



Missouri State
UNIVERSITY

BearWorks
Institutional Repository

MSU Graduate Theses

Spring 2019

Examining the Effects of Service-Learning on Students' Perceptions of the CHES Responsibilities— a Pilot Study

Victoria M. Surratt

Missouri State University, Surratt13@live.missouristate.edu

As with any intellectual project, the content and views expressed in this thesis may be considered objectionable by some readers. However, this student-scholar's work has been judged to have academic value by the student's thesis committee members trained in the discipline. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

Follow this and additional works at: <https://bearworks.missouristate.edu/theses>

 Part of the [Curriculum and Instruction Commons](#), [Curriculum and Social Inquiry Commons](#), [Health and Physical Education Commons](#), and the [Public Health Education and Promotion Commons](#)

Recommended Citation

Surratt, Victoria M., "Examining the Effects of Service-Learning on Students' Perceptions of the CHES Responsibilities— a Pilot Study" (2019). *MSU Graduate Theses*. 3364.
<https://bearworks.missouristate.edu/theses/3364>

**EXAMINING THE EFFECTS OF SERVICE-LEARNING ON STUDENTS'
PERCEPTIONS OF THE CHES RESPONSIBILITIES— A PILOT STUDY**

A Master's Thesis

Presented to

The Graduate College of
Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Health Promotion and Wellness Management

By

Victoria Surratt

May 2019

EXAMINING THE EFFECTS OF SERVICE-LEARNING ON STUDENTS' PERCEPTIONS OF THE CHES RESPONSIBILITIES— A PILOT STUDY

Kinesiology

Missouri State University, May 2019

Master of Science

Victoria Surratt

ABSTRACT

Purpose: The purpose of this pilot study was to evaluate the effectiveness of a service-learning project on students' willingness, confidence, and perceived importance to incorporate the Certified Health Education Specialist, Areas of Responsibility (CHES-AOR), into their profession. It was hypothesized that students participation in a service-learning project in an undergraduate health and wellness course would be more willing, confident, and perceive it as more important to apply the CHES-AOR within their chosen health profession. **Methods:** Missouri State University students registered in the fall 2018, undergraduate Health and Wellness service-learning course (KIN-350-001), completed an online survey at the beginning and the end of the semester. Seven questions were structured to assess willingness, confidence and perceived importance for each CHES-AOR. The results were summed and analyzed using paired *t*-tests. **Results:** Fourteen (n=14) students completed both the pre- and post-surveys. Significant differences resulted in CHES-AOR I for confidence and total confidence mean scores, overall. No other significant differences were found in willingness and perceived importance. No significant difference in summed perceptions (C+W+PI) for each CHES-AOR. **Conclusion:** Students were more confident in CHES-AOR I the service-learning project was finished. Students are required to research their topic in depth and assess the need for this type of education on Missouri State's campus. Overall students were more confident to apply the CHES-AOR possibly because they gained the experience and skills in a real-world way with the use of Service-Learning. A larger sample and mixed method data tool is needed to gain more insight on how students understand the CHES-AOR when applied to their future health profession. The CHES-AOR are important responsibilities for all health professionals to understand, and this research helps to interpret that from the students' perspective.

KEYWORDS: health promotion, health education, Certified Health Education Specialist, service-learning, health professions

**EXAMINING THE EFFECTS OF SERVICE-LEARNING ON STUDENTS'
PERCEPTIONS OF THE CHES RESPONSIBILITIES— A PILOT STUDY**

By

Victoria Surratt

A Master's Thesis
Submitted to the Graduate College
Of Missouri State University
In Partial Fulfillment of the Requirements
For the Degree of Master of Science, Health Promotion and Wellness Management

May 2019

Approved:

Melinda Novik, Ph.D., Thesis Committee Chair

Kathy Nordyke, Ph.D., Committee Member

Sara Powell, Ph.D., Committee Member

Julie Masterson, Ph.D., Dean of the Graduate College

In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

ACKNOWLEDGEMENTS

I would like to thank my family and friends for allowing me the time to follow my passions and dreams: Kopelan, my wonderful and dedicated fiancé and best friend– you are always there to support me, make me laugh, and encourage me to go after anything and everything I want to accomplish; my amazing mom– thank you for always telling me I can do it, always being there for me when something was not going my way, reminding me that "this too shall pass," and raising me to be a strong, confident woman; To the rest of my family: Dad, Scott, Kim, Kylie, and Alec– thank you for being there when I needed the advice, encouragement, or just a friendly smile.

To my closest friends (or mentors), Jerilyn Reed, Rachel Anderson, Randi Montgomery, Tera Dierker, Angie Tiefenthaler, and Kaela Kite– thank you for your unwavering support, encouragement, patience, and giving me the confidence to finish my work (listening to me ramble about my research or setbacks), thank you for always being there for me every step of the way; a very special thank you to Rachel for being a listening ear to all of my challenges and helping me find solutions.

And last, but certainly not least, my amazing Thesis Committee; Dr. Melinda Novik– thank you for being the best mentor for the last six years; without your knowledge, expertise, advice, and passion for teaching, I would not be where I am today; I am forever grateful for all that you have done for me; Dr. Sarah Powell and Dr. Kathy Nordyke– thank you for your confidence in me, your leadership, expertise, and your mentorship through this process.

TABLE OF CONTENTS

Introduction	Page 1
Purpose of Study	Page 3
Nature of Study	Page 4
Confidence, Willingness, and Perceived Importance	Page 4
Key Terms & Operationalized Definitions	Page 5
Significance of Study	Page 6
Literature Review	Page 7
Certified Health Education Specialist	Page 7
Service-Learning	Page 11
Benefits of Service-Learning	Page 13
Evaluation of Service-Learning	Page 17
Methods	Page 20
IRB Approval	Page 20
Participants	Page 20
Service-Learning Project	Page 20
Survey Tool	Page 21
Data Collection	Page 22
Analysis	Page 22
Results	Page 24
Discussion	Page 34
Research Limitations	Page 35
Future Research	Page 36
Conclusion	Page 37
References	Page 39
Appendices	Page 42
Appendix A: IRB Approval from Missouri State University	Page 42
Appendix B: Service-Learning Project Rubric	Page 43

LIST OF TABLES

Table 1. Demographics of students who took both pre- and post-surveys	Page 25
Table 2. Frequency of responses for CHES-AOR I	Page 25
Table 3. Frequency of responses for CHES-AOR II	Page 26
Table 4. Frequency of responses for CHES-AOR III	Page 26
Table 5. Frequency of responses for CHES-AOR IV	Page 27
Table 6. Frequency of responses for CHES-AOR V	Page 27
Table 7. Frequency of responses for CHES-AOR VI	Page 28
Table 8. Frequency of responses for CHES-AOR VII	Page 28
Table 9. Comparison of means using paired <i>t</i> -test for CHES-AOR I	Page 29
Table 10. Comparison of means using paired <i>t</i> -test for CHES-AOR II	Page 29
Table 11. Comparison of means using paired <i>t</i> -test for CHES-AOR III	Page 30
Table 12. Comparison of means using paired <i>t</i> -test for CHES-AOR IV	Page 30
Table 13. Comparison of means using paired <i>t</i> -test for CHES-AOR V	Page 31
Table 14. Comparison of means using paired <i>t</i> -test for CHES-AOR VI	Page 31
Table 15. Comparison of means using paired <i>t</i> -test for CHES-AOR VII	Page 32
Table 16. Comparison of summed scores means using paired <i>t</i> -test for each CHES-AOR perception of Confidence, Willingness, and Importance	Page 33
Table 17. Comparison of summed scores means for all perceptions of each CHES-AOR using paired <i>t</i> -tests	Page 33

INTRODUCTION

Health Education was not a recognized certifiable career option until the National Commission for Health Credentialing (NCHEC) and the Society of Public Health Education (SOPHE) came together to create the certification process (National Commission for Health Credentialing [NCHEC], n.d.). Health education was taught in an educational setting, but it was hard to find health education practices in the community or public health entities that were held to a specific standard like other professions. In the United States today, health education/promotion are mixed among many health professions; and the career, "Certified Health Education Specialist", can be attained through the credentialing process. NCHEC (n.d.) and other health credentialing bodies created the seven Areas of Responsibility and its many competencies (updated in 2015) to outline the entry-level health education specialist profession; which were created to illustrate the knowledge, skills, and experience needed to execute health education/promotion as a career. The responsibilities and competencies originated from an 18-month research project, the "Health Educator Job Analysis 2010" (NCHEC, n.d.). The seven Areas of Responsibility and sub-competencies give specification and direction to the Certified Health Education Specialist profession and creates nationally accredited programs for both entry- and advanced-level health education specialists credentialing; Certified Health Education Specialists (CHES) and Master Certified Health Education Specialists (MCHES) exams (NCHEC, n.d.). Both exams certify health professionals who are passionate about health education/promotion and want to pursue a career in the Health Education/Promotion field. Passing the exam showcases the individual's mastery of the seven Areas of Responsibility and Health Educator Code of Ethics.

Since the creation of the CHES credentialing process, health education/promotion has become an emerging profession in the United States. According the U.S. Department of Labor and Statistics (DOL) employment of health educators is projected to grow 16 percent from 2016 to 2026 (U.S. Department of Labor Statistics [DOL], 2018). Health education/promotion, however, can be an objective of many health professions. Industries with the highest level of Health Education Specialists' employment are general medical and surgical hospitals and local government agencies [excluding public schools] (DOL, 2018). Most of the employed health educators work in clinical or governmental settings where five out of ten health educators work in healthcare or social assistance positions (DOL, 2018). Not all individuals in these settings are labeled "health educators", but are often found to be nurses, social workers, and/or health administrators.

Since health education/promotion is utilized in many health professions, future doctors, nurses, social workers, physical therapists, etc., might see a benefit when given the opportunity to learn health education/promotion in their undergraduate/graduate programs. It is known that health professions, of any type, are tasked with improving the care of their patients or clients (Berlin et al., 2018; Reynolds, 2005). For example, sick patients expect doctors to make them feel better; physical and occupational therapists are tasked with getting their patients back to activities of daily living (ADL); and/or social workers are expected assist their patients with access to resources. According to Bezner (2015), physical therapists are in an ideal position to promote health and wellness to their patients and clients. In this health field, physical therapists have access to unique populations and are well positioned to promote healthy choices for their patients like quitting cigarettes, improvement in nutritional health, and managing weight (Bezner, 2015). Individuals in undergraduate/graduate pre-health profession courses might

benefit from a course that teaches and allows students to apply the CHES seven Areas of Responsibility (CHES-AOR) in the classroom. In order to effectively apply and gain experience with CHES-AOR, universities can use service-learning. Service-learning gives an opportunity for students to gain experience, apply classroom instruction to real world experiences, and explore future career opportunities (Nordyke, 2016). A service-learning component tied with the objectives of the CHES-AOR can showcase the importance, improve student's confidence, and improve the willingness to apply health education/promotion in their future health professions regardless of career title. Service-learning is the medium that allows students to plan, implement, and evaluate the CHES-AOR, while also allowing students an opportunity to explore health education/promotion as a viable career.

Purpose of Study

The purpose of this study was to evaluate the effectiveness of a service-learning project on students' confidence, willingness, and perceived importance to incorporate the CHES-AOR into their future health profession. It was hypothesized that students who completed a peer-health education service-learning project in an undergraduate health and wellness course would be more confident, willing, and find it important to apply the CHES-AOR in their chosen health profession. There is little research evaluating students' attitudes, knowledge, and skills with the CHES-AOR while using service-learning as a medium to give students in a health professional field real world experience applying the CHES-AOR. This study creates an opportunity to evaluate the perceptions of confidence, willingness, and perceived importance in students enrolled in undergraduate pre-professional health degrees.

Nature of Study

The delimitations of this study include Missouri State University, undergraduate students registered in the fall 2018 Health and Wellness Promotion course (KIN 350, Section 001). These students are enrolled in the Kinesiology department degree program: Exercise and Movement Science, Pre-Professional or Health Study track. There were seven males and fifteen females enrolled in this course at the beginning of the semester, all at different class standings: eight sophomores, ten juniors, and four seniors (total 22 students). Assumptions of this study include: all participants responses to the survey questions are truthful, honest, and accurate; no outside factors (learning of the responsibilities in other courses before taking KIN 350) influenced the participants responses; each service-learning group was grouped fairly; and that each service-learning groups is gaining the same experience as other groups, such as getting experience presenting their created materials to an undergraduate course, GEP 101: First-Year Foundations.

Confidence, Willingness, and Perceived Importance

The survey tool was tailored to the CHES-AOR and designed with motivational interviewing (MI) in mind. There are many constructs in MI that make it a successful tool in health education, especially in helping an individual change their behavior. According to Miller & Rollnick (2013), one of the main ideas in MI is to increase the individual's self-efficacy. In order to access self-efficacy in patients, the interviewer will assess their confidence and willingness to change behavior (Miller & Rollnick, 2013). Confidence is a great predictor of change while willingness can be a good predictor of how important the change is to the interviewee. (Miller & Rollnick, 2013). Also, in MI, the interviewer will assess how important the behavior in question is to the patient (Miller & Rollnick, 2013). For example, an interviewer

may ask "why is it important for you to quit smoking" or "why is it important to you to smoke." The answer to that question can help determine if the change will occur internally– I know I need to quit for my own health; or externally–my family wants me to quit (Miller & Rollnick, 2013). These three ideas– confidence, willingness, and perceived importance– were used in the survey tool because they are the three best perceptions to showcase students' self-efficacy to use the CHES-AOR in their future health profession. These three perceptions also give the researcher insight on if students have the knowledge, skills, and attitude to utilize the CHES-AOR.

Key Variables & Operationalized Definitions

Health Education. any combination of planned learning experiences using evidence-based practices and/or theories that provide the opportunity to acquire knowledge, attitudes, and skills needed to adopt and maintain health behaviors (McKenzie, Neiger, & Thackeray, 2017).

Health Promotion. any planned combination of educational, political, environmental, regulatory, or organizational mechanisms, that support actions and conditions of living conducive to the health of individuals, groups, or communities (McKenzie, Neiger, & Thackeray, 2017).

Health Education/Promotion Profession. Collect and analyze data to identify community or individual needs prior to planning, implementing, and evaluating programs thus providing and managing health education programs to encourage healthy lifestyles, policies, environments to individuals, families, or communities (DOL, 2018).

Service-Learning. a pedagogical teaching method where course materials and content are connected with other material like real-world and hands-on experiences to supplement the

student's classroom learning; prepares students in civic responsibility and builds stronger community relationships while focusing on critical and reflective thinking (Nurdyke, 2016; American Association of Community Colleges (n.d.); Prentice & Robinson, 2010).

Significance of Study

As discussed in the purpose of this study, health professionals across all health fields find themselves performing health education/promotion techniques with their patients. The significance of conducting this study is important to the field of Health Education/Promotion and the pedagogical methods of service-learning. Results of this study extend on the small amounts of research that has been completed on the CHES-AOR and evaluation of career preparation for Health Education/Promotion.

Findings of this study will extend what is already known about service-learning, its benefits for students and universities, and it will give more information about how Missouri State Students are able to use and understand the CHES-AOR in their future health professions. Furthermore, results of this study advance the research of service-learning as a medium to teach the CHES-AOR to future health professionals to further encourage students to incorporate the responsibilities and advance health education and promotion to all health fields. The CHES-AOR are important responsibilities for all health professionals to understand, and this research helps to interpret that from the students' perspective.

LITERATURE REVIEW

Introduction

The review of literature will help discover the research related CHES-AOR, service-learning, and evaluation of service-learning and health education/promotion in relation to the CHES-AOR. Specifically, this review will showcase the importance of service-learning on improving student's abilities, confidence, and skill in applying the CHES-AOR to their specified career choice. Students in a pre- health professional field may have a benefit in learning the CHES-AOR to better serve their future patients. The use of service-learning as the medium to apply the responsibilities gives students the chance to explore why the seven Areas of Responsibility are central in any health education/promotion setting and may improve students confidence, willingness, and perceive importance of these perceptions.

Certified Health Education Specialist (CHES)

Health Education/Promotion Specialist is an emerging profession in the health profession field. According the National Commission of Health Education Credentialing [NCHEC] (n.d.) and the U.S. Bureau of Labor and Statistics [DOL] (2018) health educators are defined as:

"those that provide and manage health education programs that help individuals, families, and their communities maximize and maintain healthy lifestyles. Health educators collect and analyze data to identify community needs prior to planning, implementing, monitoring, and evaluating programs designed to encourage healthy life styles, policies, and environments."

Health education/promotion as a profession is steadily growing and becoming a desired job choice for many individuals interested in improving the quality of life of others. According to the

DOL (2018), there is an estimated to growth of Health Educators of 16 percent from 2016 to 2024.

As the profession of Health Education/Promotion began to grow and emerge, a set of responsibilities and competencies were developed to provide a comprehensive description of health education/promotion, showcasing the skills and knowledge necessary to carry out the occupation. NCHEC, other health credentialing bodies, and a team of health education specialists developed the seven Areas of Responsibility (verified in 2015) using the Health Education Specialist Practice Analysis 2010 (HESPA) study. NCHEC (n.d.), defines the responsibilities as:

"Area I: Assess Needs, Resources and Capacity for Health Education/Promotion; Area II: Plan Health Education/Promotion; Area III: Implement Health Education/Promotion; Area IV: Conduct Evaluation and Research Related to Health Education/Promotion; Area V: Administer and Manage Health Education/Promotion; Area VI: Serve as a Health Education/Promotion Resource Person; Area VII: Communicate, Promote, and Advocate for Health, Health Education/Promotion, and the Profession".

The HESPA 2010 study lead to the adjustment of the Health Education Model to include the term "health promotion" (NCHEC, n.d.). "Promotion was added to clarify the range of Health Education Specialists and describes the profession thoroughly.

The DOL (2018) compares Health Education/Promotion Specialists to similar clinical occupations like Dietitians, Social Workers, Physical Therapists, Occupational Therapists, and Mental Health Workers. When examining the job duties of these similar occupations, wording and vocabulary from the CHES-AOR are represented. Dietitians "promote" health and "manage" disease; Social Workers "plan appropriate" treatment for their clients; and Mental Health Workers "provide treatment and support" to those getting treatment from mental health or addictive disorders (DOL, 2018). There is some evidence the responsibilities are helpful to those health disciplines mentioned above, even though the skills are mostly taught in health promotion and wellness courses. The American Physical Therapy Association (APTA) actively looks for

more opportunities to incorporate health education/promotion and wellness in an effort to help with the chronic disease pandemic (Bezner 2015). Physical Therapist, Janet R. Bezner supports this idea in her article *Promoting Health and Wellness: Implications for Physical Therapist Practice*; "physical therapists are in an ideal position to promote health and wellness with their patients and clients" (2015). All health professionals and health care providers can actively participate in health education/promotion and in order to facilitate health and wellness in the physical therapy profession it is imperative that therapists have the knowledge and skills (Bezner, 2015). Applying the CHES-AOR can be an effective way for any health professionals to gain the necessary knowledge and skills when performing health education/promotion.

In addition to the professional standards and responsibilities, there are also health-related certifications that parallel with the health education/promotion certification process. The American College of Sports Medicine (ACSM), Certified Exercise Physiologist exam (EP-C) is one such example. The exam consists of questions on various topics including: "Health and Fitness Assessment, Exercise Prescription and Implementation, Exercise Counseling and Behavior Modification, Risk Management and Professional Responsibilities," the domains of the exam layout, each exam category, and the objectives each exam taker should acquire from undergraduate schooling to be successful on the exam (American College of Sports Medicine [ACSM], 2016). More specifically, module three of the ASCM EP-C exam, Exercise Counseling and Behavior Modification, relates the most to the components of the CHES-AOR. The themes and objectives of this module include: "optimize adoption and adherence of exercise and other healthy behaviors by applying effective communication techniques; behavioral strategies and motivational techniques; provide educational resources to support clients; refer other health professionals as indicated" (ACSM, 2016). This section relates to and mimics the CHES-AOR

and showcases the importance of "applying effective health communication techniques" and "providing educational resources" to help patients succeed and improve their quality of life. ACSM believes to be an effective exercise physiologist, individuals should be able to implement and administer health information successfully to their clients (ACSM, 2016). According to the CHES-AOR, implementation and administering health information are skills health educators should possess (NCHEC, n.d.). At Missouri State University, students enrolled in the Exercise and Movement Science undergraduate program are required to take the ASCM EP-C exam in order to graduate and receive their diploma; therefore, the relationship between CHES-AOR and ACSM already exists.

NCHEC is not only responsible for the creation of the Areas of Responsibility, but also responsible for evaluating individuals who are interested in becoming Certified Health Educators and creating Ethical Responsibilities for Health Educators. In order to effectively evaluate this profession, NCHEC created the Certified Health Education Specialist (CHES) exam. The exam "establishes a national standard for individual health education practitioners" (NCHEC, n.d.). NCHEC (n.d.) state the national certification allows those practicing health education/promotion numerous benefits like: "(1) national standards for all health education specialists, (2) confirms the specialists knowledge and skills, (3) allows employers to see and find qualified employees, (4) specialists develop a sense of accomplishment with credentialing, and (5) fosters continued education and professional development among health education." There are a few requirements in order for an individual to sit for the exam; however, most of these requirements are attained through health professional (clinical or non-clinical) undergraduate or graduate programs.

The Code of Ethics for Health Educators provides a basis of shared values that health education is practiced (NCHEC, n.d.). The last ethical responsibility of a Health Educator,

Article VI: Responsibility in Professional Preparation reads: "Those involved in the preparation and training of health educators have an obligation to accord learners the same respect and treatment given to other groups by providing quality education that benefits the profession and the public" (NCHEC, n.d.). Individuals preparing health educators are responsible for providing "quality education" to benefit the profession and the health of the public (NCHEC, n.d.). In preparing and training of health education, Health Education Specialists should enhance their knowledge and skills to accord other learners the same respect. When looking at other health professional degree Code of Ethics, similar themes occur. The National Athletic Trainers Association (NATA), Code of Ethics (2018), construct three reads: "Members shall maintain and promote high standards in their provisions of services." Athletic Trainers are required to increase their own knowledge and skills to provided quality training and education to other trainers or clients (National Athletic Trainers Association [NATA], 2018). Universities that offer an undergraduate health-professional course that explains the CHES-AOR allows future health professions to gain a different experience in regard to health education/promotion. This experience may give future health professionals more tools to improve their patients or clients quality of life.

Service-Learning

An issue for individuals (professors, instructors, etc.) responsible for preparing students as health education/promotion professionals is how to best facilitate learning opportunities. Many universities, including Missouri State University, utilize service-learning to assist with student in-classroom instruction. According to the American Association of Colleges & Universities [AAC&U] (n.d.), service-learning is a high-impact teaching method or practice,

connecting students' classroom learning with real-world experiences. de Groot, Alexander, Culp, & Keith (2015) found that this teaching method can be applied to all disciplines and promotes training (personal and professional), civic involvement, and meaningful service. Courses that require service-learning put emphasis on course material, allow for students to work in the community and resolve community issues, and creates student-community relationships (Nordyke, 2016). In a health education/promotion course, students would be able to apply what they are learning in the classroom to real-world experiences to better understand the use of the CHES-AOR.

When universities require service-learning to integrate with course objectives and classroom instruction, it separates service-learning from volunteerism and community service. According to Loyola University's, Office of Academic Affairs (n.d.), service-learning offers meaningful service while also enhancing classroom learning. Service-learning allows for students to enhance knowledge, skills, and attitudes from classroom instruction, apply classroom constructs to the real world, and gives students an opportunity to explore all other career options. Community service, on the other hand, can be done at any time (for any reason); and often allows for personal or social growth rather than academic growth (Loyola University New Orleans, n.d.). Service-learning is more intentional and job specific whereas community service is not necessarily intentional. There is often only opportunity for personal/social experiences and service sites are often chosen from personal interest/motivation (Loyola University New Orleans, n.d.). Students can gain more academically from service-learning when tied to their courses rather than a course that requires community service hours from any site in the community.

Ottenritter (2004) explored service-learning, social justice, and campus health and found that personal and civic responsibility are hallmarks of service-learning and allow for ongoing

creation in society while also realizing service-learning can promote good learning, respect, intent, and social justice. Students involved in coursework where service-learning was infused were: (1) more connected with their course content, (2) more engaged with their faculty and their academics, and (3) had a more enriched educational experience (Nordyke, 2016). Service-learning in higher education institutions allows for experiential education which creates an opportunity for students to learn a variety of skills and experience for future careers.

Benefits of Service-Learning

Service-learning offers numerous benefits to all involved: students, instructors/professors, communities, and universities. Many studies and research have been conducted to evaluate the beneficial factors of this pedagogical component. Service-learning has numerous beneficial parts, but three main themes have become apparent in the literature: (1) student's education and experiences, (2) student's community engagement, and (3) career exploration. According to Schelbe, Petracchi, & Weaver (2014), service-learning "enhances educational value through promotion of student reflection on their experiences, critical thinking about how those experiences relate to the course, and problem solving." Students are able to apply theories, objectives, and other material in a real-world form to enhance their skills, knowledge, and confidence for their future chosen profession (Schelbe, Petracchi, & Weaver, 2014). Again, students were gain more preparation to use and apply classroom learning and skills learned in service-learning in their future careers.

Students' Education and Experiences. Service-learning can be used to enhance the learning experience of students and add a "hands-on" effect to apply what students are learning in the classroom to real life situations and experiences. At Missouri State University, students in

a hard science classes like biology, chemistry, or physics are required to have a lab component where they apply the learning content from the classroom to in-lab experiments every week of the semester. Students enrolled in KIN-350 are not given a lab component; however, service-learning can be comparable to hard science laboratory courses. Students in service-learning apply classroom learning to real-world applications to further their skills and knowledge of the subject. Students of Generation Z (Gen Z) in the public health and health promotion degrees, for example, are lacking meaningful experiences (Gardner, Ronzio, & Snelling, 2018). A study by Gardner, Ronzio, & Snelling (2018) found that students in a transformational (service-learning) course were able to apply their knowledge and skills learned in lecture (Gardner, Ronzio, & Snelling, 2018). The experience students are gaining through the service-learning component increases their confidence and allows them to shape opinions around their degree choice. Students are gaining not only education experiences, but experiences that make them better leaders, communicators, and problem-solvers.

Community Engagement. Service-learning allows students to interact with the community universities are a part of and allows the community to get to know its temporary residents. Students are temporarily are part of this diverse community and should know how to interact with its community and see how the university plays a role in the community (Flannery & Ward, 1999). Flannery & Ward (1999) discovered three major themes between the connection of service-learning and the community: (1) the development of the "ethic consciousness," (2) importance of both personal and intellectual development for cultural competence, and (3) the role of service-learning in empowering students to be contributing citizens to the community. Students were more aware of what was going on in the community and were able to apply health education components in their service-learning experience (Flannery & Ward, 1999). Missouri

State University is unique in that it follows a mission of Public Affairs. The Public Affairs mission defines a primary way in which an education from the university is different than other universities where students are given a different community experience (Missouri State University [MSU], 2018). This mission is composed of three pillars: ethical leadership, cultural competence, and community engagement. Each component has goals that students, faculty, staff, and the university should be able to understand and embody by being a part entity (MSU, 2018). Community engagement is the last pillar to the public affairs mission. According the Missouri State University (2018), Public Affairs mission, "Students are able to recognize the importance of contributing their knowledge and experiences to their own community and the broader society." This component of the Public Affairs Mission allows students to work in the community to build their abilities, skills, and knowledge. Service-learning is the component that Missouri State Students use to gain the community engagement experience and increase those skills and knowledge.

Career Exploration. Service-learning can also have an impact on student's career choices. Completion of a course with a service-learning component has been strongly correlated to guide the choice of career profession and academic programs (Nordyke, 2016). Most studies that focus on service-learning found that there are numerous benefits for civic engagement; however, few have looked at the enhancement of academic program and career exploration. Prentice & Robinson (2010) examined service-learning and career exploration and found that students who completed a course with service-learning indicated the component assisted in their choice in career. An example of this in action can be seen in the field of gerontology. The decision for faculty to infuse service-learning into curriculum and courses is particularly important as the need for individuals working with the aging population (Nordyke, 2016). With

the increased number of aging adults, students selecting careers in the field of gerontology is vitally important (Nurdyke 2016). The American Association of Retired Persons [AARP] (2011) noted an increase in the number of aging adults and this increase thus increases the need for Gerontologists. Research by scholars in the field of aging studies identified that infusion of service-learning into curriculum and courses served to increase the number of individuals entering the field of gerontology (Nurdyke, 2016). Nurdyke (2016) stated "colleges and universities have the potential to increase the number of students choosing to enter and remain in this field through the development and implementation of curriculum and courses when service-learning is infused into health and human service courses." Service-learning can give students an opportunity to explore all services that deal with the aging adults and may influence their decision to choose Gerontology as a career. Numerous other examples exist between gaining experience with skill in a particular career shape students' decision on continuing that path.

Keeping the enrollment of students in the health and human service degrees is vital to the health of the nation. Berlin et al. (2018) tested this theory by using service-learning to address the Seven Areas of Responsibility in each stage of planning, implementation, and evaluation (PIE) of those enrolled in a health education course. This type of learning increases the alignment of health sciences curriculum with university service-learning directives as well as highlighting community partnerships and relationships (Berlin et al., 2018). The study found incorporating the Seven Areas of Responsibility into the PIE method with students in a service-learning component, improved their critical learning skills and were able to apply the responsibilities in future employment; but also, these students were more likely to stay in a health career program (Berlin et al., 2018). Other academic disciplines support the use of service-learning as a teaching method to enhance career and degree exploration. For example,

service-learning can be used as a tool to develop competencies for employment for college students in the academic field of law (Ramson, 2014). According to Ramson (2014), "service-learning, a more recent approach to experiential education, is high impact because it links community service to academic goals and facilitates application and testing of academics in a new professional situation." Ramson (2014) found that students who completed law courses where service-learning was infused demonstrated an increase the knowledge of career competencies in the field of law, but students were also better prepared to make career choices,

Evaluation of Service-Learning

Research on the benefits of service-learning and service-learning in general is plentiful; however, research on evaluating this pedagogical component is rare, especially in the field of health education/promotion. Evaluating service-learning allows researchers to gage if students are gaining the benefits (mentioned above) or if students are able to apply skills/knowledge to their future careers or courses. de Groot, Alexander, Culp, & Keith (2015) completed a qualitative evaluation of a service-learning course, examining students' opinions. Ten students in focus group assessment said they were positive about their learning experience and stated they had an increase in their confidence for their future professions in the Kinesiology field (de Groot, Alexander, Culp, & Keith, 2015). This study was able to assess students' knowledge and skills learned from a service-learning component.

Evaluation is also rare in the Health Education/Promotion field and often do not access students attitudes, knowledge, or skills. One article, however, evaluated a health coaching program where service-learning was implemented to evaluate student's attitudes, knowledge, and confidence (Ickes & McMullen, 2016). Fifteen students enrolled in the graduate health

promotion program partnered with a physical activity program that works with obese individuals (Ickes & McMullen, 2016). The results concluded that students improved comfortability with skills, improved self-efficacy, and gained/applied knowledge from the classroom (Ickes & McMullen, 2016). Evaluation of service-learning in health education/promotion courses, shed light on how students are able to gain real-world experiences, while also gaining the necessary skills and knowledge for their health career with service-learning as the mechanism behind the hands-on learning. Peterson et al. (2014) conducted research to determine if service-learning, when infused into an entry-level, psychology course, assisted students in recognizing and applying KSAs; and how they might use KSAs in careers or graduate schools. Their study of 15 students (over three semesters) required students to use a reflective journal to write about their experiences relating to the three KSA categories (Peterson et al., 2104). Results indicated students recognized the importance of how psychology could be applied in the workforce coupled with gaining an understanding of the skills necessary to work in this particular field (Peterson et. al., 2104). Additionally, 14.85% of students reported they gained real-world experience in applying the KSAs and students felt they learned important aspects of the psychology field necessary to be successful (Peterson et. al., 2104). The researchers noted results of their study indicated “students learned more about the value of their psychology degree and the broad array of career opportunities available to them” (Peterson et. al., 2104). Again, this evaluation tool gave proof that the service-learning component was useful to the students in a health professional field, especially in assessing the knowledge, skills, and experiences of students.

Most evaluation of the service-learning component comes after the program has ended, giving students the opportunity to reflect on their experience through focus groups or reflection

papers. However, similar surveys after a short service-learning opportunity can give insight into the components of the program. In a quasi-experimental research study conducted by Coulter-Kern et al. (2013), 14 students enrolled in an upper-level psychology course, participated in the study; half of the student group participated in service-learning; the other group of students did not. All students received information on career instruments used to assist in making decisions about careers (Coulter-Kern et al., 2013). The goal with service-learning was to provide high school students, who were attending a college visit day, with career choice information (Coulter-Kern et al., 2013). Coulter-Kern et al. (2013) used a questionnaire to evaluate the service-learning component and found that scores from students in the treatment group (service-learning experience) were significantly higher compared to students who did not participate. Students in the service-learning group noted the service-learning experience helped them to identify potential career choices and several acknowledged an interest in a career field (Coulter-Kern et al., 2013). This study suggested service-learning experiences “may improve students’ attitudes toward making career decisions and give them the confidence needed to make more informed career choices” (Coulter-Kern et al., 2013). Evaluation of service-learning can be completed during the learning process and can still be beneficial to all parties involved.

METHODS

IRB Approval

Prior to conducting any research, approval from the Institutional Review Board (IRB) at Missouri State University was obtained (see Appendix A). Additionally, a copy of the verification of CITI certification, along with any other documents was submitted as part of the IRB application.

Participants and Sampling

A convenience sample was used to find participants and were recruited from a Kinesiology Department undergraduate fall 2018 Health and Wellness Promotion course (section 001) from Missouri State University. All participants were enrolled in the Exercise and Movement Science undergraduate degree and chose either a Pre-Professional or Health Studies Track. Each student registered for this required service-learning course the semester before the fall 2019 semester. The dynamic of the group was determined on the time each student registers. Twenty-two undergraduate Exercise and Movement Science majors were registered for section 001 and recruited for this study.

Service-Learning Project

The service-learning project was used as a learning tool and mechanism for the CHES-AOR. Students were given the project guidelines and spent a day in class going over the requirements of the project. Students put themselves into groups based off their health interests and what health topics were similar amongst them. As a group, students were required to present a health topic to one of the GEP 101, First-Year Foundations (freshman undergraduate course)

sections at Missouri State University. Groups were required to create print materials (educational flyers, handouts or brochures), an 8-10 minutes in-class presentation focusing on educating the GEP 101 students about their chosen topic, and a 90-120 second video to complement the print materials and presentation. When the presentations were completed, groups were then responsible for writing a final paper (See Appendix B). This paper gives students an opportunity to reflect on the each of the CHES-AOR completed by planning, implementing, and evaluating their service-learning project's three components: print materials, physical presentation, and video.

Survey Tool

The survey tool was created using the Survey Monkey[®] platform with questions totaling 13; six demographic questions and seven questions tailored to the Areas of Responsibility. Prior to taking each survey, students were given a description of the study, what the study and the survey entail, and each student was required to accept terms of the survey before beginning. The description explained the survey, where the results will be held and what they are used for, the time it takes for students to complete the survey and informs each student that the survey is confidential. The first six questions gained basic demographic information: university ID (M-Number), race, ethnicity, and sex, and future health profession choice (i.e. Physical Therapy, Occupational Therapy, Personal Training, etc.). The last seven questions of the survey went through each of the CHES-AOR and asked students to rate their confidence, willingness, and importance for each responsibility. Each question had a full description of each CHES-AOR. For example, question one reads: Area I: Assess needs, resources, and capacity for Health Education/Promotion; a) I can confidently apply Responsibility I in my chosen profession; b) I

am willing to complete Responsibility I in my chosen profession; c) It is important for me to complete Responsibility I in my chosen profession. Response options were on a Likert scale of strongly agree, agree, neutral, disagree, or strongly disagree. For purposes of data analysis, response options will be coded as strongly agree (+2), agree (+1), neutral (0), disagree (-1), and strongly disagree (-2). Pre- and post-surveys remained the same for reliability reasons.

Data Collection

A pre- and post- online survey was administered to students enrolled in the fall 2018 undergraduate Health and Wellness Promotion course, section one (KIN350-001). The pre-survey was administered in the first week of class prior to the CHES-AOR being covered in lecture. The post-survey was administered the last week of the semester after the service-learning project was complete. Students were given time in class to complete the surveys each time they were administered. Results were then downloaded from Survey Monkey[®] and coded through SPSS database[®].

Analysis

Survey results were analyzed through calculating univariate descriptive statistics, noting counts and means at the beginning of the semester and then again at the end of the semester. Each answer to the CHES-AOR questions were analyzed, comparing and noting changes in the counts from each response. The data was then analyzed to determine changes in students' perceptions of the responsibilities when comparing early semester data to end of the semester data.. In order to determine changes in students' understanding of the CHES-AOR and their perceptions scores will be summed. Each student will have a summed score for all CHES-AOR

questions and a summed score for each of the perceptions (importance, willingness, and confidence). Paired t tests will be used to determine changes in mean scores for each of the Areas of Responsibility and for perceived importance, willingness, and confidence. Results from this analysis will assist in determining patterns evident as changes in students' level of importance, confidence, and willingness to apply the CHES responsibilities in their future health profession

RESULTS

Service-learning is important to the field of Health Education/Promotion and allows students in a health profession field to apply the CHES-AOR learned in the classroom. This study focused on students' confidence, willingness, and perceived importance of the CHES-AOR when it relates to their future health professions. A survey was given at the beginning of the semester and at the end of the semester to evaluate those perceptions. Although 22 students were recruited for the study, only 14 students completed both the pre- and post-survey. Demographics of each student is reported in Table 1. Three participants were male and eleven were female, all determined their future health profession careers as: nine physical therapists; two physician assistants; two personal trainers; and two athletic trainers. Students were mostly sophomores and juniors with one senior enrolled in the class. The students were mostly Non-Hispanic or Latino ethnicity and race mostly Caucasian with ten students reporting White/Caucasian as their race. Two students reported Black/African American, and one student reported mixed and American Indian/Alaskan Native.

Students in both the pre- and post-semester surveys reported either strongly agree (SA) or agree (A) for each CHES-AOR; there were no counts for neutral (N), disagree (D), or strongly disagree (SD). Students responses for CHES-AOR I (Table 2) increased confidence from agree to strongly agree by two students and increased willingness by one student; however perceived importance stayed the same from pre- to post-survey.

Students became more confident in CHES-AOR II (Table 3), increasing counts of strongly agree from five to eight. However, there was a decrease in willingness from 12 strongly

agree to ten strongly agree. Again, there was no change in perceived importance counts for strongly agree or agree.

Table 1. Demographics of students who took both pre- and post-surveys.

Characteristics	Frequencies			
Gender	Male= 3	Female= 11		
Class	Freshman= 0	Sophomore= 6	Junior= 7	Senior= 1
Ethnicity	Hispanic/Latino=1	Not Hispanic or Latino= 13		
Race	American Indian/Alaskan Native= 1	Black/ African American= 2	White/ Caucasian= 10	Mixed= 1
Profession	Physical Therapist= 9	Physician Assistant= 2	Personal Trainer= 2	Athletic Trainer= 1

Table 2. Frequency of responses for CHES-AOR I

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	8	11	13	10	12	13
A	6	3	1	4	2	1
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

The same theme was continued for CHES-AOR III (Table 4) for confidence counts; an increase is shown from pre-to post-survey, seven to ten; however, there was a decrease in willingness and perceived importance. Students became less willing and found it less important to apply CHES-AOR III from beginning of the semester to the end.

Table 3. Frequency of responses for CHES-AOR II

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	5	12	12	8	10	12
A	9	2	2	6	4	2
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

Table 4. Frequency of responses for CHES-AOR III

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	7	11	12	10	10	11
A	7	3	2	4	4	3
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

CHES-AOR IV counts (Table 5) show similar results. Counts for confidence increased from seven to ten but counts for willingness and perceived importance decreased one count in

the strongly agree category. CHES-AOR V (Table 6) confidence counts increased the most among all of the CHES-AOR; four students became more confident to apply this CHES-AOR. Willingness counts stayed the same with 11 strongly agree counts pre- and 11 strongly agree counts post. Finally, perceived importance decreased by one count; 12 pre- and 11 post-survey.

Table 5. Frequency of responses for CHES-AOR IV

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	7	11	13	10	10	12
A	7	3	1	4	4	2
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

Table 6. Frequency of responses for CHES-AOR V

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	7	11	12	11	11	11
A	7	3	2	3	3	3
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

Students again became more confident, indifferent in willingness, and found CHES-AOR VI less important to apply in future health professions (Table 7). Confidence strongly agree

scores increased by two counts. Willingness scores for SA did not change, but perceived importance counts only decreased by one count.

Responses for CHES-AOR VII remain relatively constant from pre- to post-survey (Table 8). Students did not become more confidence. Students became less willing (one count), and decreased importance counts, 13 to 11, the largest difference between the CHES-AOR.

Table 7. Frequency of responses for CHES-AOR VI

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	8	10	13	11	10	11
A	6	4	1	3	4	3
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

Table 8. Frequency of responses for CHES-AOR VII

	Pre-Survey			Post-Survey		
	C	W	PI	C	W	PI
SA	10	11	12	10	10	11
A	4	3	2	4	4	3
N	0	0	0	0	0	0
D	0	0	0	0	0	0
SD	0	0	0	0	0	0

Once the frequencies were analyzed for pre- and post-surveys, each CHES-AOR and the perceptions for each (confidence, willingness, and perceived importance) were analyzed by mean scores and paired *t*-tests. CHES-AOR I mean comparisons (Table 9) showcased a significant change in mean score pre- to post-survey for confidence levels, but willingness and importance did not have a significant difference. Perceived importance was the same mean pre- to post-survey results.

Table 9. Comparison of means using paired *t*-test for CHES-AOR I

Perceptions	Pre-Survey Means (S.D.)	Post-Survey Means (S.D.)	Significance (p-value)
Confidence	1.429 (\pm 0.514)	1.714 (\pm 0.469)	0.040
Willingness	1.786 (\pm 0.426)	1.857 (\pm 0.363)	0.336
Perceived Importance	1.929 (\pm 0.267)	1.929 (\pm 0.267)	1.000

Results for CHES-AOR II (Table 10) show slight increase in mean scores for confidence level, but not a significant increase. Willingness means for CHES-AOR scores decrease slightly, while perceived importance scores stayed the same pre- to post-survey. Paired *t*-test showcase no significance in the increases or decreases pre- or post-survey.

Table 10. Comparison of means using paired *t*-test for CHES-AOR II

Perceptions	Pre-Survey Means (S.D.)	Post-Survey Means (S.D.)	Significance (p-value)
Confidence	1.357 (\pm 0.497)	1.571 (\pm 0.514)	0.082
Willingness	1.857 (\pm 0.363)	1.714 (\pm 0.469)	0.165
Perceived Importance	1.857 (\pm 0.363)	1.857 (\pm 0.363)	1.000

Results for CHES-AOR III (Table 11) showcase another increase in confidence mean scores with a decrease in both willingness and perceived importance mean scores. Although an increase and decrease exist, paired *t*-test showcase no significance in the increases or decreases pre-post survey.

Table 11. Comparison of means using paired *t*-test for CHES-AOR III

Perceptions	Pre-Survey Means (S.D.)	Post-Survey Means (S.D.)	Significance (p-value)
Confidence	1.500 (± 0.519)	1.714 (± 0.469)	0.082
Willingness	1.786 (± 0.426)	1.714 (± 0.469)	0.583
Perceived Importance	1.857 (± 0.363)	1.786 (± 0.426)	0.336

CHES-AOR IV mean score results demonstrate an increase in confidence mean scores and a decrease in both willingness scores and perceived importance scores (Table 12). Paired *t*-test showcase no significance in the increases or decreases pre-post survey.

Table 12. Comparison of means using paired *t*-test for CHES-AOR IV

Perceptions	Pre-Survey Means (S.D.)	Post-Survey Means (S.D.)	Significance (p-value)
Confidence	1.500 (± 0.519)	1.714 (± 0.469)	0.082
Willingness	1.786 (± 0.426)	1.714 (± 0.469)	0.583
Perceived Importance	1.929 (± 0.267)	1.857 (± 0.363)	0.336

Results for CHES-AOR V (Table 13) indicate an increase in confidence mean score but is not significant. However, mean scores for willingness stay the same. There was a decrease in perceived importance pre- to post-survey with no significant difference.

CHES-AOR VI results (Table 14) demonstrate an increase in confidence mean scores but is not a significant difference. Mean scores for willingness do not change pre- to post-survey, but perceived importance scores decrease. The difference is again not significant after the paired *t*-test.

Table 13. Comparison of means using paired *t*-test for CHES-AOR V

Perceptions	Pre-Survey Means (S.D.)	Post-Survey Means (S.D.)	Significance (p-value)
Confidence	1.500 (± 0.519)	1.786 (± 0.423)	0.104
Willingness	1.786 (± 0.426)	1.786 (± 0.426)	1.000
Perceived Importance	1.857 (± 0.363)	1.786 (± 0.423)	0.583

Table 14. Comparison of means using paired *t*-test for CHES-AOR VI

Perceptions	Pre-Survey (Means)	Post-Survey (Means)	Significance (p-value)
Confidence	1.571 (± 0.514)	1.786 (± 0.423)	0.082
Willingness	1.714 (± 0.469)	1.714 (± 0.469)	1.000
Perceived Importance	1.929 (± 0.267)	1.786 (± 0.426)	0.165

Confidence mean scores for CHES-AOR VII (Table 15) did not change pre- to post-survey. Confidence means were the same for pre- and post-data. There is a slight decrease in

willingness and perceived importance. The differences were not significant after the paired *t*-test results.

Mean scores were summed for each all CHES-AOR perceptions and each student had a total confidence score, willingness score, and perceived importance score for pre- and post-survey results (Table 16). The summed mean comparisons demonstrated a significant increase in students' confidence level. Students were overall more confident after the semester than before to apply the CHES-AOR. Willingness and perceived importance summed scores decrease; however, it is not a significant difference.

Table 15. Comparison of means using paired *t*-test for CHES-AOR VII

Perceptions	Pre-Survey Means (S.D.)	Post-Survey (Means (S.D.))	Significance Means (S.D.)
Confidence	1.714 (± 0.469)	1.714 (± 0.469)	1.000
Willingness	1.786 (± 0.423)	1.714 (± 0.489)	0.583
Perceived Importance	1.857 (± 0.363)	1.786 (± 0.426)	0.583

The perceptions of confidence, willingness, and perceived importance summed mean score were added together and analyzed for each CHES-AOR (Table 17). A slight increase in means pre-test compared to post-test data, however, the change is not significant since the statistically value was set at p-value of 0.050. However, CHES-AOR I is marginally significant.

Table 16. Comparison of summed scores means using paired *t*-test for each CHES-AOR perception of Confidence, Willingness, and Importance

Perceptions	Pre-Survey Means (S.D.)	Post-Survey Means (S.D.)	Significance (p-value)
Confidence	10.571 (± 3.056)	12.000 (± 2.601)	0.021
Willingness	12.500 (± 2.710)	12.214 (± 2.694)	0.547
Perceived Importance	13.214 (± 2.082)	12.7857 (± 2.259)	0.451

Table 17. Comparison of summed scores means for all perceptions of each CHES-AOR using paired *t*-tests

CHES-AOR	Pre-Test Means (S.D.)	Post-Test Means (S.D.)	Significance (p-value)
I	5.143 (± 0.949)	5.500 (± 0.941)	0.096
II	5.071 (± 0.917)	5.143 (± 1.099)	0.720
III	5.143 (± 0.940)	5.214 (± 1.251)	0.720
IV	5.214 (± 0.975)	5.286 (± 0.914)	0.720
V	5.143 (± 0.949)	5.357 (± 1.008)	0.336
VI	5.214 (± 0.975)	5.286 (± 1.267)	0.720
VII	5.357 (± 1.008)	5.214 (± 1.251)	0.635

DISCUSSION

The goal of this pilot study was to examine the effects of service-learning on student's confidence, willingness, and perceived importance to utilize and incorporate the CHES-AOR into their future health profession. Results of this study enhance the literature for evaluation of service-learning and significantly add to the research of the CHES-AOR with their role in Health Education/Promotion as a profession. Overall, students' confidence to incorporate the CHES-AOR increased, but willingness and perceived importance decreased.

Students were significantly more confident in CHES-AOR I: Assess Needs, Resources and Capacity for Health Education/Promotion at the end of the semester compared to the pre-semester results. The service-learning component of the KIN 350-001 course gave students a great opportunity to apply the CHES-AOR because it is major section of the service-learning project. Students are required to research their chosen health topic in depth and decide if their ideas will be an effective presentation to students in the GEP 101: First-Year Foundations course. There was an increase in confidence scores for all other CHES-AOR except for CHES-AOR VII: Communicate, Promote, and Advocate for Health, Health Education/Promotion, and the Profession. It can be difficult for students to understand how to advocate for Health Education/Promotion when they do not understand how this profession aligns with their chosen health field. Berlin et al. (2015) (mentioned above using the PIE method to increase students' knowledge and skills in the CHES-AOR) saw similar results. Less students mentioned CHES-AOR VII in their reflection with "influence policy and/or systems change to promote health and health education," reported by only one student in the study (Berlin et al., 2015). Researchers hypothesize students would need further instruction on CHES-AOR VII components to influence

their perception of this area; therefore, it is important for instructors to make this connection for students in] classroom learning and allow them to gain more experience with regulatory or policy change.

According to results from the pre-survey, students identified early in the semester they were already confident, willing, and found CHES-AOR important to their health field. As such, there was little room for student to grow. It is rational to believe that any student going into any health field would understand the importance of assessing, planning, and evaluating programs. Results of this study indicated a decrease in willingness and perceived importance; although this was not a significant difference. A possible interpretation of these results are that students realize the depth the CHES-AOR have; therefore, might be nervous or lack the self-efficacy to use the CHES-AOR in the future. Students are less willing to use the CHES-AOR and find them not important for their career. The lack of self-efficacy reiterates why the three perceptions were chosen for this survey tool because just like in motivational interviewing, assessing confidence, willingness, and importance allows researchers to gauge the self-efficacy an individual has to make a change. These results for willingness and importance may have a connection to the lack of self-efficacy students have to use the CHES-AOR in the future.

Research Limitations

Overall, this study was limited by time and sample size. Although the KIN 350 course is taught multiple semesters and by multiple instructors, one semester and once section was used for this pilot study to ensure the CHES-AOR were explained and utilized in the service-learning project. The survey tool was created before the fall 2018 semester began; therefore, reliability and validity testing was not completed nor was the survey sent through pre-testing. It is

hypothesized that the survey tool limited the results because students found the question format lengthy and easy to answer without much thought of what was being asked of them. The class originally had 22 students enrolled in the course, however, only 14 students complete the survey pre- and post-survey. It is also hypothesized that students experienced survey fatigue. At Missouri State University, students are given numerous surveys at the beginning of the semester and at the end of the semester. It is possible that by the time students were asked to take this survey, they already took three or four surveys that day or week. Other limitations include response bias and social desirability. Although an assumption was made that students would answer all questions honestly and accurately, there is no confirmation students are being fully honest and are answering questions to make themselves different than they actually are in life.

Future Research

In addition to limitations identified within the research and as a result of findings in this study, additional research is recommended in several areas. First, sample size of research study needs to be expanded to include other semester class data. A larger sample size through multiple semesters to determine accurate trends. Second, it is important for the instructor of the course to put emphasis on why the CHES-AOR are important to individuals in pre-health professional degrees. Students are more likely to take the survey seriously if they know why they are being asked to rate their confidence, willingness, and perceived importance. Finally, incorporating a mixed method of qualitative and quantitative data will help give narrative to why a particular score or frequency went up or down across pre- and post-semester data. In the PIE study from Berlin et al. (2015), researches expressed the value their students gained with a hands-on experience in applying Health Education/Promotion in their future health careers, highlighting

the PIE approach as a "useful pedagogical tool for immersing students in experiential learning...addressing the health education competencies and Areas of Responsibility." The results from this study, even with a small sample size, show an increase in knowledge and skills of applying and utilizing the CHES-AOR with the use of service-learning.

It is recommended that the survey tool be changed to assist with the results from surveys. The use of a Likert scale gave students the opportunity to answer the survey without requiring them to really think about the CHES-AOR and the true meaning. It is recommended to use semantic differential scales for each question. This requires students to answer the question on a sliding scale of unconfident to confident; unwilling to willing; and unimportant to important. This change still allows researchers to gain insight on the students' perceptions, while requiring students to really think about their answer to each of the questions. Another suggestion for the survey tool is to examine how much of the CHES-AOR students believe they will use in their future health professions. An example of this might look like: How much of Area I: Assess needs, capacity, and resources do you feel you will use in your future health profession. This question would still require the use of a semantic differential scale.

Conclusion

The recommendations for future research, as identified, would pave the way or new findings associated with advancing the Health Education/Promotion field; increasing students perceptions of the CHES-AOR, especially those in future health profession degrees; and will increase what is already known about service-learning as a hands-on mechanism for classroom learning. Even though there was one statistically significant value in the study, the practical significance is worth mentioning because instructors can apply this research on to future courses.

This is a pedagogical study and it is important that it is used to further the education and training of future health professionals and future health educators. Service-learning creates an opportunity for students to gain confidence in using the CHES-AOR and is a great pedagogical mechanism for instructors to use for effective health education/promotion training. The CHES-AOR are important for all health professionals to understand, and this research helps interpret that from the students' perspective.

REFERENCES

- American Association of Colleges & Universities. (n.d.). High impact practices. Retrieved from: http://www.aacu.org/sites/default/files/files/hip_tables.pdf
- American Association of Retired Persons. (2011). Baby boomers turning 65. Retrieved from: http://www.aarp.org/personal-growth/transitions/boomers_65/
- American College of Sports Medicine [ACSM] (2016). ACSM certified exercise physiologist job task analysis [PDF file]. Retrieved from: https://www.acsm.org/docs/default-source/certification-documents/ep/acsm-ep_jta_-full-2017-full-final-4.pdf?sfvrsn=cac3cb64_8
- Berlin, K., Boling, W., Doss, D., & Nolting, T. (2018). Easy as PIE: A recipe for approaching the areas of responsibility and competencies for health education specialists. *Pedagogy in Health Promotion*. <https://doi.org/10.1177/2373379918783007>
- Bezner, J. R. (2015). Promoting health and wellness: Implications for physical therapist practice. *Physical Therapy*, 95(10), 1433–1444. <https://doi.org/10.2522/ptj.20140271>
- Coulter-Kern, R.G., Coulter-Kern, P.E., Fogle, K.L., Schenkel, A.A., Walker, D.R. (2013). Improving student's understanding of career decision-making through service-learning. *College Student Journal*, 47(2), 306-311. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=88413460&site=ehost-live&scope=site>
- de Groot, M., Alexander, K., Culp, B., & Keith, N. (2015). Experiential learning in kinesiology: A student perspective. *Pedagogy in Health Promotion*, 1(3), 123–133. <https://doi.org/10.1177/2373379915594391>
- Flannery, D., & Ward, K. (1999). Service-learning: A vehicle for developing cultural competence in health education. *American Journal of Health Behavior*, 23(5), 323. <https://doi.org/10.5993/AJHB.23.5.1>
- Gardner, J. K., Ronzio, C., & Snelling, A. (2018). Transformational learning in undergraduate public health education: Course design for generation Z. *Pedagogy in Health Promotion*, 4(2), 95–100. <https://doi.org/10.1177/2373379917721722>
- Ickes, M. J., & McMullen, J. (2016). Evaluation of a health coaching experiential learning collaboration with future health promotion professionals. *Pedagogy in Health Promotion*, 2(3), 161–169. <https://doi.org/10.1177/2373379916649193>

- Loyola University New Orleans, Office of Academic Affairs(n.d.). Service-learning versus community service. Retrieved from: <http://www.loyno.edu/engage/service-learning-vs-community-service>
- McKenzie, J.F., Neiger, B.L., & Thackery R. (2017). Planning, implementing, and evaluating health promotion programs: A primer. (7th ed.) Boston, MA: Pearson.
- Miller, W.R. & Rollnick, S., (2013). *Motivational interviewing: Helping people change*. (3rd ed.) New York, NY: The Guildford Press.
- Missouri State University (2019). Public Affairs: What is Public Affairs. Retrieved from: <https://publicaffairs.missouristate.edu/About.htm>
- National Athletic Trainers Association [NATA] (2018). Code of ethics [PDF file]. Retrieved from <https://www.nata.org/sites/default/files/nata-code-of-ethics.pdf>
- National Commission Health Education Credentialing [NCHEC] (n.d.). Code of ethics. Retrieved from: <https://www.ncheec.org/code-of-ethics>
- National Commission Health Education Credentialing [NCHEC] (n.d.). Health education credentialing. Retrieved from: <https://www.ncheec.org/health-education-credentialing>
- National Commission Health Education Credentialing [NCHEC] (n.d.). Responsibilities and competencies for health education specialists. Retrieved from: <https://www.ncheec.org/responsibilities-and-competencies>
- Nordyke, K. J. (2016). Infusing service-learning into curriculum: A case study analysis to understand why more higher education faculty do not use this high-impact teaching method. Northcentral University, Prescott Valley, AZ.
- Ottenritter, N. W. (2004). Service-learning, Social Justice, and Campus Health. *Journal of American College Health*, 52(4), 189–191. <https://doi.org/10.3200/JACH.52.4.189-192>
- Peterson, J. J., Wardwell, C., Will, K., & Campana, K. L. (2014). Pursuing a purpose: The role of career exploration courses and service-learning internships in recognizing and developing knowledge, skills, and abilities. *Teaching of Psychology*, 41(4), 354–359. <https://doi.org/10.1177/0098628314549712>
- Prentice, M. & Robinson, G. (2010). Improving student learning outcomes with service Learning [PDF file]. *American Association of Community College*, 1-16. Retrieved from: <https://digitalcommons.unomaha.edu/slcehighered/148/>
- Ramson, Amy J., (2014)."Service-Learning: A tool to develop employment competencies for college students. CUNY Academic Works. Retrieved from https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1039&context=ho_pubs

- Reynolds, P. J. (2005). How Service-Learning Experiences Benefit Physical Therapist Students' Professional Development: A Grounded Theory Study. *Journal of Physical Therapy Education, 19*(1), 41-54. <https://doi.org/10.1097/00001416.200501000.00006>.
- Schelbe, L., Petracchi, H. E., & Weaver, A. (2014). Benefits and challenges of service-learning in baccalaureate social work programs. *Journal of Teaching in Social Work, 34*(5), 480–495. <https://doi.org/10.1080/08841233.2014.954689>
- U.S. Department of Labor, Bureau of Labor Statistics [DOL]. (2018). Health Educators. *Occupational outlook handbook, 2017-2018*. Retrieved from <https://www.bls.gov/oes/current/oes211091.htm>

APPENDICES

Appendix A: IRB Approval from Missouri State University

Date: 4-23-2019

IRB #: IRB-FY2019-326
Title: ISL Assessment, Health Education Responsibilities
Creation Date: 11-12-2018
End Date: 11-29-2019
Status: Approved
Principal Investigator: Melinda Novik
Review Board: MSU
Sponsor:

Study History

Submission Type	Initial	Review Type	Expedited	Decision	Approved
------------------------	---------	--------------------	-----------	-----------------	--

Key Study Contacts

Member	Melinda Novik	Role	Principal Investigator	Contact	melindanovik@missouristate.edu
Member	Victoria Surratt	Role	Primary Contact	Contact	surratt13@live.missouristate.edu
Member	Victoria Surratt	Role	Investigator	Contact	surratt13@live.missouristate.edu

Appendix B: Service-Learning Project Rubric

Description: MSU Peer Health Education and Promotion: Groups will be responsible for developing the following to improve the health of students...

As a group, you will present a health topic to GEP 101 sections. Groups will be required to create print materials (educational flyers, handouts, brochures), an 8-10 in-class presentation as well as a 90-120 second video to complement your other materials.

Also, each group will be responsible to assisting in the planning and implementation of National Health Education Week, Oct 15-19.

ISL Final Paper Outline*

- Rationale for health topic with statistical evidence
- Planning model application
- Five objectives (one of each of process, learning, action)
- Theoretical application
- Methods
 - Identify and describe all three components of your project in detail
 - Resources utilized
 - Plans, outlines, etc.
 - List of apps used to complete the project or to complement your topic for students
- Timeline of activities
- Evaluation plan (how you could have evaluated each of your objectives)
 - Include a specific plan (who, what, when, where, how) with specific questions
- Group members' responsibilities & contributions (for the project as well as the report)
- Reflection activity and lessons learned**

- Attachments (any/all materials, pictures, etc.)

Journals & Timesheets**

You will be required to complete a journal entry, with photograph, for each ‘session’ working on your project. This must be uploaded to Blackboard within 2 days of the ‘session’. You will submit your completed timesheet with you final paper.

ISL Presentation Outline (5 minutes for presentation)

- Goals/objectives
- Project components & methods
- Lessons learned
- Videos & pictures
- Attachments

**The more detailed you can be in the final product, the better grade you will earn. Don't leave me needing more information about what you did, why you did it, and how you did it.*

***Indicates individual responsibilities.*