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Undergraduate Students' Attitudes Toward Older Adults After an Intergenerational
Service-Learning Project

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UNDERGRADUATE ATTITUDES TOWARD OLDER ADULTS

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Service-Learning Project

A THESIS

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UNDERGRADUATE ATTITUDES TOWARD OLDER ADULTS

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Abstract

In the United States, adults are living longer, and working longer and negative attitudes toward older adults still exist. Attitudes of college students from various colleges and disciplines have been studied to assess their attitudes toward older adults. Current literature suggests that students who participated in intergenerational service-learning projects have a positive change in attitudes toward older adults. The purpose of this present study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. The refined Aging Semantic Differential (ASD) and the Student Assisted Independent Living (SAIL) Questionnaire were provided to undergraduate college students enrolled in a 4000 level health and aging course who also participated in an intergenerational service-learning project as a course requirement. Survey instruments were administered on three separate occasions to determine changes in attitudes toward older adults before, during, and after the intergenerational service-learning project. Due to a small sample size, changes in attitudes were not statistically significant but trended toward a positive change in undergraduate college students' attitudes toward older adults. Although results were not statistically significant, effect sizes ranged from weak to moderate. With minimal research found in community/public health students' attitudes toward older adults, a recommendation for future studies should include continued exploration of community/public health students' attitudes' toward older adults.

CHAPTER ONE: INTRODUCTION

Significance of the Study

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. We live in a nation that is rapidly aging, living longer, and working longer. The United States Census Bureau, Population Division (2012) estimated that in 2015, an estimated 15% of individuals 65 and older would be alive in the United States (U.S.), and by 2060, the estimated numbers would rise to 24% of individuals. The United States Bureau of Labor Statistics (2008) reported that 3.6% of the working population was 65 and older in 2006 and is estimated to grow to 6.1% in 2016. Researchers found that with the growth of the aging population, attitudes toward older adults were negative and that ageism and negative stereotypes of older adults still existed (Kimuna, Knox, & Zusman, 2005; Klein, Council, & McGuire, 2005). It is imperative that younger generations are aware of the negativity and ageism that exist because these young adult students will soon be sharing the workforce with older adults, serving older adults in the workforce (Wurtele & Maruyama, 2012), developing policies that impact older adults, and/or interacting with older adults through everyday activities.

Statement of the Problem

Understanding attitudes of college students toward older adults is instrumental for future generations to successfully assist and work with older adults (Van Dussen & Weaver, 2009). Attitudes of college students from various colleges and disciplines have been studied to assess college students' attitudes toward older adults. For example, psychology students have exchanged emails with older adults to encourage the reduction of negative stereotypes towards older adults, and as a result, students showed a decrease in the negative attitudes seen toward

older adults (Chase, 2011). First year undergraduate students participated in a survey that addressed students' attitudes towards older working adults and found that the status of older adults in the workplace did not necessarily change the attitudes of the students toward older adults. Researchers found that the more knowledge the student had regarding aging, the more positive the attitudes were towards older workers despite the status of the older adult (Helmes, 2012). Gerontology students completed a required gerontology course, and through the course of the class, students reported an increase in knowledge of older adults, but only a small portion of the students demonstrated a desire to work with older adults (Lun, 2012). The aforementioned disciplines work with individuals and communities just as community/public health undergraduate students might do one day, but no studies specifically assessed community/public health undergraduate students' attitudes toward older adults.

A majority of the research reviewed focused on young college students' attitudes and career preferences (Chase, 2011; Fonseca, Goncalves, & Martin, 2009; Lun, 2012; Van Dussen & Weaver, 2009). Research showed that the increasing population of older adults will have an impact in our society by influencing the United States economic, social, and medical divisions (Lee, 2009). The increasing population of older adults will affect the workforce by requiring increased number of trained professionals to support the older population (Lun, 2012) and keep up with the growing needs of services for older adults (National Institute on Aging, Introduction, 2011). The National Institute on Aging indicated that without development and proper reform of programs focusing on older adults and aging, the majority of the economic responsibilities will fall on the younger working generations (Introduction, 2011).

A majority of research focused only on classroom instruction or service-learning projects, but did not include both areas. Research showed that allowing students to engage in a one-time

interaction with older adults did not show significant results, but pairing the one-time interaction with additional education benefited the students (Klein et al., 2005). Research also showed that classroom instruction alone did not reduce negative stereotypes of older adults but including real life experiences provided students with more meaningful experiences (Van Dussen & Weaver, 2009).

Hypothesis

The hypothesis of this study was students' attitudes toward older adults would positively increase following an intergenerational service-learning project (Chase, 2011; Dorfman, Murty, Ingram, Evans, & Powers, 2004; Van Dussen & Weaver, 2009; Fonseca, Goncalves, & Martin, 2009; Klein et al., 2005; Powers, Gray, & Garver, 2013; Wurtele & Maruyama, 2012).

Purpose of Study

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. The focus of the study was community/public health students.

Definitions

The following definitions were specific to this study:

Ageism - Form of discrimination focused on an individual's age (United States Equal Employment Opportunity Commission, n.d.).

Aging – "...changes that occur over the course of life" (National Institute on Aging, What is Aging?, 2011, para 1.).

Community/public health – “...practice of preventing disease and promoting good health within groups of people, from small communities to entire countries” (American Public Health Association, n.d., para 1.).

Intergenerational service-learning project – project that promotes interaction between younger individuals and older adults (Dorfman et al., 2004).

Older Adults – Various studies in the literature defined older adults as young as 50 and older. For the purpose of this study, older adults were defined as individuals aged 65 years and older (United States Census Bureau, Population Division, 2012).

Limitations

The purpose of this study was to assess the difference in community/public health undergraduate college students’ attitudes toward older adults before and after an intergenerational service-learning project. Assessing and understanding the possibilities that were out of control of the study contributed to the following limitations:

1. undergraduate college students might lack in diversity (Lun, 2012);
2. undergraduate college students may not fully participate leading to a small sample size (Lun, 2012);
3. participants may have a high attrition rate (Chase, 2011);
4. undergraduate students may lack knowledge of the aging process by the participants (Fonseca et al., 2009);
5. students may have previous formal or informal contact with older adults; therefore, influencing the scores of the survey instruments (Helmes, 2012);
6. participants may be fearful in providing truthful answers (Stahl & Metzger, 2013); and

7. participants might provide less emotional responses and more cognitive responses due to the participant's age (Lee, 2009).

Delimitations

The range of this study was limited by the following delimitations:

1. only students enrolled in the Health and Aging course in the Department of Kinesiology Health Studies;
2. one section of the health and aging class was offered during the fall-spring academic year limiting the amount of community/public health students involved in an intergenerational service-learning project; and
3. students were aged 21 years old to 28 years old.

Assumptions

Before beginning the study, two assumptions were made regarding this study:

1. students enrolled in the Health and Aging course would be willing to complete the survey instruments; and
2. participants would be honest when completing survey instruments.

CHAPTER TWO: REVIEW OF LITERATURE

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. It was imperative to review important topics involved in learning about and working with older adults. Studies presented throughout this literature review allowed a greater understanding of the importance of studying undergraduate college students' attitudes toward older adults. This section includes the perceptions of aging and prevalence of ageism, preferences of working with older adults, incorporating intergenerational service-learning projects into college courses, and survey instruments. In addition, considering the many instruments used in studies that were reviewed and the mixed results obtained from survey instruments, an overview of survey instruments was completed (Polizzi, 2003).

Perceptions of Aging and Prevalence of Ageism

Negative attitudes toward aging were not only reported in high school and college students (Klein et al., 2005) but were also seen by older adults themselves (Bonnesen & Burgess, 2004; Palmore, 2004; Stewart, Chipperfield, Perry, & Weiner, 2012). Reviewing research of college students' attitudes toward older adults led to the importance of exploring ideas of possible origination of attitudes (Klein et al., 2005). High school students' attitudes as well as images of aging and internalization of the images of aging in the media and the importance of college students becoming aware of their personal attitudes toward aging individuals are reviewed in the following section. Younger individuals were not the only age group who exhibited ageism or negative stereotypes toward older adults, because studies have found that older adults also exhibited negative stereotypes or ageism about each other or themselves (Bonnesen & Burgess, 2004; Stewart et al., 2012). Contrary to only believing that younger

generations had negative attitudes toward older adults, the following section includes the attitudes that older adults may have toward other older adults.

With a growing population of older adults, researchers attempted to determine when was the best time to provide individuals with the knowledge that growing older can be positive (Klein et al., 2005). Two schools with approximately 1,600 students participated in a study to determine if freshman high school students' attitudes toward older adults became more positive after participating in a one-day fair targeted to promote positive attitudes toward older adults. Students engaged in the fair by working three booths focused on older adults, differences between younger and older individuals, and health and aging. After students spent time at each booth, students then spent time with an older adult. No statistical difference was found between the pretest and posttest scores of students' attitudes toward older adults. Researchers discussed that the possibility of only offering a one-time intervention was not enough interaction to change attitudes. Klein et al. (2005) noted that aging education should begin in the students' elementary years.

Aging and the aging process was valued differently in the U.S. than other countries (Klein et al., 2005). In the U.S., cosmetic and medical products were advertised through the media to promote and encourage older adults to purchase these products. Often times, the products were meant to delay, disguise, and attempt to prevent the effects of aging. Media depicted aging with a negative connotation. Media campaigns have been developed to focus on protecting older adults, but researchers noted that despite the positive media campaigns, negative attitudes towards older adults had not improved (Kimuna et al., 2005). Negative images that were portrayed through the media may be more accepted by individuals (Bonnesen & Burgess, 2004); therefore, instead of utilizing the media to portray aging as a negative event, Kimuna et

al. (2005) recommend that the media should be encouraged to portray aging in a positive manner thus addressing ageism.

Haboush, Warren, and Benuto (2012) attempted to determine if negative images found in the media negatively influenced how women, 30 years and younger, viewed older adults. More than 280 ethnically diverse women participated in providing information regarding the women's attitudes toward older adults. This study also examined if the internalization of the images predicted the way the women would view older adults and if attitudes of different ethnic groups influenced the way participants viewed older adults. Participants completed Kogan's Attitudes Toward Older People Scale and Pillemer's Sociocultural Attitudes Towards Appearances Questionnaire. Results showed that internalization of the images from the media did not differ ($p=.76$) from different ethnic groups. Results indicated that women from this study internalized the images of young, thin women, which may predict possible negative attitudes toward older adults. Authors noted that preventing negative attitudes in young women would benefit all in society (Haboush et al., 2012).

While Haboush et al. (2012) focused on the internalization of media images and the impact that the internalization had on women, Schoemann and Branscombe (2011) researched how younger generations perceived older adults by older adults attempting to look younger. Schoemann and Branscombe (2011) researched if younger adults reacted differently to older adults trying to appear younger than their actual age and to determine if gender contributed to reactions of those who attempted to appear younger than their actual age. Researchers also worked to determine if students reacted differently to individuals who were older than the participants, but not considered older adults. Psychology students were randomly assigned a written passage from an individual that may or may not attempt to appear their own age. Using a

seven-point scale (1 = strongly disagree - 7 = strongly agree), students provided responses to questions that inquired about various adjectives, importance of looking younger, and likeability of individuals in the written passages. Researchers concluded, regardless of gender, when older adults attempted to appear younger than their age, they were not well liked by the participants. Schoemann and Branscombe (2011) also found that the older adults who were trying to dress younger were trying to avoid discrimination, and the younger group of adults may have been trying to dress younger to conform to social norms.

Powers et al. (2013) noted that younger adults might harbor negative attitudes toward older adults by believing older adults were unwell or feeble. Other researchers such as Stewart et al. (2012) gathered data on older adults using the idea that growing older meant becoming ill. Older adult participants from a previous study were re-interviewed to learn more about older adults associating older age with severe chronic illness. Researchers gathered the reported illnesses from the older adult participants and compared the illnesses to illnesses that were considered serious such as cancer and Alzheimer's disease. Over 100 older adults were included in the survey with a mean age of 84.44 ± 4.75 . Older adult participants indicated the main reason why the illness occurred was due to the participant's age. It was also found that as participants grew older, the older adult participants indicated that there were fewer health issues to report. Data showed that the individuals who believed their illness was part of growing older might have some increased health risks such as not seeking medical attention when needed. Older adults who used negative stereotypes toward themselves may also have higher rates of illnesses (Stewart et al., 2012).

Although Stewart et al. (2012) found that illness equaled growing older, it was still important to discuss how using terms and phrases could portray negative images of growing

older. A variety of phrases and images were used to depict older adults in 136 American newspaper articles. Bonnesen and Burgess (2004) explored one specific phrase, “senior moment”. The search covered the years of 1991 to 2000, and collectively, the term was used 181 times. Authors looked at how the term was defined in the article, where the term appeared, and if the term was quoted by an interviewee or written by the newspaper article author. After reviewing the articles, authors found that the term appeared every day of the week, in the title and body, was used by the author and quoted by others, and that 91% of the time had a negative connotation. Researchers found that the term “senior moment” referred to memory problems, disease, incompetence, and in general, older adults. Bonnesen and Burgess (2004) discussed the implication of newspaper articles being printed across the U.S. using the term “senior moment” which affirmed the negative attitudes individuals had regarding the aging process and older adults.

In order for college students to learn about the aging population, college students must assess and become aware of any personal negative attitudes or personal beliefs regarding the aging process and older adults (Lee, 2009). College students may not be aware of their attitudes or beliefs concerning older adults and the aging process, which may also lead to students having increased negative attitudes towards older adults (Lee, 2009; Fonseca et al., 2011). As clearly noted in this section, it was important to explore the origination of attitudes whether it was in the media or persons’ personal experiences, before exploring the magnitude of negative attitudes toward older adults.

Stahl and Metzger (2013) noted that numerous studies were conducted to learn college students’ attitudes towards older adults, but Stahl and Metzger (2013) chose to research if perceived vulnerability to disease and knowledge of aging impacted behavior of college students.

Psychology students who were enrolled in human development courses participated by completing demographic information such as age, gender, class rank, number of absences, as well as their involvement in volunteering with older adults, number of living grandparents, and closeness with grandparents. Students completed Facts About Aging Questionnaire (FAQ), Perceived Vulnerability to Disease (PVD), and Relating to Old People Evaluation (ROPE). Students who were more likely to engage in negative ageism were students who indicated less knowledge regarding the aging process and males who tested more poorly than others on exams. Stahl and Metzger (2013) noted that there was a 92% (n=649) participation rate, and the students who participated were able to gain course credit in the class which left the researchers to indicate that the more motivated students completed the study, and the results would have been different if all students participated in the study.

Studies have been conducted that focused on the attitudes of medical staff toward older adults. For example, the study completed by Scerri and Scerri (2012) examined the attitudes of nursing students with older adults diagnosed with dementia and Alzheimer's disease. Undergraduate first, second, and third year students from a Malta University participated by completing the Alzheimer's Disease Knowledge Scale and Dementia Attitudes Scale. Out of 305 students who were asked to participate, 280 students participated. Diploma seeking nurses comprised of 71% of participants with a majority of the students being second and third year students. Over 74% of students had been introduced to dementia and Alzheimer's training. Statistical tests were conducted to examine the difference of attitudes of the students towards older adults diagnosed with dementia and Alzheimer's disease. Results indicated that there was a statistical difference between first and second ($p=.001$) and first and third ($p=.003$) year students. No statistical difference was found between the second and third ($p=.9$) year students.

Researchers compared the scores to studies completed in the U.S. and noted that American students had higher rates of knowledge regarding dementia and Alzheimer's disease than Malta students, but the attitudes of Malta students were reported to be more positive toward older adults diagnosed with dementia and Alzheimer's disease than the American students (Scerri & Scerri, 2012).

Kimuna et al., (2005) gathered data on the types of characteristics that made a significant difference in the way college students perceived older adults. Over 440 college students enrolled in sociology courses provided demographic information. Although basic demographic information was gathered, researchers also collected information regarding parents' socioeconomic status, past work or personal experience with older adults, attitudes of physical and mental health of older adults, and at what point does a student believed a person is old. From all students surveyed, a mean score of what old meant to the students was 60.9 ± 12.19 years old. Significant results $p < .01$, $r = .260$ indicated older students identified older adults with an older age more so than the students' younger peers, but the more the contact a student had with an older adult, the more likely the student was to consider the person "old" at an older age ($p < .002$, $r = .201$). Significant results also indicated that white students believed that social services were more readily available to older adults, older adults were dangerous drivers, less interested in engaging in sexual behavior, had more money, and that the government should care for older adults (Kimuna et al., 2005).

Wurtele and Maruyama (2012) gathered demographics from 106 students enrolled in a human development course. The students provided age, gender, year in college, major, and ethnicity. Students completed the Fraboni Scale of Ageism (FSA) to provide insight to attitudes and provided a list of activities of how each participant believed older adults spent their time.

After gathering answers regarding how older adults spend their time, the top five activities were reported as socializing, watching television, exercising, reading, and playing games. Wurtele completed a larger study in 2009 with over 1,300 students. Answers from the Wurtele and Maruyama 2012 study were compared to the Wurtele 2009 study, and the answers from both studies were similar. The students in the Wurtele 2009 study listed the top five responses of how older adults spent their time as socializing, exercising, watching television, sleeping, and reading. Participants in the Wurtele and Maruyama 2012 study discussed the students' answers and addressed both negative and positive stereotypes of older adults. Researchers, Wurtele and Maruyama (2012), noted the pretest score from the FSA decreased by two points from 21.05 to 19.82, which indicated students' attitudes became more positive after the classroom discussion regarding students' answers. At both the pretest and posttest, students were asked to define what age was "old" to the students. Students indicated during the pretest that a person aged 70 was "old", but during the posttest, students indicated that a person 73 years was "old". Researchers noted students would be joining the aging population and should be gaining accurate knowledge towards older adults (Wurtele and Maruyama, 2012).

Studies such as Wurtele and Maruyama (2012) and Powers et al. (2013) conducted research that examined the attitudes of undergraduate college students regarding a general population of older adults. Helmes (2012) questioned if attitudes were different when considering the status of working older adults. Over 100 undergraduate students responded and participated in three surveys: Fraboni Scale of Ageism (FSA), Beliefs about Older Workers (BOW) Scale, and Facts about Aging Questionnaire (FAQ). Two sets of instructions were provided to the students. First, instructions were given to the students to complete the surveys with a working, distinguished older adult in mind. Last, students were asked to respond to the

questions with an older adult in mind who the student might have had formal or informal contact with over the student's lifetime. The BOW scale was the only survey that provided a statistical significance ($p=.043$) in finding that undergraduate students viewed a working, distinguished older adult with more status and a positive attitude than an older adult from the general public (Helmes, 2012).

Powers et al. (2013) suggested that research should be conducted on older adults' attitudes toward younger generations. Palmore (2004) took a slightly different approach and conducted a study to find the difference of ageism in the U. S. and Canada, prevalence of ageism, and which types of ageism were more prevalent in the both countries. Palmore (2004) recruited 152 U.S. adults, 60 and older, from local community locations and individuals who participated in two previous studies. In Canada, over 375 adults, 50 and older, were recruited from reading a news report regarding ageism. Results indicated that 84% of Americans and 91% of Canadians surveyed indicated that they have experienced ageism. Adults reported that the most frequent types of ageism were statements or jokes made to or with the participants. Participants expressed their concerns over the definition of ageism, and the statements made did not reflect an accurate representation of ageism. Palmore (2004) indicated that more research should be completed with a larger group of older adults, and that younger adults should be included to determine how many and how often younger adults have participated in acts of ageism.

Preferences of Students Working with Older Adults

Throughout the literature review, studies have shown that negative attitudes existed towards older adults, and negative attitudes may be instrumental in reasoning why younger generations do not want to work with older adults (Chase, 2011). In the section to follow,

examples of studies were reviewed to examine findings of students' attitudes and preferences in working with older adults.

Using a purposive sample of 543 students from six different colleges within a university, researchers conducted research and examined undergraduate students' perceptions and behaviors toward the aging process and working with older adults (Van Dussen & Weaver, 2009). Surveys using a Likert scale were administered with 119 items pertaining to attitudes towards older adults, knowledge about the aging process, and contact and exposure to education focusing on older adults. Results indicated mixed responses from students. Students indicated that working with older adults could be difficult, but also rewarding. Responses from the survey showed that students in health professions, social sciences, and education should learn about older adults and the aging process by participating in hands-on-experience and real world experiences.

Researchers discussed that contact with older adults through volunteering or as a friend had a greater impact on attitudes towards older adults. Data were taken in regards to students' attitudes toward working with older adults, but did not report on the number of students willing to focus their career on older adults (Van Dussen & Weaver, 2009).

On a much smaller scale, research was conducted with 17 Human Service undergraduate students. Students' perceptions of older adults were explored as well as how the students' perceptions related to the students' career choices (Lun, 2012). Out of 17 students enrolled, 11 females participated and answered open-ended questions. Students' knowledge and experience of older adults, career preferences, perceptions of adults before and after the class, and reason for enrolling in the class were gathered. Responses were categorized into four categories: knowledge increase and impact on education goals; attitude adjustment and awareness of older adults; experiences interacting with older people; and career choices. Results indicated that

students reported an increase in knowledge after completing the course. All students reported a change in attitude toward older adults with younger students having more positive attitude changes than older students. No link was found between the experiences of working with older adults and having an impact of the possibility of working with older adults in the future. After completion of the class, two of the eleven students reported that they would not be choosing to work with older adults. Even though researchers reported students who participated in this survey and class decided to not work with older adults, they recommended that students should still complete a course involving older adults in hopes of having a positive influence on students' career choices (Lun, 2012).

Fonseca et al. (2009) took a different approach on researching students' attitudes and career choices by incorporating hands-on-experiences with older adults. Psychology students enrolled in an adulthood and aging course participated by observing older adults in their environment such as their area of residence and students learned the life history of an older adult. Students participated in the study to help determine the knowledge of aging, desire to work with older adults, and attitudes of older adults before and after completing the adulthood and aging course. Pretests were completed at the beginning of the semester, and posttests were completed at the end of the semester. Researchers found the posttest indicated a statistical significance in an increase in knowledge of the aging process ($p=.00$). Although, a statistical difference was found regarding students' attitudes becoming more positive in working with older adults ($p=.04$), a statistical difference ($p=.08$) was not found with students wanting to work with older adults (Fonseca et al., 2009).

Results from the studies examined led to surprising conclusions in regards to students' desire to work with older adults. Even though the studies indicated that students chose not to

work with older adults, the time spent with older adults may not have been a loss. Students who participated in the studies may have learned valuable information about themselves and their career preferences. Throughout the next section, intergenerational service-learning projects are addressed in regards to the changes in attitudes that intergenerational service-learning projects brought to college students.

Incorporating Intergenerational Service-Learning Projects into College Courses

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. Studies using intergenerational service-learning projects with gerontology, nursing, human services, kinesiology and psychology students were reviewed. Lun (2012) recommended that instructors should incorporate aging curriculum throughout various courses instead of focusing on aging and older adults in one specific class. The following examples provided findings from studies that were conducted using intergenerational service-learning projects and the benefits associated with intergenerational service-learning projects. Although research was limited that specifically included only undergraduate community/public health college students and intergenerational service-learning projects, the following projects were similar to those in which community/public health undergraduate students participate. The following studies also showed that incorporating intergenerational service-learning projects into community/public health would influence more positive attitudes as shown in the studies presented in this section.

Dorfman et al., (2004) questioned the effectiveness of service-learning projects and changing attitudes of college students. Dorfman et al., (2004) noted that students indicated an increase of knowledge about aging after the service-learning projects. In order to answer the effectiveness of intergenerational service-learning projects, Dorfman et al. (2004) studied five

consecutive semesters of students enrolled in an introductory gerontology course. Students were provided an opportunity to interact one-on-one with older adults for at least four hours a semester. Pre and posttest scores were gathered from the three scales that made up the Student Assisted Independent Living (SAIL) Questionnaire. Results indicated that the students' intergenerational service-learning projects did not show that the projects contributed to increased positive attitudes toward older adults. Authors noted this survey should be completed on a larger scale, due to a small sample size ($n = 59$), and include more than one university (Dorfman et al., 2004).

Bringle and Kremer (1993) found that intergenerational service-learning projects helped improve college students' attitudes toward older adults. Students in the study included those enrolled in a seminar regarding adulthood and aging, social psychology students, and students involved with a program geared toward intergenerational service-learning projects. Students involved in the seminar and intergenerational service-learning projects were provided training on health and aging, communication, community resources, and information regarding older adults. Social psychology students were not provided training regarding older adults. Results indicated that significant results were found between the two groups. Students involved in the trainings indicated an increase in positive attitudes toward older adults as well as interest in working with older adults as a career choice. Bringle and Kremer (1993) noted that both the students and the older adults provided positive feedback. Students indicated that it would be beneficial for students to take a course in aging while incorporating intergenerational service-learning projects.

Chase (2011) incorporated an intergenerational service-learning project with psychology students. The control group of students did not participate in an intergenerational service-learning project. The purpose of the study was to learn if students who participated in

exchanging emails with older adults had a more positive attitude compared to those students who did not participate in the email exchange. Both groups were given the refined Aging Semantic Differential (ASD) survey. Each student in the intervention group was paired with an older adult to participate in an email project. Each week, the students and older adult in the intervention group, engaged in exchanging emails over assigned topics that became increasingly personal. Pretest scores indicated that there was no statistical difference ($p=.177$) between the intervention and control group. After the completion of the intervention, both groups completed a posttest with the refined ASD. Posttest results found that students who participated in the intervention reported a decrease in scores $F(42,23) = 14.694; p < .05$; therefore, indicating an increase in positive attitudes toward older adults. Researchers indicated that the hard work and time that was spent developing a service-learning project was worth the effort for the students to gain more positive attitudes towards older adults (Chase, 2011).

Powers et al. (2013) focused on the impact of attitudes toward older adults by researching intergenerational service-learning projects with kinesiology students while conducting fitness tests. Prior to the intergenerational service-learning project, students were trained to conduct fitness testing and completed a pretest using the refined ASD. Researchers collected information from the students regarding previous work experience and fitness testing experience with older adults. Students conducted a one-time fitness test with older adults and completed a posttest using the refined ASD. Results indicated that students with previous experience working with older adults had lower pretest scores on the refined ASD, meaning the students reported positive attitudes toward older adults. After the intergenerational service-learning project, students who reported no experience in providing fitness testing with older adults had the greatest improvement of scores indicating an increase in positive attitudes. Researchers noted that

through this study, both the students and older adults $F(1,30) = 49.812; p = .000$ benefited from the intergenerational service-learning project (Powers et al., 2013).

Studies presented in this section helped address the importance of incorporating service-learning projects with older adults and used intergenerational service-learning projects to enhance and encourage positive attitudes toward older adults. Depending on what population community/public health professionals decide to work with, it was beneficial to explore other disciplines and the importance of incorporating intergenerational service-learning projects into the curriculum.

Instruments

A variety of ways to collect information regarding attitudes towards older adults have been used but provided mixed results (Polizzi, 2003) indicating a lack of consistency in testing attitudes. The Student Assisted Independent Living (SAIL) Questionnaire was not widely used in studies in contrast to the refined Aging Semantic Differential (ASD). This section looked at two studies that were completed using different survey instruments and also looked at the development and implications of other studies using the refined ASD.

Valuable information involving older adults was gathered from 116 medical and health professional students using the Carolina Opinions on Care of Older Adults (COCOA) and the Geriatric Attitude Survey (Hollar, Roberts, & Busby-Whitehead, 2011). These instruments were used to gather the students' information and find correlations between the two instruments. Both tools included areas that focused on interests in working with older adults, empathy and compassion, attitudes toward possible career choices with older adults, ageism, services for older adults, and social value of older adults. Results indicated the Geriatric Attitude Survey (GAS) instrument had inconsistencies which would explain the reason between the variances of the two instruments and also showed that the reduced 24-item COCOA correlated significantly ($r = .147$;

$p=.036$). Both instruments indicated that students had minimal experience in working with older adults. Students reported positive attitudes towards older adults but choose not to work with older adults as their career choice. Researchers noted both tests provided reliable results, but the shortened 24-item reduced COCOA provided valid results and would be a good instrument to gather information regarding students' attitudes towards older adults (Hollar et al., 2011).

Lin, Bryant, and Boldero (2011) took a different approach and looked at measuring both implicit and explicit attitudes. Lin et al. (2011) explained that implicit attitudes were attitudes that were developed when individuals were given tasks and asked to associate their responses to words. Explicit attitudes were self-reported. Researchers provided 65 students the Fraboni Scale of Ageism (FSA), which measured explicit attitudes or self-reported attitudes. The Implicit Associated Test (IAT) measured implicit attitudes. Students completed both tests on the computer to ensure that the tests were taken in the proper order. Results indicated that students reported positive attitudes toward older adults while taking the FSA, but indicated neutral responses on the IAT, which meant that students did not prefer younger adults to older adults. Even though Lin et al. (2011) reported discrepancies in the both the FSA and IAT, it was recommended that the IAT be used to measure attitudes toward older adults, but did not recommend the use of the FSA because of the possibility of explicit attitudes being reported as positive in order to remain socially desirable (Lin et al., 2011).

With the various tests that were available to test attitudes, especially attitudes toward older adults, Polizzi (2003) noted that one of the problems that researchers encountered in learning about attitudes was the inconsistency in the results of the tests. Experts reviewed the original ASD that consisted of 66 adjective pairs. In total, 81 adjective pairs were compiled for review. Two groups of students participated in helping the researchers by providing results to

the 81 adjective pairs and test-retest reliability. Participants were asked to take the tests focused on 70-85 year old men and then again for 70-85 year old women. Results show that 66 of the adjective pairs had a test-retest reliability of .8127 for older men and .7938 for older women with even higher test-retest reliability in regards to the attitudes of individuals. After reviewing and gathering feedback of the adjective pairs, the refined ASD consisted of 24 adjective pairs.

Polizzi (2003) noted that the refined ASD has provided more reliable results than the original ASD.

Gonzales, Tan, and Morrow-Howell (2010) researched attitudes by assessing and gathering both quantitative and qualitative information. The refined ASD was used to gather information regarding attitudes, and qualitative information was gathered by asking students to write a one-two page descriptive paper on the experiences they encountered while working with older adults. Another study conducted used the refined ASD in combination with an email project with older adults to gain both quantitative and qualitative information (Chase, 2011). Researchers also requested that students interview older adults using open-ended questions and writing reflection papers (Bertram & Garcia, 2013). Young-Shin Lee (2009) noted that some researchers use one tool to assess attitudes of students, but should be using multiple ways and instruments to assess attitudes, therefore, providing researchers a better understanding of attitudes.

Summary

In conclusion, the need to increase students' awareness and attitudes towards older adults was made evident in the literature reviewed. These studies developed a basis for understanding the attitudes towards older adults, and many studies demonstrated that negative attitudes toward older adults are prevalent in many facets of life. Negative attitudes towards aging still existed

and reinforcing these negative behaviors has been shown in the literature (Bonnesen & Burgess, 2004) as well as the idea that growing older means becoming ill (Stewart et al., 2012).

Researchers examined demographics such as race, religion, age, gender, year in college, major, and aging knowledge of undergraduate students, which suggested that demographics may play a role in the reasoning for the high rates of negative attitudes towards older adults (Kimuna et al., 2005; Stahl & Metzger, 2012; Wurtele & Maruyama, 2012). Although students were involved in classes that provided intergenerational service-learning projects, students were still choosing not to work with older adults (Fonseca et al., 2012; Lun, 2012). Studies presented in the literature review have clearly shown the importance of integrating intergenerational service-learning projects into classrooms as early as elementary school (Klein et al., 2005) in hopes of increasing positive attitudes towards older adults (Bingle & Kremer, 1993; Chase, 2011; Powers et al., 2013). Since the various survey instruments provided mixed results (Polizzi, 2003), researchers should use survey instruments that are reliable.

CHAPTER THREE: METHODOLOGY

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. The hypothesis of this study was students' attitudes toward older adults would positively increase following an intergenerational service-learning project (Chase, 2011; Dorfman et al., 2004; Van Dussen & Weaver, 2009; Fonseca et al., 2009; Klein et al., 2005; Powers et al., 2013; Wurtele & Maruyama, 2012).

Participants

Participants in this study were recruited from 38 undergraduate students majoring in Community Public Health, Outdoor and Community Recreation, or Exercise Management who were enrolled in a 4000 level, Health and Aging course in a university in the Midwest. All students enrolled in the Health and Aging course had the opportunity to participate in this study. Students not enrolled in the Healthy and Aging course were excluded due to the necessity of classroom instruction and the required participation in the intergenerational service-learning project. Fifteen of the 38 students enrolled in the course volunteered to participate in this study. In order to gain statistical significance, an estimated sample size of nine students with statistical power at .80 was needed to complete the survey (Powers et. al., 2013). This research study was voluntary, and the students could stop participation at any time without fear of consequence.

The Health and Aging course focused on healthy aging and promoting healthy lifestyles among older adults, and included in the course were group discussions, lectures, assignments, aging simulations, group projects, supplemental videos that highlighted aging and older adults, and an intergenerational service-learning projects. Course material included the following

topics: ageism; communication with older adults, physical, mental, and cognitive health; theories; diseases; careers; and public health in aging, as well as a required intergenerational service-learning project (Figure 1.)

Procedures

In fall 2013, Institutional Review Board (IRB) approval was obtained to survey students enrolled in the spring 2014 Health and Aging class which included an intergenerational service-learning project. The project included administering two survey instruments, the refined Aging Semantic Differential (ASD) and the SAIL on three different occasions. During the fifth week of class, the Health and Aging students were provided with informed consent forms and asked to develop a participant code that would be used throughout the semester. The midterm survey was administered during week eight of the semester. Students were invited to participate even if the student did not complete a pretest. During week 14 of the semester, the final survey was administered.

Intervention. The intergenerational service-learning project in the Health and Aging class included a four-week balance and strength training class for older adults. Prior to the semester, the Health and Aging class instructor secured the community sites and meeting times. The three sites selected for the strength and balance classes for older adults were the University Wellness Center on campus, a local retirement community a half mile away from campus, and a facility a mile from campus that provided non-traditional healing and relaxation methods. Students completed an intergenerational service-learning project which was a four week strength and balance training class with older adults who were taking one of those classes.

The 38 students in the Health and Aging course were divided into two groups; one group of students was scheduled to attend the first four weeks of the intergenerational service-learning project, and the other group of students was scheduled to attend the last four weeks. Group one

was scheduled to complete the intergenerational service-learning project from week five of the semester through week eight. Group two was scheduled to complete the intergenerational service-learning project from week nine through week thirteen.

The two groups of university students were divided into 12 smaller groups by the course instructor which allowed students to select their preferred times to complete the intergenerational service-learning project with older adults. The smaller group size allowed for both students and older adults to have a one-on-one interaction, an uninterrupted four weeks at their assigned location, and allowed the group of students and older adults to comfortably fit at each of the three sites in the community. The course instructor facilitated classes for older adults and students in the Health and Aging class at one location while trained student instructors facilitated the classes at the two other community locations.

Instruments

Two separate survey instruments, refined Aging Semantic Differential (ASD) developed by Polizzi (2003) and Student Assisted Independent Living (SAIL) Questionnaire, developed by Pillemer and Schultz (2004), were administered to the participants on the three different occasions. A demographic questionnaire developed by the researcher included the student's age, major, gender, past, present, or planned future working with older adults; and experience working in a community setting with older adults.

Refined Aging Semantic Differential. The refined ASD was used to gain a better understanding of the attitudes regarding older adults (Appendix D). The survey included 24 polar opposite characteristics, both positive and negative using a seven-point Likert Scale. Two characteristics were displayed on the same line with numbers from one to seven, with four being neutral, listed between the two polar opposites. Students selected the number that closely corresponded with the characteristic that they identified with older adults (Polizzi, 2003). A

question was added to the bottom of the each refined ASD survey that asked students to disclose the age of the person whom they had in mind when they answered the survey to provide better insight into the age that the student envisioned when they answered the questions (Wurtele & Maruyama, 2012). The refined ASD took approximately five minutes to complete.

Scoring for the refined ASD consisted of adding the numbers that the students selected. The refined ASD had a 168 maximum points and 24 minimum points. The lower the score the more positive attitude a student may have toward older adults. For example, if a student scored 96 out of 168 on the refined ASD, the score indicated that the student reported having a neutral attitude regarding older adults (Polizzi, 2003). The refined ASD has been found to be more widely used in assessing attitudes. Polizzi (2003) noted that in developing the refined ASD from the original, lengthier ASD, the test-retest ranges were .8192 to .8404.

Student Assisted Independent Living Questionnaire. Students were asked to complete the three scales within the SAIL Questionnaire (See Appendix E). Scale One assessed students' attitudes toward older adults, Scale Two assessed attitudes toward community service, and Scale Three assessed attitudes working with older adults and individuals with chronic diseases. Students could select from the following choices: strongly agree (4); mildly agree (3); mildly disagree (2); or strongly disagree (1). The three scales took students five to ten minutes to complete. Permission was granted by Dr. Pillemer to use all three scales.

Scoring for the SAIL Questionnaire included reverse scoring. Scale One, which assessed the attitudes toward older adults included reverse scoring with numbers one, three, six, and eight. Scale One included nine questions with a maximum score of 36 points and a minimum score of 9 and assessed attitudes toward older adults. Scale Two assessed the attitudes toward community service and included reverse scoring with numbers three, five, and seven. Scale Three assessed

students' attitudes towards working with older adults and individuals with chronic diseases, and included reverse scoring with numbers two, three, five, seven, and eight. Both scales two and three had a maximum number of 32 points and a minimum number of 8. The higher the score on all three scales of the SAIL, the more positive attitude. Although the SAIL Questionnaire has not been found as a widely cited source for assessing college students' attitudes regarding older adults. Dorfman et al. (2004) noted that the Cronbach's alpha ranges from .63 to .69 while using the SAIL Questionnaire.

Statistical Analysis

The purpose of this study was to assess the difference in the community/public health students' attitudes regarding older adults before and after an intergenerational service-learning project. Students' attitudes regarding older adults were assessed by conducting statistical analysis of the survey instruments using IBM SPSS Statistics version 21. The dependent variables assessed were undergraduate college students' attitudes toward older adults, community service, and working with older adults. The null hypothesis stated that there was no difference in college students' attitudes toward older adults before and after an intergenerational service-learning project. The confidence level was set to 95% that indicated that the null hypothesis would be accepted if the p value was found to be greater than .05. The alpha was kept at .05 due to this study being an exploratory study. Originally, a two-way ANOVA with repeated measures was to be used in determining changes, but due to the small sample size and scheduling issues associated with the mid-term testing, dependent t tests were used to compare differences in the pretest and posttest scores of the students.

CHAPTER FOUR: RESULTS

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. The dependent variables assessed were undergraduate college students' attitudes toward older adults, community service, and working with older adults. The hypothesis of this study was students' attitudes toward older adults would positively increase following an intergenerational service-learning project (Chase, 2011; Dorfman et al., 2004; Van Dussen & Weaver, 2009; Fonseca et al., 2009; Klein et al., 2005; Powers et al., 2013; Wurtele & Maruyama, 2012).

Participants

Although there were 38 students in the undergraduate Health and Aging course, this study had a relatively small sample size. Seven participants completed both the pretest and posttest for the refined Aging Semantic Differential (ASD), which tested students' attitudes toward older adults. Six participants completed both the pretest and posttest for the Scale One of the Student Assisted Independent Living (SAIL) Questionnaire, which tested students' attitudes toward older adults. Eight participants completed both the pretest and posttest for the Scale Two of the SAIL Questionnaire, which tested students' attitudes toward community service. Eight participants completed both the pretest and posttest for the Scale Three of the SAIL Questionnaire, which tested students' attitudes toward working with older adults and individuals with chronic diseases. Out of the eight students who completed the pretest and posttest, two Scale One of the Student Assisted Independent Living (SAIL) Questionnaires could not be used due to incomplete information, and one refined ASD survey instrument could not be used due to errors.

Females made up 87% of the participants, and the average age of all participants was 22 years old. Seventy three percent of the participants were majoring in community/public health, and twenty percent majoring in outdoor and community recreation. The remaining 7% of participants listed “other” as their major (Table 1).

Descriptive Statistics

Pre and posttests were collected using the refined Aging Semantic Differential (ASD), Scale One (S1), Scale Two (S2), and Scale Three (S3) of the SAIL Questionnaire. The refined ASD pretest mean score was 70.14 ± 14.62 , and the posttest mean score was 59.14 ± 10.76 (Figure 2; Table 2). Scale One pretest mean score was 25.50 ± 1.52 , and posttest mean score was 26.33 ± 2.50 (Figure 3; Table 2). Scale Two pretest mean score was 27.00 ± 1.85 , and the posttest mean score was 27.63 ± 3.07 (Figure 4; Table 2). Scale Three pretest mean score was 21.88 ± 3.18 , and the posttest mean score was 22.75 ± 2.96 (Figure 5; Table 2). All of the results from the instruments were normally distributed with the exception of the Refined ASD pretest which was negatively skewed and leptokurtic, Scale One posttest which was positively skewed and leptokurtic, and Scale Three posttest which was positively skewed and leptokurtic

Inferential Statistics

Participants ($n=7$) completed a pretest and posttest of the refined ASD survey instrument, which was used to explore the attitudes of individuals toward older adults. No statistical difference was found from the pretest scores to the posttest scores $t(6)=1.603$, $p=.160$. The mean score decreased from pretest to posttest, which indicated an increase in positive attitudes. There was a moderate effect size ($d=.75$; Table 2).

Scale One of the SAIL Questionnaire explored students attitudes toward older adults. Six participants completed pretests and posttests. No statistical difference was found from the

pretest scores to the posttest scores $t(5)=-1.185, p=.289$. Although, the scores were non-significant, the scores from the pretest to posttest increased slightly indicating attitudes improved toward older adults. There was a moderate effect size ($d=.54$; Table 2).

Eight students completed Scale Two of the SAIL Questionnaire, which examined students' attitudes toward community service. No statistical difference was found $t(7)=-.662, p=.529$ from comparing the pretest and posttest scores. Scores increased from pretest to posttest noting the increase in positive attitudes toward community service. There was a moderate effect size ($d=.34$; Table 2).

A sample size of eight students completed pre and posttest using the original Scale Three of the SAIL Questionnaire, which explored students' attitudes toward working with older adults and individuals with chronic diseases. The mean score on the pretest was 21.88 ± 3.18 , and the mean score on the posttest score was 22.75 ± 2.96 (Figure 6). No statistical difference was found after completing a dependent t test $t(7)=-.695, p=.510$. Posttest scores increased indicating participant's attitudes toward working with older adults and individuals with chronic diseases improved. There was a weak effect size ($d=.27$; Table 2).

At the end of the refined ASD, participants were asked to provide an age of the person they envisioned when completing the refined ASD. No statistical analysis was run using the data due to the lack of responses and types of responses provided by participants. Seven participants completed the refined ASD, and out of the seven who completed pretests and posttests, two answers were missing for the pretests, and one answer missing from posttest leaving only four pretests and posttests surveys to compare. Out of the four responses, two responses indicated the age stayed the same, one response increased by two years, and the last response was not conclusive because the pretest response was 70s and 80s and posttest response was 78 years old.

CHAPTER FIVE: DISCUSSION

The purpose of this study was to assess the difference in the community/public health students' attitudes regarding older adults before and after an intergenerational service-learning project. The hypothesis of this study was students' attitudes toward older adults would positively increase following an intergenerational service-learning project (Chase, 2011; Dorfman et al., 2004; Van Dussen & Weaver, 2009; Fonseca et al., 2009; Klein et al., 2005; Powers et al., 2013; Wurtele & Maruyama, 2012). The null hypothesis was that there was no difference of attitudes in undergraduate community/public health students regarding older adults before and after an intergenerational service-learning project in the community. Results from the statistical analysis could not support the hypothesis that students' attitudes toward older adults would positively increase following an intergenerational service-learning project; therefore, accepting the null hypothesis. The studies presented in the literature review seemed to preserve the idea that intergenerational service-learning projects reduce the negative perception of older adults and increase positive attitudes toward older adults by college students although this study did not mirror the same statistical findings.

Discussion

This study was designed to assess the difference in the community/public health students' attitudes regarding older adults before and after an intergenerational service-learning project. To date, very few studies have been found that focus specifically on community/public health students' attitudes toward older adults; therefore, indicating a need to conduct research which focus on attitude changes of community/public health students toward older adults.

By 2015, individuals 65 and older will make up 15% of the population in the United States (United States Census Bureau, Population Division, 2012). Due to the increase of older

adults in the United States, researchers have taken note of the present negative perceptions and attitudes toward older adults by college students. Many researchers recommended that college students needed to participate in an aging course and intergenerational service-learning project to prepare them for their future. It is important that college students learn to work with older adults now, because by 2016 college graduates will be possibly entering the workforce with 6.1% of the working population 65 and older (United States Bureau of Labor Statistics, 2008).

Students in this current research project were paired with an older adult for four consecutive weeks. In a study with similar procedures, students were asked to have contact for six consecutive weeks during an intergenerational service-learning project with an older adult partner to build rapport and learn more about older adults to negate any negative attitudes and perceptions of older adults (Chase, 2011). Chase's (2011) findings were statistically significant whereas this study was not, but students in both studies may have benefited from the open communication and time spent working with their older adult partner; therefore, possibly increasing more positive responses on the survey instruments in the current study.

The design of the study was to ultimately have a pretest, midterm, and posttest, but due to the small sample size, the midterm test was not used in the statistical analysis. Using a comparison group by comparing the first group to the second group may have revealed the greatest difference in determining if college students' attitudes became more positive after the intergenerational service-learning project. Other studies such as Bringle and Kremer (1993) and Chase (2011) used intervention and treatment groups to conduct their studies. Bringle and Kremer (1993) showed that the students that were involved in training with the older adults had an increase in positive attitudes toward older adults. Chase (2011) conducted an intervention group which included the students who communicated with older adults through email

exchanges also showed an increase in positive attitudes toward older adults. Powers et al. (2013) discussed the need to include all students in the intergenerational service-learning project due to the benefits that students would reap from working one on one with older adults.

Research studies that were reviewed have speculated reasons why students chose not to work with older adults; therefore, it seemed important to conduct a study in a university setting which included students in a health and aging course. Since the Health and Aging course was offered at a 4000 level, it was believed that students who enrolled in this course may indeed have more positive attitudes toward older adults since an intergenerational service-learning project was included in the course. It was unclear how much exposure students had in previous courses regarding the aging process and interacting with older adults, but there were several reasons why students may have indicated that they would prefer not to work with older adults. By the time students reach this level of their college experience, students may already have a place of employment established or a desire to work with a specific target population. Students' answers could have also been influenced by negative peer influence, negative experience in previous classes or internships, or late exposure to the topic of aging and older adults.

Studies included in the literature review recommended that research should include more than one survey instrument to assess attitudes toward older adults (Lee, 2009); therefore, the refined Aging Semantic Differential (ASD) and Student Assisted Independent Living (SAIL) Questionnaire were the selected instruments used in this study. The ASD has been shown to have high test-retest reliability and was a widely used survey tool since it took approximately five minutes to complete, therefore, not taking much classroom time from the students. Statistical significance was not reached in this study using the refined ASD which asked about attitudes toward older adults. There was a moderate effect size ($ES = .75$). Due to the decrease

in the mean scores, students' ($n = 7$) attitudes became more positive toward older adults when the pretest and posttest scores were compared.

On the other hand, the (SAIL) Questionnaire, which included the scales, was a much lengthier survey that was not as widely used. Scale One of SAIL may be good to use in conjunction with the ASD, because it allows students to answer specific questions about negative perceptions of older adults. Scale Two of SAIL would best serve as a self-reflection tool for students working or volunteering in the community. In the opinion of the researcher, Scale Three of SAIL should not be used in a research project with the purpose of assessing students' attitudes toward older adults due to the negative association of chronic illnesses with older adults.

Scale One of the SAIL Questionnaire was included in this project because it was another way to assess students' attitudes toward older adults. Scale One asked students specific questions pertaining to their attitudes toward older adults compared to the ASD which provided a list of adjectives from which students could choose. Although non-significant, students' ($n = 6$) attitudes toward older adults mean score increased indicating students became more positive toward older adults when the pretest and posttest scores were compared. There was a moderate effect size ($ES = .54$). Statistical results were similar to the ASD; therefore, multiple survey instruments to test attitudes may be beneficial. Although both the refined ASD and Scale One from SAIL survey instruments yielded non-significant results, the change in the scores indicated trending in a positive change in undergraduate college students' attitudes toward older adults.

Scale Two of the SAIL survey was included in this project for two reasons: some community/public health students may enter the workforce in community setting, and the students involved in the intergenerational service-learning project partnered with older adults in a

community setting. Assessing the difference in the pretest and posttest scores ($n=8$), no statistical difference ($p = .529$) was seen in students' attitudes towards community service showing that attitudes did not change to become more positive or negative. Using Scale Two of SAIL for the assessment of community/public health students' attitudes toward community service was not beneficial to this study, because if a student is interested in choosing a career path in community/public health, it might be assumed that working in community agency will be sufficient as a work site.

In comparison to a similar study conducted by Powers et al. (2014), results were not the same, but do warrant discussion. Powers et al. (2014) examined students' attitudes before and after a fitness-based intergenerational service-learning project. The sample size in the Powers et al. (2013) study was much larger than the current study. Powers et al. (2013) study found a large effect size for both the refined ASD and Scale One of the SAIL compared to the current study which found moderate effect sizes for both survey instruments. After exploring the effect sizes from both studies, an assumption could be made that if there was a larger sample size in the current study, statistical significance might be achieved. Both studies used Scale Three of the SAIL and found no statistical significance.

A small sample size was not anticipated for this study due to the fact that 38 students were enrolled in the course and given the opportunity to participate in the study. At the beginning of this study, it was assumed that most of the students would be willing to participate in this research project by completing the survey instruments. Fifteen students began the study by completing the pretest. The attrition rate of the study participants was nearly 50%. There were possibly numerous reasons for the small sample size. Surveys instruments were administered at the end of class after the classroom instructor left the room, so many students left

and did not complete a survey. Administering the survey instruments at the beginning of the class may have yielded a greater response from the students since they would need to remain for the class. The researcher believes that if more students completed the pretest and posttest, results would show a statistically significant change in the results. Also, if more students were to complete the midterm test, then there would be the possibility of a comparison group. The researcher would have examined the results of the group of students who completed the intergenerational service-learning project in conjunction with classroom instruction to the group of students who only had classroom instruction. During this same semester, undergraduate students were required by one or more classes to participate in the Kinesiology and Health Studies Symposium by working on group projects and presenting their findings. Many students reported they spent much of the time preparing presentations for the symposium.

The intergenerational service-learning project was created by the health and aging class instructor to help the students' understanding of older adults and possibly change their perception of older adults. The health and aging class instructor also facilitated the strength and balance classes at one of the three locations while trained graduate students facilitated the classes at the other two locations. The intergenerational service-learning project and the content of the project were vital components incorporated in the course to promote an understanding of older adults and change their perception of older adults. Due to the possibility of different teaching methods and instruction, it is unknown if any inconsistencies by the facilitators of the strength and balance classes may have influenced the students' perceptions older adults.

The intergenerational service-learning project was successful since it allowed the students in the class one-on-one interaction with older adults, but statistical analysis did not indicate that students' attitudes became more positive toward older adults due to the intervention alone. The

research study was scheduled and started week four in the semester. Pretests were scheduled to be administered to the health and aging students prior to any intergenerational service-learning project began, but was rescheduled to week five due to inclement weather. The pretest was to obtain a baseline of attitudes towards older adults, community service, and working with older adults and individuals with chronic diseases. The midterm survey was administrated as scheduled to students after the first group completed the intergenerational service-learning project and before the second group began the intergenerational service-learning project. The posttest was scheduled and provided to all students after all students completed the intergenerational-service learning project.

In order to accurately assess changes in students' attitudes toward older adults, it was important to administer surveys prior to students engaging in the intergenerational service-learning project. Due to inclement weather, the University cancelled classes and all activities which meant that students from the first group completed their first week of the intergenerational service-learning project prior to completing the pretest. The University cancelled on another occasion due to inclement weather, which in turn, affected group one students and the midterm survey. Students assigned to group one were scheduled to make up the missed session of the intergenerational service-learning project after the midterm test was administered. It was unclear how the inclement weather influenced the survey results, but the results of the pretest may not be a true representation of the first group due to the group participating in their first week of the intergenerational service-learning project before completing the pretest.

Although there were benefits for older adults participating in the strength and balance training classes, the purpose of the project was to assess college students' attitudes toward older adults. No information was gathered from or about the older adult participants. Knowing the

level of functioning, comfort level, and ages of the older adults may have given possible insights to the reason students provided the answers that they did on the surveys.

Other factors could have influenced answers that were out of the control of the intervention or college experience such as past informal or formal experience with older adults. Perhaps students who responded to the survey instruments in a more positive way had more experiences that were positive in the past with older adults. It was interesting to note that students tested below the neutral mark for the refined ASD, which indicated the students began the class with more positive attitudes toward older adults than anticipated.

Regardless if attitudes did positively increase in this study, students indicated they did not want a career with working with older adults. This seemed to mirror other findings in the literature review (Fonseca et al., 2009; Lun, 2012; Powers et al., 2013). Perhaps negative attitudes and perceptions already formed by the student may have impacted the likelihood of students wanting to work with other adults (Chase, 2011).

Limitations

Several limitations could have influenced the results of this study, including the inclement weather, lack of primary researcher administering the survey instruments, and the small sample size. A significant limitation to this study occurred when the University closed for inclement weather on two occasions. Students were scheduled to complete the pretest prior to participation in the intergenerational service-learning project. The intergenerational service-learning projects were at different locations in the community, and the class schedule was already finalized, so the community centers could not reschedule or change classes when the inclement weather occurred. The first group of students completed their first week of participation in intergenerational service-learning project before taking the pretest. The

University cancelled classes on another occasion due to inclement weather, which in turn affected the first group of students participating in the intergenerational service-learning projects and the midterm test. Students in the first group were scheduled to make up the missed session after the midterm survey was administered.

An estimated nine students were needed to complete the survey to gain statistical significance (Powers et al., 2013). The study started with 15 students who completed the pretest surveys, but when it was time to complete the statistical analysis, only five participants completed the pretest, midterm, and posttest. Three additional students completed the pretest and posttest, which brought the sample size to eight students. Two reasons may have attributed to the high attrition rate. First, the surveys were administered at the end of class period. Since the study was voluntary, students may have seen this as an opportunity to leave class early without fear of repercussion. Next, students were given a demographic sheet, refined ASD, and four scales from the SAIL each time the surveys were administered. Although, the total time to complete the surveys was five to ten minutes, the number of surveys could have been overwhelming to the students. Students could have thought the time spent on the surveys was too long without reaping tangible benefits.

In addition, the primary researcher committed to visiting and participating at one community site and did not visit the other community sites. Due to time constraints and a previous commitment to the other location, this prevented the primary researcher from visiting the other two sites. By not visiting the other sites, the researcher did not know how the other training strength and balance classes were conducted, since each class had a different instructor.

Recommendations for Future Studies

Although this study did not yield statistically significant results, community/public health, students' attitudes toward older adults need to remain a priority for research. Other studies have found students' attitudes became more positive after an intergenerational service-learning project was completed (Bringle & Kremer, 1993; Chase, 2011; Fonseca et al., 2009; Lun, 2012; Powers et al., 2013; Wurtele & Maruyama, 2012). Researchers should attempt to look specifically at community/public health students' attitudes toward older adults using a larger sample size. Researchers should also continue to gather demographic information about their participants and ask about past formal or informal contact with older adults (Kimuna et al., 2005; Powers et al., 2013). Not only should demographic information be gathered for college participants, but also demographic information should be gathered for the older adults who participated in the intergenerational service-learning project. Another recommendation for future studies would be to ensure the primary researcher administers and collects the surveys. Also, consider the timing of surveying participants. Administering the surveys at the beginning of a class period rather than at the end of the class period is highly recommended. Researchers should take note of the Health and Aging course content and what is being discussed during the time of the testing. Any negative discussion or experiences may influence how negative or positive students may score their survey instruments. Researchers should also note that pairing students with highly functioning older adults instead of lower functioning older adults may yield a larger change in the students' attitudes to become more positive toward older adults or students attitudes in working with older adults. Another recommendation for future studies would be to continue allowing all students the opportunity to participate in intergenerational service-learning projects and address negative attitudes (Powers et al., 2013), use multiple methods to test participants

changed attitudes (Lee, 2009), and allow students to choose their intergenerational service-learning project (Van Dussen & Weaver, 2009). A variety of intergenerational service-learning projects should be incorporated in the Community/Public Health courses early into the program sequence of courses to increase students' exposure to older adults in a safe and formal environment.

Conclusion

Negative perceptions of older adults and ageism are prevalent among younger adults (Bringle & Kremer, 1993; Chase, 2011; Dorfman et al., 2004; Helmes, 2013; Klein et al., 2005; Powers et al., 2013; Stahl & Metzger, 2013; Van Dussen & Weaver, 2009; Wurtele, 2009; Wurtele & Maruyama, 2012) and older adults (Bonnesen & Burgess, 2004; Palmore, 2004; Stewart et al., 2012). Providing students with the opportunity to work with older adults would benefit all groups involved (Powers et al., 2013) especially since the percentage of older adults is estimated to increase to 24% by 2060 (United States Census Bureau, Population Division, 2012). Adults are living longer; for example, individuals that live to be 65 years old can expect to live an additional 20 years and remain in the workforce (Administration on Aging, 2012) which is estimated to grow to 6.1% of older adults in the workforce by 2016 (United States Bureau of Labor Statistics, 2008). Community/public health students are in a position to influence, teach, and work with many different types of people; therefore, including intergenerational service-learning projects throughout the community/public health program coursework would provide the students with the necessary skills to establish positive attitudes toward older adults, working to increase the health and wellbeing of older adults in our communities.

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TABLES

Table 1

*Descriptive Statistics for Health and Aging
Participants*

	#	%
Gender		
Male	2	13.3
Female	13	86.7
Major		
Community/Public Health	11	73.3
Outdoor/Community Recreation	3	20
Other	1	6.7

Table 2

Differences in Pretest and Posttest Scores for Instruments by Health and Aging Study Participants

Variable	Pretest Mean	SD	Posttest Mean	SD	Effect Size	Percentage of Change
ASD	70.14	14.62	59.14	10.76	.75	15.68↓
S1	25.50	1.52	26.33	2.50	.54	3.25↑
S2	27.00	1.85	27.63	3.07	.34	2.33↑
S3	21.88	3.18	22.75	2.96	.27	3.98↑

Note. ASD=Aging Semantic Differential; S1=Attitudes Toward the Elderly; S2=Attitudes Toward Community Service; S3=Attitudes Toward Working with Geriatric Patients

FIGURES

Week	Topics Covered in Class	Intergenerational Service-Learning Project (ISLP)	Administered Surveys
1	Myths and Introduction to Aging		
2	Aging Simulation		
3	Changes and Communication in Aging Transitions in Late Life		
4	Theories of Aging Ethnicity of Aging Introduction to Blue Zones		Pretest scheduled but cancelled - inclement weather
5	Blue Zone Discussion	Group One began ISLP	Both Groups took Pretest
6	Physical Aging	ISLP for week two for Group One	
7	Physical Aging Continued	ISLP for week three for Group One	
8	Cognitive Aging	Cancelled last week for Group One	Both Groups took Midterm
9	Mental Health and Aging	Group Two began ISLP ISLP make up class for Group One	
10	No class - Spring Break		
11	Disease and Aging	ISLP for week two for Group Two	
12	No class	ISLP for week three for Group Two	
13	Careers in Aging	Last ISLP for Group Two	
14	Creativity and Aging Student Presentations		Both Groups took Posttest
15	Student Presentations		
16	Aging and Public Health		

Figure 1. Timeline for course material covered and testing time lime in the Health and Aging class

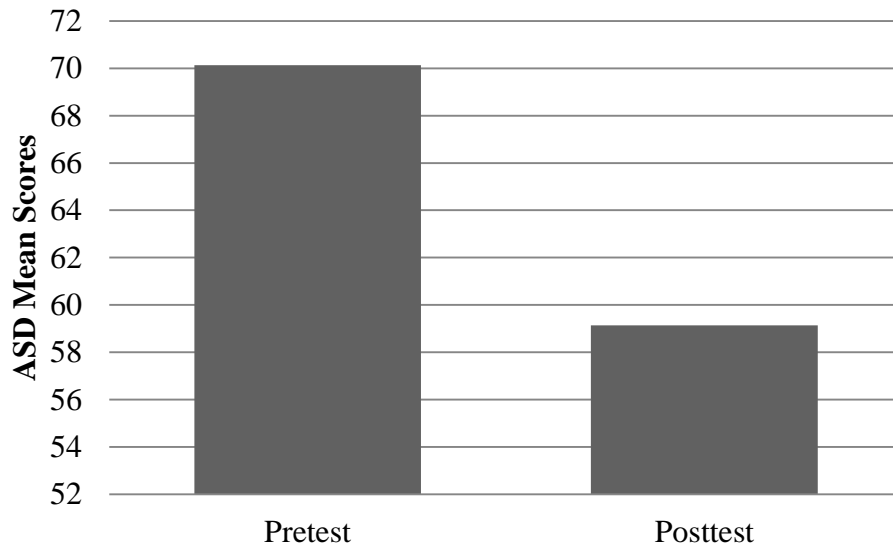


Figure 2. Bar graph is used to display the mean score for the Aging Semantic Differential (ASD) before and after the intergenerational service-learning project. Although, non-significant the posttest mean score showed a decrease in scores indicating an increase in positive attitudes toward older adults.

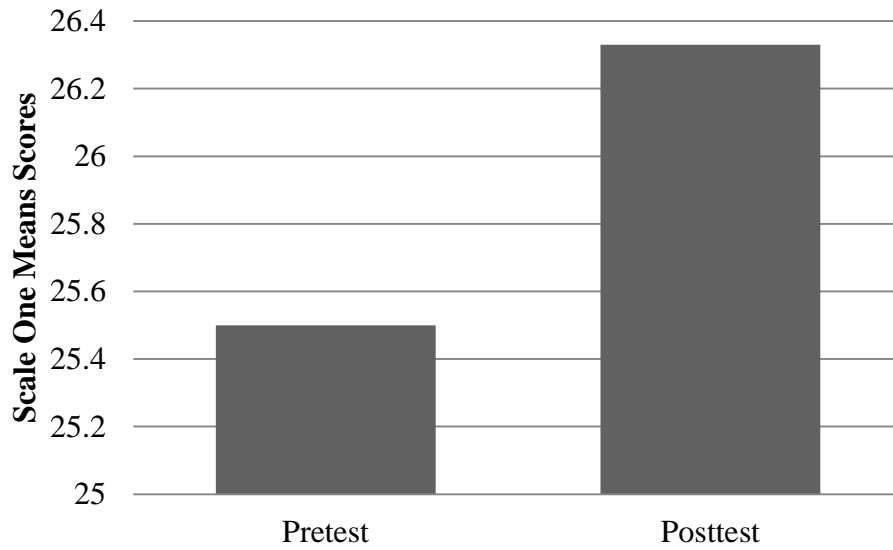


Figure 3. Bar graph is used to display the mean score for Scale One exploring the attitudes toward older adults before and after the intergenerational service-learning project from the SAIL survey. Although, non-significant the posttest mean score shows an increase indicating an increase in positive attitudes toward older adults.

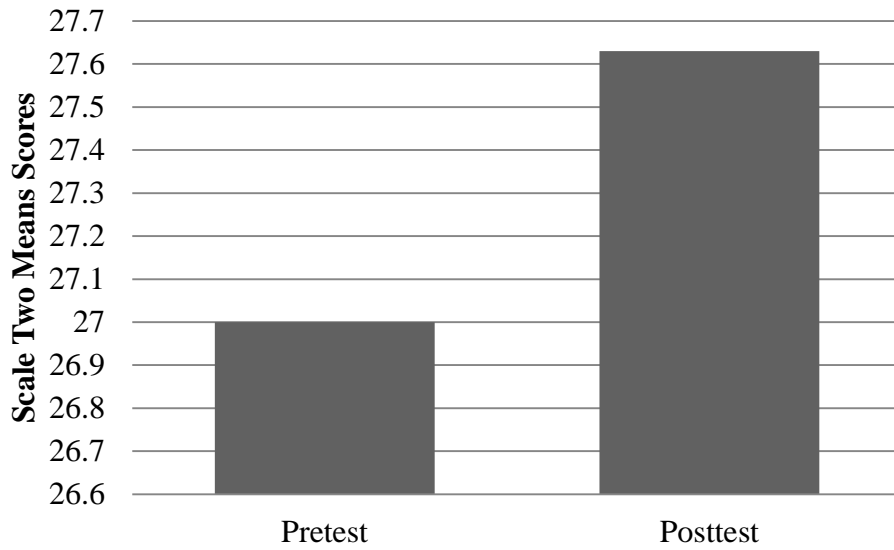


Figure 4. Bar graph showing the change in students' attitudes toward community service on Scale Two from the SAIL Survey. Scores were non-significant, but an increase in scores indicated that the attitudes became more positive after the intergenerational service-learning project.

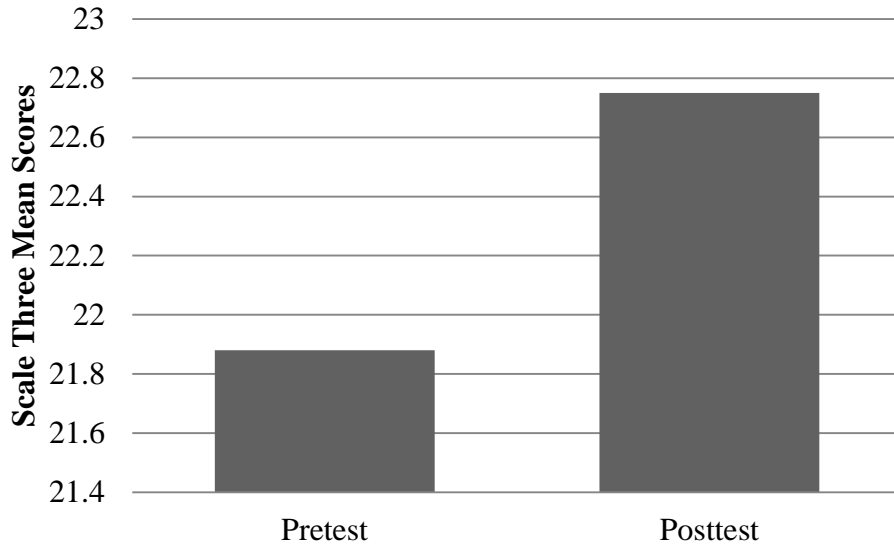


Figure 5. This bar graph represents the mean scores of students’ willingness to work with older adults and individuals with chronic disease using Scale Three from the SAIL Questionnaire. Not proven statistically, scores indicated a change in students’ willingness to work with older adults and individuals with chronic disease.

APPENDICES

APPENDIX A
INFORMED CONSENT FORM

**UNIVERSITY OF CENTRAL OKLAHOMA
INFORMED CONSENT FORM**

Research Project Title: Undergraduate Students Attitudes Toward Older Adults After an Intergenerational Service-Learning Project

Researcher(s): Laura Gregory, lsolomon1@uco.edu

IRB Contact: Richard L. Sneed, Ph.D., Chair, UCO Institutional Review Board
Office of Research Compliance, 216 ADMN
(405) 974-5479

The purpose of this study is to assess the difference of community/public health undergraduate college student's attitudes toward older adults, before and after classroom instruction and an intergenerational service-learning projects. If you agree, you will be asked to complete two surveys. Your participation for this research study is over the course of the Spring 2014 semester and will take you no longer than 10-15 minutes for each time you take the surveys. Over the course of this semester, you will be asked to complete surveys on three different occasions. You will benefit from learning about your personal attitudes toward older adults.

There is no risk associated with your participation in this study. Your grade will not be impacted in this class if you choose or do not choose to participate in this study. Your information will remain confidential and private. For the purpose of this study, your data will be assigned a code number. This code number will only be used to match your first survey with the second and third survey.

Again, your information that you provide will be kept confidential and private. If you choose to complete the surveys, please do not write your name or any identifying marks on your surveys. Your participation in this study is voluntary and you may refuse to participant in the study or withdraw from the study at any time.

AFFIRMATION BY RESEARCH SUBJECT

I hereby voluntarily agree to participate in the above listed research project and further understand the above listed explanations and descriptions of the research project. I also understand that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty. I acknowledge that I am at least 18 years old. I have read and fully understand this Informed Consent Form. I sign it freely and voluntarily. I acknowledge that a copy of this Informed Consent Form has been given to me to keep.

Research Subject's Name: _____

Signature: _____ Date _____

APPENDIX B
IRB APPROVAL LETTERS

December 5, 2013

IRB Application #: 13195

Proposal Title: Undergraduate Students' Attitudes Toward Older Adults After Intergenerational Service-Learning Projects

Type of Review: Initial-Expedited

Investigators:

Ms. Laura Gregory
Dr. Diane Rudebock
Dr. Melissa Powers
Department of Kinesiology and Health Studies
College of Education and Professional Studies
Campus Box 189
University of Central Oklahoma
Edmond, OK 73034

Dear Ms. Gregory, Dr. Rudebock and Dr. Powers:

Re: Application for IRB Review of Research Involving Human Subjects

We have received your materials for your application. The UCO IRB has determined that the above named application is APPROVED BY EXPEDITED REVIEW. The Board has provided expedited review under 45 CFR 46.110, for research involving no more than minimal risk and research category 7.

Date of Approval: 12/5/2013

Date of Approval Expiration: 12/4/2014

If applicable, informed consent (and HIPAA authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. A stamped, approved copy of the informed consent form will be sent to you via campus mail. The IRB-approved consent form and process must be used. While this project is approved for the period noted above, any modification to the procedures and/or consent form must be approved prior to incorporation into the study. A written request is needed to initiate the amendment process. You will be contacted in writing prior to the approval expiration to determine if a continuing review is needed, which must be obtained before the anniversary date. Notification of the completion of the project must be sent to the IRB office in writing and all records must be retained and available for audit for at least 3 years after the research has ended.

It is the responsibility of the investigators to promptly report to the IRB any serious or unexpected adverse events or unanticipated problems that may be a risk to the subjects.

On behalf of the UCO IRB, I wish you the best of luck with your research project. If our office can be of any further assistance, please do not hesitate to contact us.

Sincerely,

Douglas Reed, Ph.D.
Assistant to the Chair, Institutional Review Board
Campus Box 159
University of Central Oklahoma
Edmond, OK 73034
405-974-5497
irb@uco.edu

December 17, 2013

IRB Application #: 13195

Proposal Title: Undergraduate Students' Attitudes Toward Older Adults After Intergenerational Service-Learning Projects

Type of Review: Amendment-Expedited

Investigators:

Ms. Laura Gregory
Dr. Diane Rudebock
Dr. Melissa Powers
Department of Kinesiology and Health Studies
College of Education and Professional Studies
Campus Box 189
University of Central Oklahoma
Edmond, OK 73034

Dear Ms. Gregory, Dr. Rudebock and Dr. Powers:

Re: IRB Amendment Application

We have received and reviewed your request for an amendment to your approved IRB application and supporting materials. The UCO IRB approves the following amendments to your application:

Changes in the recruitment site instructor.

Original Approval Date: 12/5/2013

Approval Expiration: 12/4/2014

This project is approved for a one year period from the original approval date and any further modification to the procedures and/or consent form must be approved prior to its incorporation into the study. A written request is needed to initiate the amendment process. You will be notified in writing prior to the expiration of this approval to determine if a continuing review is needed.

We wish you continued success with your project. If our office can be of further assistance, please do not hesitate to contact us.

Sincerely,

Douglas Reed, Ph.D.
Assistant Chair, Institutional Review Board
Campus Box 159
University of Central Oklahoma
Edmond, OK 73034
405-974-5497
irb@uco.edu

January 14, 2014

IRB Application #: 13195

Proposal Title: Undergraduate Students' Attitudes Toward Older Adults After Intergenerational Service-Learning Projects

Type of Review: Amendment-Expedited

Investigators:

Ms. Laura Gregory
Dr. Diane Rudebock
Dr. Melissa Powers
Department of Kinesiology and Health Studies
College of Education and Professional Studies
Campus Box 189
University of Central Oklahoma
Edmond, OK 73034

Dear Ms. Gregory, Dr. Rudebock and Dr. Powers:

Re: IRB Amendment Application

We have received and reviewed your request for an amendment to your approved IRB application and supporting materials. The UCO IRB approves the following amendments to your application:

Changes in the procedures.

Original Approval Date: 12/5/2013

Approval Expiration: 12/4/2014

This project is approved for a one year period from the original approval date and any further modification to the procedures and/or consent form must be approved prior to its incorporation into the study. A written request is needed to initiate the amendment process. You will be notified in writing prior to the expiration of this approval to determine if a continuing review is needed.

We wish you continued success with your project. If our office can be of further assistance, please do not hesitate to contact us.

Sincerely,

Jill A. Devenport, Ph.D.
Chair, Institutional Review Board
Director of Research Compliance, Academic Affairs
Campus Box 159
University of Central Oklahoma
Edmond, OK 73034
[405-974-5479](tel:405-974-5479)
jdevenport@uco.edu

January 30, 2014

IRB Application #: 13195

Proposal Title: Undergraduate Students' Attitudes Toward Older Adults After Intergenerational Service-Learning Projects

Type of Review: Amendment-Expedited

Investigators:

Ms. Laura Gregory
Dr. Diane Rudebock
Dr. Melissa Powers
Department of Kinesiology
College of Education and Professional Studies
Campus Box 189
University of Central Oklahoma
Edmond, OK 73034

Dear Ms. Gregory, Dr. Rudebock and Dr. Powers:

Re: IRB Amendment Application

We have received and reviewed your request for an amendment to your approved IRB application and supporting materials. The UCO IRB approves the following amendments to your application:

Changes to the research team.

Original Approval Date: 12/5/2013

Approval Expiration: 12/4/2014

This project is approved for a one year period from the original approval date and any further modification to the procedures and/or consent form must be approved prior to its incorporation into the study. A written request is needed to initiate the amendment process. You will be notified in writing prior to the expiration of this approval to determine if a continuing review is needed.

We wish you continued success with your project. If our office can be of further assistance, please do not hesitate to contact us.

Sincerely,

Jill A. Devenport, Ph.D.
Chair, Institutional Review Board
Director of Research Compliance, Academic Affairs
Campus Box 159
University of Central Oklahoma
Edmond, OK 73034
405-974-5479
jdevenport@uco.edu

APPENDIX C
DEMOGRAPHIC QUESTIONNAIRE

Please answer each question.

1. What is your gender? Male Female

2. How old are you? _____

3. What is your major?

Community/Public Health

Exercise/Fitness Management

Outdoor & Community Recreation

Other: _____

4. Do you have past employment experience with working with older adults (65 & older)?

Yes No

5. Are you currently working with older adults (65 & older)?

Yes No

6. In the future, do you have plans to work with older adults (65 & older)?

Yes No

***For the purpose of this study, a community agency is defined as an agency that provides services and cares for community members.

7. Do you have past employment experience with a community agency?

Yes No

8. Are you currently employed with a community agency?

Yes No

9. In the future, do you have plans to become employed with a community agency?

Yes No

APPENDIX D

REFINED AGING SEMANTIC DIFFERENTIAL

Please answer all questions and do not write name or identifying marks on this page

Aging Semantic Differential

Instructions: Below is a list of 24 polar opposite adjective pairs on a 7-point scale. The middle block is neutral. Please place a check mark along the scale at the point that best represents your judgment about older adults, in general. Make each item a separate and independent judgment. Don't be concerned about how you marked any of the previous items, and don't worry or puzzle over individual items. It is your first impression or immediate feeling that is most important. Please be sure to mark each item on the scale.

	1	2	3	4 (N)	5	6	7	
Cheerful								Crabby
Pleasant								Unpleasant
Friendly								Unfriendly
Kind								Cruel
Sweet								Sour
Nice								Mean
Tolerant								Intolerant
Cooperative								Uncooperative
Fair								Unfair
Grateful								Ungrateful
Unselfish								Selfish
Considerate								Inconsiderate
Patient								Impatient
Positive								Negative
Calm								Agitated
Thoughtful								Thoughtless
Humble								Arrogant
Frugal								Generous
Flexible								Inflexible
Good								Bad
Hopeful								Despairing
Optimistic								Pessimistic
Trustful								Suspicious
Safe								Dangerous

When selecting the characteristics regarding older adults, how old was the person(s) you envisioned? _____

Polizzi, K. (2003). Assessing attitudes toward the elderly: Polizzi's refined version of the aging semantic differential. *Educational Gerontology*, 29, 197-216. doi: 10.1080/03601270390180316

APPENDIX E

STUDENT ASSISTED INDEPENDENT LIVING QUESTIONNAIRE

Student Assisted Independent Living (SAIL) Questionnaire				
Scale 1: Attitudes Toward the Elderly				
The following are some statements about older people (persons age 65 and over). Please indicate how much you agree with each statement by circling the number under the response that best matches your opinions.				
	Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1. Most older people are set in their ways and unable to change.	4	3	2	1
2. Most older people are not isolated.	4	3	2	1
3. Older people are apt to complain.	4	3	2	1
4. Older people can learn new things just as well as younger people can.	4	3	2	1
5. People become wiser with the coming of old age.	4	3	2	1
6. Older people are often against needed reform in our society because they want to hang on to the past.	4	3	2	1
7. Most older people are in good health.	4	3	2	1
8. Most older people spend too much time prying into the affairs of others.	4	3	2	1
9. In most jobs, older people can perform as well as younger people.	4	3	2	1

Pillemer, K., & Schultz, L. (2004). Evaluation of the student assisted independent living (SAIL) service-learning project. In S. B. Seperson & C. Hegeman (Eds), *Elder care and service learning: A handbook* (pp. 252-259). Westport, CT: Auburn House.

Student Assisted Independent Living (SAIL) Questionnaire				
Scale 2: Attitudes Toward Community Service				
Now, we would like to learn about your attitudes toward community service work. Please read the following statements and circle the number under the response that best matches your opinion.				
	Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1. It is the responsibility of the community to take care of people who can't take care of themselves.	4	3	2	1
2. I am good at helping people.	4	3	2	1
3. I am not very interested in working on problems in the community.	4	3	2	1
4. It is important to help people in general, whether you know them personally or not.	4	3	2	1
5. It is hard to find the time to work on other people's problems.	4	3	2	1
6. I want to work in a career helping others.	4	3	2	1
7. It doesn't make sense to volunteer because you don't get paid for it.	4	3	2	1
8. Careers in service to others can be more rewarding than other careers.	4	3	2	1

Pillemer, K., & Schultz, L. (2004). Evaluation of the student assisted independent living (SAIL) service-learning project. In S. B. Seperson & C. Hegeman (Eds), *Elder care and service learning: A handbook* (pp. 252-259). Westport, CT: Auburn House.

Student Assisted Independent Living (SAIL) Questionnaire				
Scale 3: Attitudes Toward Working with Geriatric Patients and Individuals with Chronic Diseases				
Please read the following statements about working with older people or people with chronic conditions. Please indicate how much you agree with each statement by circling the number under the response that best matches your opinion.				
	Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1. People who work with older people or people with chronic conditions have interesting jobs.	4	3	2	1
2. Working with older people or people with chronic conditions is depressing.	4	3	2	1
3. It would be very stressful to work with older people with chronic conditions.	4	3	2	1
4. Work with older people or people with chronic conditions is a very worthwhile occupation.	4	3	2	1
5. A problem with having a job working with older people or people with chronic conditions is that it is hard to make enough money.	4	3	2	1
6. Working with older people or people with chronic conditions is a prestigious occupation.	4	3	2	1
7. I don't have the ability to work successfully with older people or people with chronic conditions.	4	3	2	1
8. I fear getting really old or having a chronic condition.	4	3	2	1

Pillemer, K., & Schultz, L. (2004). Evaluation of the student assisted independent living (SAIL) service-learning project. In S. B. Seperson & C. Hegeman (Eds), *Elder care and service learning: A handbook* (pp. 252-259). Westport, CT: Auburn House.

APPENDIX F
RECRUITMENT SCRIPTS

Initial Recruitment Script

This is a study to assess undergraduate students' attitudes toward older adults about intergenerational service-learning projects. Throughout this semester, I am asking you to complete surveys on three different occasions. Your participation in this study will be appreciated, but voluntary. Please remember that your information will remain confidential and private. If you choose to complete the surveys, please do not write your name or any identifying marks on your surveys. Your participation in this study is voluntary and you may withdraw from the study at any time.

To get started, I will read the consent form aloud and then pass out the packets. Each student will receive a packet. There will be two informed consent forms and survey materials in your packet. One consent form will be for you to keep and if you choose to participate, one copy will need to be signed and returned to me with your packets. If you choose to participate in the study, please complete the surveys. If you choose not to participate, please do not write on any papers. I will collect everyone's packet.

Thank you for your time.

Script for second time administering surveys

Thank you for your participation in this study. This is the second to last set of surveys that you will be asked to complete. As a reminder, your attitudes of older adults are being assessed. There is no risk associated with your participation in this study. Your grade will not be impacted in this class if you choose or do not choose to participate in this study.

Your information will remain confidential and private. If you choose to complete the surveys, please do not write your name or any identifying marks on your surveys. Your participation in this study is voluntary and you may refuse to participate in the study or withdraw from the study at any time.

Thank you for your time.

Final script for administering surveys

Thank you for your participation in this study. This is the last set of surveys that you will be asked to complete. As a reminder, your attitudes of older adults are being assessed. There is no risk associated with your participation in this study. Your grade will not be impacted in this class if you choose or do not choose to participate in this study.

Your information will remain confidential and private. If you choose to complete the surveys, please do not write your name or any identifying marks on your surveys. Your participation in this study is voluntary and you may refuse to participate in the study or withdraw from the study at any time.

Thank you for your time.

APPENDIX G

THESIS DOCUMENT SUMMARY

Laura Gregory
Thesis Summary Document
Defense Date: 11/14/2014

Undergraduate Students' Attitudes Toward Older Adults After an Intergenerational
Service-Learning Project

We live in a nation that is rapidly aging, living longer, and working longer. Researchers found that with the growth of the aging population, attitudes toward older adults were negative and that ageism and negative stereotypes of older adults still existed (Kimuna, Knox, & Zusman, 2005; Klein, Council, & McGuire, 2005). It is imperative that younger generations are aware of the negativity and ageism that exist because these young adult students will soon be sharing the workforce with older adults, serving older adults in the workforce (Wurtele & Maruyama, 2012), developing policies that impact older adults, and/or interacting with older adults through everyday activities. Psychology, gerontology, and medical students were typically the focus of studies in understanding undergraduate college students' attitudes toward older adults, but no studies specifically assessed community/public health undergraduate students' attitudes toward older adults.

The following literature review summary identifies key findings in understanding attitudes toward older adults. Negative attitudes towards aging still existed and reinforcing these negative behaviors has been shown in the literature (Bonnesen & Burgess, 2004) as well as the idea that growing older means becoming ill (Stewart, Chipperfield, Perry, & Weiner, 2012). Researchers examined demographics such as race, religion, age, gender, year in college, major, and aging knowledge of undergraduate students, which suggested that demographics may play a role in the reasoning for the high rates of negative attitudes towards older adults (Kimuna et al., 2005; Stahl & Metzger, 2012; Wurtele & Maruyama, 2012). Although students were involved in

classes that provided intergenerational service-learning projects, students were still choosing not to work with older adults (Fonseca, Goncalves, & Martin, 2009; Lun, 2012). Studies presented in literature have clearly shown the importance of integrating intergenerational service-learning projects into classrooms as early as elementary school (Klein et al., 2005) in hopes of increasing positive attitudes towards older adults (Bringle & Kremer, 1993; Chase, 2011; Powers, Gray, & Garver, 2013).

The purpose of this study was to assess the difference in community/public health undergraduate college students' attitudes toward older adults before and after an intergenerational service-learning project. The refined Aging Semantic Differential and Student Assisted Independent Living Questionnaire instruments, which tested attitudes toward older adults, community service, and working with older adults and individuals with chronic illnesses were provided to participants before and after an intergenerational service-learning project and dependent *t* tests were used to compare differences in the pretest and posttest scores.

Although there were 38 students in the undergraduate Health and Aging course, this study had a relatively small sample size. Seven participants completed both the pretest and posttest for the refined Aging Semantic Differential (ASD), which tested students' attitudes toward older adults. Six participants completed both the pretest and posttest for the Scale One of the Student Assisted Independent Living (SAIL) Questionnaire, which tested students' attitudes toward older adults. Eight participants completed both the pretest and posttest for the Scale Two of the SAIL Questionnaire, which tested students' attitudes toward community service. Eight participants completed both the pretest and posttest for the Scale Three of the SAIL Questionnaire, which tested students' attitudes toward working with older adults and individuals with chronic diseases.

Changes in attitudes toward older adults, community service, and working with older adults and individuals with chronic diseases were not statistically significant. Although results were not statistically significant, effect sizes ranged from weak to moderate. Results from the statistical analysis could not support the hypothesis that students' attitudes toward older adults would positively increase following an intergenerational service-learning project; therefore, accepting the null hypothesis.

Findings in this study were not statistically significant, but results trended toward a positive change in undergraduate college students' attitudes toward older adults indicating an increase in positive attitudes toward older adults. Regardless if attitudes did positively increase in this study, students indicated they did not want a career with working with older adults. Community/public health students are in a position to influence, teach, and work with many different types of people; therefore, including intergenerational service-learning projects throughout the community/public health program coursework would provide the students with the necessary skills to establish positive attitudes toward older adults, working to increase the health and wellbeing of older adults in our communities.

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