett, Durgin, & Price	262		X		Efficacy & outcome expectation, outcome value & time teaching	Pre / Post $F=5.1$; $df=1;106$; $p=.03$; $p<.001$ $F=4.0$; $df=1,106$; $p=.05$; $p=.001$ $F=13.9$; $1,93$; $p<.001$; $p=.002$ $Z=2.56$; $p=.01$; $p=.002$
1995	Lovato & Rybar	72			X	Training consistency	Resource use ($r^2 = .19$, $p=.002$)
1995	Reynolds	3434 355 167 139 2269		X X X X X		Perceptions on role of elem teacher; Learning then teaching principles; Health content; Teaching methods; Teaching skill.	Findings reported as response rates %; no p values.
1994	Basen-Engquist,	98		X		Curricular fidelity	Workshop quality $p=.20$

	O'Hara-Tompkins, Lovato, Lewis, Parcel, & Gingiss					between 2 types of trainings	Fidelity to curriculum p=.26 Teacher implementation p<.01 Unit thoroughness p<.001
1994	Gates, McDonald, & Dalton	824		X		Increase comfort, preparedness	p<.001
1994	Gingiss & Basen-Engquist	269		X		Perceived training needs	28 p values/areas of evaluation (.02 to .001)
1993	Smith, McCormick, Steckler, & McLeroy	136		X		Post training implementation re: 3 health curricula	THTM p
1993	White & Ballard	193			X	Survey of preservice programs	Findings reported in narrative; available courses/topic specific planned instruction by institutions
1992	Jibaja-Rusth, Kingery, Holcomb, Pruitt, & Buckner	31		X		Impact on children	p<.05; p< .05; p<.001; p<.01
1991	Cameron	85		X		Impression of varied trainings	X= 8.0, df 2, p.03
1991	Kittleson, & DeBarr	248			X	Institutions requiring a health course for elementary majors	Findings reported in %; No p values; 31.7% require health course for elementary majors
1990	Chen, Dorman Rienzo, Varnes, Ludwigsen, D'Annunizo, & Hocker	46		X		Impact of attitude (on children)	p=.05
1989	Levenson-Gingiss & Hamilton	47		X		Impact on attitude	Responsibility to students p<.001; Comfort teaching p.003;

							Comfort with material p<.007; Comfort with strategies p<.006; Adequately prepared p<.02; Student involvement p<.001; Student cooperation p<.001; Attitude toward experience p<.006
1988	Tricker & Davis	44		X		Responsibility, compliance, training quality	Findings reported in $; cost training to implementation
1985	Davis, Jelsma, & VanValey	303		X		Perceived ability, comfort	Findings reported in %; 31.8% no preservice; 25.7% four hours; 53.7% no graduate training
1985	Fors & Doster	50			X	Impact on curricular implementation	Findings reported in %; completed training= 84%; partial training=76%; no training=70%
1985	Molnar-Stickles	222	X			Topic comfort	F= 2,231, p<.05
1985	Pigg, Bailey, Seffrin, Torabi, & Lave	382		X		Post training curricular use	p=.0001
1981	Flaherty & Smith	40		X		Impact on knowledge, attitude	p=.006

Summary

It is problematic that effective implementation of K-12 health education has been undermined by a continued reliance on "on-the-job training" to prepare its teaching force rather than provide long-term sequential trainings that are consistent, intense learning and practice opportunities. Key higher-education program planning decision-makers and teacher-educators involved in the preservice training experience may be unaware of the influence they hold in developing a highly trained elementary teaching force dedicated to successful health promotion within each classroom.

To determine teaching practice prior studies have focused on level and type of health instruction by examining such variables as curricular implementation, teacher trainings, reviews of teaching strategy utilization, material use, and certification standards and requirements. Overall, 19 of 50 states provide clearly defined instructional requirements for elementary classroom health education. Of the 24 studies investigating teaching practice in health education undertaken since 1984, no more than two included preservice teachers. In those two, 33 respondents provided all the data. Considering the 25-year span of research in this area, the first study including preservice teachers did not occur until 1994 and the second and most recent in 2009 but neither addressed the relationship between preservice training and the actual practice of teaching.

There is little-to-no evidence that time in the field, or teaching experience improves the opinions of elementary teachers on the importance of successful, regular delivery of classroom health education. The changing of attitudes toward health instruction and health education seems best addressed through positive training experiences. Of the 37 studies investigating educator

attitudes regarding health education undertaken since 1982, no more than fifteen included preservice teachers. In those fifteen, 2633 respondents provided all data. The 27-year span of research occurring between 1982 and 2009 included only six preservice-teacher studies focused on the constructs deemed most important for predicting *intent* and *future teaching behavior:* perceived ability, comfort, and confidence regarding health instruction; valuable information for designing programs and preparing tomorrow's teaching community for the task.

Twenty-six states currently define elementary teacher training requirements in health education. Even though most, if not all states recommend and/or refer to the National Elementary Health Education Standards for curricular instruction, as recently as 1993 many teacher-training institutions began to remove and reduce training in health education from their elementary education programs. Of the 29 studies investigating the health training of elementary teachers undertaken since 1981, no more than three included preservice teachers. In those three, 741 respondents provided all the data. These three studies spanned 27-years between 1981 and 2008 and occurred no closer than ten years. Of all 29 studies, only seven addressed factors of perceived behavioral controls (comfort, confidence, ability).

As we face the growing challenges of compromised health in America, the assignment of health instruction for our children must fall to well-prepared, responsible individuals who are passionate and devoted to the task. This continues to be the responsibility of preservice programs of training in higher education.

Chapter 3

METHODS OF PROCEDURE

In order to assess the perceived influence of the preservice elementary teacher training experience on the potential delivery of health instruction in the elementary classroom, identification of the population and efforts toward survey design were undertaken. Convenience sampling was *somewhat* undertaken through the targeting of teacher candidates from one university while a comprehensive examination of existing surveys laid the foundation for the development of this study's instrument.

Population Description

The study subjects include elementary education students enrolled in or recently graduated (novice teachers) from Fairmont State University's teacher preparation program. Participants must be completing their final year of study, be preparing to enter student teaching, be currently enrolled in a teaching block course (of which all students are considered equal in academic standing and training) or have completed and graduated from the FSU program no longer than three years. All elementary education students and recent graduates are eligible. Participation assumes student similarity in preparation status, coursework completion, course enrollment and equivalency in block course, or field placement. Participants do not differ from other students or graduates who are "education majors" but may not be representative of all undergraduate students from other teacher education programs, from other states.

Krejcie & Morgan's table for selecting a randomly chosen sample, given a finite population (approximately 125-150), with a 95% level of confidence approximates 92-108 participants. The results of this study may be generalized to students who are currently enrolled seniors, majoring in elementary education in accredited teacher preparation programs in the

United States or recently graduated "novice teachers" having zero to no more than three years of teaching experience.

Development of the Survey Instrument

In its development, the instrument passed through several phases. First, an investigation of the literature focused on assessments of educational practices such as:

- teacher training,
- teacher-educator/training facilitator skill,
- teacher/trainee attitudes,
- the inclusion/variety of health topics during training,
- teaching strategies/methodology,
- participant experiences (prior and during), and
- the health education training of non-health teaching specialists.

This review uncovered a basic set of question items that had been developed and used by other researchers. This strategy was helpful in establishing criterion validity for the instrument.

Second, to establish the instrument's content validity, the list was reviewed and additional question items were developed as necessary, assuring a match between course content and items. A leader in the field of School Health Education and Research Evaluation reviewed this second generation of items and provided suggestions. Third, an assessment of the instrument's face and content validity was met when a peer group made up of practicing elementary classroom teachers and community health educators reviewed and critiqued it for concept completeness and question clarity. They were encouraged and did offer suggestions for improvement. Fourth, to establish the instrument's construct validity, a panel of health education experts reviewed and assessed its item composition on the four factors and offered suggestions. Fifth, a survey design specialist

helped set up the instrument and cull questionnaire items to a manageable number. Sixth, a group of elementary education teachers from other teacher preparation institution piloted the test in its electronic "ready-to-go" format it. A test-retest assessment of reliability will establish the stability of the instrument's results over time.

To establish internal consistency of the instrument, results from the pilot test on the three determinants of intention (attitudes, subjective norms, and perceived behavioral control) and the curricular components will be assessed by running a split-half Pearson Product Moment Correlation with Spearman Brown Prophecy formula. Inter and intra item reliability/within and between item correlation (between the course format and the three determinants) will be assessed using the Cronbach's Alpha test. A factor analysis of the test items will establish the instrument's construct validity. Effects of systematic bias on the instrument's results will be avoided because the final sample of respondents will be assessed only once, removing the potential for participant learning or mortality (i.e. dropout).

An analysis of principal components through a rotational loading will help define/validate the instrument's underlying constructs. Because most factors seem strongly related or are composite parts of the formative constructs, they will probably be highly correlated with one another producing oblique solutions that ultimately define the study's constructs. A regression analysis will be used to predict the relationship between constructs (such as: intention to teach health education or respondents' value for health education) and factors (such as: perceived preparedness, perceived quality of preservice training, comprehensiveness of preservice training, and plans for future training).

Finally, study participants will respond confidentially to this researcher-developed survey on issues of attitude, training, and teaching intent. This instrument was developed to gather personal information through demographic inquiry, perceptions of preparatory training in elementary health education, and predictive measures for health instruction by incorporating

health education knowledge/materials, and assessments of confidence. The socio-demographic assessments will seek information on:

- age,
- gender,
- health status, and
- exercise frequency.

Self-reported measures regarding personal health status will include items on exercise frequency, and perceived health status. Continuous scoring (Likert Scale – low/high) will be used to measure the 23 dependent study variables.

Fairmont State University's School of Education Certification Officer and Coordinator of FSU's preservice teacher education field placement will be contacted by a letter introducing the researcher and study. They will be asked to identify and provide contact information for all target respondents. The researcher will survey participants through email, United States mail, hand delivery distribution of questionnaires, telephone or face-to-face contact as participants prefer.

A sample survey will be provided to placement coordinator, faculty, and all academic advisors involved with the elementary teacher education program. A packet containing a cover letter that introduces the researcher and explains the goal of the study, instructions for survey completion, and a sample survey instrument for their appraisal.

All participants will be provided confidential electronic access to the survey instrument through "Survey Monkey." Hard copy surveys will be provided to those participants requesting them along with stamped, addressed envelopes for return mailing as needed (King, Pealer, and Bernard, 2001). Upon their return, each hard-copy survey will be coded, recorded, and separated from its envelope, which supports confidentiality. Access to study results will be provided to

interested participants upon their request by email or United States mail. They need only provide their contact information (name, address, email) to the researcher.

Research Questions and Survey Items

RQ1: How does a *preservice training requirement* (independent variable) in health education influence the *behavioral intent* (dependent variable) of elementary candidates and novice teachers toward health education?

H_0: There is no significant difference in behavioral intent scores toward health education when comparing the levels of behavioral intent (attitude, subjective norms, and perceived behavioral control) (dependent variable) and completion of a required health course (factor of independent variable).

RQ1	Levels of Behavioral Intent		
	Attitude	Subjective Norms	Perceived Behavioral Control
Completion of a required teaching methods course in health	mean score of attitude items	mean score of attitude items	mean score of attitude items

Figure 2. Methodology: Factorial ANOVA

Survey items related to Research Question #1 follow.

- I know how to integrate health content into the elementary curriculum.
- The general health status of elementary children in this country is dire.
- Health education should be integrated throughout the elementary curriculum.
- There was too much health content included in my elementary preservice training.

- My preservice training provided me with enough applied learning experiences in health education to effectively teach them at the elementary level.
- Health content was integrated throughout my teacher education program of study.
- I am confident that I could answer any health question that an elementary student might ask.

RQ2: How does an institutional factor like a *course content requirement* (independent variable) in health education influence *behavioral intent* (dependent variable) toward health instruction?

H_0: There is no significant difference in intention scores when comparing training on specific course content.

Survey items related to Research Question #2 follow.

- It is likely that I will teach health content to my elementary students.
- It is likely I will integrate health content throughout my elementary curriculum.
- My preservice training provided me with enough health content to effectively teach it at the elementary level.
- My preservice training provided me with enough applied learning experiences in health education to effectively use them in the elementary classroom.
- Health education is best addressed when integrated throughout the elementary curriculum.
- I look forward to participating in continuing education opportunities in health education in the future.

RQ2		Levels of Behavioral Intent		
		Attitude	Subjective Norms	Perceived Behavioral Control
Instructional Components/Course Content	Principles of health & wellness	mean score of intent items	mean score of intent items	mean score of intent items
	Current health issues/needs critical to elementary children	mean score of intent items	mean score of intent items	mean score of intent items
	Comprehensive health content focusing on instructional scope & sequence	mean score of intent items	mean score of intent items	mean score of intent items
	Behavioral risk areas identified by the CDC	mean score of intent items	mean score of intent items	mean score of intent items
	Opportunities to see experiential & cooperative teaching strategies	mean score of intent items	mean score of intent items	mean score of intent items
	Opportunities to practice experiential & cooperative teaching strategies	mean score of intent items	mean score of intent items	mean score of intent items
	Coordinated school health programming model	mean score of intent items	mean score of intent items	mean score of intent items

Figure 3. Methodology: Factorial ANOVA

RQ3: How does an institutional factor like a *course content requirement* (independent variable) in health education influence *attitude* (level of dependent variable) toward health instruction?

H_0: There is no significant difference in attitudinal scores when comparing training on specific course content.

RQ3		Levels of Behavioral Intent		
		Attitude	Subjective Norms	Perceived Behavioral Control
Instructional Components	Principles of health & wellness	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Current health issues/needs critical to elementary children	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Comprehensive health content focusing on instructional scope & sequence	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Behavioral risk areas identified by the CDC	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Opportunities to see experiential & cooperative teaching strategies	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Opportunities to practice experiential & cooperative teaching strategies	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Coordinated school health programming model	mean score of attitude items	mean score of attitude items	mean score of attitude items

Figure 4. Methodology: Factorial ANOVA

Survey items related to Research Question #3 follow.

- I model/practice the health principles I teach my elementary students.
- I am confident I could answer any health question asked by an elementary student.

- My knowledge of Health Content- specific to the elementary grades – is Comprehensive.
- My preservice training experience provided me with many exceptional learning opportunities in Health Education.
- My preservice training experience provided me with a wide range of opportunities to practice my health instruction.
- My preservice training provided me with the skills to integrate health into the other subjects I will teach in the elementary classroom.

RQ4: To what extent is an institutional factor like the *amount of curricular content* (independent variable) of a health education course associated with the *value* (level of dependent variable) held for health education when compared to other disciplines?

H_0: There is no significant relationship between training on amount of curricular content (course components) and value for health education when compared to other disciplines.

Survey items related to Research Question #4 asked students to do the following:

- "Please check all components that were a part of your health education preservice course/teacher training experience."

	Health and wellness principles
	The current health issues/needs critical to elementary children
	Comprehensive health content
	The CDC's six critical risk areas (i.e. tobacco use, alcohol & other drug use, injury, poor dietary choices, inactivity, & risky sexual behaviors)
	Health Education scope and sequence
	Modeled experiential/applied teaching strategies
	Rehearsal of experiential/applied teaching strategies
	Coordinated School Health Model
	Other? Please explain.

- "Please rate the relative importance of the following topics for elementary students from most important to least important – math, technology, health, science, language arts/reading."

RQ4a		Value for Health Education when compared to other disciplines			
Health Education	Instructional Components	Math	Science	Technology	Language Arts/Reading
	None	mean score of attitude items	mean score of attitude items	mean score of attitude items	mean score of attitude items
	One or two	mean score of attitude items	mean score of attitude items	mean score of attitude items	mean score of attitude items
	Three or more	mean score of attitude items	mean score of attitude items	mean score of attitude items	mean score of attitude items

Figure 5. Methodology: Factorial ANOVA

RQ4b		Levels of Behavioral Intent		
		Attitude	Subjective Norms	Perceived Behavioral Control
Number of Health Courses Completed	Number of health components	mean score of attitude items	mean score of attitude items	mean score of attitude items

Figure 6. Methodology: Factorial ANOVA

RQ5 – Descriptive: What, if any relationship exists between levels of behavioral intent for health education (attitude, subjective norms, and perceived behavioral control) (dependent variable) and measures of personal health (health status and physical activity)?

Survey items related to Research Question #5 follow.

- "I would describe my health status as - poor, below average, average, above average, excellent."
- "I exercise approximately ___ days/week – 7, 6, 5, 4, 3, 2, 1or less."

RQ5		Levels of Behavioral Intent		
		Attitude	Subjective Norms	Perceived Behavioral Control
Measures of Personal Health	Health Status	correlation	correlation	correlation
	Exercise Frequency	correlation	correlation	correlation

Figure 7. Methodology

Research Variables

The study's **dependent** variable "intent to teach health education" has three levels:

- attitudes (toward health education),
  - likelihood to pursue future health training
  - value for the influence of the discipline
- subjective norms (institutional/instructor expectations), and
- perceived behavioral control (perceived preparedness: comfort/confidence/ability)
  - knowledge
  - efforts to promote/maintain personal health
  - responsibility as a role model

The study's **independent** variable "curriculum" has several factors:

- number of courses completed
- curricular components

This correlational study will compare the course components within the preservice experience to their intention to deliver health education in the elementary classroom setting based on their *perceived teaching preparation*. With a 95% confidence, the above hypotheses will be tested to determine whether a direct relationship exists between factors.

Means and standard deviations will be reported as descriptive statistics. In addition, various cross tabulation analyses will be computed between survey items such as:

- future likelihood to teach health education, and
- value for health education's potential to impact the health of elementary students.

The respondents within the sample will be divided into categorical variables (i.e. gender, age, self-reported health status, and exercise frequency to determine differences in subgroups in relation to their responses. Correlation coefficients will be computed to determine discernible patterns between the levels of intent to teach and training on curricular components and measures of personal health. Percentages and frequencies will be used to describe respondent demographics, attitudes, and intentions of preservice elementary education teachers regarding their health education preparation.

Tests for Analysis of Variance will be used to compare program intent to teach health with such factors as:

- perceived personal health status,
- exercise frequency, and
- perceived responsibility to live as a healthy role-model for students.

Pearson Product-Moment correlations were computed between the 23 dependent variable's survey item responses. A multiple regression was run on the survey results in order to define which preservice components were the best predictors of future health teaching behavior. All data were analyzed using the Statistical Package for the Social Sciences (SPSS) data analyses computer program.

Chapter 4

RESULTS/FINDINGS

Introduction

Reported in this results section are findings from a survey designed to improve our understanding of programmatic training influences that impact the behavioral intent of novice (defined as those having less than 4 years of teaching experience) elementary classroom teachers' to teach health education. Ninety-three surveys (a 64.5% response rate) from a possible 144 contacts provided the data for this study. There were 157 potential participants on the initial contact list; of these 13 were unreachable. A suitable survey instrument measuring attitude, perceived influential others, and perceived ability of novice elementary teachers, in regards to health education, could not be located; this necessitated the development of a new survey by the researcher (see Appendix II).

Ajzen and Madden's (1986) "Theory of Planned Behavior" (TPB) was the theoretical foundation used to investigate behavioral intent (dependent variable). This theory targets three determinants to help predict behavioral intent: attitude (A), subjective norms (SN), and perceived behavioral control (PBC).

Each of the five research questions will be presented along with a brief overview of the findings supported by data presented in table format with specific discussion. This study's findings are the result of several analytical processes. An explanation of descriptive statistics will include supportive data and discussion. Finally, data supporting instrument reliability will conclude this chapter.

The Research Problem

The research problem for this study sought to clarify programmatic training influences that affect the behavioral intent of preservice and novice elementary teachers to teach health education. The following research questions and hypotheses were established to discover this.

RQ1: How does a preservice training requirement in health education influence the behavioral intent of elementary candidates and novice teachers toward health education?

Null H_0 Hypothesis: There is no significant difference in behavioral intent scores toward health education when comparing the levels of behavioral intent (attitude, subjective norms, and perceived behavioral control) (dependent variable) after completion of a required health course (factor of independent variable).

Alternative H_1 Hypothesis: After completing a required health course, the levels of behavioral intent toward health instruction will be significantly different.

It was discovered that respondent "attitude" was the construct of behavioral intent most affected by health education training within the elementary teacher education program of study when compared to "subjective norms" or "perceived behavioral control."

To better understand "intentions" toward future health instruction in the elementary classroom respondents were asked a series of 23 Likert scale items (from strongly disagree to strongly agree) focusing on the three "determinants" of Ajzen and Madden's 1986 "Theory of Planned Behavior" (TPB): attitude, subjective norms, and perceived behavioral control. The following seven survey items targeted "attitude (A)" toward elementary health education/instruction:

A1. "The instructors in my teacher-training program were knowledgeable about Health Education at the elementary level." Fifty-one respondents (54.8%) agreed or strongly agreed

with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table IV).

Table IV. The instructors in my teacher-training program were knowledgeable about Health Education at the elementary level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	8.6	10.5	10.5
	Neutral	17	18.3	22.4	32.9
	Agree	**31**	**33.3**	40.8	73.7
	Strongly Agree	**20**	**21.5**	26.3	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

A2. "Health Education should be integrated throughout the elementary curriculum." Sixty-nine respondents (74.2%) agreed or strongly agreed with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table V).

Table V. Health Education should be integrated throughout the elementary curriculum.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	3.2	3.9	3.9
	Neutral	4	4.3	5.3	9.2
	Agree	**35**	**37.6**	46.1	55.3
	Strongly Agree	**34**	**36.6**	44.7	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

A3. "There was too much Health content required in my elementary teacher training." Sixty-five respondents (69.9%) disagreed or strongly disagreed with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table VI).

Table VI. There was too much Health content required in my elementary teacher training.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	**33**	**35.5**	43.4	43.4
	Disagree	**32**	**34.4**	42.1	85.5
	Neutral	9	9.7	11.8	97.4
	Agree	2	2.2	2.6	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

A4. "There is too much Health content included in the elementary school curriculum." Sixty-eight respondents (73.1%) disagreed or strongly disagreed with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table VII).

Table VII. There is too much Health content included in the elementary school curriculum.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	**33**	**35.5**	43.4	43.4
	Disagree	**35**	**37.6**	46.1	89.5
	Neutral	7	7.5	9.2	98.7
	Agree	1	1.1	1.3	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

A5. "My teacher training increased my appreciation for Health Education at the elementary level." Fifty-eight respondents (62.5%) were neutral or in agreement with this statement. Twenty-six (28%) were neutral. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table VIII).

Table VIII. My teacher training increased my appreciation for Health Education at the elementary level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.2	2.7	2.7
	Disagree	15	16.1	20.0	22.7
	Neutral	**26**	**28.0**	34.7	57.3
	Agree	**22**	**23.7**	29.3	86.7
	Strongly Agree	10	10.8	13.3	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

A6. "Health Education is best addressed through lessons that focus specifically on Health content." Fifty-seven respondents (61.3%) were neutral or in disagreement with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table IX).

Table IX. Health Education is best addressed through lessons that focus specifically on Health content.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.1	1.3	1.3
	Disagree	**27**	**29.0**	35.5	36.8
	Neutral	**29**	**31.2**	38.2	75.0
	Agree	16	17.2	21.1	96.1
	Strongly Agree	3	3.2	3.9	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

A7. "My teacher training experience provided me with a wide range of opportunities to practice teaching Health." Fifty-eight respondents (62.4%) were neutral or in disagreement with this

statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table X).

Table X. My teacher training experience provided me with a wide range of opportunities to practice teaching Health.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	7.5	9.2	9.2
	Disagree	**26**	**28.0**	34.2	43.4
	Neutral	**25**	**26.9**	32.9	76.3
	Agree	17	18.3	22.4	98.7
	Strongly Agree	1	1.1	1.3	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

The following survey items targeted "subjective norms (SN)" toward elementary health education/instruction:

SN1. "Health content was integrated into a variety of courses within my teacher training program of study." Fifty respondents (53.8%) were neutral or in disagreement with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table XI).

Table XI. Health content was integrated into a variety of courses within my teacher-training program of study.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	6.5	7.9	7.9
	Disagree	**25**	**26.9**	32.9	40.8
	Neutral	**19**	**20.4**	25.0	65.8
	Agree	20	21.5	26.3	92.1
	Strongly Agree	6	6.5	7.9	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

SN2. “My teacher training required me to incorporate Health content into my clinical experiences.” 33.4% were in disagreement while 31.2% were in agreement with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XII).

Table XII. My teacher training required me to incorporate Health content into my clinical experiences.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	**10**	**10.8**	13.3	13.3
	Disagree	**21**	**22.6**	28.0	41.3
	Neutral	15	16.1	20.0	61.3
	Agree	**22**	**23.7**	29.3	90.7
	Strongly Agree	**7**	**7.5**	9.3	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

SN3. “The current Health status of elementary children in the U.S. intensifies my commitment to teach Health in my elementary classroom.” Fifty-five respondents (59.2%) agreed or strongly agreed with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XIII).

Table XIII. The current Health status of elementary children in the U.S. intensifies my commitment to teach health in my elementary classroom.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	2.2	2.7	2.7
	Neutral	18	19.4	24.0	26.7
	Agree	**33**	**35.5**	44.0	70.7
	Strongly Agree	**22**	**23.7**	29.3	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

SN4. "I (will) participate in continuing education opportunities in Health when available." Sixty-six respondents (71%) were neutral or in agreement with this statement. Nineteen respondents (20.4%) failed to respond to this item resulting in a usable sample of 74 (see Table XIV).

Table XIV. I (will) participate in continuing education opportunities in Health when available.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.1	1.4	1.4
	Disagree	7	7.5	9.5	10.8
	Neutral	**24**	**25.8**	32.4	43.2
	Agree	**34**	**36.6**	45.9	89.2
	Strongly Agree	**8**	**8.6**	10.8	100.0
	Total	74	79.6	100.0	
Missing	System	19	20.4		
Total		93	100.0		

SN5. "My teacher training provided me with enough Health content to adequately teach it at the elementary level." Sixty respondents (64.5%) were neutral or in agreement with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XV).

Table XV. My teacher training provided me with enough Health content to adequately teach it at the elementary level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.2	4.0	4.0
	Disagree	12	12.9	16.0	20.0
	Neutral	**21**	**22.6**	28.0	48.0
	Agree	**31**	**33.3**	41.3	89.3
	Strongly Agree	**8**	**8.6**	10.7	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

SN6. “My teacher training provided me with multiple learning opportunities in Health Education.” Respondents were nearly divided by thirds: 24.7% disagreed, 26.9% were neutral, and 30.2% agreed. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table XVI).

Table XVI. My teacher training provided me with multiple learning opportunities in Health Education.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	4.3	5.3	5.3
	Disagree	19	20.4	25.0	30.3
	Neutral	25	26.9	32.9	63.2
	Agree	22	23.7	28.9	92.1
	Strongly Agree	6	6.5	7.9	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

SN7. “When resources are available, I prefer to utilize speakers to present Health content to my elementary students.” Sixty-one respondents (65.6%) were neutral or in agreement with this statement. Nineteen respondents (20.4%) failed to respond to this item resulting in a usable sample of 74 (see Table XVII).

Table XVII. When resources are available, I prefer to utilize speakers to present Health content to my elementary students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.2	2.7	2.7
	Disagree	11	11.8	14.9	17.6
	Neutral	**35**	**37.6**	47.3	64.9
	Agree	**21**	**22.6**	28.4	93.2
	Strongly Agree	**5**	**5.4**	6.8	100.0
	Total	74	79.6	100.0	
Missing	System	19	20.4		
Total		93	100.0		

The following survey items targeted "perceived behavioral control (PBC)" toward elementary health education/instruction:

PBC1. "I (will) teach Health content to my elementary students." Sixty-one respondents (65.6%) agreed or strongly agreed with this statement. Nineteen respondents (20.4%) failed to respond to this item resulting in a usable sample of 74 (see Table XVIII).

Table XVIII. I (will) teach Health content to my elementary students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	3.2	4.1	4.1
	Neutral	10	10.8	13.5	17.6
	Agree	**32**	**34.4**	43.2	60.8
	Strongly Agree	**29**	**31.2**	39.2	100.0
	Total	74	79.6	100.0	
Missing	System	19	20.4		
Total		93	100.0		

PBC2. "I am confident that I could answer most Health questions asked by an elementary student." Seventy respondents (75.2%) were neutral or in agreement with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XIX).

Table XIX. I am confident that I could answer most Health questions asked by an elementary student.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.1	1.3	1.3
	Disagree	4	4.3	5.3	6.7
	Neutral	**19**	**20.4**	25.3	32.0
	Agree	**36**	**38.7**	48.0	80.0
	Strongly Agree	**15**	**16.1**	20.0	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

PBC3. "My teacher training provided me with the skills to integrate Health into the other subjects I (will) teach in the elementary classroom." Sixty-six respondents (71%) were neutral or in agreement with this statement. Nineteen respondents (20.4%) failed to respond to this item resulting in a usable sample of 74 (see Table XX).

Table XX. My teacher training provided me with the skills to integrate Health into the other subjects I (will) teach in the elementary classroom.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	2.2	2.7	2.7
	Disagree	6	6.5	8.1	10.8
	Neutral	**25**	**26.9**	33.8	44.6
	Agree	**28**	**30.1**	37.8	82.4
	Strongly Agree	**13**	**14.0**	17.6	100.0
	Total	74	79.6	100.0	
Missing	System	19	20.4		
Total		93	100.0		

PBC4. "I know how to integrate Health content into various subjects within the elementary curriculum." Fifty-nine respondents (63.5%) agreed or strongly agreed with this statement. Nineteen respondents (20.4%) failed to respond to this item resulting in a usable sample of 74 (see Table XXI).

Table XXI. I know how to integrate Health content into various subjects within the elementary curriculum.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	1.1	1.4	1.4
	Neutral	14	15.1	18.9	20.3
	Agree	**45**	**48.4**	60.8	81.1
	Strongly Agree	**14**	**15.1**	18.9	100.0
	Total	74	79.6	100.0	
Missing	System	19	20.4		
Total		93	100.0		

PBC5. “My teacher training provided me with enough Health content to teach it at the elementary level.” Sixty-three respondents (67.8%) were neutral or in agreement with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table XXII).

Table XXII. My teacher training provided me with enough Health content to teach it at the elementary level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	5.4	6.6	6.6
	Disagree	8	8.6	10.5	17.1
	Neutral	**22**	**23.7**	28.9	46.1
	Agree	**28**	**30.1**	36.8	82.9
	Strongly Agree	**13**	**14.0**	17.1	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

PBC6. “My knowledge of Health content – specific to elementary level teaching – is comprehensive.” Seventy-one respondents (76.3%) were neutral or in agreement with this statement. Seventeen respondents (18.3%) failed to respond to this item resulting in a usable sample of 76 (see Table XXIII).

Table XXIII. My knowledge of Health content – specific to elementary level teaching – is comprehensive.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	5.4	6.6	6.6
	Neutral	**19**	**20.4**	25.0	31.6
	Agree	**36**	**38.7**	47.4	78.9
	Strongly Agree	**16**	**17.2**	21.1	100.0
	Total	76	81.7	100.0	
Missing	System	17	18.3		
Total		93	100.0		

PBC7. “My teacher training provided me with enough practice - using applied and experiential learning in Health Education - to use them in the elementary classroom.” Fifty-nine respondents (63.5%) were neutral or in agreement with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XXIV).

Table XXIV. My teacher training provided me with enough practice using applied and experiential learning in Health Education to use them in the elementary classroom.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	3.2	4.0	4.0
	Disagree	13	14.0	17.3	21.3
	Neutral	**28**	**30.1**	37.3	58.7
	Agree	**25**	**26.9**	33.3	92.0
	Strongly Agree	**6**	**6.5**	8.0	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

PBC8. “I model/practice the Health principles I (will) teach my elementary students.” Seventy-one respondents (76.3%) were neutral or in agreement with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XXV).

Table XXV. I model/practice the health principles I (will) teach my elementary students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	4.3	5.3	5.3
	Neutral	**20**	**21.5**	26.7	32.0
	Agree	**39**	**41.9**	52.0	84.0
	Strongly Agree	**12**	**12.9**	16.0	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

PBC9. “When I teach, I (will) integrate Health content throughout the elementary curriculum.” Sixty-two respondents (66.7%) agreed or strongly agreed with this statement. Eighteen respondents (19.4%) failed to respond to this item resulting in a usable sample of 75 (see Table XXVI).

Table XXVI. When I teach, I (will) integrate health content throughout the elementary curriculum.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	2.2	2.7	2.7
	Neutral	11	11.8	14.7	17.3
	Agree	**48**	**51.6**	64.0	81.3
	Strongly Agree	**14**	**15.1**	18.7	100.0
	Total	75	80.6	100.0	
Missing	System	18	19.4		
Total		93	100.0		

Response rates to the 23 Likert items varied; seventeen respondents failed to respond to 86% of the A items, 29% of the SN items, and 22% of the PBC items. Eighteen respondents failed to respond to 14% of the A items, 43% of the SN items, and 44% of the PBC items. Nineteen respondents failed to respond to 29% of the SN items, and 33% of the PBC items.

When queried about the number of health courses completed during their undergraduate teacher preparation (Table XXVII), 82 respondents (88.2%) reported having taken between one and three health courses. Sixty-three respondents (67.8%) had taken additional health courses beyond the single methods course required by the program. This was a hopeful finding but proved no statistical significance. Health course completion frequency data was missing for three respondents (3.2%) resulting in a usable sample of 90.

Table XXVII. Prior to graduating, I completed _____ health education courses during my teacher education training.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Zero or None	2	2.2	2.2	2.2
	1	**25**	26.9	27.8	30.0
	2	**37**	**39.8**	41.1	71.1
	3	**20**	**21.5**	22.2	93.3
	4	3	**3.2**	3.3	96.7
	5	1	**1.1**	1.1	97.8
	6 or more	2	**2.2**	2.2	100.0
	Total	90	96.8	100.0	
Missing	System	3	3.2		
Total		93	100.0		

RQ2: How does an institutional factor like a *course content requirement* in health education influence behavioral intent toward health instruction?

Null Hypothesis: There is no significant difference in intention scores when comparing training on specific course content.

Alternative H_1 Hypothesis: Training on specific course content in health will produce significant differences in intention scores.

Exposure to required training in health education significantly influenced "attitude" toward health education, one of three primary determinants of behavioral intent within the TPB. If a teacher-training program of study focuses on changing/improving preservice and novice teachers' attitudes toward health education, the likelihood of future implementation could be expected.

A Bonferroni Multiple Regression was run on the dependent variable levels' mean scores (A, SN, PBC) as well as groupings of the curricular components covered in undergraduate training to determine which components (if any) or if a certain number of curricular components

were predictors of future teaching intent. Once again, attitude was the only significant factor found to impact "intent to teach" whether respondents believed they had received very little or a great deal of training ($p \leq .004$, $p \leq .042$) (see Table XXVIII).

Table XXVIII. Mean Scores of A, SN, PBC and # of Curricular Components (CCs) – Grouped

Levels of Dependent Variable	(I) Amount of CCs Covered in Undergraduate Training	(J) Amount of CCs Covered in Undergraduate Training	Mean Difference (I-J)	Std. Error	Sig.	95% CI Lower Bound	95% CI Upper Bound
Mean Score on ATT Items	No CCs	1-2 CCs	-.13492	.12636	.867	-.4446	.1747
		3+ CCs	-.41014*	.12306	.004	-.7117	-.1086
	1-2 CCs	No CCs	.13492	.12636	.867	-.1747	.4446
		3+ CCs	-.27522*	.10931	.042	-.5431	-.0074
	3+ CCs	No CCs	.41014*	.12306	**.004**	.1086	.7117
		1-2 CCs	.27522*	.10931	**.042**	**.0074**	.5431
Mean Score on SN Items	No CCs	1-2 CCs	-.11243	.19126	1.000	-.5811	.3562
		3+ CCs	-.35066	.18626	.191	-.8071	.1058
	1-2 CCs	No CCs	.11243	.19126	1.000	-.3562	.5811
		3+ CCs	-.23822	.16546	.463	-.6437	.1672
	3+ CCs	No CCs	.35066	.18626	.191	-.1058	.8071
		1-2 CCs	.23822	.16546	.463	-.1672	.6437
Mean score on PBC Items	No CCs	1-2 CCs	.07485	.17069	1.000	-.3434	.1747
		3+ CCs	-.19308	.16623	.748	-.6004	-.1086
	1-2 CCs	No CCs	-.07485	.17069	1.000	-.4931	.4446
		3+ CCs	-.26792	.14766	.221	-.6298	-.0074
	3+ CCs	No CCs	.19308	.16623	.748	-.2142	.7117
		1-2 CCs	.26792	.14766	.221	-.0939	.5431

RQ3: How does an institutional factor like a *course content requirement* in health education influence attitude toward health instruction?

Null H_0 Hypothesis: There is no significant difference in attitudinal scores when comparing training on specific course content.

Alternative H_1 Hypothesis: Training on specific course content in health will result in a significant difference in attitudinal scores.

There was a strong correlation between recall of training on the curricular components in health and respondents' attitudes toward health. The inclusion of a health education requirement profoundly affected attitude whether respondents had little-to-no recall of any particular curricular component ($p \leq .004$) or recall of three or more curricular components ($p \leq .042$).

Of the seven course components covered in the required elementary health teaching methods course, the majority of respondents, whether undergraduate (U) or graduate (G) consistently reported having had *little-to-no training* on all but one of the following components during their preservice experience or in the years since graduating:

- principles of health and wellness (U: 55.9% YES, G: 93.5% NO) (Table XXIX),
- current health issues/needs critical to elementary children (U: 58.1% NO, G: 93.5% NO) (Table XXX),
- comprehensive health content focusing on instructional scope and sequence (U: 71.0% NO, G: 97.8% NO) (Table XXXI),
- CDC's behavioral risk areas (U: 77.4% NO, G: 97.8% NO) (Table XXXII),
- opportunities to observe experiential/cooperative teaching strategies (U: 76.3% NO, G: 86% NO) (Table XXXIII),
- opportunities to practice experiential/cooperative teaching strategies (U: 74,2% NO, G: 78.5% NO) (Table XXXIV), and
- coordinated school health programming model (U: 87.1% NO, G: 96.8% NO) (Table XXXV).

Table XXIX. Principles of health and wellness								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
41	44.1	44.1	44.1	NO	87	**93.5**	93.5	93.5
52	**55.9**	55.9	100.0	YES	6	6.5	6.5	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

Table XXX. Current health issues/needs critical to elementary children								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
54	**58.1**	58.1	58.1	NO	87	**93.5**	93.5	93.5
39	41.9	41.9	100.0	YES	6	6.5	6.5	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

Table XXXI. Comprehensive health content focusing on instructional scope and sequence								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
66	**71.0**	71.0	71.0	NO	91	**97.8**	97.8	97.8
27	29.0	29.0	100.0	YES	2	2.2	2.2	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

Table XXXII. Behavioral risk areas - identified by the CDC as "most damaging to health and life"								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
72	**77.4**	77.4	77.4	NO	91	**97.8**	97.8	97.8
21	22.6	22.6	100.0	YES	2	2.2	2.2	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

Table XXXIII. Opportunities to see experiential and cooperative teaching strategies modeled								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
71	**76.3**	76.3	76.3	NO	80	**86.0**	86.0	86.0
22	23.7	23.7	100.0	YES	13	14.0	14.0	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

Table XXXIV. Opportunities to practice experiential and cooperative teaching strategies								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
69	**74.2**	74.2	74.2	NO	73	**78.5**	78.5	78.5
24	25.8	25.8	100.0	YES	20	21.5	21.5	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

Table XXXV. Coordinated school health programming model								
UNDERGRADUATE					GRADUATE			
Frequency	Percent	Valid Percent	Cumulative Percent	VALID	Frequency	Percent	Valid Percent	Cumulative Percent
81	**87.1**	87.1	87.1	NO	90	**96.8**	96.8	96.8
12	12.9	12.9	100.0	YES	3	3.2	3.2	100.0
93	100.0	100.0		TOTAL	93	100.0	100.0	

A few graduate level respondents reported participating in additional "other" elective post-graduate training in health education that included:

- a workshop on nutritional and physical activity,
- a course on CPR and psychomotor development,
- a class in Tai Chi,
- a course on blood-borne pathogens,
- a master of arts degree in educational leadership,
- a master of arts degree in special education and autism, and
- science.

Only six graduate respondents (6.4%) of 93 respondents reported participating in continuing education consisting of three or more curricular elements.

Of the respondents who classified themselves as "preservice" or undergraduate, one respondent individually reported participating in additional "other" undergraduate training in health education that included "early psychomotor development." When "training in curricular elements" was sorted into three categories, the 93 respondents were almost equally divided by thirds (no training: 33.3%, training in one or two: 31.2%, training in three or more: 35.5%). In addition, 70 of 93 respondents (75.3%) reported having had health training in three or less curricular elements while only 23 (24.7%) reported training in four or more.

When comparing teaching intent for health's three levels (attitude, subjective norms, and perceived behavioral control) only the mean score of the seven "A" items had an inverse relationship when they recalled having one or two curricular elements as part of their health education training ($p \leq -.0074$). When sorted, responses were distributed by thirds between "no

curricular elements" (x=3.452), "one or two curricular elements" (x=3.587), and "three or more curricular elements" (x=3.667).

RQ4: To what extent is an institutional factor like the curricular content of a health education course associated with the value held for health education?

Null Hypothesis: There is no significant relationship between training on curricular content (course components) and value for health education.

Alternative H_1 Hypothesis: A significant relationship exists between training on curricular content and value for health education.

There was no correlation between any particular *course component* and respondents' *value* for health education.

When asked to rank by importance the disciplines of Health, Math, Science, Technology and Reading/Language Arts the following - by majority opinion - was discovered:

- 68 respondents (73.1%) felt that Reading/Language Arts was most important.
- 60 respondents (64.5%) felt that Math was second in importance.
- 30 respondents (32.3%) felt that Technology was third in importance.
- 32 respondents (34.4%) felt that Science was fourth in importance while 27 respondents (29%) ranked it least important.
- 67 respondents (72%) ranked Health as third, fourth or fifth in academic importance when compared to Reading/Language Arts, Math, Technology, and Science.

The following table (XXXVI) offers insight into respondents' perceived "value" for the discipline of health education. Inference can be derived from the weight of responses to "attitudinal" Likert scale items.

Table XXXVI.

ITEM	SA	A	N	D	SD	# responding
A1	20	31	17	8	0	76
A2	34	35	4	3	0	76
A3 reversed	33	32	9	2	0	76
A4 reversed	33	35	7	1	0	76
A5	10	22	26	15	2	75
A6	3	16	29	27	1	76
A7	1	17	25	26	7	76
	134	188	117	82	10	532
Percent of total	.251	.353	.219	.154	.018	
Attitude toward HE	.605 positive (61%)			.17 negative		

The following table (XXXVII) offers insight into respondents' perceived "responsibility" to teach health education. Inference is derived from the weight of responses to "subjective norm" Likert scale items.

Table XXXVII.

ITEM	SA	A	N	D	SD	# responding
SN1	6	20	19	25	6	76
SN2	7	22	15	21	10	75
SN3	22	33	18	2	0	75
SN4	8	34	24	7	1	74
SN5	8	31	21	12	3	75
SN6	6	22	25	19	4	76
SN7	5	21	35	11	2	74
	62	183	157	97	26	525
Percent of total	.118	.348	.299	.184	.049	
Subjective Norms regarding HE	.466 positive (47%)			.23 negative		

The following table (XXXVIII) offers insight into respondents' perceived "capability" to teach health education. Inference is derived from the weight of responses to "perceived behavioral control" Likert scale items.

Table XXXVIII.

ITEM	SA	A	N	D	SD	# responding
PBC1	29	32	10	3	0	74
PBC2	15	36	19	4	1	75
PBC3	13	28	25	6	2	74
PBC4	14	45	14	0	1	74
PBC5	13	28	22	8	5	76
PBC6	16	36	19	5	0	76
PBC7	6	25	28	13	3	75
PBC8	12	39	20	4	0	75
PBC9	14	48	11	2	0	75
	132	317	168	45	12	674
Percent of total	.195	.47	.249	.066	.017	
Perceived Behavioral Control toward HE	.666 positive (67%)			.08 negative		

Respondents were far more agreeable than disagreeable toward all three constructs of "intention" with 61% expressing "value" for health education, 47% a professional "responsibility" for health education, and 67% a perceived "capability" to teach health education.

RQ5 - Descriptive: What, if any relationship exists between *levels of behavioral intent* for health education (attitude, subjective norms, and perceived behavioral control) and *measures of personal health (health status* and *physical activity)*?

Null Hypothesis: There is no significant relationship between the levels of behavioral intent and measures of personal health.

Alternative H_1 Hypothesis: A significant relationship exists between the levels of behavioral intent and measures of personal health.

First, a Pearson Product Moment correlation (r) compared A, SN, and PBC with "perceived health status" a variable expected to correlate with intent to teach health. A direct relationship was found with A ($p \leq .034$), and SN ($p \leq .025$), but not with PBC ($p \leq .28$). Second, "exercise frequency," also expected to correlate, was compared. A direct relationship was again found with A ($p \leq .044$), and an inverse relationship with SN ($p \leq -.005$), but once again there was no relationship with PBC ($\leq -.126$). Third, "number of health classes taken" (a predicted correlate) was compared to "exercise frequency" and "health status;" neither proved to be statistically significant. There was no significant correlation for any of these three items with PBC (see Table XXXIX).

Table XXXIX. Mean scores for A, SN, PBC, Health Status, Exercise Frequency, and # of Health Courses

		Mean Score on ATT Items	Mean Score on SN Items	Mean Score on PBC Items	Prior to graduating, I completed _____ health education courses during my teacher education training.
I would describe my health status as:	Pearson Correlation	.034	.025	.280*	.076
	Sig. (2-tailed)	.771	.830	.014	.476
	N	76	76	76	90
I exercise approximately _____ days/week.	Pearson Correlation	.044	-.005	-.126	-.255*
	Sig. (2-tailed)	.707	.965	.279	.015
	N	76	76	76	90

Data provided in Table XL focused on respondents self-reported "health status." Very few (10.8%) described themselves as "below average," 44.1% as "average," 29.0% as "above

average" and 12.9% as "excellent." Fifty-one respondents (54.9%) described their health status as average or below. Data for health status was missing for three respondents (3.2%) resulting in a usable sample of 90. There was statistical significance when "health status" was correlated with the mean score of the seven "attitudinal" Likert scale items ($p \leq .034$) as well as with the seven "subjective norms" Likert scale items ($p \leq .025$)

Table XL. I would describe my health status as:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below Average	10	10.8	11.1	11.1
	Average	41	**44.1**	45.6	56.7
	Above Average	27	29.0	30.0	86.7
	Excellent	12	12.9	13.3	100.0
	Total	90	96.8	100.0	
Missing	System	3	3.2		
Total		93	100.0		

Information regarding self-reported "level of exercise from seven to one-day-a-week-or-less" is reported in Table XLI. Over two-thirds (62) of the 93 respondents (66.7%) indicated very little time invested in exercise (three days-per-week or less) with the majority (27, 29%) reporting only three-days-a-week followed by one-day-a-week responders (23.7%). Only one third (30.2%) reported exercising four or more times a week. Exercise frequency data was missing for three respondents (3.2%) resulting in a usable sample of 90. Reported exercise infrequency seems consistent with the findings for self-reported health status. There was also statistical significance when "level of exercise" was correlated (Pearson Product Moment) with the mean score of the seven "attitudinal" Likert scale items ($p \leq .044$) and the mean score of the seven "subjective norms" Likert scale items ($p \leq .-.005$).

Table XLI. I exercise approximately _____ days/week.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7 days/week	2	2.2	2.2	2.2
	6 days/week	4	4.3	4.4	6.7
	5 days/week	9	9.7	10.0	16.7
	4 days/week	13	14.0	14.4	31.1
	3 days/week	**27**	**29.0**	30.0	61.1
	2 days/week	13	**14.0**	14.4	75.6
	1 day a week or less	22	**23.7**	24.4	100.0
	Total	90	96.8	100.0	
Missing	System	3	3.2		
Total		93	100.0		

When a fourth predictor "number of health courses completed prior to graduating" was compared with A, SN, PBC, no significance was found (A, p≤ .124; SN, p≤ .227; and PBC, p≤ .185) (see Table XLII).

Table XLII. Mean scores for A, SN, PBC and # of Health Courses

		Mean Score on ATT Items	Mean Score on SN Items	Mean Score on PBC Items
Prior to graduating, I completed _____ health education courses during my teacher education training.	Pearson Correlation	.124	.227*	.185
	Sig. (2-tailed)	.284	.048	.110
	N	76	76	76

Sample Group Demographics

The school of education's office of teacher certification and field placement provided the original contact list of names by semester of completion and the initial source of email addresses for 157 students/graduates composing the sample population. Once the first wave of contacts was initiated, a great deal of information on this list was found to be obsolete (name changes, phone numbers, mailing addresses, and emails). The list of names was then forwarded to both the Fairmont State University Alumni Association and the West Virginia Department of Education

with letters of introduction/explanation and requests for assistance in locating email/contact information for its members. While waiting for responses from these two organizations searches were undertaken on Facebook and MySpace, resulting in the location of additional members. Lastly, the university registrar's database provided the "permanent" but generally out-of-date list of students' addresses and phone numbers. A table of all accrued contact information was compiled; as new phone numbers, addresses and emails were discovered, they were added. Ultimately, no single source provided a majority of contact information. The final effort to contact participants occurred by phoning numbers listed on the university's permanent record. Much of this information was up to three years old, and often lead to the contact of parents or grandparents. Many from the original list had married and changed their names since graduating. Of the original 157 names provided by the student teaching placement office, 144 usable emails were located leaving 13 individuals who were ultimately unreachable.

The survey instrument gathered demographic data from respondents including "age," and "gender," (see Tables XLIII and XLIV). This study sought to collect data from "ready-to-graduate" or "newly graduated" students so it was reasonable that 73 of 93 respondents (78.5%) were between 20 and 27 years old. Age data was missing for three respondents (3.2%) resulting in a usable sample of 90. Eighty-two respondents indicated they were "female" (88.2%); seven were "male" (7.5%). Gender data was unreported/missing for four respondents (4.3%) resulting in a usable sample of 89 (see Table XLIV). Data was gathered on a number of other variables such as professional status (undergraduate or graduate) (see Table XLV), program completion timeline (one, two, three years) (Table XLVI), current (employment) teaching status (Table XLVII); and number of health courses completed prior to graduating (see Table XXVIII). The school of education's office of teacher certification and field placement provided the initial list of

contacts. To qualify for each semester's list members had to have completed all coursework in the elementary teacher preparation program prior to enrollment in their student teaching placement. Thus, very few from the sample population were still classified as "undergraduate" (Table XLV). This disparity was unexpected since during the spring 2011 semester, 25 were enrolled in their final semester of study. It was assumed there would be a higher number of respondents from the most recent year of potential participants (those yet to graduate). Eighty-eight respondents (94.6%) identified themselves as graduates and there was no missing data for this item.

Table XLIII. "I am between the ages of:"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-23	**25**	**26.9**	27.8	27.8
	24-27	**48**	**51.6**	53.3	81.1
	28-31	4	4.3	4.4	85.6
	32-35	2	2.2	2.2	87.8
	36 or above	11	11.8	12.2	100.0
	Total	90	96.8	100.0	
Missing	System	3	3.2		
Total		93	100.0		

Table XLIV. "My gender is:"

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	82	88.2	92.1	92.1
	Male	7	7.5	7.9	100.0
	Total	89	95.7	100.0	
Missing	System	4	4.3		
Total		93	100.0		

When respondents indicated "graduate" for their professional status, Table XLVI was designed to explain their timeline for program completion. While 93 of 144 respondents participated, only 78 (83.9%) provided feedback on this particular item.

Table XLV. I would describe my professional status as:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	An undergraduate senior completing my elementary-teacher program of study.	5	5.4	5.4	5.4
	A graduate of the elementary education teacher program of study.	**88**	**94.6**	94.6	100.0
	Total	93	100.0	100.0	

Graduates completing their program of study at least 3 years prior were most likely to respond (37.6%) while those graduating 2 years prior were least (16.1%). While 88 of 93 respondents identified themselves as "graduates of the elementary education teacher training program," fifteen (16.1%) failed to respond regarding their timeline for program completion resulting in a usable sample of 78 for this item. It is unclear what factors account for this non-response.

Table XLVI. If a graduate, I finished my program:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 year ago	28	30.1	35.9	35.9
	2 years ago	15	16.1	19.2	55.1
	3 years ago	**35**	**37.6**	44.9	100.0
	Total	78	83.9	100.0	
Missing	System	15	16.1		
Total		93	100.0		

Table XLVII describes the current teaching status (employment) of graduates. Of 93 respondents, only thirty-one (33.3%) reported they were "teaching full-time in an elementary classroom." Twenty-nine (31.2%) reported teaching under the "substitute" qualification. Eighteen (19.4%) reported "not currently teaching." Again, data specific to "current teaching status" was missing for 15 respondents (16.1%) resulting in a usable sample of 78 for this item. The culminating effort to solicit survey completion involved telephoning all potential

respondents using information from the university's permanent records or searching the phone book's white pages focusing on their last names and local addresses. Many conversations occurred after locating parents and/or grandparents. These more direct communications uncovered an unaccounted for issue in the survey. Several respondents reported that they were teaching in "permanent but part-time" positions; this response category was not included on the survey. It is therefore a possibility that several of the 15 non-responding members fell into this category.

Table XLVII. If graduate, I am:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	teaching full-time in an elementary classroom	31	33.3	39.7	39.7
	teaching as a permanent substitute in an elementary classroom	4	4.3	5.1	44.9
	substitute teaching in various locations	25	26.9	32.1	76.9
	not currently teaching	18	19.4	23.1	100.0
	Total	78	83.9	100.0	
Missing	System	15	16.1		
Total		93	100.0		

The 23 survey items targeting A, SN, and PBC were tested to assess inter/intra reliability; internal consistency was estimated to be reliable (Cronbach's Alpha coefficient =.901). A one-way ANOVA was run to determine within/between group significance for the seven "A" items, seven "SN" items, and nine "PBC" items. For the three constructs, only the attitudinal items were found to be significant (SST = 14.774, df 75, F 6.337, $p \leq .003$) (see Table XLVIII).

Table XLVIII.

		Sum of Squares	Df	Mean Square	F	Sig
Mean Score on PBC Items	Between Groups	1.100	2	.550	1.748	.181
	Within Groups	22.970	73	.315		
	Total	24.070	75			
Mean Score on SN Items	Between Groups	1.609	2	.804	2.036	.138
	Within Groups	28.840	73	.395		
	Total	30.448	75			
Mean Score on ATT Items	Between Groups	2.186	2	1.093	**6.337**	**.003**
	Within Groups	12.588	73	.172		
	Total	**14.774**	**75**			

Several assumptions were made during the initial undertaking of this investigation.

- The U.S.A. values health,
- Health behaviors can be changed over a short period of time,
- Exposure to health information and training somewhere during a 4 year college education will change what one has learned over the prior 17 years,
- Respondents will remember over time curricular specifics provided in one course,
- Public schools are a place to impact public health,
- Exposure to "quality information and experiences" during 5 hours of school will change what a child learns at home,
- Behavioral change can occur with elementary children before they leave 5th or 6th grade,

- In regards to the material, improving student's comfort, confidence discussing, and ability to teach it are the most important determinants for future health education implementation,
- Personal health status impacts intent to teach health, and
- Quality training influences intent to teach.

While some of these assumptions may have been faulty, most were the foundations for much of what is practiced in higher education.

If West Virginia continues to require its elementary teachers to deliver health instruction to children with little-to-no training, then teacher training institutions must discover how to understand the mind-set of future educators before assuming current training protocols are adequate. If the Theory of Planned Behavior is truly a valuable predictor of instructional intent as prior research would suggest, then recommendations from study direct us to invest our energies toward understanding and improving their attitudes toward teaching proficiency. As ever-expanding elementary curricula require educators to master more and more subject areas, more time and different training protocols may be required.

Initially, this study targeted the comparative success of instructional format – face-to-face vs. online instruction – as a major variable for teaching intent. It was discovered to be far less important factor when compared to the student's attitudes about the subject and the major programmatic influences (instructor/trainer, course requirement, course components, etc.). Prior to the meeting where the "proposal for research" was defined, instructional format was a primary component of this study. In Callejo, Fain and Slater's *Higher Education and Human Capital:*

Rethinking the Doctorate in America, Diaz refers to the academic snobbery often evidenced in higher education – the assumption that face-to-face is *always* superior format for instruction when compared to online. Yet online courses are evolving, potentially surpassing that of face-to-face in their capacity to collect/capture assessment and outcomes based data. Online instruction may develop a more objective assessment of work, more easily omitting subjective assessment that has generally been a component of face-to-face instruction (Callejo, et al. 2009). A better understanding of preservice and novice elementary teachers' attitudes, opinions of powerful others, and perceived abilities toward health education as they enter teacher training could help program administrators and teacher trainers invest their instructional energies more wisely.

Chapter 5

CONCLUSION/SUMMARY

Introduction

The research problem for this study was to clarify programmatic training influences that affect the perceived behavioral intent of preservice and novice elementary teachers to teach health education. By first researching an array of possible influences on levels of intention (attitude, subjective norms (influential others), and perceived behavioral controls (ability, comfort, confidence)), correlational and experimental techniques were used to refine this investigation. Prior research suggested that behavioral intent was most profoundly connected to teaching performance; however, results from this study suggest that attitudinal response and influential others are more important. A better understanding of these connections could improve the effectiveness of instructional implementation within the elementary health curriculum.

The October 2009 U.S Census Bureau's Current Population Survey reported a K-5th grade enrollment of 24,495,000 children in America (http://www.census.gov/hhes/school/data/cps/2009/tables.html). The initial question sparking this investigation asked, "If the health of America's children is spiraling out of control at an ever increasing pace, what single, immediate action could be taken to halt, slow or reverse it?" That question generated a second: "if a solution were found, how could we reach all these children?" The obvious answer whatever the action, is to deliver it through America's education system.

America's elementary classroom teachers are America's health education conduits as they have access to young children for 180 days per year. Research has shown that children often adopt the attitudes of their teachers. If children believe that health is important to their teachers, it becomes important to them. Therefore, that same rule must apply for novice teachers who are

learning to become educational professionals. Preservice training institutions and educators must reflect these same attitudes toward health to persuade new teaching professionals to become promoters and advocates for health as well as healthy role-models. Therefore, this investigation sought to discover the impact of the preservice training experience on the attitudes of preservice/novice teachers toward health education in order to predict future teaching behavior.

To accomplish this, the following survey items were asked of a sample population consisting of elementary education students either enrolled in their final phase of study or graduated from the Fairmont State University elementary teacher training program within the last three years:

- How does a preservice training requirement in health education influence the behavioral intent of elementary candidates and novice teachers toward health education?
- How does an institutional factor like a *course content requirement* in health education influence behavioral intent toward health instruction?
- How does an institutional factor like a *course content requirement* in health education influence attitude toward health instruction?
- To what extent is an institutional factor like the curricular content of a health education course associated with the value held for health education?

A review of the literature in chapter two produced three focus areas for this investigation: Teaching Practice in Health Education; Educator Attitudes Regarding Health Education; and The Training of Elementary Educators in Health Education.

Very little was known about teaching practice in elementary health education until three national studies were undertaken in the 1960's. Discoveries targeted "time" and instructional "focus" for health at the classroom, school, district and state levels. These discoveries led to

investigations on "health requirements" of teaching professionals. Ultimately, the need for more and improved health instruction exists because of continued limitations in its delivery.

The void in research examining educator attitudes toward health education was alarming since it was found to be the most significant predictor for this study. No prior assessments exist that examine teachers' attitudes toward the delivery of comprehensive health and no where could a connection be found that assessed pre and post training attitudinal measures or perceived influences of training program coordinators, instructors, and curricula.

In reviewing the studies targeting health training for elementary teachers, not one examined teaching skills for "comprehensive health instruction" acquired during the preservice experience. Most research focused on individual health-topic training or on a particular type of training delivery. While only twenty-six states currently define health education training requirements for elementary educators, the most problematic finding was the accepted continuation of the "learn-as-you-go" approach, which has proven ineffective for health instruction. Practitioners will not teach what they have not been given an opportunity to practice or see modeled. Preparation programs cannot wait until mandates force change but must step up and modify their training protocols engineering teachers who are passionate, proactive, and prepared to accept the responsibility to promote a healthy America through the education of young children.

A plan to discover the attitudinal impact of preservice training on novice teachers was described in chapter three. This was accomplished through the development of a collection of survey items, which were assembled in an electronic format (Survey Monkey) to answer the four research questions, targeting "attitudes," "subjective norms," and "perceived behavioral control" toward health education. This survey was presented to 144 potential respondents who had

completed their preservice training sometime within the past three years. They were also queried on issues designed to assess their "value" for health; these included: health status, exercise frequency, and a ranking for the discipline of health education compared to math, science, technology, and reading/language arts.

If elementary teacher-trainers had a tool that could help them assess the attitudes of preservice teachers toward health education as they enter their program of study, they could provide responsive coursework designed to increase students' value for it through the acquisition of specific skills and experiences. Since value for health instruction can be influenced by the attitudes of instructors, opportunities for students to witness best teaching practices modeled by instructors and be given rehearsal on these are most important in laying the foundation for implementing effective health instruction once hired to teach. Findings from this dissertation could be used to move higher education programs of study in that direction.

Results provided in chapter four were based on a variety of demographic variables such as age, gender, professional status and graduation timeline, as well as assessments of student and novice elementary teacher perceptions. Given that this investigation is the first to examine programmatic influences on teaching intent for health, much of the discussion will involve high inference.

The majority of the study's subjects were female (88.2%) with very little to any teaching experience. This was expected as faculty in elementary classrooms and students in training programs have become predominately female. Since response to the survey was anonymous, there was no way of knowing who participated. Still, it was surprising to learn that such a low number of "preservice" respondents participated, since nearly 20% were among those contacted.

In predicting future health instruction, “attitude” and “subjective norms” proved to be statistically significant while “perceived behavioral control” was not. Attitudes existing upon program entry or those altered by program participation were the most important predictors of future instruction. However, “powerful others” (program coordinators, instructors, cooperating field-placement teachers, etc.) throughout their program of study must also be considered, because of their power to influence “attitudes.”

Whether respondents reported the completion of training on “three-or-more” or “no” curricular components in health, their attitude was certainly influenced by the completion of a required, health education teaching methods course. Sixty-percent of the respondents were supportive of training in health education as measured by attitudinal items, 46% by subjective norming items, and 66% of perceived behavioral control items, which stated, “strongly agree” to its inclusion as part of their elementary preservice training. This was further substantiated when “value” for health education was correlated with behavioral intent. More students “valued” health education regardless of their self-reported levels of “exercise frequency” and “health-status;” relationships existed between these two “value” factors and “attitude” and “subjective norms.”

Whether or not respondents remembered specific training components, took more health courses than a required teaching methods course, or practiced health-enhancing measures such as frequent exercise, they valued their training in health education. Given this, preservice training programs must do their best to provide them with the key elements proven most effective for classroom application: modeling and rehearsal.

Data Collection Patterns

All teaching block enrollees and elementary program graduates from the current and past three academic years were included on the list of contacts. Every conceivable effort was used to garner their participation. Each was emailed a letter explaining the project and requesting their participation on the completion of an attached electronic, one-time-only survey. The timeline for contact/participation began in late April 2011 and ended on August 15, 2011.

Survey Development Resources

An examination of survey items from fifty-three prior studies in the area of teacher training preceded the amassing and development of the initial 120-item list, which ultimately expanded to nearly 530 items. The final list was culled and revised into a manageable, 38-item instrument. The intermediary process included an initial review of items by a group of thirty-nine, secondary classroom health educators. Second, twelve university professors of health education reviewed it. Third, fifty-seven elementary classroom teachers read it as a group and provided feedback on each item. Once the final set of survey items was established, the survey was built in "Survey Monkey" an electronic survey program instrument that could easily be emailed. It was then pilot-tested by elementary education teaching professionals from six different programs of study; it required approximately 10 minutes for completion. Once last-minute changes/suggestions from these individuals were made, it was ready for dissemination to the sample population.

Contacting the Sample

Locating all potential respondents required an attention to detail and persistence using seven different networking mechanisms (FSU office for student teaching placement, FaceBook,

MySpace, WV Department of Education office of Human Resources and Teaching Certification, FSU Alumni Association, FSU registrar's office, and the telephone white pages).

Sample Demographics

The original sample afforded potential responses from an inclusive list of 12 males, which was less than .08% of the total population. Ultimately, 11 of the 12 responded, resulting in a female response rate of 88.2%. Forty-eight of 93 respondents (51.6%) were between the ages of 24 and 27 years old. Eighty-eight respondents (94.6%) were FSU program graduates.

A review of the literature targeting social cognitive learning (SCL) was initially considered for this investigation because of the power of vicarious learning. The influence on novice teachers of cooperative teachers' modeled behavior during student-teaching field placements followed by behaviors modeled by teaching peers during later employment situations was the impetus suggesting this possible direction. However, SCL was discarded because the list of collateral influences seemed endless. The TPB provided a more conservative, finite list of three specific determinants, which seemed more manageable to assess. Initially, this investigation needed an instrument that measured preservice/novice teachers' understanding and preparedness on all content areas of health education, use of curricula, and all types of potential teaching strategies. Upon further reflection, the task to collect and manage this amount of data was far too expansive an undertaking for this study.

After an exhaustive investigation on behavior prediction, Icek Ajzen was discovered to be a pre-eminent leader in the study of readiness and behavioral intention. This led to the selection of the *Theory of Planned Behavior* (TPB) (Ajzen and Madden, 1986) which suggests our tendency to overestimate readiness to perform desirable behaviors and underestimate readiness to perform undesirable behaviors. The very best and brightest teaching professionals in

elementary classrooms are gold standard "academic generalists." However, teacher-training programs may erroneously assume that "potential" elementary educators are entering their training experiences with a balanced investment in *value* for all academic areas included in the elementary curriculum. Instructors of future teachers must acknowledge that these individuals enter programs at different levels of readiness, with different frames of reference, with potential biases toward the various academic disciplines. Therefore, there must be a way to discover/measure instructional readiness and intention. A study such as this could provide teacher-training programs with a better understanding of novice teachers' attitudes, perceived powerful others, and perceived abilities – precursors to instructional readiness.

Prior research in the area of teacher training has primarily focused on predicting the impact of training by measuring knowledge of health content or knowledge of teaching practice applications. Burak's 2002 use of the TPB to assess K-6 grade elementary classroom teachers enrolled in a graduate health teaching methods course was the study most similar in attempting to measure "intent to teach" by assessing attitudes, subjective norms and perceived behavioral controls (Ajzen and Fishbein, 1980) over that of basic content knowledge accrual. That investigation suggested a likely path for this study. Even though there are similar research frameworks, it is still difficult to generalize findings on "behavioral intention" to preservice/novice teachers when the only existing data comes from experienced classroom teachers.

After the dissertation proposal meeting, considerations and suggestions by the doctoral committee encouraged a change in direction for data collection. To assume that one instructional format was inferior to the other might bias the results when in fact, the course design and curricular implementation for both formats (online and face-to-face) were supposed to be similar

if not identical. A review of recent literature on face-to-face versus online course formats led to a deeper understanding of the problem. Consideration for technological innovations and recent improvements in the online course format offer instructors the opportunity to move away from instruction that has historically been riddled with subjectivity to more objective measures, especially in assessments, utilizing concrete resources for data collection and work product storage. The possible unseating of face-to-face instruction as the gold standard could result; preferably, it would force improvements in overall instruction regardless of format. For this investigation, comparing academic rigor between the two formats seemed pointless. Revelations regarding this type of academic *competition* would provide little if any new information on "intent" because differences (if the courses were actually equal) should be negligible. If course requirements between online and face-to-face formats (the original independent variable) are in fact, the same, it might provide only minimal predictive information on "teaching intent" when compared to the "levels" of instructional format (i.e. course components). Therefore, after further consideration on this point, a revision of hypotheses included:

- $H_0$1: There is no significant difference in attitudinal scores when comparing levels of degree requirements: course components. (removed: online/face-to-face formats). > revised to read:

  There is no significant difference in behavioral intent scores toward health education when comparing the levels of behavioral intent (attitude, subjective norms, and perceived behavioral control) (dependent variable) after completion of a required health course (factor of independent variable).

- $H_0$2: There is no significant difference in intention scores when comparing levels of degree requirements: course components. (removed: online/face-to-face formats) > revised to read:

There is no significant difference in intention scores when comparing training on specific course content.

- $H_0$3: There is no significant difference in attitudinal scores when comparing the course's instructional format to the course components > revised to read:

  There is no significant difference in attitudinal scores when comparing training on specific course content.

- $H_0$4: There is no correlational difference between the various course components when comparing attitudinal or intention scores > revised to read:

  There is no significant relationship between training on curricular content (course components) and value for health education.

- $H_0$5: There is no significant relationship between the levels of behavioral intent and measures of personal health.

Analyses following these modifications provided a great deal of insight into the perceptions of novice elementary teachers.

1. How does a preservice training requirement in health education influence the behavioral intent of elementary candidates and novice teachers toward health education? I thought the *requirement* of a teaching methods course would encourage novice teachers to realize how little they knew, how much more they could learn and would motive them to pursue further training. Findings told me that the completion of the *required* course positively influenced their attitude toward health education as a valuable academic discipline but did not show any evidence of the pursuit of post-graduate training.

2. How does an institutional factor like a *course content requirement* in health education influence behavioral intent toward health instruction? I thought that the *specific components within a required course* would function like *fertilizer* compelling them to move the instruction of classroom health toward the top of the elementary curriculum, which would be evidenced by a ranking of *most important* when compared to the other disciplines. There was no evidence to suggest that any single or grouping of course component(s) influenced respondents' perception of importance when compared to the other disciplines.

3. How does an institutional factor like a *course content requirement* in health education influence attitude toward health instruction? I thought that several, if not all of the selected course components would improve respondents attitude toward health instruction. There was no evidence to suggest that the course component selection had any effect on their "attitude" toward health education however, findings did suggest that the inclusion of a specific set of curricular health information was important to respondents. I believe this may have meant that coming in to the course they assumed health instruction would be more generalized, holistic, less topically specific and surely without a focus on instructional delivery. Once the course was completed, they realized there was quite a bit more to health education: perception may have moved from "philosophy" to "instructional reality."

4. To what extent is an institutional factor like the curricular content of a health education course associated with the value held for health education? I thought that each student would be alive with "ah- ha" moments, seeing the connective possibilities for health throughout the elementary curriculum. I thought they would see health as the glue that would help them turn a disjointed delivery of diverse disciplines into a cohesive learning program for children. Exposure to health content may have been less important an influence when compared to the

opportunity to witness and rehearse teaching practice. Prior research assessing *value* and *importance* for health education whether in general or by specific health topics always improved in post-training assessments. Findings from this study leave me wondering. There is great difficulty assessing *attitude* through a survey. It would take great consideration to develop a finite set of survey items focusing on the impact of modeling and teaching rehearsal – that information might provide greater insight into this issue than was derived from this study.

The survey items tested high for validity and reliability indicating their design/selection was on target, consistently measuring what was intended. Since "attitude" proved to be the most significant component of intention toward health instruction, further research should target a more expansive assessment of factors proven to influence attitudes. If this study were repeated, investigations on factors for subjective norms and perceived behavioral control would be substituted with additional survey items targeting varied instructional components and use of teaching methodologies. A better understanding of perceptions regarding experiential applications due to rehearsal during preservice teacher-training would be informative.

Initially, the plan was to gather information on "factors" that influence teaching intent. Once decided, efforts to discover the determinants of attitude, subjective norms and perceived behavioral control were undertaken. After an exhaustive search of the literature, no single instrument was available to target these variables as they pertained to health instruction; so began survey developed. In hindsight, an inordinate amount of the overall time was invested in this area of research and instrument development.

If possible, it would be beneficial to gather informational program descriptors targeting "attitude" from an expansive list of accredited elementary teacher preservice programs. That

investigation would target "affective" instructional, experiential, and cooperative applications. Once accomplished, this information would drive a revision of the existing survey instrument. Then, preservice students from a random sample of these programs (from across the county?) would take the survey to determine which program components most significantly influence their attitudes toward future health instruction.

Initially, it was believed that gathering data on the "opinions" of preservice and novice teachers was all that was necessary. From this, a sound preservice training program could be constructed that would ignite teachers with a passion for health instruction. That kind of research "myopia" was counterproductive. Believing one knows the answer to a question before it is asked defeats the goal of research: to learn for the sake of learning. That construct was known but not internalized; not until this project was complete was it truly appreciated. The goal should have been to determine what, if any factors positively influence society's attitudes toward health. Surely, that information would be similar for teachers. Ultimately, the bull's eye for a study like this was far too broad.

To answer the question "did this study clarify programmatic training influences affecting the behavioral intent of preservice/novice elementary teachers toward health instruction?" more time and energy must be invested to understand the attitudes of elementary teacher-trainers as they pertain to health. A significant body of research on the adoption of teacher attitudes, by their students, exists. We should then measure what is measurable. There are too many extraneous, collateral issues involved in defining "influences" thus one area alone (i.e. instructional methodology, teaching resources, course curricula, and/or course learner outcomes with matched performance assessments) should be the focus of an investigation of this nature.

Summary

This investigation sought to understand the perceptions of elementary novice teachers toward health education in order to assess behavioral teaching intent, and to determine, if possible, which factors were most influential in promoting responsibility and value for its instruction. As the research suggested, I gathered data on their attitudes, subjective norms and perceived behavioral control, three determinants deemed significant in predicting behavioral intent. Through measures of frequencies, rankings on value, assessments on relationships between perceptions and behaviors, I found that attitude was most influential and correlational in predicting intention and assessing value.

Implications for the Field of Health Education

Since an exhaustive investigation of all research undertaken on the "health" training of elementary preservice, and classroom teachers was undertaken for this study; a meta-analysis of those studies could be performed, published and promoted with teachers and administrators of the nearly 30 million elementary children in school today as well as with the trainers of those teachers. A clear explanation and discussion on existing research in this area would be extremely beneficial to preservice program instructors as well as elementary classroom teachers who are children's second most important role models for health, after parents. The lengthily list of bourgeoning health crisis now make a knowledge of health education and quality applications just as important for the elementary teacher as is special education.

The Centers for Disease Control and Health Promotion identified poor nutritional choices and physical inactivity as two of the nations six major health issues both contributing to obesity which is out of control in the US. The perfect storm of political decisions have aligned to

contribute to this problem: schools have been forced to cut out or cut back their physical activity in the form of shorter or non-existent recess opportunities; the cutting out or back of physical education opportunities; nutritional food choices/options in school cafeterias are limited or are being eliminated; and the high cost of food production and transport puts financially strapped families in a place where purchasing fresh fruits and vegetables is a luxury they can afford less and less.

These factors and many others place the elementary teacher in the position to assume an extra burden of encouraging/promoting better health choices. To do this they must be more articulate /well versed and able to model the health behaviors they promote. With bourgeoning health issues such as obesity, diabetes, hypertension, and cardiovascular diseases appearing in America's population at younger and younger ages, we will be witness to ever-increasing health crisis in the near and distant future.

Future Research

The following are a few ideas for future research resulting from the literature review performed for this study, from questions which arose during this investigation, and from discoveries uncovered in the data:

- It would be valuable to assess novice elementary educators from other institutions (across this state) to see if *attitude* is also the determining factor influencing health instruction.
- It would be valuable to learn what if any experiential teaching rehearsals are included in other preservice programs
- It would be helpful to expand this study to a larger comparison group across the state, initially focusing on novice teachers then expanding to include practicing teachers.

- It would be valuable to be able to follow this study's respondents for 5 years to see what if any change might occur: would they pursue continuing education opportunities in health, if provided?
- It would be interesting to create an experimental group who could be provided regular experiential health application workshops that target affective learning that could be compared to a control group to see if there are differences in the health of their children.

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Appendix 1

FAIRMONT STATE UNIVERSITY

June 30, 2011

Dear Elementary Education Teacher Candidate/Teacher,

I am writing to request your participation on a survey focusing on *your* preservice teacher preparation specific to HEALTH EDUCATION at Fairmont State University.

This survey is designed to collect information on your perspectives of your FSU teacher-training and experiences in order to improve or reinforce the most effective programming aspects in preparing elementary teachers to teach HEALTH EDUCATION and to strengthen their commitment to teach HEALTH EDUCATION once employed.

Your participation in the survey will be anonymous; your name will not be collected or attached to your responses. This short survey should take you no longer than 10 minutes to complete. I will be using this data to complete my doctoral dissertation and would be happy to provide you with my findings.

I thank you in advance for your participation.

With greatest appreciation,

Beverly A. Michael
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Appendix II

Page 1

1. My age in years is: 19 or below 20-23 34-27 28-31 32-35 36 or more

2. My gender is: Female Male

3. I would describe my current physical health as:

Poor Below average Average Above average Excellent

4. I exercise approximately _____ days/week.

7 days/week 6 days/week 5 days/week 4 days/week 3 days/week 2 days/week

1day/week or less

5. Prior to graduating, I completed _____ health education courses during my teacher education training.

zero/none one two three four five six or more

6. I would describe my professional status as:

An undergraduate senior completing my elementary-teacher program of study

A graduate of the elementary education teacher program of study

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Page 2

1. If a graduate, I finished my program:

1 year ago 2 years ago 3 years ago

2. If graduate, I am:

Teaching full-time in an elementary classroom

Teaching as a permanent substitute in an elementary classroom

Substitute teaching in various locations

Not currently teaching

3. Please select any of the following training areas included in your POST-GRADUATE continuing education. (Check all that apply):

Principles of health and wellness

Current health issues/needs critical to elementary children

Comprehensive health content focusing on instructional scope and sequence

Behavioral risk areas - identified by the CDC as "most damaging to health and life"

Opportunities to see experiential and cooperative teaching strategies modeled

Opportunities to practice experiential and cooperative teaching strategies

Coordinated school health programming model

Other (please specify)

Page 3

1. Please select any of the following training areas included in your UNDERGRADUATE teacher education program. (Check all that apply):

Principles of health and wellness

Current health issues/needs critical to elementary children

Comprehensive health content focusing on instructional scope and sequence

Behavioral risk areas - identified by the CDC as "most damaging to health and life"

Opportunities to see experiential and cooperative teaching strategies modeled

Opportunities to practice experiential and cooperative teaching strategies

Coordinated school health programming model

Other (please specify)

Page 4

1. For each of the following items, please indicate your level of agreement by selecting the appropriate response.

Strongly Disagree Disagree Neutral Agree Strongly Agree

I (will) teach Health content to my elementary students.

I am confident that I could answer most Health questions asked by an elementary student.

My teacher training provided me with the skills to integrate Health into the other subjects I (will) teach in the elementary classroom.

I know how to integrate Health content into various subjects within the elementary curriculum.

Health content was integrated into a variety of courses within my teacher training program of study.

The instructors in my teacher training program were knowledgeable about Health Education at the elementary level.

My teacher training provided me with enough Health content to teach it at the elementary level.

My knowledge of Health content – specific to elementary level teaching – is comprehensive.

Health Education should be integrated throughout the elementary curriculum.

My teacher training required me to incorporate Health content into my clinical experiences.

There was too much Health content required in my elementary teacher training.

The current Health status of elementary children in the U.S. intensifies my commitment to teach health in my elementary classroom.

My teacher training provided me with enough practice using applied and experiential learning in Health Education to use them in the elementary classroom.

There is too much Health content included in the elementary school curriculum.

I model/practice the health principles I (will) teach my elementary students.

When I teach, I (will) integrate health content throughout the elementary curriculum.

I (will) participate in continuing education opportunities in Health when available.

My teacher training provided me with enough Health content to adequately teach it at the elementary level.

My teacher training provided me with multiple learning opportunities in Health Education.

My teacher training increased my appreciation for Health Education at the elementary level.

Health Education is best addressed through lessons that focus specifically on Health content.

When resources are available, I prefer to utilize speakers to present Health content to my elementary students.

My teacher training experience provided me with a wide range of opportunities to practice teaching Health.

Page 5

1. Please rate the relative importance of each of the following topics for elementary students.

Most important 2nd most important 3rd most important 4th most important Least important

Math Science Health Technology Reading/Language Arts

2. Please use the space below to offer comments regarding this survey and/or Health Education ion elementary schools.

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PROFESSIONAL EXPERIENCE

Jan 2004 – Current — **FAIRMONT STATE UNIVERSITY, FAIRMONT, WV**
Instructor of Health, Department of Health and Human Performance
Teaching Health Education Foundations courses for all Health Majors, Health Education Teaching Methods courses for both Elementary & Secondary Education majors, upper division teacher education courses in human sexuality & school health.
Prepared NCATE curriculum application (April 2004) and each annual report thereafter; most recently September 2011. Prepared the program review report for institution's Health Science program certification. Grant writer and manager for FSU's Tobacco Use Prevention & Education Coalition (Tobacco-Free Falcons) since its beginning in 2005. Coordinator & supervisor of placements for Health Science program Interns. Wrote program revisions for Health sciences and Health Education Teacher Education programs. Developed five new Health education courses. Institutional Curriculum Committee member. Professional Development School Liaison for Big Elm Elementary.

July 1998 – Current — **TEXAS A&M UNIVERSITY, COLLEGE STATION, TX**
Graduate Teaching Assistant, Department of Health & Kinesiology
Teaching health education methods courses for teacher preparation, human sexuality, and personal health courses.

Sept 1997 – June 1998 — **THE TEXAS A&M UNIVERSITY SYSTEMS, COLLEGE STATION, TX**
Executive Assistant, School-University Partnerships Project
Coordinate conferences, workshops, and cooperative efforts between/for TAMUS Colleges of Education, Texas Education Agency, and public school educators; examine research issues in teacher preparation and compile data, report and publish findings.

Oct 1996 – Aug 1997 — **TEXAS A&M UNIVERSITY, COLLEGE STATION, TX**
Research Associate, Dept. of Health & Kinesiology
Project Manager for TEA - ESR II violence prevention curriculum development and drug prevention curriculum rewrite.

Jan 1995 – Sep 1996 **MARY BABB RANDOLPH CANCER CENTER, WVU, MORGANTOWN, WV**
Project Manager of the Appalachia Leadership Initiative on Cancer (National Cancer Institute-ALIC) for WV & OHIO
Direction and coordination of Cancer Education activities through the community-coalition model. Supervision of two state coordinators, 15 counties in 12 regions, throughout all of WV and southeastern OHIO. Facilitator of Taylor and Boone (WV) County Cancer Coalitions.

1993- 1996 **WEST VIRGINIA UNIVERSITY, MORGANTOWN, WV**
Adjunct Assistant Professor, WVU School of Physical Education
Teaching methods courses for school health education.

1991 - 1994 **WEST VIRGINIA UNIVERSITY, MORGANTOWN, WV**
K-3 Health Education Project Coordinator
Design, produce and coordinate of a comprehensive, culturally appropriate, Health Education curriculum for rural WV communities. Assimilate teaching manuals and resources for 60, K-3 classroom teachers. Present training through two venues: a 3 1/2 day in-service workshop (control group); and nine, two-hour, interactive satellite television broadcasts. Provide project maintenance and site support through quarterly pilot school visits. Design evaluation instruments and gather data on project content and training components.

Supervisor - Student Teachers: Public School Health Education

Spring 1992 **WEST VIRGINIA UNIVERSITY, MORGANTOWN, WV**
Physical Education Teaching Assistant
Instruct general program physical education gymnastics courses.

1989 - 91 **MARION COUNTY SCHOOL, FAIRMONT, WV**
Floating Instructor
Full time placement, East Park School, grades 1-8; & Fairmont Senior High School, grades 9-12.

1988 - 89 **EAST DALE ELEMENTARY SCHOOL, FAIRMONT, WV**
Health and Physical Education Instructor
Instruct Health to all 5th and 6th graders.
Instruct Physical Education to 520, 1st through 6th graders.

1983 - 84 **WEST VIRGINIA UNIVERSITY, MORGANTOWN, WV**
Graduate Teaching Assistant, School of Physical Education
General program instructor of 7 physical education courses each semester (archery, aerobic conditioning, weight training, jazz, gymnastics, track, etc.) supervised by Dr. Patricia Fehl.

Gymnasium Director for "Kinderskills" motor skills acquisition program for children ages 3-5, supervised by Dr. Linda Carson.

SELECTED PRESENTATIONS

Kansas State Department of Education's Symposium on Adolescent Health Issues: "Behavioral Classroom Interventions for Adolescents." July, 2003, Overland Park, KS.

TSHA's Annual Conference, In the Spirit of Health: The Whole Child. "Selling Health Education to a Difficult Audience," February 2003, El Paso, TX.

Maine's's DOE - Comprehensive School Health Education Summer Institute: Investing in Health for Academic Success. (Keynote) "A Skills-Based Approach to Helping Students Achieve the Health Education Standards," August 2002, Sugarloaf Resort, Maine.

Maine's's DOE - Comprehensive School Health Education Summer Institute: Investing in Health for Academic Success. "Communicating a Positive Health Education Message to Diverse Groups," August 2002, Sugarloaf Resort, Maine.

Maine's's DOE - Comprehensive School Health Education Summer Institute: Investing in Health for Academic Success. "Improving Communication through Health Education: Skills for Middle & High School Students," August 2002, Sugarloaf Resort, Maine.

Maine's's DOE - Comprehensive School Health Education Summer Institute: Investing in Health for Academic Success. "Listening Skills that Promote the Group Process," August 2002, Sugarloaf Resort, Maine.

Kansas State Department of Education's Symposium on Adolescent Health Issues: Tobacco. "The New Face of Today's Tobacco Industry: Who's the Butt of the Joke?" February 2002, Overland Park, KS.

Kansas State Department of Education's Symposium on Adolescent Health Issues: Intentional/Unintentional Injuries. "Entitlement to the 40 Developmental Assets: Engineering the Ownership of Critical Building Blocks that Shape Resilient, Risk Avoiding Youth," February 2001, Overland Park, KS.

ASHA Annual Conference, "Forming Effective Health Education Advisory Councils: The Ultimate Community Collaboration," October 1999, Kansas City, MO.

ASHA Annual Conference, "Addressing Public Health Priorities Utilizing Health Education Advisory Councils," October 1998, Colorado Springs, CO.

Awards Ceremony for 1997 Texas State Educators of the Year, "The Partnership between TAMUS and Texas Public Schools," November 1997, Austin, TX.

ASHA Annual Conference, "Family Violence: A Child's View," October 1997, Daytona Beach, FL.

WVAHPERD Annual Convention, "Enhance Classroom Learning through Portfolios," October 1995, Glades Springs, WV.

WVAHPERD Annual Convention, " What Are We Doing about Nutrition in the 90's" plus "Nutrition Activities Workshop," November 1994, Canaan, WV.

WV Child Nutrition Conference, "Innovations in Nutritional Activities for the Elementary Child," October 1994, Charleston, WV.

National School Health Leadership Conference, "Positive Outcomes of Comprehensive Health Education for Grades K-3 in Rural WV," June 1994, Atlanta, GA.

National School Health Leadership Conference, "Launching Project H.O.P.E. in a Rural School Setting," June 1994, Atlanta GA.

Midwest District AAHPERD, " Delivering Comprehensive Health Education to WV's Children: A Pilot Project," February 1994, Morgantown, WV.

ASHA Annual Conference, "Pilot Programs for Comprehensive Health Education," September 1993, Pittsburgh, PA.

West Virginia Health Schools Committee Meeting, "The H.O.P.E. Pilot Health Curriculum Project for WV," May 1993, Mineral Wells, WV.

West Virginia University School of Medicine Intern Workshop, "Professional Expectations Affecting Health Education," February 1993, Morgantown, WV.

Comprehensive School Health Director's Workshop, "Curriculum and Training Models Issues," November 1992, Washington, D.C.

WVAHPERD Annual Convention, "Comprehensive School Health: The Project H.O.P.E. Program Design," October 1992, Oglebay Park, WV.

WVAHPERD Annual Convention, "The Health Workshop: HIV/AIDS, Smokeless tobacco, Abstinence Sexuality Curricula, Creative Teaching Techniques for the Classroom," October 1992, Oglebay Park, WV.

ASHA Annual Conference, "Federally Funded Health Education Projects," October 1992, Orlando, FL.

WVAHPERD Annual Conference, " Innovative Teaching Strategies for the Health Educator," September 1990, Huntington, WV.

PROFESSIONAL PUBLICATIONS

Michael, B. (2011). When students f*eel* emotionally weather-beaten, can teachers help them become weather-proof? An example of integrated instruction. Submitted to the Health Education Teaching Techniques Journal (pending publication).

Michael, B. (2011). Practicing "behavior change" applications using internet technology. Submitted to the Health Education Teaching Techniques Journal (pending publication.

Michael, B. (2011). Pre-service elementary educators' perceived influences regarding Health Education. Journal of School Health, (accepted - pending publication 2011).

Wiley, D. & Terlosky, B. (2000). Evaluating Sexuality Education Curriculums. Educational Leadership, 58(2), 79-82.

Assisted in the development and writing of "The Compendium of the 1997 Texas Teachers Forum," published by the Texas A&M University Systems, College Station, TX.

"The Texas Prevention Web-based Resource Guide: Drug and Violence Education" (called D.A.V.E.), found on the web at: http://dave.esc4.net/ (1996-97)

Assist in the development and writing of "Sowing Seeds in the Mountains: Community-Based Coalitions for Cancer Prevention and Control- publication No.94-3779." This is a 1994 monograph about the work of the Appalachia Leadership Initiative on Cancer (ALIC), a thirteen state, health promotion initiative sponsored by the National Cancer Institute, funded by the National Institutes of Health.

PROFESSIONAL MEMBERSHIPS

WV Alliance for Health, Physical Education, Recreation, & Dance
Texas School Health Association (TSHA)
American School Health Association (ASHA)
American Alliance of Health, Physical Education, Recreation, and Dance (AAHPERD)
Eta Sigma Gamma - The National Professional Health Education Honorary
American Association for Health Education (AAHE)
Previously: WVAHPERD, Midwest District AAHPERD, WVSHEC, WVEA, WV School Health Committee Member, WV Tobacco Prevention Coalition

PROFESSIONAL CERTIFICATION

1. West Virginia Public School Licensed Instructor
***K - 12 Physical Education**
***5 - 12 Health Education**
***5 - 9 Social Studies**

2. Certified American Red Cross Trainer
***First Aid * CPR *Emergency Care**
3. Certified Am. Health Foundation Level One Trainer
4. A.W.G.F. Level 1 Gymnastics Judge

PROFESSIONAL RECOGNITION

2001 / 2003 – Secretary, Texas School Health Association
2000 National Board for Professional Health Teaching Standards (repeated appointment)
1999 ASHA Sexuality Council Representative to the ASHA Board of Directors
1998 Member of ASHA's Sexuality and Curriculum Council Committees.
1996 Doctoral Student Scholarship TAMU - Division of Health & Kinesiology.
1995 WVAHPERD State Health Educator of the Year.
1994 WVAHPERD Conference Chair for Health Education.
1993-95 WV Department of Education, Physical Education Instructional Goals Development - Committee Member.
1993 WVU Special Recognition Award for University Grant Activities.

DISCOVERING THE PERCEPTIONS OF PRE-SERVICE/NOVICE ELEMENTARY EDUCATORS TOWARD HEALTH EDUCATION AND HEALTH INSTRUCTION IN THE ELEMENTARY CLASSROOM

Beverly A. Michael

Dissertation submitted to the
College of Human Resources and Education
at West Virginia University
in partial fulfillment of the requirements for the degree of

Doctor of Education
in
Curriculum & Instruction

Department of Curriculum & Instruction/Literacy Studies

APPROVAL OF THE EXAMINING COMMITTEE

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Date **David M. Callejo-Perez, Ed.D, Chair**