Effectiveness of an Intergenerational Service-Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism

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Abstract

Background and Purpose. This study evaluated the efficacy of an intergenerational service-learning program administered to undergraduates to determine if it would increase knowledge about aging, improve attitudes about older adults, and reduce ageism more than a predominately didactic course with limited service activity. An important goal of effective intergenerational service-learning is to generate interest in pursuing social work careers in aging with the underserved older adult population. Methods. The sample consisted of students in an undergraduate Psychology of Aging course. A quasi-experimental design using a convenience sample compared pre-test and post-test scores between an experimental intervention (N=68) and a comparison (N=71) group over the course of two academic quarters. The Facts on Aging Quiz (FAQ) Multiple Choice version, Aging Semantic Differential (ASD), and Fabroni Scale on Ageism (FSA) were administered before and after a service-learning intervention and comparison predominantly didactic course with limited service activity. Participants also answered open-ended experiential questions. Analysis included descriptive statistics, within group equivalence between quarters, and equivalence of intervention and comparison groups using T-tests or Chi-square tests. No significant differences were found between intervention and comparison groups at pre-test other than relationship to grandparents. Hypotheses were tested using multiple regression analyses to determine significant difference in outcome scores between intervention and comparison groups, controlling for relationship to grandparents. Qualitative analysis consisted of thematic analysis. Results. The hypothesis was partially supported. The intervention group had a significantly higher reduction in Net Bias on the FAQ and a significantly lower score than the comparison group on the FSA Antilocution sub-scale. On other outcome measures, the two groups did not significantly differ. Qualitative analysis showed those in the experimental intervention placed more emphasis on intergenerational relationships and expressed more behavioral intentions related to aging. Conclusions and Implications. There was a significant effect for the intervention on the outcome of bias and ageism. Programs that are more relational, in-depth, and longer than didactic courses may be useful for consideration in undergraduate psychology or social work programs in reducing ageism. Such courses may have the potential for increasing interest in careers in the fields of aging and social work.
EFFECTIVENESS OF AN INTERGENERATIONAL SERVICE-LEARNING
PROGRAM ON INCREASING KNOWLEDGE ON AGING, CREATING ATTITUDE
CHANGE REGARDING OLDER ADULTS, AND REDUCING AGEISM

Sara P. Bartlett

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Sara Patrice Bartlett
Dedication page

I dedicate this dissertation to the students and older adults who participated in the Lives Well Lived project. Watching their relationships unfold in such beautiful ways right before my eyes inspired me to keep going and reminded me why I love my work so much. We have so much to learn from one another as humans and getting to immerse myself in that world is a privilege.
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ABSTRACT

EFFECTIVENESS OF AN INTERGENERATIONAL SERVICE-LEARNING PROGRAM ON INCREASING KNOWLEDGE ON AGING, CREATING ATTITUDE CHANGE REGARDING OLDER ADULTS, AND REDUCING AGEISM

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Dissertation Chair: Phyllis Solomon, PhD

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intervention and comparison groups at pre-test other than relationship to grandparents. Hypotheses were tested using multiple regression analyses to determine significant difference in outcome scores between intervention and comparison groups, controlling for relationship to grandparents. Qualitative analysis consisted of thematic analysis.

Results. The hypothesis was partially supported. The intervention group had a significantly higher reduction in Net Bias on the FAQ and a significantly lower score than the comparison group on the FSA Antilocution sub-scale. On other outcome measures, the two groups did not significantly differ. Qualitative analysis showed those in the experimental intervention placed more emphasis on intergenerational relationships and expressed more behavioral intentions related to aging. Conclusions and Implications. There was a significant effect for the intervention on the outcome of bias and ageism. Programs that are more relational, in-depth, and longer than didactic courses may be useful for consideration in undergraduate psychology or social work programs in reducing ageism. Such courses may have the potential for increasing interest in careers in the fields of aging and social work.

Keywords: aging, psychology, service-learning, intergenerational, film
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CHAPTER 1: Introduction and Background and Significance

Introduction

The aging of America is a social issue that cannot be ignored. The cohort called The Baby Boomers, those born between 1946-1964, is one of the largest cohorts to date, numbering 72.5 million (Colby & Ortman, 2014). Between the years of 2011-2030, as many as 10,000 Baby Boomers turn 65 every day (Passel & Cohn, 2008). While many older adults maintain their physical, cognitive, and psychological functioning as they age, some will undergo declines that precipitate a need for services to assist them with Activities of Daily Living (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963). For example, one study found incidence rates of Activities of Daily Living impairment for men 78 and older around 42.5:1,000 while for women 78 and older, from 20.8-118.3:1,000 depending on age (Covinsky et al., 2003).

There is recognition in the aging field that there are currently not enough workers in the various aging professions to sustain the needs that will be created as Baby Boomers continue to age (Super, 2002). The Baby Boomers as a cohort tended to have fewer children than their parents did, with some population estimates indicating a birthrate of 68.9 among Baby Boomers compared to 113.5 of the previous cohort born between 1922-1940 (Ryan, Smith, Antonucci, & Jackson, 2012). Also, families are now more geographically distanced, with Baby Boomers having less likelihood of having an adult child living close enough to provide care (Ryan, et al., 2012). The combination of such factors may lead to a familial shortage of care providers (Caregiving: A public health
priority, 2017; Wolff & Kasper, 2006). A large-scale longitudinal projection study revealed significant cohort differences in available informal caregivers and suggested that as Baby Boomers enter older adulthood, they may have lower likelihoods of access to both a spouse and adult children to care for them (Ryan et al., 2012). Who will be available to provide the vital and needed services for older adults? Such services require occupations such as: physicians, nurses, physical therapists, occupational therapists, homecare workers, nutritionists, long term care administrators and staff, older adult non-profit administrators and staff, dementia care specialists, counselors, psychologists, and social workers (Lun, 2011). Unskilled laborers such as unlicensed caregivers have been disproportionately filled by immigrants (Espinoza, 2018; Zallman, Finnegan, Himmelstein, Touw, & Woolhandler, 2019). But the need for skilled and licensed professionals will continue to increase.

The cohort called Generation Z could be one possible answer to this problem. Generation Z, sometimes called the Post-Millennial Generation, includes those born in 1997 or later, with its oldest members currently around 23 years old (https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/). Currently, this population is not as large as the Millennials, containing around 67 million as opposed to 72.1 million, and they are also smaller than the Baby Boomer population (currently around 71.6 million) (https://www.livingfacts.org/en/facts/demographics/2019/02/67m-americans-are-part-of-generation-z). However, given population projections, as the Baby Boomer generation declines, Gen Z will soon be almost as large in number and could provide a pool of
workers to provide much needed services to older adults. Additionally, many more in Gen Z attend college than previous cohorts (https://www.pewsocialtrends.org/2018/11/15/early-benchmarks-show-post-millennials-on-track-to-be-most-diverse-best-educated-generation-yet/). Among college participants in this cohort, generating interest in professional fields of aging requires them to have knowledge of aging, positive attitudes about older adults, and limited ageism (Lun, 2011). What interventions in the college classroom lead to this combination?

Service-learning programs in undergraduate-level college curriculums offer one possibility. Service-learning is defined as, “…a pedagogical approach that integrates community service with academic study to promote student reflection, critical thinking, and creative problem solving” (Lemieux, 2015, p. 309). The goal of service-learning in geriatrics is to expose participants to older adults and generate interest in the field of gerontology, while also providing services to older adults who might otherwise go without such services.

Undergraduate level Psychology of Aging classes with a service-learning component offer an opportunity for participants to gain experience and knowledge in the field of aging. These courses also provide an opportunity to increase interest in the field of social work with older adults. But how much experience is necessary to make an impact or is service-learning experience necessary at all? Multiple studies have found that integrating service-learning into gerontology courses increases the indicators previously mentioned including positive attitudes on aging (Hamon & Guistwite, 2013; Penick, Fallshore, & Spencer, 2014; Thompson & Weaver, 2016; Zucchero, 2011), but few have
compared various service-learning models to each other to see what amount or type of service-learning activity is optimal. This is important because increasing interest in the field of aging among college participants would greatly affect the future well-being of older adults, as the participants would be on the path to careers that would benefit this population.

**Research Question:** A comparative study that examines two intergenerational service-learning models in a Psychology of Aging class will seek to answer the question: is a course with extensive service-learning opportunities (experiential knowledge) but less lecture (didactic learning) more effective than a course with limited service-learning opportunities and more lecture for stimulating interest in the field of aging by increasing knowledge, improving attitudes about the aging process, and reducing ageism?

**Background and Significance**

Given the aging of America’s population, and Generation Z as a large, college educated group that could provide much needed services to the aging population, what factors influence those in Generation Z to pursue careers in aging related fields? Numerous studies have found a lack of interest in work with older adults among undergraduate college participants (Gellis, Sherman, & Lawrence, 2003; Goncalves, 2009; Weiss, 2005). Various factors attributed to this lack of interest including perceived low pay, lack of faculty specializing in aging, limited knowledge about the aging process, and ageism (Scharlach, Damron-Rodriguez, Robinson, & Feldman, 2000; Curl, Simons, & Larkin, 2005; Mosher-Ashley, 1999). This trend extends to the social work profession.
Of all CSWE accredited MSW programs in the U.S., only 19% have an Aging concentration (https://cswe.org/Accreditation/Directory-of-Accredited-Programs.aspx). Once graduated, there has traditionally been a lack of social workers wishing to specialize in work with older adults. For example, the NASW specialization section for aging contains less than 2,000 members (NASW). A study done for the NASW in 2004, estimated that only 12% of all licensed clinical social workers identify Aging as their primary concentration (https://www.socialworkers.org/LinkClick.aspx?fileticket=wmj7uAw4q8E%3D&portalid =0#:~:text=It%20is%20estimated%20about%202200%2C000%20licensed%20social%20workers%20serve%20older%20adults%20nationwide.)

Yet, there is an expanding need for social workers, and especially social workers interested in geriatric or healthcare social work. With 20% of the U.S. population expected to consist of older adults in 2030, more social workers in this concentration are needed (Gellis et al., 2003). According the U.S. Bureau of Labor Statistics, between 2018-2028, there is a projected growth rate for social workers in general of 11%, much higher than that of all occupations combined (5%) (U.S. Bureau of Labor Statistics, Employment Projections program). Growth in the field of healthcare, many of whom serve older adults, is speculated to be even higher, at 17%. More undergraduate exposure to older adults is needed to inspire some to pursue careers in geriatric social work. Among college participants, generating interest in professional fields of aging requires them to have knowledge of aging, positive attitudes about older adults, and limited ageism. One way of achieving this is through intergenerational service-learning programs.
(Lun, 2011). This idea is supported by several studies that tested student attitudes toward older adults from several months to years post-service-learning intervention. Among college undergraduates, studies have found positive attitudes toward older adults endured and found self-reported likelihood of working with older adults in a future career correlated with exposure to older adults (Funderburk, Damron-Rodrigues, Storms, & Solomon, 2006; Eshbaugh, Gross, & Satrom, 2010; Vandsberger & Wakefield, 2006). It is only once students have had such attitude shift that they may begin to consider jobs in the field of aging, including social work.

**Intergenerational Relationships**

Margaret Mead (1971) once said, “the quality of a nation is reflected in the way it recognizes that its strength lies in its ability to integrate the wisdom of its elders with the spirit and vitality of its children and youth” (p. 193). Cultures throughout the world have long seen the benefits of intergenerational relationships; it has only been in the last half century or so that study of intergenerational relationships has been more formalized. For example, the Foster Grandparent Program, developed in 1965, has been recognized as one of the first events of the intergenerational movement, with the study of this movement gaining momentum in the late 1960s-1970s (Gonyea, 1999; Newman, Ward, Smith, Wilson, & McCrae, 1997). The study of intergenerational relationships has gained more recent empirical attention given to changing societal contexts that stress the degradation of multi-generational family relationships and proximity, the increase of two-earner families leaving children in need of alternative caretaking arrangements, and the increasing population of older adults (VanderVen, 2004).
Intergenerational theory links the underlying concepts inherent in the relationships among those of varying generations with the behaviors exhibited between such generations. Lerner (2004) has described intergenerational theories as those that illuminate the, “…mutually influential and systemic relations between individuals and the multiple levels of their social, cultural, and historical contexts…” (p. 5). Intergenerational relationships typically refer to a skipped generational relationship; for example, grandchild/grandparent, young adult/older adult, etc. (VanderVen, 2004). Benefits of such relationships include concepts like cultural transmission (typically, but not always from the older generation to the younger), feelings of generativity amongst the older generation, the receipt of mentoring by the younger generation, and the meeting of practical needs of both parties (VanderVen, 2004). It is too difficult to utilize any one theory to explain the multitude of types of intergenerational relationships, contexts, and programs but intergenerational theories attempt to merge relational and developmental theories with evidence based practice experience to explain what leads to the best outcomes in this area (Jarrott, Stremmel, & Naar, 2019). Exploration into intergenerational relationships generally takes one of two routes, familial relationships or programming. For young adults studying aging, their intergenerational familial relationships may vary but one can standardize the experience they have with intergenerational programming through the application of intergenerational service-learning programs.
Intergenerational Programming

Formal intergenerational programming involves a purposeful interaction between older and younger generations that promotes learning and exchange of resources that benefits both generations (Henkin, & Kusano, 2002; Granville, 2002; Vieira & Sousa, 2016; Martins, Midão, Martínez Veiga, Dequech, Busse, Bertram, McDonald, Gilliland, Orte, Vives, & Costa, 2019). Intergenerational programs consistently show resulting improvements in various psychosocial domains for both the younger and older participants (Martins et al., 2019). Within this general framework for intergenerational programing, many models of program development exist including education based programs like literacy development and tutoring; positive youth development programs such as mentoring; family support and caregiving programs that provide respite and instrumental and emotional support; elder and child care programs; and more macro-level programs that seek to aide community development, explore cultural or historical contexts, or even provide health or legal assistance (Bressler, Henkin, & Adler, 2005). Intergenerational service-learning programs span many types of the intergenerational program development and contain many elements aforementioned. For example, the intervention project in this study includes a mentoring component, as older adults share their advice about living a life well lived with young adults. It also includes exploration of cultural and historical contexts for both the older adult and the young adult, as well as provision of emotional support for both parties.

Jarrott et al. (2019) provide a comprehensive review of 11 best-practices for intergenerational programs based on Lavee and Dollahite’s theory-research-practice
paradigm (1991). These include: (1) Adult and youth staff members collaborate on intergenerational programming; (2) Participants make decisions about intergenerational programming; (3) Participants are prepared for and reflect on intergenerational activities; (4) intergenerational program participation is voluntary; (5) Activities reflect participants’ interests and backgrounds; (6) Activities are age- and role-appropriate; (7) Activities support mechanisms of friendship; (8) The physical environment promotes interaction; (9) The social environment promotes interaction; (10) Adaptive equipment is used as appropriate; (11) Facilitators document and communicate about intergenerational programming (Jarrott et al., 2019). The intervention in this study took as many of these best practices into account as possible.

Intergenerational programming has multiple benefits for both younger and older generations. For older adults, benefits include enhanced life satisfaction and self-esteem (Fisher, 1995; Bressler et al., 2005), decreased social isolation (Bressler, 2001; Bressler et al., 2005), development of meaningful relationships with those outside their family (Taylor & Bressler, 2000; Bressler et al., 2005), new skill acquisition and new perspectives on youth (Rinck, Naragon, & St. Clair, 1995; Wilson et al., 2013; Clyne, Cordella, Schüpbach, & Maher, 2013; Bressler, et al., 2005), instrumental help if such activity is included in the program (Osborne & Bullock, 2000; Bressler, et al., 2005), and more of a sense of fulfillment, meaning, and purpose (Emerman, Bundick, Remington, & Morton, 2018; Clyne et al., 2013; Tabuchi & Miura, 2016). According to the Pathways to Encore Purpose Project (2018), purpose can be defined as, “...a sustained commitment to goals that are meaningful to the self and that also contribute in some way to the common
good, to something larger than or beyond oneself” (p. 2). The intervention project in this study aimed to provide many of these benefits for the older adults involved, such as gaining new perspectives on today’s youth, decreasing social isolation, and promoting a sense of meaning and purpose in one’s life as well. This yearning for sense of purpose is inherent in many older adults. Nearly one third of older adults in the U.S. indicate a sense of purpose beyond the self (Emerman, et al., 2018). When the older adult reflects on their life and shares these reflections with young adults, both the older adult and young adult benefit.

For younger adults, families and children, benefits of intergenerational programming include improved self-esteem and self-worth (LoSciuto, Townsend, Rajala, & Taylor, 1996; Bressler, et al., 2005), academic improvements both in schoolwork and behavior (Brabazon, 1999; Turnbull & Smith, 2004; Newman, Morris, & Streetman, 1999; Bressler et al., 2005), a sense of continuity in terms of their own history, culture, and life trajectory (Perlstein, 1998-1999; Bressler, et al., 2005), and more dependable support systems for families, which can decrease stress on the family system (Osborne & Bullock, 2000; Power & Maluccio, 1998-1999; Rinck & Hunt, 1997; Bressler, et al., 2005). The intervention project in this study sought to help young adults gain a sense of continuity in terms of their own history, culture, and life trajectory as they share with and learn from older adults. The most common challenge of running an intergenerational program is demonstrating impact (Generations United, 2018). Evaluating outcomes for the participants in this study in terms of multiple quantitative and qualitative measures sought to demonstrate impact as comprehensively as possible.
The increase in number and type of intergenerational programs and the subsequent benefits of intergenerational programming and relationships spurred the creation of the first academic journal dedicated to this field, *The Journal of Intergenerational Relationships*, which was established in 2003 (Taylor & Francis, Inc.). This journal is the only publication devoted to practical, theoretical, empirical, familial, and policy perspectives within the intergenerational field. The field has also seen the growth of organizations like Generations United, whose mission is to, “improve the lives of children, youth, and older people through intergenerational collaboration, public policies, and programs for the enduring benefit of all” (https://www.gu.org/who-we-are/mission/ ). According to the Generation United’s database, there are over 700 intergenerational programs nationwide. In addition to providing enjoyable interaction between two unrelated people with at least one generation between them, current intergenerational programs seek to address social and political issues relevant to those populations involved and to promote greater awareness and understanding between the generations (Martins et al., 2019).

*Service-learning*

Service-learning programs in undergraduate-level college curriculums offer one possibility for increasing interest in aging through the intergenerational relationship via enhancing knowledge about aging, improving participants’ attitudes about older adults, and decreasing ageism. Service-learning is defined as, “…a pedagogical approach that integrates community service with academic study to promote student reflection, critical thinking, and creative problem solving” (Lemieux, 2015, p. 309). Service-learning
emerged as a pedagogical approach over 25 years ago and is based on a large theoretical framework including Jean Piaget’s work and more recently, David Kolb’s Experiential Learning Model (Piaget, 1952; Kolb, 1984).

According to Kolb (1984), giving participants a chance to observe, reflect, and experiment in situations of concrete experiences increases engagement and helps to solidify abstract concepts. This process occurs through four processes (Fox, 2013). First, participants have a concrete experience. In the case of this intervention, that concrete experience was interaction with older adults through the project. Second, participants should reflect on those experiences. This was accomplished through whole class discussion at the beginning of the class session immediately after each service-learning encounter, as well as through one to two-page written reflections about each encounter that were submitted within a few days of each encounter. Third, participants must conceptualize the experience by forming abstract concepts that merge experiential and didactic learning. This was done through the requirement that participants include at least two course concepts in their reflections, tying something they observed or experienced to didactic information learned in class. Finally, participants test or apply what is learned by testing it in new situations. The learning encounters were spread out throughout the quarter, with one to two weeks between each encounter, thus giving participants time to learn from mistakes, reflections, didactic knowledge gained, and instructor and class discussion, so they could approach subsequent encounters in new or different ways. Another important concept of Kolb’s is the importance of student apprehension as part of the learning experience (Fox, 2015). Apprehension was an integral part of the Lives Well
Lived project, the intervention in this study. Many participants expressed through both verbal and written communication their apprehension about interacting with an older adult who was also a stranger to them at outset. Many stated they had never formed a relationship with an older adult outside of their own families. Additionally, student personality via learning styles plays a role in experiential learning. Kolb’s model places learners in different categories. Accommodators learn by doing and experiencing; divergers learn by considering multiple perspectives; assimilators learn in more logical ways; and convergers learn best when able to apply their ideas in practical ways (Fox, 2015). For this project, there were elements that appealed to different types of learners.

Several recommended practices have been found to increase effect size for service-learning programs. These are: (1) service-learning programs should be clearly aligned with what the academic curriculum seeks to teach; (2) the participants in the service-learning should be given a voice, either through contribution to program planning, implementation or evaluation; (3) the program should work extensively with the community partner and take suggestions from them on implementation; (4) ample time and planning should be allowed for student reflection on the experience (Celio, Durlak, & Dymnicki, 2011). The intergenerational service-learning intervention in this study aligned well with Psychology of Aging curriculum, which is broad and focused on the biopsychosocial approached utilized frequently in social work and other human centered fields. The participants in the service-learning program were given a voice, as they maintained control over how much time was spent on each of the elements of the project and what various parts of the project would contain. For example, participants and
the older adult they were matched with produced a Memoir for the older adult, but what form this Memoir took was up to the participant and older adult participant. The researcher worked along with the community partners, incorporating resident coordinator suggestions on how best to facilitate interest in the project amongst the retirement community residents involved in the project. While the intervention took place in a fairly short time frame due to the constraints of a ten-week quarter system, participants were given several days to provide written reflections on their experience. When looking at student outcomes from service-learning, results typically fall within five general areas: (1) attitudes toward self; (2) attitudes toward school and learning; (3) civic engagement; (4) social skills; (5) academic achievement (Celio, et al., 2011). Typically, programs that contain several of the recommended practices lead to more comprehensive student outcomes. In the current study, the program contained several goals for outcomes. Most important were increasing knowledge on aging, improving attitudes about older adults, and reducing ageism. The project aimed to accomplish this through achieving several of the outcomes Celio, et al. posit. For example, promoting psychosocial growth of participants, helping them see the benefits of service-learning, inspiring them to volunteer or work with older adults, and increasing their confidence in interacting in a novel relationship were all additional outcome goals for the project.

Recognizing the framework and elements of experiential learning is especially important in education on aging among undergraduates, where many of the concepts being taught are purely abstract in nature, given that the participants have not yet experienced them. The goal of service-learning in gerontology then, is to expose
participants to older adults and generate interest in the field of gerontology via connecting participants in a more concrete way with otherwise abstract concepts, while also providing services to older adults who might otherwise go without such services.

**Intergenerational Service-learning Effects for Participants: Promoting Increased Knowledge and Improved Attitudes About Aging and Reducing Ageism**

The particular type of service-learning approach necessary in education about aging, is intergenerational service-learning. One definition of such programs is, “…activities that foster cooperation, interaction, and exchange between two or more generations” (Kaplan & Sanchez, 2014, p. 367). One large scale systematic review assessing 50 studies on intergenerational programming found, “…sufficient evidence of the useful role that these programs may play in: reducing negative stereotypes, prejudice, and discrimination associated with older adults and aging” (Canedo-Garcia, Garcia-Sanchez, & Pacheco-Sanz, 2017, p. 10). As evident in the systematic review, intergenerational service-learning programs can take on various formats and populations. With regards to increasing exposure for undergraduate participants, such programming would involve an intergenerational program connecting young adults of approximately 18-22 years of age with older adults who are roughly 65 or older.

Inclusion of intergenerational service-learning into gerontology curriculum began in the late 1990’s when The Association for Gerontology in Higher Education and the University of Pittsburgh’s Generations Together began encouraging and facilitating grant development and training of faculty at various colleges with the aim of integrating an intergenerational service-learning component into their existing courses or creating new
ones (Roodin, Brown, & Shedlock, 2014). Additionally, Carol Hegeman and others at the Foundation for Long Term Care began assisting universities in developing curriculum, through grants from the Corporation for National and Community Service and the Fund for the Improvement of Secondary Education (Roodin et al., 2014).

Multiple studies have found that integrating service-learning into gerontology courses results in (a) increased interest in the field of aging, (b) increased knowledge about aging, (c) more positive attitudes about aging, and (d) decreased ageism (Hamon & Guistwite, 2013; Penick, Fallshore, & Spencer, 2014; Thompson & Weaver, 2016; Zucchero, 2011; Angiullo, Whitbourne, & Powers, 1996; Bringle, & Kremer, 1993). This association can partially be explained through Gordon Allport’s Intergroup Contact Hypothesis (1954). This theory was originally developed for application to racial prejudice but has been applied to all forms of prejudice, including ageism (Jarrott & Smith, 2011). Caspi first adapted the theory for use outside of the application to racial prejudice in 1984 when he looked at how children’s attitudes towards older adults became more positive after they had favorable interactions with older adult teachers at a child-care center (Schwartz & Simmons, 2001). Contact theory states that intergroup contact can lead to positive outcomes when four conditions occur: equal status, in which all members of the group have equal levels of power and influence; common goals, in which all groups seek a similar outcome from their collaboration; intergroup cooperation, in which interdependence between members of different groups is needed to achieve the goals of the group; and support of authorities, laws or custom, in which the efforts are supported by a larger organization (Pettigrew, 1998). Most intergenerational service-learning programs contain all these conditions, as they seek to engage old and young
alike in a shared experience with a common outcome, facilitated by a larger organization—the university. Pettigrew also added a fifth tenet to contact theory, opportunities for friendship (1988). Frequent, regular contact between generations in which they share activities and one’s life story are seen to increase positive outcomes. The intervention in this study was based on sharing of activities and one’s life story, hoping to provide the greatest chance of success in creating intergenerational relationship.

Another theory that can help to explain the efficacy of intergenerational service-learning programs is Ajzen and Fishbein’s Theory of Reasoned Action, which looks at how attitudes toward someone or something can directly and indirectly affect behavior and belief systems (Lee, 2009). This theory directly connects the factors seen to be influenced in intergenerational service-learning—knowledge, attitudes, and ageism. Positive feelings people hold toward a group influences their belief systems about that group, leading to behaviors that reflect these beliefs. In other words, affect influences cognition which influences action (Lee, 2009). If intergenerational programs can influence any of these areas, it may lead to overall more positive impressions of older adults among college participants. However, most studies have measured pre-test/post-test change in various combinations of knowledge, attitude and ageism in intergenerational programming, but few have investigated all three variables of knowledge, attitude and ageism together.

Knowledge. Several studies have examined the role of knowledge and its influence on feelings about aging (Allan & Johnson, 2008; Stahl & Metzger, 2013; Lee, 2009; Zuccher, 2011; Palmore, 1998). Results from nearly 150 studies utilizing the
Palmore Facts on Aging Quiz, a well-known measure of knowledge on aging, show that most people have a very low knowledge level about aging. The average person only gets about half of the questions on the FAQ correct even among college sociology majors, who only scored about 41% correct (Palmore, 1998). The majority of college participants show a lack of knowledge about aging, even when fairly educated in other ways. Also, lacking knowledge of older adults may be partially related to limited experience with older adults, and this can lead to more negatively perceived stereotypes. For example, in one study, more than half of the participants who answered questions incorrectly about knowledge of aging phenomena had never lived with older adults (Lee, 2009).

Intergenerational service-learning programs give participants an opportunity for interaction with older adults. Interestingly, not all increases in knowledge lead to more favorable attitudes about aging. Some studies have indicated that when participants receive increased knowledge only on the declines and disease processes that come with aging, then increased knowledge actually leads to more negative views of aging (Allan & Johnson, 2008; Stahl & Metzger, 2013). However, when participants receive knowledge about the more positive aspects of aging, this can lead to decreased anxiety, resulting in more positive views of aging (Allan & Johnson, 2008). These knowledge-based biases are evident in the negative and positive bias scores on Palmore’s Facts on Aging Quiz (1998). Participation in the intergenerational service-learning program itself can enhance knowledge received in the classroom and increase bias-free knowledge about older adults, leading to more positive views (Zucchero, 2011).

**Attitudes.** Attitudes regarding aging have also been shown to be an indicator of future interest in age related fields and can be affected by intergenerational service-
learning programs. Mario, Esses, Arnold, and Olson have defined attitudes as, “…the expression on one’s beliefs, feelings, and past experiences in regard to an object or concept…” and are, “…reflected by cognition and affection and influence one’s behavior” (Lee, 2009, p. 122). Studies consistently show attitudes are more negative toward older adults than toward younger adults (Kite, Stockdale, Whitley, Jr., & Johnson, 2005). Korgan (1961) theorized on why people hold negative attitudes about aging. According to Korgan, older adults are seen as a “minority” and are devalued by society. He cites work by Linden stating that this devaluation comes from the families declining acceptance of taking care of their elders, decreasing position of authority held by older adults in society, and increasing emphasis placed on physical and psychological health and well-being of older adults (Korgan, 1961). Korgan found negative attitudes about aging were associated with feelings of anomie, and negative views about minority groups and those with physical or mental disabilities.

However, in situations where a person receives more individualized information about an older adult, attitudes are more positive than when the person’s opinion is simply based on age stereotypes alone (Kite, et al., 2005). Several studies have looked at the outcome of attitude as a result of intergenerational service-learning programs (Hamon & Guistwite, 2013; Penick et al., 2014; Thompson & Weaver, 2016; Zucchero, 2011). For example, one study determined that 30% of changing attitudes toward older adults (more favorable attitudes noted) were attributed to the intergenerational intervention itself, as measured by use of the Aging Semantic Differential scale (Penick, et al., 2014). More personalized interventions may lead to more favorable attitudes towards older adults.
**Ageism.** The final indicator of future interest in the field of aging that can be linked to intergenerational service-learning programs is ageism. One study looking specifically at ageism and how it affects participants found a negative correlation between age and gender and ageism, with younger people expressing higher rates of ageism and males having higher ageism scores than females (Rupp, Vodanovich, & Credé, 2005). Other studies have pointed out the behavioral link for ageism, asking participants what age they would prefer service providers to be. The general consensus was that older adults should not be providing services due to lack of competence (Kalavar, 2001). Such ageism could lead to discriminatory practices in the workplace. Ageism was first used to describe prejudice and discrimination directed toward older people by Robert Butler in 1969 and he has referred to ageism as the third “ism” in society following behind racism and sexism. Palmore (1999) has explained ageism as involving both discrimination and prejudice as well as stereotypes and attitudes. He also noted that there are both cognitive and affective components to this prejudice, with attitudes comprising more of the cognitive component and ageism comprising more of the affective component (Palmore, 1999). Based on Allport’s (1958) levels of prejudice and Butler’s (1969) definition of ageism, Fabroni, Salstone, and Hughes (1990) developed a model for examining what specifically is happening in an ageist act, feeling, or belief. Antilocution was defined as antagonism and antipathy stemming from misconceptions, misinformation, or myths about older persons (Rupp, et al., 2005). Thus, a lack of knowledge may play a vital role in this factor. The next factor is avoidance, which involves withdrawal from social contact with older adults (Rupp, et al., 2005). Intergenerational service-learning programs have the potential to combat this factor by
providing a forced interaction between groups who might not normally choose to interact. Lastly, discrimination includes discriminatory opinions regarding the political rights and viewpoints, segregation, and activities of older people (Rupp, et al., 2005). Of course, no group of people, compartmentalized by age, race, gender or otherwise, conforms to similar viewpoints or activities; getting to know individuals within the group leads to greater appreciation for heterogeneity.

Reduction of ageism is of special interest because of its direct link to social work. Awareness of and action against social injustice is an inherent part of the social work profession. Traditionally, social workers have looked at privilege and oppression in the areas of race, culture, gender, and social class through such social problems as racism, sexism and classism. Ageism is another “ism” that necessitates awareness and action, especially given the aging of our population, but is an “ism” that hasn’t been addressed as much as other forms of social injustice. Several theories have been proposed for the origins of ageism. Underlying all of them, according to Social Learning Theory, is the assumption that many of the attitudes, beliefs, and behaviors of ageism originated very early on in one’s family of origin (Bandura, 1977). Studies have determined that ageism is learned long before young adulthood, based on social learning theory and exposure to familial images of aging, as well as media portrayals (Goncalves, 2009; Thompson & Weaver, 2016).

As a society, we begin adopting ageist beliefs very early in life, seeing older adults as “other” and keeping them separate through mechanisms of institutionalization or social distancing. The sooner in one’s life this is addressed, even if not until college, the more likely society is to counteract ageism. Even if participants enrolled in
intergenerational service-learning programs don’t go on to enter careers in aging, programs that combat ageism are valuable in general, as they decrease social stigma, isolation, and oppression among older adults.

One theory of ageism is Terror Management Theory, which argues that people regard with panic and dread the thought that their lives will someday come to an end. They engage in defensive mechanisms to protect themselves from the anxiety and threats to self-esteem that this awareness produces (Solomon, 1991). Another theory, Modernization Hypothesis, states that older adults are seen negatively because they have lost their utility to society. The increasing urbanization and industrialization of Western society has caused older adults to no longer be valued. If they can no longer be productive, they become irrelevant (Cowgill & Holmes, 1972). Lastly, Multiple Jeopardy Hypothesis looks at intersectionality and the idea that some older adults fit more than one discriminated-against category. For example, an older woman may have endured sexism and now endures ageism. Older adults are affected by biases against each of these categorizations (Ferraro & Farmer, 1996).

In terms of the combination of attitude and ageism, in looking at Ajzen and Fishbein’s Theory of Reasoned Action, attitude toward aging is thought of as a more cognitive way of processing one’s views on aging and ageism takes into account the more emotional processing of views on aging (Fraboni et al., 1990). Attitude not only impacts knowledge, but also is heavily influenced by knowledge, and the combination of all three factors may affect future courses of action (Allan & Johnson, 2008). Therefore, this study incorporated knowledge about aging, attitudes about aging, and ageism to determine how
participants might have changed from the intergenerational service-learning project of which they were a part.

**Intergenerational Service-learning Effects for Older Adults**

When ageism occurs, older adults are more likely to become socially isolated. As Baby Boomers reach older adulthood, they may have lower likelihoods of access to both a spouse and adult children to care for them (Ryan et al., 2012). Additionally, current older adults from the generation previous to the Boomers are now in their 80s and 90s, and many have outlived their social support system, as friends and spouses pass away. Their own children may be retired and living separate lives of their own. From a societal standpoint, through the mechanism of ageism, older adults are isolated from the whole of society by being ignored or made invisible, whether that is by the media, the workforce, etc. Mainstream U.S. culture, especially among white individuals, operates via age stratification which purposely sets about to keep those of different ages apart (Riley, Johnson, & Foner, 1972). People in various age groups have different access to power and stay separated as they conform to specific age norms that dictate the appropriate behavioral expectations of that age group. From “college towns” to “child-care” to “retirement communities,” we segregate individuals based on age. Even when older adults are living in facilities surrounded by others, they may still feel isolated in terms of a disconnection from others in authentic relationship.

**Social Disconnection.** As we push elders to the periphery of society, this lack of care and interaction can result in social isolation, one of the most significant risk factors for older adults (Cornwell & Waite, 2009). Isolation is often broken down into social disconnection and perceived disconnection among older adults (Cornwell & Waite,
Social disconnectedness can be characterized by a lack of contact with others. It is indicated by situational factors, like a small social network, infrequent social interaction, and lack of participation in social activities and groups. Perceived isolation, on the other hand, can be characterized by the subjective experience of a shortfall in one’s social resources such as companionship and support, like for example feelings of loneliness and not belonging (Cornwell & Waite, 2009). This can occur due to widowhood, children moving away, facility placement, hearing deficits, health concerns that limit mobility and lack of transportation. For example, a resident of a nursing home is always surrounded by others but might experience an extreme lack of physical intimacy as they are touched only for the purpose of ADL assistance, but never hugged. Staff might meet their physical needs, but no one sits down to converse with them. Without having anyone to connect to in an authentic way, they can experience feelings of disconnection.

Social disconnectedness has gained prominence in recent years and especially in the advent of COVID-19, when many adults of all ages experienced social isolation due to physical distancing requirements. A recent report from the National Academy of Sciences (2020) framed social isolation and loneliness as a public health issue, likening it to a social determinant of health. In fact, several studies have pointed out the health consequences of social isolation and loneliness (National Academy of Sciences, 2020; Cornwell & Waite, 2009; Cacioppo et al., 2015).

Relational-cultural Theory. Since ageism exists within this context of relationships with others, Relational Theory lends an important lens for examining ageism, the resulting isolation of elders in society, and potential solutions. Relational Theory, and Relational-cultural Theory in particular, offers a valuable lens through which to
conceptualize the perpetuation of ageism, as well as, in combination with use of Intergenerational Theory, a solution to the psychosocial issue of isolation that plagues many older adults. Relational-cultural Theory offers a framework for examining macrosystem levels of isolation, brought on by social disconnectedness as a result of ageism, as well as perceived disconnection at the microsystem level, which can be ameliorated through Relational-cultural Therapy. When combined with Intergenerational Theory, as implemented through formal intergenerational service-learning relationships and programming, society may begin to address the disconnection of our elders.

All relational theories, including Relational-cultural Therapy revolve around what Mitchell (1988) referred to as the relational matrix which includes the field encompassing self, other, and the space between. This matrix also includes “race, gender, power, culture and other constructs” (Segal, 2013, p. 377). Relational-cultural Theory places more emphasis on the social and power constructs than do other relational theories. One can place age as a characteristic under the “other constructs” that the relational matrix addresses. Relational Theories, including Relational-cultural Theory emphasize the deep seeded human need for connection.

Relational Theories also claim that humans operate through the relational paradigm which highlights the inherent capacities of persons for growth and change, complexity and interdependence of human relationships and social life, and the role of the professional relationship in the process of change (Borden, 2000, p. 370). Healing in all relational theories occurs through relationship, referred to in Relational-cultural Therapy as the “corrective relational experience.” This happens when the therapist lets the client know how the client is impacting them but reacts in a way that positively changes the
expectations the client has about relationships. Relational-cultural Theory is a 2-person, Phase II theory in which there is recognition and importance placed on the race, gender, social class, (and one could argue age) of the therapist, as well as their past relational history and such components influence the therapeutic dyad. The therapist is not seen as expert, but rather co-constructs meaning with the client. Relational-cultural Theory focusses on the impact of isolation via social disconnection. Other Relational Theories look at this too, as Altman (2005) has written about how class and culture can get internalized into how people react to us, but Relational-cultural Theory takes this further. According to Altman, the 3-person model, otherwise known as the “social third” focused on context including agency policies, racial and cultural differences, social class etc. and how this impacts the therapist/client relationship and looks at this as enactments at the macro level (Altman, 2005).

“What distinguishes and differentiates RCT is its persistent emphasis on the importance of context, most specifically the ways in which power dynamics affect human interactions” (Jordan, 2018, p. 124). Relational-cultural Theory looks more at the effects of power and stratification and points out more about the role of power and privilege in human disconnection and suffering. It holds social responsibility and social justice as equally important as personal growth. More emphasis is placed on the sociopolitical, and specifically disconnection, and this influence goes beyond the therapeutic dyad. While it still operates from a stance of Mitchell’s “relational matrix,” its focus is less on the intrapsychic and more on the relational component parts of the matrix. Relational-cultural Theory would therefore look at isolation among t as more of a societal problem in need of a social justice agenda and less of a relational issue the individual older adult might be
facing. In fact, Jordan defines isolation as “lack of calming human contact” (J. Jordan, personal communication, November 19, 2019).

There are many ways in which Relational-cultural Theory can be applied to this issue, starting with the idea that Relational-cultural Theory supports not only personal well-being but social justice. A client who needs healing through connection needs to attempt to lessen isolation both through their relational patterns they uphold in their current relationships, but also through the formation of new relationships (Jordan, 2018). Since there could be reduced opportunity for relationship within one’s own cohort or family, intergenerational relationships may offer a solution. Relational-cultural Theory has been used outside the therapeutic relationship to study the usefulness of volunteer, paraprofessional, home-visiting interventions based on a relational model and the use of Relational-cultural Theory constructs in mentoring fits well with intergenerational relationship programs (Jordan, 2018). While there hasn’t been a lot of research on use of Relational-cultural Therapy with older adults, Shibusawa and Chung (2009) studied this practice with East Asian immigrant elders (Jordan, 2018). Additionally, Portman, Bartlett, and Carlson (2010) studied an intergenerational program linking adolescent and older adult females at a retreat designed around interpersonal storytelling using a Relational Theory lens and found positive effects for all involved.

When Relational-cultural Theory is combined with Intergenerational Theory, a powerful framework is developed that can inform interventions for older adult isolation. As noted previously, Lerner (2004) has described Intergenerational Theories as those that illuminate the, “…mutually influential and systemic relations between individuals and the multiple levels of their social, cultural, and historical contexts…” (p. 5). Thus,
Intergenerational Theory and Relational-cultural Theory overlap in their emphasis on relationships. Intergenerational relationships are so important from a social work perspective because they can help address risk factors for both younger people and older adults alike by examining ways risk and protective factors of both groups can intersect to meet the needs of each (VanderVen, 2004). Essentially, this mutuality includes mutual participation in the relationship, mutual generation of data, mutual negotiation of meaning and tasks and mutual empathy as referenced in Relational-cultural Therapy (Jordan, 2018).

In the intergenerational service-learning intervention in this study, older adults were matched with young adult college participants for a 10-week period in which each dyad embarked on a relationship grounded in a series of interview questions they asked one another about living a life well lived. The questions looked at personal identity, accomplishments, regrets and wisdom and centered around the relational concept of mutuality, which Jordan defines as being open to the influence of others, being emotionally available, and changing patterns of response in such a way that it affects the other’s state (Jordan, 2018). As the dyads answered questions about living a life well lived, they co-constructed meaning not only about their own life, but also between them.

In therapeutic relationships, through a loosening of the Frame, boundaries and expectations for the therapist and client-things like where the therapy takes place, the time allotted, etc. can be more flexible (Segal, 2012). In this case the intervention was a paraprofessional one based on the enhancement of a relationship that normally wouldn’t flourish. The intergenerational relationship acts at the micro and macro levels to restore a sense of connection for the older adult. Not only do they experience increased connection
with the young adult they are matched with, but they are brought back into community with the social world at large, no longer isolated to their retirement community only among other older adults, an inauthentic replication of society.

The intervention was based on the Relational-cultural Therapy premise of supported vulnerability—the idea that we “grow from mutually supporting relationships and that resilience is not so much an individual trait, but one borne through community and relationship-relational resilience” (Jordan, 2018, p. 70). Through the process of giving and receiving advice about living a life well lived, both young adult and older adult are vulnerable, but are supported by the other in a way that promotes resilience for both. This supported vulnerability, and the idea that interpersonal connection rather than independence is at the center of personal growth, directly challenges both the view of the “silent generation” encouraged to “pull oneself up by their bootstraps” and the Millennial/Generation Z notions of being self-absorbed and independent (Jordan, 2018).

Relational-cultural Therapy “…offers a responsive relationship based on respect and dedication to facilitating movement out of isolation. In this context, people heal from chronic disconnections and begin to rework maladaptive, negative relational images, which are keeping them locked in shame and isolation…they engage in relationships that contribute to the growth of others and community is supported” (Jordan, 2018, p. 126). In an intergenerational relationship with young adult college participants as in this intervention, the older adult is helped as the shame of isolation from broader society is alleviated, but it also contributes to the growth of the student.
Intergenerational relationships between older adults and young adult college participants offer one para-professional intervention to address personal and societal disconnection and isolation among older adults resulting from ageism. Analysis of this problem and proposed intervention are enhanced by Relational-cultural Theory, which demonstrates the need for connection and the mechanism for this connection through mutual empathy, mutuality, and supportive vulnerability both at the individual and societal level. Through Relational-cultural Theory, one reconfigures the outcome of such an intervention. Not only is the relationship helping older adults to feel personally less isolated and more connected, but it is demonstrating to society the powerful need for connections of both young and old and thus combatting ageism.

**Intervention Selection in Intergenerational Service-learning Programs**

Many different models of intergenerational service-learning programs exist. Variance occurs in characteristics of the younger and older adult populations involved, amount of contact hours, depth of the interaction, frequency with which the generations meet, and activities they engage in together.

**Successful Aging.** One general finding is that such programs create more positive views of aging in all three dimensions of knowledge, attitudes, and ageism if the exposure is to older adults who exemplify “successful aging” (Lee, 2009; Angiullo, et al., 1996). Definitions and measurement of successful aging have long been debated in the field of gerontology, specifically the paradigm of objective versus subjective determinants (Pruchno & Carr, 2017; Gu, Feng, Sautter, Yang, Ma, & Zhen, 2017). One
of the original definitions comes from Rowe and Kahn, “…low probability of disease and
disease-related disability, high cognitive and physical functional capacity, and active
engagement with life” (Rowe & Kahn, 1997, p. 433). Incorporating numerous viewpoints
challenging this definition, they more recently updated this view of successful aging to
also include social factors, such as use of societal institutions, employing a life-course
perspective lens, and a focus on human capital (Rowe & Kahn, 2015). Others have
proposed an updated model of their theoretical framework that also includes “positive
spirituality” (Crowther, Parker, Achenbaum, Lerimore, & Koenig, 2002). Positive
spirituality is defined by Crowther et al. as including both spirituality and religion and,
“…developing an internalized personal relation with the sacred or transcendent that is
not bound by race, ethnicity, economics, or class and promotes the wellness and welfare
of self and others” (p. 614). In one study of community-dwelling older adults, nearly
three-quarters utilized spirituality as a coping strategy, which is of note since the older
adults in this study are also community dwelling (Kenaley, Gellis, Kim, & McClive-
Reed, 2019). Another interpretation of successful aging comes from the Health and
Retirement Study, which views it as an individual having no major disease or ADL
imitations and maintaining a sense of active engagement and ability to perform tasks
(McLaughlin, Connell, Heeringa, Li, & Roberts, 2010). More recent research from the
Health and Retirement Study views individual successful aging factors like health,
functioning, and social embeddedness as part of a cumulative index of resources that
contribute to successful aging, rather than a measure of successful aging (Mejía, Ryan,
Gonzalez, & Smith, 2017). Such an index also includes ones’ satisfaction with their
immediate environment, thus expanding the factors contributing to successful aging,
making it more attainable for those with higher chronological age or with disabilities (Mejía, et al., 2017).

Other studies have emphasized more subjective outlooks on successful aging. For example, one study of 205 community-dwelling older adults 60 and over found that 92% of participants rated themselves as aging successfully despite many having chronic physical diseases and disabilities (Montross, et al., 2006). According to the UC San Diego Women’s Health Initiative Study some of these ideals of successful aging included qualities like psychological resilience, self-efficacy and optimism about the aging process (Vahia, Thompson, Depp, Allison, & Jeste, 2012). The ability to use humor when faced with difficulties in life, is another subjective measure of successful aging of note (Kenaley et al., 2019). Similarly, in another study, older adults described successful aging as a balance of self-acceptance/self-contentment, as well as engagement with life/self-growth. Self-acceptance/self-contentment was facilitated by life review and engagement with life/self-growth, including giving to others and social interactions (Reichstadt, Sengupta, Depp, Palinkas, & Jeste, 2010).

In a comprehensive literature review of various definitions of successful aging, Depp and Jeste (2006) found the following characteristics most frequently correlated with successful aging: age (being in the “young-old” category usually viewed as between 65-74), nonsmoking, absence of disability, arthritis, and diabetes, greater physical activity, more social contacts, better self-rated health, absence of depression and cognitive impairment, and fewer medical conditions. They also found gender, income, education, and marital status generally did not relate to successful aging (Depp & Jeste, 2006).
However, more recent research indicates that negative life events and socioeconomic position in both childhood and adulthood may affect successful aging and that those who are older and less educated may rely more on individual rather than societal factors for achieving successful aging (Kok, Aartsen, Deeg, & Huisman, 2017; Mejía, et al., 2017). Such studies incorporate the role of resilience into the successful aging paradigm. This is of note for several reasons. In the intervention used in this study, some of the participants visited with older adults who were low income and some with those who were middle income. As there is debate regarding the overall influence and interaction of income level on successful aging, even though the older adults at both sites represented successful aging, the qualities that led them there may have been quite different due to varying backgrounds and experiences. Also, residents in the two retirement communities tend to be disproportionately widowed women. Since gender and marital status do not seem related to successful aging, the participants' experience can be generalized to men or those who are married. Of note is that most of the older adults in the retirement communities involved in the study were in their late 70’s-90’s. That means not all of them were in the “young-old” category of 65-74 considered ideal for successful aging (Neugarten, 1974). In fact, some were in the “oldest-old” category or the “fourth age” of 85+ (Neugarten, 1974; Baltes & Smith, 2003). During this period, losses in cognitive capacity, declines in well-being associated with life satisfaction, positive affect, aging satisfaction and loneliness, as well as declines in functioning and potential for dementia all increase. While the older adults in this study have many qualities of successful aging, some also showed some declines due to advanced age. Yet despite health and ability limitations, these older adults maintain positive affect and represent many of the qualities...
of successful aging, particularly engagement with life as shown through their participation in activities at the retirement communities and congregate meal sites (Huijg, van Delden, van der Ouderaa, Westendorp, Slaets, & Lindenberg, 2017; Hicks & Siedlecki, 2017; Tesch-Römer & Wahl, 2017).

The older adults featured in the documentary film Lives Well Lived, used as the basis for this study’s intergenerational service-learning project, include several older adults who are examples of successful aging. These older adults are still exercising, traveling, creating art, participating in social movements, operating at full cognitive capacity, and have positive outlooks on life and the aging experience. When participants are exposed to such examples of vitality in older adulthood, it shatters many of the myths and stereotypes that aging equals decline and frailty. Intergenerational service-learning interventions that include life review and social interactions with others may be particularly relevant to sustaining older adult views of aging successfully. An intervention that provides time for self-reflection while also encouraging growth and social interaction is key (Reichstadt et al., 2010).

The intervention also includes interview questions the older adults and student participants ask one another about what constitutes a life well lived. These questions are influenced by the field of positive psychology, which has been defined by Linley, Joseph, Harrington, and Wood (2006):

…positive psychology is the scientific study of optimal human functioning. At the meta-psychological level, it aims to redress the
imbalance in psychological research and practice by calling attention to
the positive aspects of human functioning and experience and integrating
them with our understanding of the negative aspects of human functioning
and experience. At the pragmatic level, it is about understanding the
wellsprings, processes and mechanisms that lead to desirable outcomes. (p. 8).

A focus on what is right in life, rather than what is wrong, is both a goal and an
outlook. The positive psychology field has examined many qualities that lead to
happiness, including wisdom, gratitude, humility, creativity, curiosity, emotional
intelligence, health, well-being, strengths, virtues, etc. (Linley et al., 2006). Many of
these qualities are reflected by older adults who meet criteria for successful aging, which
influences one’s quality of life in older adulthood (Rowe & Kahn, 1997; McLaughlin et
al., 2010; Vahia, 2012). Positive psychology may be the way participants can internalize
elements of successful aging as it applies to young adults. Using the older adults they are
matched with in the intervention as role models of successful aging, they can incorporate
elements of positive psychology into current behavior to enhance functioning, with the
long term goal of achieving successful aging later in life (Jopp, Jung, Damarin, Mirpuri,
& Spini, 2017).

**Quality vs. Quantity.** In addition to choosing older adults who exemplify
successful aging, one must also investigate the quality of the interactions and not just the
quantity of interactions (Schwartz & Simmons, 2001). Some research indicates that, per
Allport’s contact theory, it is the frequency of contact between the older adult and the
young adult that matters in terms of effectiveness of the intervention (Eddy, 1986; Revenson, 1989). However, other research shows it is the quality of the contact that matters (Allport, 1954; Caspi, 1984; Cook, 1985; Deforges et al., 1991; Sigelman & Welch, 1993; Grant-Thompson, 1998). Schwarz and Simmons (2001) more recently confirmed it is the quality of the interactions, not just the quantity of interactions that makes a difference (2001). Few studies have compared lengthier service-learning projects to shorter ones; in fact after extensive review of the literature, only one study could be located that compared a longer program to a shorter one, and sample size was so small, that they combined the two groups for their analysis in comparing them to a third group that didn’t offer experiential learning (Bringle & Kremer, 1993). The mixed findings and lack of research on frequency versus quality of contact suggests a major gap in the literature that this study seeks to fill. In the current educational environment, where some quarters can be as short as eight or 10 weeks, yet course curriculum is expected to be vast, it is beneficial to assess if adequate outcomes can be obtained from shorter or less involved service-learning opportunities or if longer, more in depth opportunities are required for desired effect.

Choice of Program Activities. Another aspect to examine when looking at the type of intergenerational service-learning program that would be expected to be most beneficial is the type of activities the program includes. There are typically four types of intergenerational programs that reflect the directionality of how aide is given and received. These are (1) the young serving the old, (2) the old serving the young, (3) the old and young serving together, and (4) those with dependent care needs being served together (Bressler, et al., 2005). Intergenerational service-learning programs done within
an individual course on aging are typically structured as either the young serving the old, the old serving the young, or the two groups providing mutual aide to one another. According to Allport’s Contact Hypothesis, decreased prejudice (in this case ageism) is more likely when the two different groups in contact have equal status, in which all members of the group have equal levels of power and influence (Pettigrew, 1998). Thus, intergenerational programs built around older adults and young adults helping one another in some way may have a greater likelihood of decreased ageism as a result. In addition to reduced ageism, programs that involve reciprocal giving, in which both generations contribute to the other’s development or understanding in some way, have been shown to contribute to psychosocial development and meaningfulness, a powerful predictor of intergenerational programming success (Knight et al., 2014). Such mutuality also fits with the tenets of Relational-cultural Theory (Jordan, 2018).

Most programs include some form of visitation to the elder, whether that is in a care facility like a nursing home, a home visit to a frail, homebound elder, or other settings. Activities taking place during the intervention can include the student providing a community service to the elder, like assistance with IADLs, participating in a project together, like volunteering, the participants teaching the elders something or giving some sort of presentation, or engaging in life review/reminiscence activities. There is a strong theoretical basis for life review and reminiscence that promotes positive effects in older adults and young adults, mostly based on the work of Erik Erikson and elaborated on by Butler. This study utilized activities related to life review in the hopes that there would be high levels of effectiveness based on these theoretical underpinnings.
Life Review and Reminiscence—Beneficial for Old and Young Alike. Erikson postulated a stage-based theory in which individuals go through eight consecutive, epigenetic psychosocial stages, each with a conflict (central issue) that needs to be resolved to successfully complete the stage (Erikson, 1980). In his fundamental work, *Identity and the Life Cycle*, Erikson identified two psychosocial stages especially pertinent to older adults. In middle adulthood, individuals face Generativity vs. Stagnation, in which they seek to produce something that will outlast them and yearn to leave a part of themselves behind to improve future generations. However, many studies have also examined how feelings of generativity affect the mental health of older adults as well (Cheng, Chan, & Phillips, 2004; Herrmann, Sipsas-Herrmann, Stafford, & Herrmann, 2005; Kleiber & Nimrod, 2008). A common way of achieving generativity is having children and older adults also gain a sense of generativity upon the birth of grandchildren. Work and career are other ways to achieve generativity. Often overlooked, however, is the idea that generativity can be accomplished by mentoring younger generations and volunteering (Erikson, 1980). An intergenerational service-learning program that capitalizes on this provides an opportunity for older adults to give younger adults advice and pass down words of wisdom. One systematic review found several intergenerational service-learning programs have looked at the effect on generativity in older adults with all but one finding a positive effect on generativity as an outcome of the intergenerational service-learning program (Knight et al., 2014). As measured by the Loyola Generativity Scale, one study found increases in generativity after just 10 hours of interaction (Andreoli & Howard, 2018). Successful completion of this stage will
greatly affect the following stage of Ego Integrity vs. Despair, as there is a high amount of correlation between these two stages (Brown & Lowis, 2003).

The psychosocial stage for “maturity” (older adulthood) is Ego Integrity vs. Despair. In this stage, older adults seek to make sense of their lives, looking for cohesion and minimal regret (Erikson, 1980). A program that helps older adults see their lives as an integrated whole through engagement in life review with a young adult may aid in this endeavor.

The way in which older adults achieve ego integrity is through the process of life review. Butler formalized the concept of life review as a technique for engaging in reminiscence in his work, *The life review: An interpretation of reminiscence in the aged* (1963). Butler defines life review as, “...the universal occurrence in older people of an inner experience or mental process of reviewing one’s life” (p. 65). He states that life review, “…helps account for the increased reminiscence in the aged, that it contributes to the occurrence of late-life disorders, particularly depression, and that it participates in the evolution of such characteristics as candor, serenity, and wisdom…” (p. 65). Butler felt that because older adults are approaching death, they have a yearning to reinterpret past experiences and conflicts in an attempt to resolve them. Therefore, having an opportunity to do this with a young adult who may benefit from these stories (thus also contributing to a sense of generativity) is beneficial for the older adult. At the same time, the student participating in the intergenerational service-learning project is learning not only about the aging process, but life lessons as well. Seeing the older adult as wise may then lead to more positive views on aging.
Using Erikson’s psychosocial theory, the use of a reminiscence-based, life review intervention could also benefit the participants involved. Erikson’s psychosocial stage of adolescence is Identity vs. Role Confusion, however this stage can also be applied to traditional age college participants, such as those in this study’s sample. Arnett’s theory of “emerging adulthood” indicates that college-age adults of around 18-25 experience similar psychosocial challenges in terms of identity to that of adolescents (Arnett, 2006). The goal of this stage is to achieve a stable, enduring identity that is separate from that of one’s parents, often influenced by peers (Erikson, 1980). Therefore, the relationships of significance tend to be more of the peer group as opposed to one’s parents (Erikson, 1980). The psychosocial modality of this stage is to be oneself and the sharing of oneself with others. This is a predecessor to the Intimacy vs. Isolation stage that follows (Erikson, 1980).

In terms of the assumptions underlying the concept of identity formation, one can look at how young adults, just fresh out of adolescence and applying themselves to a major and possible career trajectory are combining constitutional givens like temperament and IQ, as well as favored capacities, like skills they have that are favored by others, to formulate a sense of identity (Erikson, 1980). Without their former significant identifications, like their parents close by, they may be seeking other relationships, in terms of people and values, to reflect on who they are and the relevance of the decisions they are making. An older adult could be just the person for this (Erikson, 1980). Clarifying their identity when talking to an older adult might help them have a more cohesive image of self (identity). For example, when the older adult asks them questions such as, “What three things should I know about you?”, “What is your
greatest passion? Has it changed over time?”, and “What do you enjoy most in life right now?” it helps the young adult reflect on what is most meaningful to them at the present time. Also, as older adults answer such questions, they may give young adults new ways to think about their identity cohesion. Sharing this self-assuredness with a young adult may influence them to feel the same. Erikson’s theory is one of the most frequently cited developmental theories referenced in intergenerational programming research (Jarrott, et al., 2019).

In her pioneering work on intergenerational theory, Newman examined, using Erikson’s psychosocial developmental theory as a framework, how there are “universal” needs for each generation that are complimentary for older and younger individuals (Roodin, 2004). For example, a child has a need to be nurtured and an older adult has a need to nurture; a child has a need to learn from and about the past and an older adult has a need to teach; a child has need for a cultural identity and an older adult has need for a successful life review; a child needs a positive role model and an older adult needs to share cultural mores; and a child has a need to be connected to preceding generations while an older adult has a need to leave a legacy (Roodin, 2004). Although the needs in each generation exist independently, they can be met in symbiotic relationship between generations in natural ways, or through intergenerational programming. The young adults in this study are not children; however, they are at a point in their psychosocial development when they are working on the existential issue of identity development and intimacy. Having a strong foundation based on nurturing, trust, cultural exchange, and generational wisdom will aid in this developmental process.
Additional benefits to the student can be seen when linking reminiscence and life review with Atchley’s Continuity Theory. Continuity Theory postulates that as individuals encounter transitions in their lives, they react and adapt to those transitions based on their pasts. According to Atchley (1989), individuals “…attempt to preserve and maintain existing internal and external structures; and they prefer to accomplish this objective by using experiences tied to their past experiences and to their social world” (p. 137). When viewed in this light, young adults are already establishing patterns of adaptation and behavior that they may carry with them throughout their lives. Providing an opportunity to connect with an older adult who can show them what this looks like in the future, may provide valuable learning opportunities for young adults, both about themselves and the wisdom of older adults. A study linking reminiscence to Continuity Theory showed negative life stories are more likely to be reminisced about internally, but positive life stories are more likely to be reminisced about interpersonally (Parker, 1995). Thus, older adults are more likely to share positive stories with young adults in service-learning programs, exemplifying more of a view of successful aging and possibly producing more positive attitudes about aging among participants.

One systematic review on the benefits of reminiscence in older adults found great inconsistency in the evaluation of such programs (Lin, Dai & Hwang, 2003). Different types of reminiscence strategies, different outcomes used to measure reminiscence effect, and small sample sizes all contributed to this inconsistency. Overall, the studies found benefit to this activity, however. For example, research has shown that college participants can interview older adults in life review projects focusing more on the historical dimension of life review rather than the evaluative aspects, but that if the older
adult wants to participate in evaluative aspects of life review and the student is willing, it can benefit both interviewer and interviewee (Haber, 2006).

**Use of Film.** One type of intergenerational service-learning project that has been examined but not yet linked to reminiscence-based interventions is the use of film as part of the project. McCleary (2014) sites several studies pointing to the benefits of use of film in learning and developed an intervention in which participants watched documentaries about aging alongside older adults and then participated in a panel discussion with older adults exemplifying “successful aging.” This study showed beneficial outcomes on knowledge and positive attitudes of aging. The present study seeks to empirically examine utilizing film in combination with successful aging and reminiscence activities.

**Other Factors for Consideration**

The challenge in this study is to decrease selection bias and make the intervention and comparison groups as similar as possible, given the nature of a quasi-experimental design. Regardless of which group a student is placed in, social desirability may be an issue. Participants may answer questions on aging scales dishonestly, particularly on the scales measuring attitude and ageism, as they may try to avoid appearing ageist and having negativity towards older adults. This is similar to the sort of effects that can be seen in personality tests, and there is a long research history showing such an effect (Crowne & Marlowe, 1960). Measuring for social desirability using the Marlowe-Crowne Social Desirability will help to account for this potential.
Gender must also be taken into consideration. A systematic review showed that 30/50 research studies in the field of intergenerational programs had primarily female samples, and the sample of this study is expected to be no different (Canedo-Garcia et al., 2017). Also, some research has found more positive attitudes about aging and working with the older adult population among women (Fabroni, 1990; Kalavar, 2001) and higher degrees of ageism among men (Rupp, et al., 2005). This study will therefore need to control for gender, in the event that there are more females than males in one class over the other.

Most research on intergenerational programs has had a primarily white sample among both participants and older adults and this study will be no different (Angiullo et al., 1996; Bringle & Kremer, 1993; Schwartz et al., 2001; Vandsberger & Wakefield, 2006). Therefore, it will be necessary to control for race in case one of the classes has significantly more white participants than the other.

Previous studies have not indicated if those participating in intergenerational service-learning programs have had prior coursework in psychology of aging. However, Palmore (1998) states that those with previous courses in aging do score higher on the Facts on Aging Quiz and seem to hold fewer negative views of aging. This would be particularly relevant in affecting the pre-test/post-test scores on the Palmore Facts on Aging Quiz administered in this study. Participants who have had previous psychology of aging coursework may be more likely to score higher on the FAQ, therefore showing less of a difference between pre-test/post-test scores than those with no previous knowledge in psychology of aging. Developmental Psychology is a common undergraduate course at the university where this study takes place. Developmental Psychology does contain some instruction on psychology of aging. It will be important to control for whether the
participants have already taken Developmental Psychology, because if there are more participants with previous Developmental Psychology classes in their background in one Psychology of Aging class as compared to the other, they could score differently on the Palmore Facts on Aging Quiz at outcome not because of the intervention, but because of previous knowledge.

Finally, some studies have indicated differences in attitudes toward aging based on relationship with a grandparent/grandparents (Cummings & Galambos, 2002; Gorelick, Damron-Rodriquez, Funderburk, & Solomon, 2000; Jopp et al., 2017). Neugarten and Weinstein (1964) first investigated the various roles grandparents play in their grandchildren’s lives, describing such grandparent role categories as Formal, Fun Seekers, Distant Figures, Surrogate Parents, or Mentors. Later research refined these categories to Influential, Supportive, Passive, Authority-Oriented, or Detached (Mueller, Wilhelm, & Elder, 2002). Mueller and colleagues focused on the relationship grandparents have with their young adult grandchildren, which is the age range this study examined and assess how the relationship evolves from one centered on play and caregiving when the grandchild is young to, “…one that is characterized by deeper communication, mutual exchange, guidance, and support” (p. 364). Due to changing demographics, some studies indicate that 70% of grandchildren have more than two living grandparents by the time they reach adulthood; thus, grandparents may continue to remain influential during the college years (Szinovacz, 1998). Therefore, it is important to assess the style of grandparent/grandchild relationship and perceived closeness of the
participants to their grandparents and to determine if these factors impact changes in attitudes toward aging.

**Gaps in Research this Study Seeks to Fill**

In summary, the need exists for studies that do not just compare pre/post change for one service-learning intervention, but also compare a more involved and intensive service-learning intervention with a comparison intervention that utilizes service-learning to a lesser degree. Previous research has demonstrated that service-learning through intergenerational programming is of benefit to changing knowledge and attitudes about aging and reducing ageism among college participants, but what remains a question is how much and what type of intervention. Research points to linking participants with examples of successful aging and incorporating life review/reminiscence as producing favorable outcomes, however these components have yet to be linked with use of documentary film. The intervention in this study incorporated all three of these components. Since other studies using film also haven’t had a comparison group, this study filled this gap (McCleary, 2014). Many studies have looked at service provision as the main activity in such projects; a unidirectional relationship in which the student is providing something for the older adult, whether that be assistance with IADLs, companionship, etc. This study reframes such relationships as bidirectional-the participants and older adults interviewed each other, and both can experience benefits from the reminiscence/life review aspect, thus promoting more feelings of equality in the interaction which is in line with Allport’s (1954) model for reducing bias.
Studies have utilized the measures of the Facts on Aging Quiz (to measure knowledge), the Aging Semantic Differential (to measure attitudes), and the Fraboni Scale of Ageism (to measure ageism) to assess potential change pre/post intervention. However, few studies have utilized all three measures together in one study. This study utilized all three measures in an attempt to thoroughly assess changes that may result from the intervention. Also, sample size was larger than most prior studies, providing more of an opportunity to detect significant results. If little difference is found between intervention and comparison in these outcomes, then the usual condition of limited service-learning may be adequate, preserving instructor resources and allowing more class time for dissemination of didactic learning about aging. However, if the intervention has greater effects on knowledge, attitude, or ageism then reformulation of Psychology of Aging will provide for a richer, more beneficial learning experience that hopefully will inspire participants to consider careers in aging.

Hypothesis: A Psychology of Aging course that integrates approximately 10 hours of experiential knowledge (service-learning) and that facilitates more in-depth connection between generations through a mutual interviewing/life review project will be more effective in terms of greater knowledge about aging, more positive attitudes about the aging process, and less ageism than a Psychology of Aging course that focuses more on lecture (didactic learning) with two hours of experiential knowledge (service-learning) and a less in-depth connection between generations facilitated through a congregate meal site visitation.
CHAPTER 2: Research Design and Methods

Brief Overview

A quasi-experimental, mixed methods study was conducted in two Psychology of Aging classes comparing the efficacy of an existing intergenerational service-learning project to a new project. The existing project had been utilized in the course for years and features limited depth and quantity of interaction between generations. The new project has more hours of interaction and more depth of contact between generations. As all other curriculum elements of the classes was the same (lectures, video clips, experiential exercises, tests and other assignments), the study measured outcomes for knowledge about aging, attitudes about aging, and ageism to determine if the more involved service-learning project led to participants being more knowledgeable and feeling more positively about interactions with older adults. Limitations lay in avoiding selection bias and consequently, insuring similarities of participants between the intervention and comparison groups. The study controlled for such extraneous factors that may occur between participants in each of the conditions so the groups could be compared more accurately. Because of potential bias due to the researcher also being the instructor for the course, special attention was given to ensure participants did not feel coerced to participate.

Design

The design for this study was a quasi-experimental pre-test/post-test intervention/comparison group design with the intervention group being Psychology of
Aging participants who received a course curriculum that included the new *Lives Well Lived* project (LWL) and the comparison group being Psychology of Aging participants whose course curriculum includes the Meals That Connect/Lunch Bunch project (MTC). Random assignment to the two treatment conditions was not possible, as registration for each class is done through the standard university registration procedure and participants typically choose which section of the class they want to enroll in based on their overall class schedule and how the day/time of the section fits into this schedule.

Two Psychology of Aging classes were compared during the same quarter for Fall and Winter during the 2019-2020 academic year. Originally, the researcher planned to also include Spring quarter of 2019-2020 and Fall quarter of 2020-2021 but due to the COVID-19 pandemic, in-person service-learning programs were halted through the university. Both classes in each quarter included the same curriculum, but they had very different service-learning components. The intervention group class had approximately 10 hours of service-learning consisting of an in-depth life review/memoir writing project with local retirement community residents exemplifying successful aging integrated into the course. The comparison group class had two hours of service-learning consisting of a brief visitation of a congregate meal or group dining program.

Both classes covered the same academic topics. The course with more hours of service-learning referred participants to the textbook and online lecture summaries for five of the lectures that were missed due to the service-learning encounters. Curriculum has been developed and there are step by step instructions for delivering the intervention.
The comparison group also has pre-determined curriculum. This aided in fidelity of the intervention and comparison intervention.

Participants in both groups took a pre-test during the second week of instruction. The reason for the delay in pre-test administration was to account for participants who added the class late (due to switching classes, getting into the class from the wait list and other administrative reasons). The consent form, pre-test, and post-test were done online using Qualtrics. Prior to the class in which the pre-test and post-tests were administered, participants were asked to bring a laptop or cell phone to class so the forms could be done during class time. This increased the likelihood of participants doing the pre-test/post-test, thus aiding in recruitment and limiting attrition. The researcher took special care to explain that, while participation in the intervention (or comparison group project) was part of course curriculum, participation in the study aspect was not expected or required. Specific actions used to ensure participants did not feel coerced to participate are described in the Human Subjects part of this dissertation. The pre-test consisted of 69 questions and the following items: age, gender, race, previously taken developmental psychology class, relationship with grandparents, Marlowe-Crowne Social Desirability scale, Palmore Facts on Aging Quiz 1 Multiple Choice version, Aging Semantic Differential, and the Fabroni Scale of Ageism. The post-test consisted of 61 questions and the following items: Marlowe-Crowne Social Desirability scale, Palmore Facts on Aging Quiz 1 Multiple Choice version, Aging Semantic Differential, and the Fabroni Scale of Ageism. The post-test also contained six open-ended questions for the intervention group and four open-ended questions for the comparison group to capture
participants’ feedback about their experience doing the projects as well as a consent to recontact participants for future research.

Setting

This study took place at Cal Poly State University, San Luis Obispo. Cal Poly is a public, four-year university that is part of the 23 college California State University system. As of Fall, 2018, its student body numbered approximately 21,812. It is in a non-metropolitan, somewhat rural area of the state half-way between San Francisco and Los Angeles (https://calpolynews.calpoly.edu/quickfacts.html).

The LWL service-learning project (intervention group) held five class sessions jointly with the retirement communities partnering in the project. Two retirement communities participated in the study, one each quarter. Both communities were near campus and are private pay communities for those independent in their activities of daily living. Residences at both consist of private one-bedroom or studio apartments and on-site parking for those still driving. Both sites have a community room and encourage community participation in activities.

The retirement community participating in Fall 2019 is more expensive and most of the residents living there are white, upper-middle class, with an average age of 70s-80s. It is owned by a for-profit property management company which also owns apartments, hotels, other senior living communities, single family sub-divisions, condominiums and office buildings in several states. The community in this study consists of two independent living apartments and an assisted living facility that are all
situated on the same campus. The largest apartment complex contains 128 apartments and the smaller complex has 50 apartments. The assisted living has 64 apartments. Each building has its own dining room where breakfast and dinner are served daily, as well as an optional lunch program that residents pay extra for if they want it. At the apartments, they can also pay extra for housekeeping, laundry services, and transportation if they wish. These services are built into the fee structure of the assisted living. The Life Enrichment Coordinators at each building plan a wide array of activities for the residents and advertised the Lives Well Lived project in the activity calendars and through flyers posted throughout the community. Most of those who participated were from the two apartment complexes. A few residents from the assisted living also participated. These residents had physical limitations but full cognitive functioning.

The retirement community participating in Winter 2020 is a subsidized senior housing community and the residents there have lower income levels. They are mostly white but there is more racial variation than at the other facility. The average age of these residents is also 70’s-80s. The community is owned by a non-profit organization that oversees several senior subsidized housing communities, as well as life plan communities on the west coast. The community in this study consists of two apartment buildings situated on the same campus. The first contains 107 apartments and the second contains 32 apartments. Each building has its own community room which serves as a congregate meal site for a local non-profit senior nutrition program, allowing for a group dining type atmosphere even though the housing community itself does not provide it. Most residents in need of housekeeping and laundry assistance utilize the in-home support services.
program for low income older adults or pay privately for this service, as it is not provided by the housing community. The building is close to public transportation and some also utilize paratransit services for those needs. Service coordinators at both apartment complexes organize group activities for residents. They advertised the Lives Well Lived project in the activity calendar and through flyers placed in resident mailboxes.

The MTC service-learning project (comparison group) hosted each student two times throughout the quarter. In Fall 2019, participants attended either a lunch at a congregate meal site through Meals That Connect or a lunch or dinner in the dining room of a retirement community, which was called “The Lunch Bunch”. In Winter 2019, all participants attended lunch at a different congregate meal site through Meals That Connect. Meals That Connect is a federally subsidized senior congregate meal program with various sites throughout San Luis Obispo County. Congregate Nutrition Services (informally called congregate meal sites) was established in 1972 as part of the Older Americans Act (Porter & Cahill, 2015). It is overseen by the Administration on Aging, which is now part of the Administration on Community Living (https://acl.gov/programs/health-wellness/nutrition-services). The purpose of Congregate Nutrition Services is to serve those 60 or older who are at risk for nutritional or social isolation. The program targets several categories of individuals including low income older adults and those living in rural areas, such as the area in which this study took place (https://acl.gov/programs/health-wellness/nutrition-services). According to the Administration on Community Living 2018 Evaluation of the Older Americans Act Nutrition Services Program Outcomes Report, 54% of those surveyed indicated their
congregate meal made up more than 50% of their total food for the day and 54% said the congregate meal program increased their social opportunities (https://acl.gov/sites/default/files/programs/2019-03/MealProgramValueProposition.pdf).

Meals That Connect (formerly the Senior Nutrition Program) provides free, hot, noontime meals to seniors age 60 or older throughout San Luis Obispo County. There are 10 lunch sites throughout the county that offer these meals. Participants visited two of these sites. This sort of program has traditionally been called a “congregate meal site”. The program also offers home delivered meals to seniors who cannot get to one of the lunch sites. This service is what has traditionally been known as “meals on wheels”. Meals That Connect is a non-profit in San Luis Obispo County designated to provide this service. Their mission is to “enhance health, restore dignity, support independence, and reduce isolation for every San Luis Obispo County resident in need who is at least 60 years of age by providing meaningful connections and free, hot, noontime meals delivered to community dining sites or at home.” (www.mealsthatconnect.org)

An effort was made to match the levels of socioeconomic status of the older adults at the settings for both the intervention and comparison groups. The researcher was concerned that if participants visited a setting with older adults of higher socioeconomic status for the intervention group and lower socioeconomic status for the comparison group, that if more change in outcome measures was observed in the intervention group, it could be because the setting itself was “nicer” or that the participants related to the participants more. Cal Poly tends to have more participants of higher SES than not. For
example, of the 21,037 undergraduate participants enrolled in 2017-2018, 13,449 received financial aid (64%) (https://ir.calpoly.edu/2018-financial-aid-recipients-profile). The average annual financial aid award was $12,111; however the average annual cost of attending Cal Poly during the 2018-2019 academic year, including room and board was $28,302 for in-state tuition and $40,182 for out-of-state tuition (https://www.collegesimply.com/colleges/california/california-polytechnic-state-university-san-luis-obispo/price/#:~:text=Out%20of%20state%20residents%20are,fees%20come%20in%20a
t%204074). Using these numbers to speculate, participants are most likely from middle or upper-middle class families, as they are still paying the majority of their college expenses privately. In Fall 2019, participants in the comparison group visited a congregate meal site located within a church in San Luis Obispo that is unaffiliated with the congregation. This meal site usually has between 6-12 participants each day and is attended by participants who live in private homes or apartments in the surrounding area and come for the socialization component of the congregate meal rather than for the subsidized meal cost. Their socioeconomic status tends to be middle or upper-middle class. However, because of the small size of this program, it was necessary to contract with another site to accommodate participants in the comparison group. Some participants went to a retirement community, where residents also tend to be middle or upper-middle class. This residence is a 100-unit independent living retirement community with group dining. Here participants had lunch or occasionally dinner with the residents in their dining room. The researcher used these sites when conducting the intervention at the upper-middle class retirement community. In Winter 2020, participants in the comparison
group visited a congregate meal program located in downtown San Luis Obispo. This meal site usually has between 25-30 participants each day. This site is located near a low income senior subsidized apartment complex and the socioeconomic status of those in attendance tends to be the economically marginalized. The researcher used this site when conducting the intervention at the low-income retirement community. Again, this was to account for the effects of socioeconomic status level on student’s views.

**Recruitment Procedure and Study Sample**

This convenience sample consisted of participants enrolled in Psychology of Aging during Fall 2019 and Winter 2020 quarters (September 2019-March 2020) who opted to be part of the study. Psychology of Aging is an undergraduate, upper division course, so the majority of the participants enrolled were either Junior or Senior class standing. Participants did not know the difference in course format prior to enrolling, thus controlling for the fact that participants who were not interested in a more in-depth service-learning experience would not enroll in the course with more hours of service-learning. However, after the syllabus for the class was reviewed on day one, there was a chance that participants who were more hesitant to engage with older adults disenrolled from the class. This study attrition could have led to those with the most extreme lack of knowledge, negative attitudes or ageism self-eliminating themselves from the study. In actuality, this is unlikely, as upper division psychology and general elective classes are very difficult to get into at the university where the study took place and participants rarely drop classes even if unsatisfied with the course content. However, it wasn’t possible to ask participants why they dropped the course. Recruitment began the second
week of each quarter to account for participants who added the course late or dropped the course after the first week. The study was presented in class as completely optional and participants were told that the instructor/researcher would not analyze data from the project until after participants’ grades had been submitted.

There were 139 participants in the study. At pre-test, 140 of 149 participants enrolled in both Quarters chose to answer the survey. This is a response rate of 93.96%. Since the survey was administered prior to the drop date for the classes, less participants were enrolled by post-test. At post-test, 140 of 144 responded to the post-test. This is a response rate of 97.22%. One participant sent a post-test but did not have a pre-test and therefore their responses were eliminated, leading to the total of 139 participants. It should be noted that in the Quarter 1 intervention group, 4 post-test surveys were sent to participants no longer enrolled in the class. In the Quarter 1 comparison group, 1 post-test survey was sent to a student no longer enrolled in the class. In the Quarter 2 intervention group, two surveys were sent to participants no longer enrolled in the class. These surveys are not counted in the response rate. There was missing participant data for Quarter Binary (N=2), Gender (N=2), Race (N=2), and Developmental Psychology (N=5). The intervention group was 48.9% of the sample (N=68) and 51.1% were in the comparison group (N=71). There was missing data for two participants regarding which quarter they attended. Therefore, Quarter 1 consisted of 43.8% (N=60) of the total sample, with 29 in the intervention group and 31 in the comparison group. Quarter 2 consisted of 56.2% of the sample (N=77), with 38 in the intervention group and 39 in the comparison group.
For the intervention group, one or two participants were randomly matched with an older adult resident of a nearby retirement community. The fact that in some cases two participants were matched to one older adult did represent a limitation of the study design, as those groups with two participants didn’t get the same amount of personal interaction as the groups consisting of one student and one older adult. However, in the semi-rural community where the study took place, retirement communities aren’t large or plentiful, so recruitment of enough older adults to have individual matches with participants wasn’t possible. In Fall 2019, 27 older adults were part of the intervention group (including three couples), leading to 16 matches with one-on-one interaction and eight matches with two participants paired with one resident. In Winter 2020, 31 older adults were part of the intervention group, leading to 23 matches with one-on-one interaction and eight matches with two participants with one resident. There were a couple of instances of some attrition of the older adult residents due to illness. When this occurred, the participants matched with them were reassigned to another resident.

There was no study attrition for the participants, as the intervention represented a large part of their grade. Of those who answered the question concerning attendance, only 6% of participants didn’t complete all five service-learning encounters due to various reasons including student illness (not wanting to expose the older adult to illness) or the older adult not being available for all five sessions for health or scheduling reasons. In these cases, participants attended four of the five encounters. This data was not eliminated from the study or analyzed separately due to the small number of participants falling into this category.
For the comparison group, participants determined which two days throughout the quarter they wished to visit the congregate meal site at lunch time. For the most part, the same older adult participants attend the congregate meal daily. Between 6-30 older adults attend the congregate meal programs at Meals That Connect depending on the site and between 50-100 older adults attend the group meal at the retirement facility. The instructor asked participants to notify her of attendance at the congregate meal or retirement facility so that no more than five participants attended on any one day at the larger sites and no more than two participants attended on any one day at the smaller site, thus insuring the participants had ample opportunity to visit with the older adults at the sites. No data was collected from the older adults and they are not considered part of the study sample. Rather, older adults’ participation was part of the intervention and comparison service-learning programs.

**Inclusion Criteria**

- Cal Poly State University, San Luis Obispo undergraduate participants enrolled in Psychology of Aging during Fall 2019 and Winter 2020 quarters
- Participants willing to sign an informed consent form to be part of the study

**Exclusion Criteria**

- There were no exclusion criteria unless a student in the comparison group completed the alternative assignment (opting not to participate in visiting the congregate meal/Lunch Bunch program). This primarily occurred if the student was not able to visit the site due to scheduling conflicts. They were not included in the study.
Retention, Subject Payments, Tracking Procedures

Retention was 100% of participants who remained in the classes for the duration of the quarter, as the intervention and comparison activities are part of the course requirements. There were no subject payments. Tracking participants was done by matching pre-test and post-test scores by an embedded ID number in Qualtrics.

Data on Refusers and Drop-outs

The post-test asked the participants how many out of the five sessions with the older adult they attended. Analysis was going to include both those who didn’t complete all of the required service-learning sessions with those who did, but only 6% of those responding to this question on the survey (n=4) indicated they didn’t attend all sessions so measuring this wasn’t statistically feasible or necessary.

Intervention

Experimental Condition (Intervention): Psychology of Aging class with Lives Well Lived Project (approximately 10 hours of service-learning activity)

➢ Curriculum (didactic learning) disseminated through lecture, textbook and small group activities included the following topics: Themes and Issues in Adult Development and Aging, Models of Development: Nature and Nurture in Adulthood, The Study of Adult Development and Aging: Research Methods, Physical Changes, Health and Prevention, Alzheimer’s disease and dementia, Basic Cognitive Functions, Higher-Order Cognitive Functions, Mental Health
Lives Well Lived Project Description. *Lives Well Lived* is a documentary film by Sky Bergman that was produced in 2018. The film is a collection of interviews of several older adults sharing historical perspectives as well as their advice for future generations. The older adults selected for interviews are representative of the concept of “successful aging” (Rowe & Kahn, 1997) in which they exemplify growing older, while maintaining high levels of physical and/or cognitive activity and presents a positive view of aging.

This project enabled participants in a Psychology of Aging class to attend a joint screening of this film with residents at a senior retirement community, and then to interview one of the residents. The resident was also given the opportunity to interview the student/participants.

The participants took what they learned from their interaction with the resident and completed the following:

1. Created a memoir of the resident’s life based on the interview questions. Provided this memoir to the resident, as well as submitted it for class credit. It could take many forms according to the student/resident’s choosing, including a written memoir, poster, scrapbook, or other project.

2. Wrote a term paper connecting their experience with what they learned in class about the psychology of aging. The final paper was based off five separate reflection
journal exercises. The student wrote one reflection after each learning encounter, both with the intention of reflecting on their experience as well as for class credit.

3. Created a 2-4-minute presentation (with slides) about their experience doing the project. The presentation addressed the following questions: (a) What do you think the resident you interviewed would want others to know? (b) What is the resident’s secret to a life well lived? (c) How have you changed as a result of doing this project? (d) What is your definition of a life well lived?

Additionally, the film maker took still photographs of the residents, participants, resident/participant groups and the whole group participating in the project. See Human Subjects section for description of “Model Releases” that were collected for residents and participants who were photographed. Although this material was not part of the data collected for the study, releases were still required.

Components of the Project. (Each Service-learning Encounter was approximately two hours)

1) Service-learning Encounter #1: Participants and residents attended a screening of Lives Well Lived at a retirement community with a “meet and mingle” time afterwards. The retirement community distributed a letter of intent to the residents describing the project and encouraging their participation prior to this encounter. In the class meeting just after the screening, the instructor led the class in the class activity, “Theme 1: Secrets to a Life Well Lived” from the filmmaker’s discussion question document to stimulate critical thinking about the project.

2) Service-learning Encounter #2: After pairing one to two participants with each resident, the individual groups met for a "get to know you" casual first session at the
retirement facility. Participants were encouraged to engage in casual conversation with the resident. The instructor suggested participants prompt the resident to discuss former professions, significant others, how long they’ve been at the retirement community, hobbies, families, etc. Participants were also prompted to discuss their hometowns, majors, jobs, hobbies, etc. At this meeting, participants gave the resident the list of formal interview questions that were used in Service-learning Encounter #3. These questions are the same interview questions the filmmaker used in her interviews in Lives Well Lived.

3) Service-learning Encounter #3: The individual groups met to do the formal interview. They met in residents’ apartments or elsewhere at the retirement community. Participants used the interview questions from the Lives Well Lived film. These questions are designed to promote a sense of generativity and ego integrity and involve advice giving, wisdom and historical perspective (Erikson, 1980). Participants audio recorded the resident’s answers. Residents interviewed participants during this time as well using the same questions the participants used to interview the residents or questions of the residents’ choosing.

4) Service-learning Encounter #4: Groups met to either continue the interviews if they didn’t finish them during Service-learning Encounter #3, or participants took this time to review with the resident the rough draft of the memoir the participant/participants were going to make about the resident and to get ideas for edits of this document. The filmmaker, who is also a photographer, also took photos of the student/resident pairs in a community room at the retirement facility either during this service-learning encounter or Service-learning Encounter #3, depending on her schedule availability. Both participants
and residents being photographed signed release consent forms for the
photographer/researcher, even though this data was not included in this study.

5) Service-learning Encounter #5: The retirement facility residents and participants met
for a “wrap party”, in which together they viewed the photographs taken at the photo
shoot, heard the participants’ presentations on their experiences, socialized and had
refreshments. Participants also presented the residents with the completed Memoir at this
encounter.

**Comparison Group (Comparison Condition): Psychology of Aging class with Meals
That Connect or Lunch Bunch Project (approximately two hours of service-learning
activity)**

- Curriculum (didactic learning) disseminated through lecture, textbook, and small
group activities included the following topics: Themes and Issues in Adult
Development and Aging, Models of Development: Nature and Nurture in
Adulthood, The Study of Adult Development and Aging: Research Methods,
Physical Changes, Health and Prevention, Alzheimer’s disease and dementia,
Basic Cognitive Functions, Higher-Order Cognitive Functions, Mental Health
Issues and Treatment, Long-Term Care, Relationships, Death and Dying, and
Successful Aging. This is the same content the Intervention group receives.

- PSY 318 Psychology of Aging Service-learning Project: Meals that Connect or
Lunch Bunch Project (this is the Treatment as Usual condition; the standard way
the course has been taught for many years)

**Meals That Connect/Lunch Bunch Project Description.** Participants visited
either a Meals That Connect congregate meal site or retirement facility lunch/dinner
(Fall 2019) or a Meals That Connect congregate meal site (Winter 2020) any day they
wished during the quarter. At the smaller meal site used in Fall quarter, there is one large table, so participants engaged with all the residents in attendance. At the retirement community used in Fall quarter, participants were permitted to choose to sit at one table the first time they went and a different table the second time they went or to sit with the same residents both times. At the larger meal site used during Winter 2020, there are 5 tables at the lunch with about 4-5 people at each table. At this meal site, participants were asked to each sit at a different table and to engage in casual conversation with the program participants throughout the lunch. Participants went twice throughout the quarter, for a total of approximately two service-learning hours and wrote a term paper reflecting on their experience and connecting it to course concepts.

Randomization Procedures

There was no random assignment due to the nature of the sample as they were members of a pre-existing class and the researcher had no control over which participants enrolled in which class. Equivalency of groups was run to see if those in the different classes and quarters were comparable in nature, as there was expected consistency among those enrollees in Psychology of Aging in terms of age, gender, race, previous developmental psychology experience, social desirability, and relationship to grandparents. These conditions have been shown to affect the dependent variables being analyzed in this study, so it was important to control for them statistically to improve comparability of groups if they statistically differed, but other than relationship to grandparents, they did not differ.
**Training of Intervention Personnel**

The Meals That Connect/Lunch Bunch project (comparison condition) has been implemented for many years and has high consistency in its delivery. The researcher (interventionist) did a pilot run of the *Lives Well Lived* project in Fall 2018, prior to beginning the research study, to look at any unexpected difficulties or problems with implementing the intervention. The researcher is the only intervention personnel. Both classes had the same instructor, who is also the interventionist, a Licensed Clinical Social Worker with 20 years of experience working with a geriatric population.

**Fidelity Assessment**

While there is no formal treatment manual or fidelity assessment for the intervention or comparison condition, each has a Project Description document with step by step instructions for carrying out the interventions which serves as an instructor protocol. The researcher checked off each step of the project as it was completed to insure fidelity to the intervention. Participants were asked to keep track of the hours they met with residents via a time sheet document provided by the university. This was a way to insure they met the time obligation for the intervention. Also, informal program evaluations were given to residents to capture their input on the project experience. Older adults in the intervention groups were asked for feedback on their experience doing the project via the following questions:

1) How would you rate your experience doing this project? (Excellent, Good, Neutral/Don’t know, Poor, Very Poor)
2) How prepared was the student you engaged with? (Excellent, Good, Neutral/Don’t know, Poor, Very Poor)

3) How respectful was the student you engaged with? (Excellent, Good, Neutral/Don’t know, Poor, Very Poor)

4) Would you be willing to participate in this project again? (Yes-definitely, I think so, Not sure/Don’t know, Probably Not, No)

5) What was your favorite part of the project? (open-ended)

6) What was your least favorite part of the project? (open-ended)

7) Is there anything else you’d like to add, like how this project affected you, any plans you have to stay in touch with the student, any suggestions for improvement of the project? (open-ended)

Older adults in the comparison group project were given a letter with the researcher’s phone number and encouraged to call with negative or positive feedback. The researcher also checked in with the site coordinators throughout the quarter to assess how the project was going. If a student did not complete the intervention as intended, residents had the opportunity to let the researcher know this via the evaluation, phone call, or through communication with the site coordinator. In the intervention group, residents were also encouraged during Service-learning Encounter #1 to notify the researcher should they have any questions or concerns during the project. This was also stated in the letter of intent the researcher gave the residents at this initial meeting. The researcher did not receive any complaints about student interaction during this project and the evaluations received from the older adults participating were all positive.
Measures

Data was obtained through an online questionnaire administered through Qualtrics during the second week of classes (before the intervention or comparison projects began), and at conclusion of the intervention/comparison projects. The pre-test included demographic variables, as well as the Marlowe-Crowne scale which is a control and included measures for knowledge, attitude, and ageism. The post-test included only the Marlowe-Crowne scale and measures for knowledge, attitude, and ageism. Open-ended questions regarding the experience doing either the intervention or comparison project were also included on the post-test.

Knowledge about aging

The Facts on Aging Quiz (FAQ) was used to measure knowledge about aging in both the intervention and comparison groups at the beginning of the quarter and at the end of the quarter. The FAQ was developed by Erdman Palmore with the first quiz (FAQ1) appearing in 1977 and the Second Facts on Aging Quiz (FAQ2) in 1981 (Palmore, 1980 & Palmore, 1981). It was originally designed as a series of 25 true-false statements on various physical, mental and social facts about aging and was designed to not only measure knowledge about older adults, but also to indirectly measure misconceptions about older adults that could be indicative of ageism (Harris & Changas, 1994). The FAQ has been used in more than 150 studies to measure knowledge, aging bias, and indirect ageism among participants (Palmore, 1998). Due to the true-false nature of the answer choices, the quiz was criticized for its measurement error, because
for those who don’t know the answer, they have a 50 percent chance of guessing correctly. Thus, the criticism has been that the percentage of right answers on the quiz is higher than actual tester knowledge, affecting its validity (Palmore, 1980 & 1981). To counteract this issue, Harris and Changas developed a multiple-choice version of the FAQ2 (Harris & Changas, 1994). Palmore then created the most recent version, the FAQ I multiple-choice version which is what will be used in this study (Palmore, 1998). This 25-question multiple-choice quiz has four possible answers for each question, one correct answer and three incorrect answers. Each incorrect answer has either positive bias, negative bias or is neutral. The score is then compiled for total percentage correct, positive bias, negative bias, and total bias. This is considered an interval level of measurement. In one study that utilized this scale, internal consistency reliability was low (α=.695 for the antibias scale and α=.467 for the pro-bias scale) (Lee, 2009). The Harris and Changas version showed even lower internal consistency reliability (α =0.36) (Harris & Changas, 1994). The reason for such low internal consistency reliability is because, due to the nature of the quiz, the items are fairly unrelated. For example, questions ask about various physical, cognitive, and psychosocial aspects of aging. Palmore describes this effect as “edumetric,” as opposed to psychometric, meaning the test is designed to yield measurements that are directly interpretative in terms of specified performance standards (Palmore, 1998). Therefore, it is irrelevant whether an item has high or low discriminatory power or has a high item-to-total score correlation (Palmore, 1998). Due to these reasons, the internal consistency reliability was also low in the present study. Chronbach’s alpha for the antibias scale was .512, the pro-bias scale was .322 and
overall, \( \alpha = .177 \). The quiz has good face validity, based on the fact that the questions and answers are all derived from large, representative national studies and per Palmore, also has good test-retest reliability (Palmore, 1998). One additional benefit of this quiz is there has been no significant difference in scores between genders, thus helping control for this variable. In this study, the researcher changed the term “old person” to “older person” to reflect the general change in language present in today’s learning environment when referring to older adults. She also changed question 19 concerning the percentage of the population over the age of 65. In the last addition of Palmore’s quiz in 1996 the correct answer was 13% but according to the U.S. Census, as of July 1, 2015, this population estimate is now approximately 15% (https://www.census.gov/newsroom/facts-for-features/2017/cb17-ff08.html). The researcher also changed question 25. The most recent version of the quiz reads, “The health and economic status of old people (compared with younger people) in the year 2010 will be…” The researcher has changed this to read, “The health and economic status of older people (compared with younger people) in the year 2030 will be…” The meaning of the question, projecting future health and economic status of older adults was maintained but updated, based on the instrument’s author’s suggestion (E. Palmore, personal communication, July 22, 2019). Scoring entails not only calculating percentage correct, but also calculating a Net Bias score, which is composed of an Anti-aged Bias score and a Pro-aged Bias score. The Anti-aged Bias score contains the number of negative bias options marked divided by the total number of items with a negative bias option, which is 18. The Pro-aged Bias score contains the number of positive bias options marked divided by the total number of items
with a positive-bias option, which is 13. The Net Bias score is then calculated by subtracting the Anti-aged Bias score from the Pro-aged Bias score. Positive scores over 20% indicate a net Pro-aged bias and negative scores over -20% indicate a net Negative-aged bias. Items 19 and 23 do not have a negative or positive aged bias option so were not included in the final data set regarding bias but were included in calculating total percent correct.

**Attitudes about aging**

Student attitudes about aging were measured using the Aging Semantic Differential scale (ASD) at the beginning and end of the quarter in both the intervention and comparison groups. The ASD was originally designed by Rosencrantz and McNevin in 1969 (Rosencrantz & McNevin, 1969). It is designed to measure attitudes toward older adults and to detect ageism using a primarily cognitive approach. The original test consisted of four dimensions/factors: Attitude, Intelligence/Importance, Health/Confidence, and Physical Appearance. Among these four dimensions are 32 items consisting of bipolar adjectives. Using a semantic differential scale, the rater places a check mark along a continuum of how they would rate an “old man” (Rosencrantz & McNevin, 1969). Pilozii updated the scale in 2003, adding separate categories of “a woman 70-85 years of age,” and “a man 70-85 years of age”, providing for more discrimination in how people feel about each gender and providing a more specific age range. After eliminating some of the original questions with outdated wording, changing the wording in other items to reflect more modern vocabulary, and eliminating all but the Attitude dimension (which was found to be the most indicative of overall attitude in the
Pilozii’s version of the scale consists of 24 bipolar opposite adjective pairs with the positive adjective on the left and the negative adjective on the right (Pilozii, 2003). Using the seven-point Likert scale method, “1” equals the positive adjective and “7” equals the negative adjective. The middle option (four), represents neutral. The participant then places a check mark somewhere along this continuum. The adjective pair responses are summed, with higher scores equaling more negative attitudes on aging for each version and a lower score indicating more positive views of aging, making this an ordinal level of measurement. Internal consistency reliability for this test was high ($\alpha = .976$ for the male version and $\alpha = .974$ for the female version). Test-retest reliability was .813 for the male version and .793 for the female version (Pilozii, 2003). Internal consistency reliability for this study was within these parameters ($\alpha = .939$ for the male version and $\alpha = .942$ for the female version). Participants in both the intervention and control groups were given both the female and male version of the scale. Other researchers have since tested Pilozii’s version of the scale and indicated the other three dimensions should be added back in or that separate tests for male and female older persons is unnecessary, but since no new versions have been finalized, the study utilized Pilozzi’s version (Iwasaki & Jones, 2008; Gonzales, Tan & Morrow-Howell, 2009). Creation and testing of a newer version of the Aging Semantic Differential scale other than Pilozii’s Refined Aging Semantic Differential is an area for future research. Many studies have used the Aging Semantic Differential for studying attitudes about aging and older adults (Pilozii, 2003; Iwasaki et al., 2008; Gonzales, et al., 2009; Penick et al., 2014).
Ageism

To measure ageism, the Fraboni Scale of Ageism was given to participants in both the intervention and comparison groups at both the beginning and end of the quarter. This scale is beneficial because it looks at the affective dimensions of ageism as opposed to just the cognitive aspects reflected in attitude scales like the Aging Semantic Differential scale. Affective dimensions of ageism have been found to better correlate to ageist attitudes as opposed to measuring cognitive aspects of attitude alone (Fraboni, Salstone, & Hughes, 1990). Thus, including this scale in addition to the Aging Semantic Differential scale captured a more thorough depiction of how participants feel about older adults before and after their service-learning experience. Also, Fabroni found gender differences in ageism with men showing greater ageism scores on the FSA (Fabroni et al., 1990). Gender did not differ between the intervention and comparison group in this study so it did not need to be controlled for. The FSA consists of 29 items phrased as statements given with a four-point Likert scale with choices ranging from “strongly disagree, disagree, agree, and strongly agree,” representing an ordinal level of measurement (Fabroni, et al., 1990). Scoring was done using the original article outlining the scale (Fabroni, Salstone, & Hughes, 1990). Responses are scored from one to five for negative statements, five to one for positive statements, and unanswered statements receive a score of three. The maximum score is 145. This scale originally contained 44 questions but only items with loading greater than .40 on each of the three factors of the FAS were retained. The three subscales are Antilocution (stereotypes), Discrimination (affective attitudes), and Avoidance (Separation). The FAS has good internal consistency
reliability $\alpha = .86$). Internal reliability of the subscales in the original Fabroni study was as follows: Antilocution ($\alpha = .76$, Discrimination ($\alpha = .65$, and Avoidance ($\alpha = .77$). In a more recent study by Rupp, Vodanovich, and Credé (2005) the subscale alphas were fairly similar: Antilocution ($\alpha = .75$), Discrimination ($\alpha = .77$), and Avoidance ($\alpha = .61$). Chronbach’s alphas in this study were comparable with $\alpha = .820$ on the total scale and internal reliability of the subscales as follows: Antilocution ($\alpha = .723$, Discrimination ($\alpha = .709$, and Avoidance ($\alpha = .603$. It also shows good construct validity, with a significant correlation with the Facts on Aging Quiz, which is another scale used in this study.

Several studies have utilized the FAS for measuring ageism among student groups (Fabroni et al., 1990; Rupp, Vodanovich, & Credé, 2005; Dobbin, 2012). The researcher updated the language in this scale, changing the term “old person” to “older person” to reflect the more updated language used in current academic settings to describe older adults.

Open-Ended Questions on Post-test for Intervention group:

1) Please describe your experience doing the Lives Well Lived project. Indicate what you liked best about doing this project and what you liked least about doing this project.

2) Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.

3) Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Lives Well Lived project, has your
interest in a career in aging increased, decreased, or stayed the same and why?

4) Since doing this project, what would you say is your definition of a life well lived?

5) How many participants were matched with the older adult, including you?

6) Out of the five out-of-class sessions, how many did you attend? (1-5)

**Open-Ended Questions on Post-test for Comparison group:**

1) Please describe your experience doing the Meals That Connect project. Indicate what you liked doing best about this project and what you liked least about doing this project.

2) Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.

3) Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Meals That Connect project, has your interest in a career in aging increased, decreased, or stayed the same and why?

4) How many Meals That Connect sessions did you attend? (0-2)

**Control Variables**

**Age.** Age was measured by the following question, “What is your age in years?” followed by a blank space for the participant to type in a number.

**Gender.** Gender was measured by self-report on page one of the pre-intervention survey given to participants by asking: “What is your current gender identity?” with
answer options of: “(Check all that apply): Male, Female, Trans male/Trans man, Trans female/Trans woman, Genderqueer/Gender non-conforming, and Different Identity (please state): _______” (Herman, 2014).

Race. The following categories were used to define race, as these are the categories of racial demographic information utilized by the California State University System: African American, American Indian, Asian Only, Filipino, Mexican American, Other Latino, Pacific Islander, White, Two or More Races, Unknown (http://www.calstate.edu/as/stat_reports/2017-2018/feth03.htm). The information was obtained from self-report on page one of the pre-test given to participants in both the intervention and comparison groups. White and Latino/Asian racial groups were analyzed separately to account for possible effects related to familism and filial piety, both of which influence the way young adults interact with and conceptualize their relationships with elders. "Familismo," also called familism is the Latino cultural characteristic of prioritizing one's family as more important than oneself and includes showing respect for elders, honoring the family name, having a strong identification with and a strong attachment to the family, and virtues of family loyalty and solidarity (Schwartz, 2007; Rodriguez, Mira, Paez, & Myers, 2007.). Research has shown that in general, Latinos are more family-oriented than whites (Rodriguez et al., 2007). Familism has been applied to Asian American families as well (Schwartz, 2007). Filial piety, part of Confucianism prominent in Chinese Culture and other Asian cultures as well, is the idea that children must be respectful, obedient, and must care for or provide support for older family members (Dong, Zhang, & Simon,
Such cultural values may affect the way young adults in this study relate to their own grandparents. For example, Mexican American grandchildren’s affection for their grandparents has been shown to be significantly higher than for European American grandchildren (Giarrusso, Feng, Silverstein, & Bengtson, 2001). Relationship with grandparents has in turn been shown to influence how participants are affected by intergenerational service-learning encounters (Cummings & Galambos, 2002; Gorelick, et al., 2000). Also, such values emphasize respect for older adults generally, and this may influence the attitudes or ageism effects of such participants in the present study.

Acculturation, which can be defined as the erosion of traditional cultural language, values, and practices, has been shown to affect familism and filial piety, with lower levels of familism and filial piety associated with higher levels of acculturation (Silverstein & Chen, 1999; Dong et al., 2014). Level of acculturation of Latino and Asian American participants in this study is unknown, but race/ethnicity information was gathered.

**Previous developmental psychology knowledge.** Whether or not participants have previously taken course work that partially covered the psychology of aging was determined through self-report on page one of the pre-test by asking the question, “Have you taken Developmental Psychology?” with possible answer choices of “Yes, No, or I don’t remember.”

**Social Desirability.** The Marlowe-Crown Social Desirability Scale was used to control for the response bias of social desirability by administering the scale at the beginning and end of the class along with the other scales given to both intervention and comparison groups to control for sampling bias in the event that one of the groups was apt to show more social desirability effect than the other. This scale is a 33-item list of
statements to which the respondent answers true or false. The mean score for social
desirability is 13.72 (Crowne & Marlowe, 1960). Cronbach’s alpha is .88 and the test-
retest correlation is .89 (Crowne & Marlowe, 1960). In this study, the Cronbach’s alpha
was .751. The study utilized this scale because participants may answer questions on the
other scales dishonestly, particularly on the scales measuring attitude and ageism, as they
may try to avoid appearing more ageist and negative towards older adults than they really
are. The scores on this test were utilized along with the other data to account for this
potential. In the online survey, a “1” indicated “True” and a “2” indicated “False”. This
scaling was then transformed depending on the questions. Questions 1, 2, 4, 7, 8, 13, 16,
17, 18, 20, 21, 24, 25, 26, 27, 29, 31, 33 were scored so that True = 1; False = 0 because
the socially desirable response to these questions was a “True” answer. Questions 3, 5, 6,
9, 10, 11, 12, 14, 15, 19, 22, 23, 28, 30, 32 were scored so that True=0; False = 1 because
the socially desirable response to these questions was a “False” answer. The total score
was then computed by calculating the sum of questions 1-33. Higher scores equaled
higher social desirability. For participants who had missing values for questions equaling
10% or less, a value was imputed. For the statements where “False” equaled 1, if the
participant had responded to 8 or more statements (53%) then the missing item was
scored as a “1”. If they responded to less than 8 statements than the missing items were
scored “0”. For the statements where “True” equaled 1, if the participant had responded
to 9 or more statements (50%) then the missing item was scored as a “1”. If they
responded to less than 9 statements than the missing items were scored “0”. If more than
10% of the responses were missing, then that participants score was not calculated.
However, all participants answered at least 90% of the questions so none had to be dropped.

**Relationship with grandparents.** Several measures of grandparent/grandchild relationship exist, but many are from the perspective of the grandparents, for example, the well-known and supported research of Mueller and Elder (2003). Given the need for a measure that captures young adults’ perceptions of the grandparent/grandchild relationship, a measure that is succinct due to the overall length of the survey instrument, and one that has been validated in U.S. undergraduate college student samples, this study utilized an adaptation of measures used by Dunifon and Bajracharya (2012) in their study on such relationships. This composite measure of grandparent-grandchild relationship quality is based on measures publicly available and originally developed for the Wave 2 study sample from the National Survey of Families and Households, which in total includes 13,007 participants with Wave 2 consisting of 2,505 respondents (R. Dunifon, personal communication, April 26, 2019). In Dunifon and Bajracharya’s 2012 study, Chronbach’s alpha was .61 for a composite measure of grandparent relationship quality. The measure involves three questions answered about each living grandparent: how close the grandchild feels to their grandparent(s), frequency of contact with grandparent(s), and how likely the grandchild would be to confide in their grandparent(s) (Dunifon & Bajracharya, 2012). For the first question involving perceived closeness, the participant rates the degree of closeness with “0” indicating “not at all close” and “10” indicating “extremely close.” For the
second question regarding frequency of contact, the measure utilizes a scale of
1-5 with “1” indicating the participant doesn’t see their grandparent at all, “5”
indicating they see them “more than once a week” with various other time
dimensions in between. The third question regarding likelihood of confiding in
a grandparent utilizes a five-point Likert scale with “1” indicating the
grandchild “definitely wouldn’t” confide in the grandparent and “5” indicating
they “definitely would.” These measures are repeated for maternal
grandmother, maternal grandfather, paternal grandmother, and paternal
grandfather. If this grandparent is no longer living, the respondent is instructed
to leave the question blank. If they skipped the question altogether, a “9-9” was
entered to indicate that this question was missing from their total grandparent score. The
Grandparent Score therefore has a maximum score of 100 and was computed as follows:

\[
\text{GrandParentScore} = \text{ClosePatGrandFather} + \text{ClosePatGrandMother} + \text{CloseMatGrandFather} + \text{CloseMatGrandMother} + \text{FreqPatGrandFather} + \text{FreqPatGrandMother} + \text{FreqMatGrandFather} + \text{FreqMatGrandMother} + \text{ConfidePatGrandFather} + \text{ConfidePatGrandMother} + \text{ConfideMatGrandFather} + \text{ConfideMatGrandMother}
\]

**Training of data collectors**

The only data collector was the researcher, so no training of data
collectors was needed.

**Data Analysis**

**Study Hypothesis**

A Psychology of Aging course that integrates approximately 10 hours of
experiential knowledge (service-learning) and that facilitates more in-depth connection
between generations through a mutual interviewing/life review project will be more effective in increasing knowledge about aging, improving attitudes about the aging process, and reducing ageism than a Psychology of Aging course that focuses more on lecture (didactic learning) with two hours of experiential knowledge (service-learning) and a less in-depth connection between generations facilitated through a congregate meal site visitation.

If the hypothesis is supported, the expectation was that participants in the intervention group would have change scores between pre and post-tests that were significantly greater than the participants in the comparison group after controlling for factors that could make the groups uneven in their characteristics, like gender, race, social desirability, and previous developmental psychology courses. The change scores, as detailed in the various hypothesis forthcoming, would reflect increased knowledge about aging, improved attitudes about the aging process, and reduced ageism.

**Hypothesis 1: Palmore Facts on Aging Quiz.** Both classes should show similar increases in percentage of correct answers on the quiz since they are receiving the same educational material. What is expected to differ are the anti-aged bias scores of the two groups. The FAQ has certain questions whose wrong answers are indicative of either anti-aged bias (negative attitudes about older adults) or pro-aged bias (positive attitudes about older adults). The intervention group was expected to have an improvement of scores of net-bias, and specifically anti-aged bias that was significantly more of an improvement than the comparison group. The researcher analyzed this by calculating the mean scores, range, and standard deviation for percentage correct, net-bias, anti-aged
bias, and pro-aged bias pre and post-test in both intervention and comparison groups and compared them.

**Hypothesis 2: Aging Semantic Differential.** Scores in the intervention group were expected to decrease more than scores in the comparison group, as lower scores on this measure reflect more positive views on aging. The researcher calculated the mean scores, range, and standard deviations of this measure for pre-test/post-test in both the intervention and comparison conditions and compared them.

**Hypothesis 3: Fabroni Scale of Ageism.** A higher score is equivalent to more ageism. Therefore, participants in the intervention group were expected to show a greater decrease in their score at post-test than the comparison group. The researcher calculated the mean score, range, and standard deviations of this measure for pre-test/post-test in both the intervention and comparison conditions and compared them.

**Quantitative Analysis**

For the control variables, analysis included tabulation of demographic variables and assessment into if the differences in such variables between the groups was statistically significant and if so, controlled for this when looking at the difference in dependent variables between groups. Marlowe-Crowne analysis included calculating mean score, range and standard deviation for both the intervention and comparison groups pre/post-test and determination if the differences in scores between groups was statistically significant and if so, controlled for this when looking at differences in dependent variables between groups. For the grandparent relationship quality control
variable, the mean, standard deviation, and range for each of the three questions was calculated and then combined into a composite score encompassing all three questions. This was done for the intervention and comparison group and any differences between groups compared to see if there was a statistically significant difference between each group, so this was controlled for during the analysis.

**Descriptive Statistics.** The overall sample was described using descriptive statistics. This included the frequency of each category for categorical variables: group, race, gender, quarter, and having previously taken developmental psychology. It also included the mean, standard deviation, and range of scores to describe continuous variables: age, relationship with grandparents, Pre-test for Social Desirability, Pre-test for Facts on Aging Quiz and net-bias score; Pre-test for Aging Semantic Differential-Man, Pre-test for Aging Semantic Differential-Woman, and Pre-test for Fabroni Scale on Ageism (also including the Antilocution, Discrimination and Avoidance subscales).

**Dummy Variables: Race, Gender, and Quarters.** In order to explore differences in outcomes by race, a binary *Race* dummy variable was created out of the categorical race variable whereby participants who reported Mexican American, Asian, Black, Other Latino, Pacific Islander, Biracial, Other, Unknown or missing as their race, where Non-white=1 and were compared to participants who reported White as their race, where White=0. This was necessary because the number of participants marking races other than White was too small to use in equivalence testing. In order to explore differences in outcome by gender, a binary *Gender* dummy variable was created out of the categorical gender variable whereby participants who reported female as their gender
were compared to participants who reported male as their gender (Female = 1, Male = 0). In order to explore differences in outcome by the quarter in which participants participated in the study, a series of two binary Quarter dummy variables were created out of the categorical quarter variable whereby participants who participated in Quarter 1 (Fall quarter) were compared to all other participants (Quarter1: Quarter 1 = 1, Quarter 2 = 0); participants who participated in Quarter 2 (Winter quarter) were compared to all other participants (Quarter2: Quarter 2 = 1, Quarter 1 = 0).

**Within Group Equivalence Between Quarters.** The control variables and pre-test scores for dependent variables were assessed for participants between quarters to ensure that the participants in both quarters were equivalent and thus could be combined in order to increase statistical power when comparing the intervention and comparison groups. T-tests were done for: age, Grandparent Relationship score, Marlow-Crowne pre-test, FAQ pre-test score for net-bias and total score; ASD-Man and ASD-Woman pre-test scores, and the FSA pre-test score as well as pre-test scores for all FSA subscales (Discrimination, Avoidance, Ageism). Chi-square tests of Independence were done for: race, gender, group, and previously taken developmental psychology.

Demographics information and pre-test data for Quarter 1 and Quarter 2 can be found in Table 1. There was no significant difference between Quarter 1 and Quarter 2 for age (t(122)=-0.973; p=.333), gender ($\chi^2(2, N=137)=1.303, p>.521$), race ($\chi^2(7, N=137)=11.151, p>.132$), number of participants in the intervention and comparison groups each quarter ($\chi^2(1, N=137)=.014, p>.906$), or grandparent relationship score (t(135)=1.048; p=.296). There was a significant difference between Quarter 1 and
Quarter 2 of whether the participants had previously taken developmental psychology 
\((\chi^2(1, N=134)=21.804, p>.000)\). Scores on the Marlowe-Crowne for Round 1 (M=14.95; 
SD=5.05) and Round 2 (M=9.40; SD=3.63) were also not equivalent (t(134)=7.453; 
p=0.000). However, once participants in the two quarters were merged together into the 
intervention and comparison groups, these differences disappeared.

<table>
<thead>
<tr>
<th>TABLE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive Demographics by Quarter/Round</td>
</tr>
<tr>
<td>Characteristic</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Race</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Non-white</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Transgender</td>
</tr>
<tr>
<td>Developmental Psych.</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Intervention/Comparison Group</td>
</tr>
<tr>
<td>Intervention</td>
</tr>
<tr>
<td>Comparison</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Grandparent Relationship Score</td>
</tr>
<tr>
<td>Social Desirability Pre-test Score</td>
</tr>
</tbody>
</table>

*p<0.01

a Missing=2

b Non-white=Asian: 12 (8.6%); Mexican American: 14 (10.1%); Other Latino: 4 (2.9%); Pacific Islander: 1 (.7%); Two or more races: 15 (10.8%); Unknown: 2 (1.4%); African American: 1 (.7%); Missing: 2 (1.4%

c Asian: 8; Mexican American: 5; Other Latino: 4; Pacific Islander: 1; Two or more races: 7; Unknown: 1; African American: 0; Missing: 1

d Asian: 4; Mexican American: 9; Other Latino: 0; Pacific Islander: 0; Two or more races: 8; Unknown: 1; African American: 1; Missing: 1

e Missing=2; f Missing=5; g Missing=1; h Missing=2

Scores were also compared between Quarter 1 and Quarter 2 on the dependent variable pre-tests. These can be seen in Table 2. There was equivalence between Quarter 1 and Quarter 2 for the FAQ net-bias score (t(132)=−0.126; p=.900), the FAQ total correct (t(125)=0.581; p=.562), the ASD Man (t(132)=−1.117; p=.266), the ASD Woman (t(134)=−0.753; p=.452), the FSA total ageism (t(131)=0.535; p=.593), the FSA Antilocution subscale (t(133)=0.787; p=.432), the FSA Discrimination subscale (t(133)=−0.461; p=.645), and the FSA Avoidance subscale (t(133)=−1.360; p=.176).
<table>
<thead>
<tr>
<th>TABLE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test Scores by Quarter/Round</td>
</tr>
<tr>
<td>Scale</td>
</tr>
<tr>
<td>M (SD)</td>
</tr>
<tr>
<td>Total Study Sample</td>
</tr>
<tr>
<td>Quarter/Round 1</td>
</tr>
<tr>
<td>Quarter/Round 2</td>
</tr>
<tr>
<td>KNOWLEDGE</td>
</tr>
<tr>
<td>FAQ total correct</td>
</tr>
<tr>
<td>11.96 (2.52)</td>
</tr>
<tr>
<td>12.11 (2.56)</td>
</tr>
<tr>
<td>11.85 (2.49)</td>
</tr>
<tr>
<td>FAQ Net Bias</td>
</tr>
<tr>
<td>-0.19 (0.22)</td>
</tr>
<tr>
<td>-0.19 (0.21)</td>
</tr>
<tr>
<td>-0.18 (0.23)</td>
</tr>
<tr>
<td>ATTITUDE</td>
</tr>
<tr>
<td>ASD Man</td>
</tr>
<tr>
<td>82.34 (20.94)</td>
</tr>
<tr>
<td>80.07 (19.93)</td>
</tr>
<tr>
<td>84.13 (21.67)</td>
</tr>
<tr>
<td>ASD Woman</td>
</tr>
<tr>
<td>68.96 (19.53)</td>
</tr>
<tr>
<td>67.53 (19.94)</td>
</tr>
<tr>
<td>70.08 (19.26)</td>
</tr>
<tr>
<td>AGEISM</td>
</tr>
<tr>
<td>FSA Total</td>
</tr>
<tr>
<td>66.80 (11.29)</td>
</tr>
<tr>
<td>66.21 (11.02)</td>
</tr>
<tr>
<td>67.27 (11.55)</td>
</tr>
<tr>
<td>Antilocution</td>
</tr>
<tr>
<td>23.67 (5.65)</td>
</tr>
<tr>
<td>24.10 (5.67)</td>
</tr>
<tr>
<td>23.33 (5.65)</td>
</tr>
<tr>
<td>Avoidance</td>
</tr>
<tr>
<td>23.58 (5.07)</td>
</tr>
<tr>
<td>22.90 (4.34)</td>
</tr>
<tr>
<td>24.09 (5.53)</td>
</tr>
<tr>
<td>Discrimination</td>
</tr>
<tr>
<td>19.54 (3.34)</td>
</tr>
<tr>
<td>19.39 (3.14)</td>
</tr>
<tr>
<td>19.66 (3.51)</td>
</tr>
</tbody>
</table>

No significant differences between Quarter/Round 1 and Quarter/Round 2 were detected for any of the dependent variables at baseline.

**Equivalence of Intervention and Comparison Groups.** To account for the lack of randomization, demographics and pre-test scores of all dependent variables were compared for significant differences between treatment and comparison groups once the two quarters were combined. *T*-tests were done for: age, Grandparent Relationship score, Marlowe-Crowne pre-test, FAQ pre-test score for net-bias and total score; ASD-
Man and ASD-Woman pre-test scores, and the FSA pre-test score as well as pre-test scores for all FSA subscales (Discrimination, Avoidance, Ageism). Chi-square tests of Independence were done for: race, gender, group, and previously taken developmental psychology.

The intervention and comparison groups were equivalent for age (t(122)=0.559; p=0.577), gender ($\chi^2(2, N=137)=1.092, p>.579$), race ($\chi^2(7, N=137)=5.851, p>0.557$), having previously taken Developmental Psychology ($\chi^2(1, N=134)=0.010, p>0.919$), how many participants from each quarter were in the intervention or comparison groups ($\chi^2(1, N=137)=0.014, p>0.906$), and Marlowe-Crowne pre-test (t(134)=1.550; p=.124). The grandparent relationship score did significantly differ between the intervention and comparison groups (t(137)=−2.783; p=.006), with the comparison group having a higher grandparent score, indicating a closer relationship to their grandparents. This was therefore used as a control variable when analyzing pre-test/post-test change scores between intervention and control groups. Demographics information for intervention versus comparison group can be found in Table 4 (see Ch. 3).

Scores were also compared between the intervention and comparison group dependent variable pre-tests and the scores can be found in Table 3. Scores were equivalent between groups for the FAQ net-bias score (t(132)=1.256; p=.211), FAQ total correct (t(125)=−1.525; p=.130), ASD-Man (t(132)=−0.137; p=.891), ASD-Woman (t(134)=0.008; p=.993), the FSA total ageism (t(131)=0.667; p=.506), the Antilocution subscale (t(133)=0.751; p=.454) the Discrimination subscale (t(133)=0.478; p=.633), and the Avoidance subscale (t(133)=0.625; p=.533).
### TABLE 3

**Pre-test Scores of Study Sample**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Total Study Sample</th>
<th>Lives Well Lived (Intervention)</th>
<th>Meals That Connect/Lunch Bunch (Comparison)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KNOWLEDGE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAQ % correct</td>
<td>11.96 (2.52)</td>
<td>12.30 (2.34)</td>
<td>11.62 (2.66)</td>
</tr>
<tr>
<td>FAQ Net Bias</td>
<td>-0.19 (0.22)</td>
<td>-0.16 (0.23)</td>
<td>-0.21 (0.21)</td>
</tr>
<tr>
<td><strong>ATTITUDE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASD Man</td>
<td>82.34 (20.94)</td>
<td>82.09 (19.85)</td>
<td>82.59 (22.09)</td>
</tr>
<tr>
<td>ASD Woman</td>
<td>68.96 (19.53)</td>
<td>68.97 (19.47)</td>
<td>68.94 (19.74)</td>
</tr>
<tr>
<td><strong>AGEISM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSA Total</td>
<td>66.80 (11.29)</td>
<td>67.48 (10.87)</td>
<td>66.17 (11.71)</td>
</tr>
<tr>
<td>Antilocution</td>
<td>23.67 (5.65)</td>
<td>24.05 (5.40)</td>
<td>23.31 (5.88)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>23.58 (5.07)</td>
<td>23.86 (4.79)</td>
<td>23.31 (5.34)</td>
</tr>
<tr>
<td>Discrimination</td>
<td>19.54 (3.34)</td>
<td>19.68 (3.21)</td>
<td>19.41 (3.48)</td>
</tr>
</tbody>
</table>

No significant differences between LWL group and MTC group were detected for any of the dependent variables at baseline.

**Hypothesis Testing.** Hypothesis testing was conducted to assess differences between treatment and comparison groups on post-test scores for each of the three dependent variables: Facts on Aging Quiz Total Correct/FAQ Net Bias score; Aging Semantic Differential-Man, Aging Semantic Differential-Woman, and Fabroni Scale on Ageism (plus Antilocution, Discrimination, and Avoidance subscales). A series of
multiple regression analyses was used in which the average post-test score for the treatment group was compared to the average post-test score for the comparison group, controlling for pre-test score, group, and relationship with grandparents. Prior to hypothesis testing dummy variables were created to transform categorical variables into binary variables for inclusion in regression models and equivalency between and within groups was assessed on demographic and baseline variables (see above).

The hypotheses that the treatment group will have significantly different scores at post-test on the three dependent variables (higher scores on reduction of net-bias on the Facts on Aging Quiz; lower scores on Aging Semantic Differential, and lower scores on Fabroni Scale on Ageism) was tested in three multiple regression analyses. Each hypothesis was included in a separate multiple regression equation that included a dependent variable, the pre-test score for that variable, and the relationship with grandparents score. A multiple regression was also done to see if there was a difference between intervention and comparison groups on total score on the FAQ. For this variable, no significant difference between groups at post-test would confirm the hypothesis, since knowledge acquisition was expected to be similar for both groups. Treatment and comparison groups included both quarters and facility locations since no significant within group differences were found.

**Qualitative Analysis**

The open-ended questions on the post-test were analyzed using the six-step method of thematic analysis conceptualized by Braun and Clarke (2006). Thematic analysis has emerged as a method of qualitative analysis that blends different aspects of qualitative
approaches to create a pragmatic way of analyzing qualitative data (Padgett, 2017). In the case of this mixed-methods study, the purpose of the qualitative data analysis of the open-ended questions at the end of the survey was to further explore the quantitative findings (Plewis & Mason, 2005). The quantitative findings provided the “what”-whether or not the intervention effected the participants’ knowledge, attitude, and ageism, but the qualitative questions sought to explore the “how”-how did participants change from the experience? A mixed-methods approach has been utilized in other studies on intergenerational service-learning (Andreoletti & Howard, 2018; Hegeman, 2010; Zucchero, 2011). Participants’ answers to the open-ended questions were analyzed through a theoretically influenced, essentialist/realist approach at the semantic level, looking across the data set for theme development and moving beyond theme description to interpretation (Braun & Clarke, 2006). The purpose of the theme analysis was to look for areas in which the project may have affected the participants’ perspectives on aging. Additionally, one question from the data set of the intervention group asked about the participants’ definition of a life well lived. This question encapsulated the participants’ views not only about how the intervention may have influenced their perspectives on aging, but also how the intervention may have influenced their psychosocial development. Additionally, responses were analyzed at the data item level with specific extracted examples highlighted for illustrative purposes of any themes that emerged (Braun & Clarke, 2006).
Using thematic analysis to conduct the analysis of the qualitative findings in this study, the researcher first answered the following six questions prior to beginning analysis, as suggested by Braun and Clarke (2006):

1. What counts as a theme? Answering this question involves thinking about what patterns might be detected, what level of depth might exist within each theme, as well as the prevalence of themes. Given that the majority of participants in the study answered all of the qualitative responses, the expectation was that there would be many themes, and these themes would be present in many responses. It was hypothesized that themes would most likely center around participants’ thoughts and feelings about aging, both of others and of themselves, contemplation about their future careers, specifically in terms of whether they might want to work in careers that center on aging, and how they might have changed as a result of the service-learning project. For those in the intervention group, the researcher speculated there would be themes developed around existential type ideas of what constitutes a life well lived. The researcher planned to keep track of themes in terms of prevalence and then planned to possibly develop sub-themes depending on scope and prevalence.

2. A rich description of the data set or a detailed account of one particular aspect? This is an exploratory study. The qualitative questions were designed to solicit breadth of information on the participants’ thoughts and feelings about the service-learning projects, aging, and their own development. Therefore, the
planned analysis involved a rich description of the data set rather than a narrower scope regarding one particular aspect.

3. Inductive vs. theoretical thematic analysis? The qualitative analysis utilized an inductive approach, in which the themes identified are linked to the data themselves without any sort of pre-existing coding frame (Patton, 1990). This approach was purposely chosen to offset the rather specific research question and hypothesis that the quantitative portion of the study sought to address. The quantitative methods attempted to clearly answer the question, “Did the intervention work?” while the qualitative questions sought to address why they worked or didn’t work and also to inquire about other aspects of growth and change that may have occurred from the project that weren’t captured via scales.

The researcher did enter the analysis with some sensitizing concepts, which are concepts drawn from previous review of the literature, other research or experiences (Padgett, 2017). For example, based on the researcher’s interactions with participants throughout the project as they spontaneously verbally shared thoughts and feelings with her, she expected students would feel a sense of altruism from the act of being a good listener to the older adult and making them a Memoir. She expected they would feel some sort of pride and surprise that they were able to form a relationship with someone much older than them. Further explanation of literature-based sensitizing concepts is detailed below. The researcher did her best to put these pre-conceived ideas aside and to code the data for explicitly what was being captured in the participants’ responses.
4. Semantic or latent themes: Themes were analyzed for semantic content only. Participants provided short responses to open-ended questions at the end of their post-test survey and it did not seem relevant to look beyond what they had written. Through the thematic analysis process, the researcher planned to move from simply a description of what was seen in the participants’ responses to an interpretation, looking for the significance and meanings in the patterns uncovered (Patton, 1990).

5. Epistemology: essentialist/realist vs. constructionist? An essentialist/realist approach was utilized, as the purpose was to analyze and interpret the meanings and motivations behind the participants’ experiences in a very real and straightforward way, rather than focusing on their use of language or broader sociocultural contexts (Braun & Clarke, 2006).

6. What are the questions of the qualitative research? There are several layers of questions driving the qualitative portion of this study. First, there is the general research question for the study: Is a course with more extensive intergenerational service-learning more effective than one with less for stimulating interest in the field of aging by increasing knowledge about aging, creating more positive attitudes about the aging process, and decreasing ageism? Next, there are the questions asked for the qualitative portion of the study which varied for the intervention group and comparison group. For the intervention group, the questions were:

1. Please describe your experience doing the Lives Well Lived project. Indicate what you liked best about doing this project and what you liked least about doing this project.

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2. Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.
3. Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the *Lives Well Lived* project, has your interest in a career in aging increased, decreased, or stayed the same and why?
4. Since doing this project, what would you say is your definition of a life well lived?
5. How many participants were matched with the older adult, including you?
6. Out of the five out-of-class sessions, how many did you attend? (1-5)

For the comparison group, the questions were:

1. Please describe your experience doing the Meals That Connect project. Indicate what you liked doing best about this project and what you liked least about doing this project.
2. Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.
3. Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Meals That Connect project, has your interest in a career in aging increased, decreased, or stayed the same and why?
4. How many Meals That Connect sessions did you attend? (0-2)

Finally, there are questions whose answers are used to decide how the data will be coded which are the six questions outlined in the analysis plan. Basically, the questions seek to discover how the students felt about the project overall, what their previous and current attitudes about aging were, and how this might influence future decisions about careers in aging.

Next, the researcher went through the various steps of thematic analysis. Phase 1 is familiarizing oneself with the data (Braun & Clarke, 2006). The researcher did this by first taking the Qualtrics responses that had been downloaded into Excel and copying and pasting them by participant ID and intervention and comparison conditions into a table for analysis. During this process, she was able to get an initial glimpse at the data. Then, she read through the entire data set once to get some initial impressions and ideas, as suggested by Braun and Clarke (2006).
Phase 2 is generating initial codes (Braun & Clarke, 2006). This involves systematically reading the data set and developing the most basic units of analysis, codes, which capture any ideas the researcher finds interesting. The researcher first read through all the comparison group data and then read through all the intervention group data. She read all the question responses asked of each participant one participant at a time, creating codes for each question and noting themes for each participant that might have encompassed all of the questions or more than one question. The researcher then created an Excel spreadsheet in which she entered all the initial codes generated for each question as well as their frequency. In doing this, she was able to see which codes were more dominant and which only occurred once or twice. If a code was very infrequent, only occurring once or twice throughout all the data extracts, and if it was fairly similar in meaning to a code that occurred more frequently, it was merged into the more dominant code. The researcher then created a codebook in which she kept track of the codes for each group (comparison and intervention) and each question within each group (questions 1-3 for the comparison group and questions 1-4 for the intervention group). In the codebook, she also noted which of the original codes were merged into other codes by denoting these codes with an asterisk in the definition column of the codebook (see Appendix L).

Phase 3 is searching for themes, which involves sorting the various codes into potential themes which are broader in nature (Braun & Clarke, 2006). During this phase the researcher also begins to think about the relationships between codes and themes, levels of themes including themes and sub-themes, and themes with each other, perhaps
constructing a first draft of a thematic map. There can also be a miscellaneous theme at this point to house codes that don’t seem to fit anywhere else. The important part is that all codes are accounted for under a theme. The researcher began theme development by looking for which codes were the most frequent. She then looked for related themes to these prolific codes. In some cases, the prolific code became the theme and the related codes became the codes related to that theme. In other cases, an overarching theme was developed that encompassed the related qualities of several codes. She developed an initial thematic map for each of the questions for the comparison group and intervention group, drawing connections between themes within each question and between codes within each theme.

In Phase 4, the researcher refines the existing themes by combining, eliminating, adding, or changing them (Braun & Clarke, 2006). Here they use Patton’s dual criteria (1990) for judging themes, looking for internal homogeneity (that the codes within each theme go together well) and external heterogeneity (that the themes are distinct enough from one another). This is done through a two-level process. In the first level, all coded data is read for each theme to make sure it supports and fits with that theme. If it doesn’t, it is placed under a different theme or perhaps a new theme developed. The researcher in this study used her codebook to verify all the codes created were placed under a theme and that the codes made sense there. This also served as a way of double checking that the codes were placed in the right theme to begin with. In the second level, the researcher examined all themes in relation to the entire data set, making sure they fit with one another and with the data set as a whole, as well as making sure there wasn’t any data left
un-coded. This involved reading the entire data set again with the themes in mind, as well as making sure there were no extracts left un-coded. The researcher first read through the data set with the themes in mind. For each question for the comparison and intervention groups, she kept those themes on hand and holistically compared what she had read from the data set with the themes. This further helped to solidify internal homogeneity. Next, she reread the entire data set with all the themes in mind, making sure the themes didn’t overlap too much and ensuring external heterogeneity.

Phase 5 involves defining and naming themes based on what is interesting about them and why (Braun & Clarke, 2006). The writer constructs detailed analysis of each theme and subtheme, making sure there is no overlap and that all themes are distinct and clear. Lastly, Phase 6 is producing the report (Braun & Clarke, 2006). This involves adding in data extracts that aptly demonstrate the themes and connecting the themes clearly to the primary research question.

It is common in some forms of qualitative analysis, like Grounded Theory, to utilize sensitizing concepts that provide initial ideas of where to look for themes in the data (Glaser, 1978). Natural sensitizing concepts in this study include themes centering around knowledge acquisition, attitude change, and ageism, as these are the operationalized dependent variables in the study (Hamon & Guistwite, 2013; Penick, Fallshore, & Spencer, 2014; Thompson & Weaver, 2016; Zucchero, 2011; Angiullo, Whitbourne, & Powers, 1996; Bringle, & Kremer, 1993). Other sensitizing concepts include service-learning and integrating such experiences with didactic knowledge (Kolb, 1984) and thoughts and feelings on intergenerational relationships (VanderVen, 2004).
The literature also lends some additional ideas of sensitizing concepts. Experiencing a relationship with an older adult exemplifying successful aging (Lee, 2009; Angiullo, et al., 1996), commenting on the power of documentary film in shifting attitudes (McCleary, 2014), the benefits of engaging in life review (Haber, 2006), and comparing the experience with the relationship one has with their grandparents (Cummings & Galambos, 2002; Gorelick, et al., 2000) are some examples of this. Care was taken not to construct too long or through a list of sensitizing concepts prior to thematic analysis, as the researcher was hoping to see the participants’ experiences in a novel way in order to enhance understanding of the results of the quantitative data.

Once all the qualitative analysis was completed, the researcher then combined the domains, themes, and groups to construct a summary of the qualitative findings. This was used in conjunction with the quantitative findings to develop conclusions regarding the efficacy of the intervention.

The researcher also wishes to include a reflexivity statement for this portion of the study. Reflexivity is a systematic self-awareness regarding one’s personal views and connections to qualitative data (Padgett, 2017). The researcher for this study is also the instructor for the course and the creator of the intervention; reflexivity must be practiced ensuring this lens doesn’t cloud interpretation of the data. Trustworthiness was achieved via self-reflection statements recorded in a journal while doing the qualitative analysis and by looking for the opposite findings when certain themes were recognized. This was especially useful when the researcher found examples of how the intervention was positive. In these cases, she also assessed for negative feedback to ensure all participant
voices were heard. There were negative comments on the intervention and comparison group service-learning projects, and these were included within the themes. These are necessary tools for trying to stay objective during thematic analysis.

**Administrative Arrangements**

There were Administrative Arrangements required for both the intervention and the research study. In terms of the intervention, multiple resources were required. Collaboration was necessary with the *Lives Well Lived* film maker. During the duration of the study, the film had not been publicly released so the film maker had to provide it. Her presence at the film screening was an attraction for recruiting retirement community residents to participate in the project. Without resident participation, the intervention couldn’t have moved forward. She also provided the model release forms for photography, took the photographs, and provided the equipment to do so. See Appendix A for letter of commitment from film maker.

The facilities where the residents lived also played a role in delivery of the intervention by hosting the screening, recruiting residents to participate, helping coordinate the student meetings with residents, and providing a budget for food at the first and last meetings. See Appendix B for letters of commitment from the retirement communities. For the comparison group, the university already had an MOU with Meals That Connect for service-learning projects. See Appendix C for a letter of commitment from Meals That Connect. An MOU and letter of commitment also had to be developed
with the retirement community utilized in the comparison group for the Lunch Bunch program. This agreement is in Appendix C as well.

Cal Poly played a role in delivery of the intervention in several ways. The college had to agree that a service-learning project that takes participants off campus was appropriate and the college provided and maintained the Release of Liability forms for participants to sign allowing for off campus instruction. The college also kept current the Certificate of Liability Insurance and contracts with Cal Poly and community partners, like Meals That Connect or various retirement communities. The Psychology department provided a small budget for food for the final session of the Lives Well Lived project, which was a sort of “wrap party” for residents and participants. In terms of resources for the study, the Psychology department had to commit to offering two sections of Psychology of Aging every quarter to ensure access to an intervention and comparison group for the quarters in which the study took place. Adequate numbers of participants had to agree to participate in the study to achieve the sample size desired. Without this, the desired sample size could not have been obtained. See Appendix D for letter of commitment from the university.

Protection of Human Subjects

Human subjects considerations were of utmost importance in this study; not only in terms of informed consent, but also in terms of conflict of interest. Care had to be taken so participants did not feel pressured to participate in the study since the researcher was also their instructor. Participants had to not feel like their grade would suffer if they
refused to participate in the study. To account for this, the researcher took many steps to
insure a disconnect between her role as instructor and role as researcher. The IRB at
University of Pennsylvania was the IRB of record, but the researcher also obtained
approval from Cal Poly’s IRB to make sure all protocols were approved.

During the first week of instruction, the researcher described the intervention,
which was part of the course. She also described what actions were required to be part of
the study. She verbally indicated that the participants’ grade would not be affected in any
way by whether they agreed to participate in the study. The researcher then explained that
the consent form would be e-mailed to them to be done online and did not ask for the
participant’s name during the consent process. If the participant consented to participate,
the online survey instrument then rolled them into the pre-test survey. Pre-tests and post-
tests were matched through an embedded code number present on the pre-test and post-
test for each participant. When the survey was submitted, the software program,
Qualtrics, removed all identifying data including participants’ e-mail address and IP
address, thus allowing for anonymity of responses. In addition, the researcher stated that
she would not analyze any of the data until after course grades had been submitted to
reduce any perceived conflict of interest.

The consent process was done during the second week of instruction. The consent
form was done online on the student’s own laptop or cell phone connected to the
university’s wi-fi, during class time. The participants also signed a photo release
document to allow their photographs to be taken and utilized for project purposes. The
photographs taken of the resident/student groups were part of the intervention but were
not used in the study. Therefore, this document was separate from the informed consent
document. If a participant declined to sign a photo release, their photo was not used for
any purpose and they remained in the study. Participants in the study were given the
opportunity on the post-test to indicate if they were open to future follow up from the
researcher. Participants willing to be re-contacted clicked a button on the post-test that
took them to a new survey document that was not connected to their pre-test/post-test,
where they entered their contact information. This disconnect between their pre-test/post-
test data insured their contact information could not be traced back to their pre-test/post-
tests; thus, maintaining the anonymity of their participation in the study while they were
still participants. The researcher plans to not look at the re-contact data until after the
completion of the current study. By that time, student grades for those who participated in
the study would have been submitted, so participants would know their grade was not
influenced by whether or not they choose to participate in the follow up study. In fact,
most likely participants would have graduated from the university by the time this
recontact information is reviewed.

There were a couple of proposed risks in this study. There may have been some
minor potential discomfort answering some of the survey questions. Also, participants
may have felt coerced to participate in the study since the researcher was also the
instructor for the course. However, participants who opted to participate in the study
engaged in the same activity they would have as part of the class anyway. The only
difference was that participants in the study completed pre/post-tests. This was done
during class time. The researcher made every effort to ensure that the participants didn’t
feel coerced to participate. For example, she had no way of knowing when participants were completing the pre and post-tests or which participants were completing it, or whether were doing other activities on their laptops or cell phones. She also ensured participants she would not analyze the data obtained during the classes until after that academic quarter was completed and all grades submitted. She also did not obtain student names on the consent form, pre-test or post-test. Benefits are primarily that future Psychology of Aging classes will have increased information on the best intergenerational service-learning models that may most effectively enhance knowledge, positive attitudes and decreased ageism among undergraduates, hopefully spurring an interest in pursuing an aging related profession in the future. See Appendix E for consent form.
CHAPTER 3: Results-Quantitative Findings

Sample Description

The average age of participants was 21.01 (SD=1.769) years old. As expected, of the 137 study participants who disclosed their gender, the sample predominately self-identified as female, at 74.5% (n=102). Males accounted for 24.8% of the sample (n=34) and just one participant self-identified as transgender (.7%). Psychology is a subject historically attracting more female than male participants. For example, according to the National Center for Education Statistics, about 77.6% of all psychology majors were females in 2015-2016 ([https://nces.ed.gov/programs/digest/d17/tables/dt17_325.80.asp](https://nces.ed.gov/programs/digest/d17/tables/dt17_325.80.asp)). Gender is of note since some research has found more positive attitudes about aging and working with older adults among women (Fabroni, 1990; Kalavar, 2001). The demographic make-up of the university is 54.8% white, 11.8% Mexican American, 10.8% Asian, 7.5% mixed race, 4.9% other Latino, and .7% African American. ([http://www.calstate.edu/as/stat_reports/2017-2018/feth03.htm](http://www.calstate.edu/as/stat_reports/2017-2018/feth03.htm)). The study sample was representative of the overall racial makeup of the college. 137 participants indicated their race. 64.2% identified as White (n=88); 10.2% identified as Mexican American (n=14); 8.8% identified as Asian (n=12); 2.9% identified as Other Latino (n=4); .7% identified as Pacific Islander (n=1); .7% identified as African American (n=1); 10.9% identified as two or more races (n=15); and 1.5% marked Unknown (n=2). These categories were then collapsed into the binary variable of Non-white and White for statistical purposes. The Non-White category also included those who marked “unknown” or who had race data missing. Overall, 63.3% of the sample was White and 36.7% identified as some other
race. This racial makeup is consistent with previous research into intergenerational service learning which tend to have predominately white samples.

Besides demographics, participants were also asked about other factors that might influence their experience. They were asked if they had previously taken a Developmental Psychology course. The class is an elective for Psychology majors and minors, and it also serves as a general elective. Other majors that tend to enroll in the course include Kinesiology (participants who wish to pursue physical therapy) and Nutrition (Psychology of Aging is a required class for this major, as many nutritionists will work in settings with older adults like skilled nursing facilities). This is of significance because upper division Psychology majors or minors may have already had Developmental Psychology, which also covers aging as part of its curriculum (although it is only a small part of the curriculum rather than the entire curriculum). The researcher therefore used previous Developmental Psychology enrollment as a control variable to make sure the intervention and comparison groups did not differ in this variable. Of the 134 participants who responded to this question, 64.2% (n=86) had not taken Developmental Psychology prior to taking Psychology of Aging and 35.8% (n=48) had.

Participants were also asked three questions pertaining to their relationship with their grandparents, as grandparent relationship has previously been shown to influence outcomes in inter-generational service learning (Cummings & Galambos, 2002; Gorelick, Damron-Rodriquez, Funderburk, & Solomon, 2000). All 139 participants answered these questions. The scores from all three questions were then totaled to create a mean score
indicating closeness to grandparents. The most amount of points possible was 100. The mean score was 28.37 (SD=18.386) with a range of 0-76.

Lastly, all participants were given the Marlowe-Crowne Social Desirability scale at pre-test and post-test to check for a social desirability bias in answering the questions on the dependent variables. At pre-test, 136 participants answered the questions on this scale (M=11.81; SD=5.097; range=2-24).

| TABLE 4 |
| Descriptive Demographics of Study Sample |
| Characteristic | Total Study Sample (N=139) | Lives Well Lived Group (Intervention) N=68 (48.9%) | Meals That Connect/Lunch Bunch Group (Comparison) N=71 (51.1%) |
| | n (%) | n (%) | n (%) |
| Race | | | |
| White | 88 (63.3%) | 47 (69.1%) | 41 (57.7%) |
| Non-white | 51 (36.7%) | 21 (30.9%) | 30 (42.3%) |
| Gender | | | |
| Female | 102 (74.5%) | 50 (74.6%) | 52 (74.3%) |
| Male | 34 (24.8%) | 16 (23.9%) | 18 (25.7%) |
| Transgender | 1 (.7%) | 1 (1.5%) | 0 (0%) |
| Developmental Psych. | | | |
| Yes | 48 (35.8%) | 23 (35.4%) | 25 (36.2%) |
| No | 86 (64.2%) | 42 (64.6%) | 44 (63.8%) |
| Quarter/Round | | | |
## Knowledge: Facts on Aging Quiz

The hypothesis that there would not be a significant difference between the intervention and comparison groups in terms of total correct on the FAQ was supported. As shown in Table 5, the combination of variables for the FAQ Total Correct accounted for 15% of the variance in PostFAQ_CorrectAll \( R^2 = 0.15, F (3, 117)=6.69, p<0.00 \).

The intervention and comparison groups did not score significantly differently on the FAQ at post-test (B=0.15, p=0.72) when controlling for Grandparent score and pre-test levels of FAQ Total Correct. This means the intervention group scored less than one point better on the FAQ at post-test than the comparison group did.
The hypothesis that the intervention group would show more of a reduction in net-bias score on the FAQ was also supported. As shown in Table 6, the combination of variables for the FAQ Net Bias score accounted for 41% on the PostNetBiasFAQ [$R^2=0.41, F(3, 118)=27.58, p<0.00$]. There was a statistically significant difference between the groups at post-test ($B=.07, p=.01$), with the intervention group showing a 7% higher reduction in net-bias than the comparison group when controlling for Grandparent score and pre-test levels of net-bias on the FAQ.
<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.17</td>
<td>0.03</td>
<td></td>
<td>-5.30</td>
<td>0.00</td>
</tr>
<tr>
<td>Group</td>
<td>0.07</td>
<td>0.03</td>
<td>0.20</td>
<td>2.72</td>
<td>0.01</td>
</tr>
<tr>
<td>Grandparent Score</td>
<td>-0.00</td>
<td>0.00</td>
<td>-0.19</td>
<td>-2.53</td>
<td>0.01</td>
</tr>
<tr>
<td>FAQ Net Bias Pre-test</td>
<td>0.43</td>
<td>0.06</td>
<td>0.53</td>
<td>7.35</td>
<td>0.00</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.41, F(3, 118) = 9.44, p < 0.00 \]

**Attitude: Aging Semantic Differential**

In terms of measuring attitude change, the hypothesis that participants in the intervention group would show a greater decrease in their score on the ASD Man and ASD Woman at post-test than the comparison group was not supported. The combination of variables in the first model for ASD Man explained 19% of the variance in PostSemDiff_Man \([R^2=0.19, F(3, 121)=9.44, p<0.00]\). In this model there was no significant difference between study groups on post-test for ASD Man \(B=-2.65, p=0.46\) when controlling for Grandparent score and pre-test levels of ASD Man. This indicates that, on average, the intervention group scored around two and a half points lower on ASD Man at post-test compared to the comparison group, indicating a less negative attitude, but this was not significant when controlling for Grandparent score. For the ASD Woman, the variables explained 22% of the variance in PostSemDiff_Woman \([R^2=0.22, F(3, 122)=11.27, p<0.00]\). There was no significant difference between study groups on post-test for ASD Woman \(B=-4.31, p=0.17\) when...
controlling for Grandparent score and pre-test levels of ASD Woman. On average, the intervention group scored around 4 points lower on ASD Woman at post-test compared to the comparison group, indicating a less negative attitude, but this was not significant when controlling for Grandparent score.

**Ageism: Fabroni Scale of Ageism**

In measuring ageism, the hypothesis that participants in the intervention group would show a greater decrease in their score on the FSA at post-test than the comparison group was partially supported. As shown in Table 7, the combination of variables in the model for the FSA Antilocution sub-scale explained 40% of the variance on Post Antilocution \(R^2=0.40, F (3, 121)=27.19, p<0.00\). There was a statistically significant difference between the groups \(B=-1.97, p=.03\) when controlling for Grandparent score and pre-test levels of FSA Antilocution. This indicates that, on average, the intervention group scored about 2 points lower on this scale at post-test compared to the comparison group, with a lower score equaling less Antilocution (stereotypes).
### TABLE 7

**Multiple Regression Analysis on Treatment Effects on FSA Antilocution Sub-scale at Post-test**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>p-value</th>
</tr>
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<tr>
<td>(Constant)</td>
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<td></td>
<td>2.45</td>
<td>0.02</td>
</tr>
<tr>
<td>Group</td>
<td>-1.97</td>
<td>0.88</td>
<td>-0.16</td>
<td>-2.23</td>
<td>0.03</td>
</tr>
<tr>
<td>Grandparent Score</td>
<td>0.00</td>
<td>0.02</td>
<td>0.01</td>
<td>0.17</td>
<td>0.87</td>
</tr>
<tr>
<td>FSA Antilocution Pre-test</td>
<td>0.68</td>
<td>0.08</td>
<td>0.62</td>
<td>8.86</td>
<td>0.00</td>
</tr>
</tbody>
</table>

\[ R^2 = .40, F(3, 121)= , p=0.00 \]

When controlling for Grandparent score and pre-test corresponding subscale scores \[ R^2=0.43, F (3, 120)=30.48, p<0.00 \], there was no statistically significant difference by group on the Avoidance subscale \( B=-0.74, p=0.27 \). The intervention group scored less than a point lower on the Avoidance subscale than the comparison group when controlling for Grandparent score and Avoidance pre-test score. The combination of variables in the model for the FSA Discrimination subscale accounted for 28% of the variance on Post Discrimination \[ R^2=0.28, F (3, 122)=15.74, p<0.00 \] and the intervention and comparison groups were not statistically different \( B=-0.06, p=0.92 \). The intervention group and comparison group had nearly identical scores on this subscale. There was also no statistical difference between the intervention and comparison groups on the FSA overall \( B=-2.61, p=.18 \) when controlling for Grandparent score and pre-test FSA Total score \[ R^2=0.51, F (3, 117)=40.30, p<0.00 \]. The intervention group scored around two and a half points lower in ageism, but this was
not significant after controlling for Grandparent score and FSA Total Ageism pre-test score.
CHAPTER 4: Results-Qualitative Findings

General Findings

Nearly all the participants who submitted a post-test answered the open-ended questions at the end of it, and almost all of those who did answer the questions answered all of them. 65 participants in the intervention group and 63 participants in the comparison group answered at least one of the open-ended questions. This is a response rate of 92% for the open-ended question part of the survey. Of those who answered the questions in the comparison group, one respondent did not answer question two. Of those who answered the questions in the intervention group, one participant didn’t answer question one, one participant didn’t answer questions three and four and another participant didn’t answer question four. Otherwise, all participants answered all questions.

During Phase 2 of Braun and Clarke’s thematic analysis method, it became apparent that certain code pre-fixes were necessary for both groups. For question one concerning general positive and negative feedback about the experience doing intergenerational service-learning, participant responses were either about the experience itself, or were project related. For example, a negative comment could either be experience related, i.e. “I didn’t like some of the racist comments that were shared” or could be project related, i.e. “It was difficult for me to find time in my schedule to go”. This distinction was therefore integrated into the coding for both groups. The other questions didn’t lend themselves to this distinction. For question three concerning participants’ thoughts on future careers in aging, the researcher noticed during coding
that when participants said they had no interest in a career in aging and still didn’t after the project, it was common for them to also say something to the effect of “but I’m open to it”. The researcher chose not to code this part of the response and to count these responses simply as “no interest-stayed same”. Since the researcher was also the instructor for the course, she was concerned that participants may have added “but I’m open to it” more because they didn’t want to hurt the researcher/instructor’s feelings than because they were really open to it. Since there was no way to know for sure what participants meant by this comment, the researcher chose to err on the side of caution and to assume it meant these participants would not be pursuing a career in an aging related field so as not to confound her role as instructor and researcher.

Question two asked if any views on aging were changed or reinforced by participating in the service-learning project. During the analysis in Phase 3 of question two for the comparison group, there were not many participants who reflected on their views being reinforced either positively or negatively by the service-learning experience. Only 18 codes for reinforced (either positively or negatively) were tabulated and there was complete overlap between what the participant said was being reinforced versus what participants said had changed after doing the project. Therefore, during theme development, to avoid redundancy the researcher chose to combine codes containing the word reinforced with codes containing the word changed when content was similar. The same was true for the Intervention group. Only 13 codes for reinforced (either positively or negatively) were tabulated and there was again complete cross over between what the participants classified as reinforced views versus changed views. Thus, codes with
similar content were combined during theme development and the discrepancy between reinforced and changed eliminated. See Table 8 for a breakdown of this change.

**TABLE 8**

<table>
<thead>
<tr>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>74</td>
<td>12</td>
<td>0</td>
<td>1</td>
<td>86</td>
<td>1</td>
<td>85</td>
</tr>
<tr>
<td>Comparison</td>
<td>69</td>
<td>12</td>
<td>2</td>
<td>7</td>
<td>81</td>
<td>9</td>
<td>72</td>
</tr>
</tbody>
</table>

During Phase 4, it became apparent that the theme for the intervention group, question two “Change in Participant Behavior due to Attitude Change” was actually more of a sub-theme for “They Aren’t all Grumps-Stereotypes Debunked”. While nine codes fell under the participant behavior change theme, each was only found a few times in the data set and all seemed highly related to the attitude shifts apparent in debunking aging stereotypes. Therefore, the behavior theme was turned into a sub-theme and moved under the attitude change theme. When looking at the Theory of Reasoned Action, this makes sense, as this theory makes a link between one’s attitude and actions (behaviors) (Lee, 2009).

Three comparative domains emerged for the intervention and comparison groups which matched the post-test questions asked of each group. The first domain, Learning Outcomes of the Intervention via Experiences, coincided with question one, which was, “Please describe your experience doing the Meals That Connect/Lunch Bunch project.
(comparison group)/Lives Well Lived project (intervention group). Indicate what you liked best about doing this project and what you liked least about doing this project”. This domain looked at the outcomes of the intergenerational service-learning project in general, utilizing sensitizing concepts from the literature related to what elements of such a program make it a success to guide analysis. The second domain, Knowledge, Attitude, and Ageism, coincided with question two, which was, “Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project”. This domain looked more specifically at the dependent variables of knowledge, attitude change, and ageism as evidence of change in participants as a result of intergenerational service-learning. Through the combination of these two domains, the researcher sought to answer the question of why and how the intervention may or may not have been more effective than the comparison intervention. The third domain, Influence on Future Career Choice with Older Adults, coincided with question three, which was, “Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Meals That connect/Lunch Bunch project (comparison group)/Lives Well Lived project (intervention group), has your interest in a career in aging increased, decreased, or stayed the same and why?” This domain looked at the larger picture. Regardless of how participants felt about the intervention at post-test, would their knowledge, attitudes, and level of ageism be a reliable predictor for pursuing careers in aging related fields? There is one additional domain for the intervention group which coincides with the fourth question which is, “Since doing this project, what would you say is your definition of a life well lived?” This domain looked at the psychosocial development for the participants in the intervention group. One of the agents of change of the intervention was guiding the
young and older adults through a series of interview questions designed to help them consider their psychosocial development at their current point in life, as well as the influence of their pasts. The purpose of having participants reflect on this domain during the post-test, was for them to integrate what they learned about themselves with their experience of interacting in an intimate, relational level with an older adult who might have lent perspective on this question. Appendix L contains the codebook for the qualitative analysis.

**Themes Applying to both Groups**

*Domain 1: Learning Outcomes of the Intervention via Experiences*

Domain 1 looked at the learning outcomes of the intervention achieved through the experiences participants had while doing the service-learning projects. It corresponded with the question regarding what participants most and least liked about doing the project and provided a general overview of their experiences. Several themes emerged that were shared by the intervention and comparison groups but there were some nuances that made each groups’ experience unique. See Table 9 for Domain 1.

**Intergenerational Relationships.** Both the intervention and comparison groups listed elements related to intergenerational relationships as one of their favorite parts of the project that contributed to learning. In the intervention group, 40 participant comments were coded to include some general reference to intergenerational relationships as the best part of the experience. In the comparison group, 15 made general comments about this. Due to the more involved nature of the project, it makes sense that
more participants in the intervention group would cite intergenerational relationships as
the best part of the project. Also, their comments regarding this tended to be longer and a
bit more detailed than from the comparison group. For example, one participant showed a
distinct connection to the tenets of Relational-cultural Theory (Jordan, 2018) when they
said, “I absolutely loved this project. I think it has been especially impactful to both the
residents and the students alike. It is important to break down the barriers between age
groups and get rid of ageism that comes from being isolated from each other. I liked how
they told their story and gave us advice and also asked us about our own lives.” The bi-
directionality in the relationship noted here is an important part of both Relational-
cultural Theory and Intergenerational Theory and was really only noted in the
intervention group. Participant 329 noted the unique opportunity the project presented in
a society that is age-segregated. “What I liked best about this project was just the
wonderful and unique opportunity to be connected with someone that I otherwise never
would have had the opportunity to meet and get to know. I think the only thing that I
actually disliked at all was not getting more time with my buddy.” In the comparison
group, participants also noted the unique opportunity to connect with older adults. “It
was a unique opportunity to get to know people that I usually would not, and I enjoyed
talking to people there about their lives and experiences.” Other general comments on
intergenerational relationship focused on getting to know the perspectives of a segment of
the population they normally wouldn’t interact with. Participant 227 commented, “I
loved getting to meet a wide range of older adults who have a very different experience in
living in my college town that I do. It was also cool that we got to go to their space, so
they were more comfortable/willing to talk about things because they were with their friends/at their place of living.”

While there were many ways participants referenced this relationship, their involvement in the intergenerational relationship seemed to fall on somewhat of a spectrum from mildly involved to more intimately involved with the older adults. On one side of the spectrum, participants talked about enjoying listening to the stories that the older adults had to tell. One participant in the comparison group who attended the Lunch Bunch said, “I also talked to 3 lovely women who were all very alert and full of livelihood in their 90's. I LOVED getting to learn about their lives-love stories, children, jobs, etc. it was so fascinating.” A participant from the intervention group said, “My experiences with the lives well lived project was amazing. What I liked the most is learning new things from the older people and hearing their story about their life.”

Conversation fell somewhere in the middle of the spectrum, the difference between conversation and stories being that conversations were more two sided and necessitated active engagement by the participant while stories were more passive and entailed the participant mostly just listening. Regarding conversations, one participant in the comparison group said, “I am very appreciative of my time doing this Lunch Bunch project. I think it's very valuable to engage with the older adults in our community, and this was a great opportunity to do so. What I liked most was the conversations I was able to have with the older adults I sat with.” In some cases, this bi-directionality of the relationships extended to a more intimate relational level. This was much more common in the intervention group. Twelve participants in the intervention group referenced the
word “friend” or “friendship” when referencing this relationship and none in the comparison group did. Participant 306 from the intervention group said, “It was nice that the main goal of the project was to create an intergenerational relationship - this made it easier because there is no right or wrong way to do it. It was really great getting to work with my resident and I would say that we are now friends. We plan on getting lunch in a few weeks”. Another participant from the intervention group commented on the link between developing a friendship with the older adult through conversation and learning from the experience. “I thoroughly enjoyed the lives well lived project. I was able to form a friendship with an older person and I feel as though they had a lot to teach me about life. What I liked best about the project was the new friendship I gained from it. What I liked least about the project was having to present in front of people”. In the comparison group, one participant stated, “I made an amazing connection with an older adult and I am excited to continue to develop this relationship”. This was the most intimate reference to the relationship formed mentioned in the comparison group.

Learning Outside the Classroom. As both the intervention project and the comparison group project were service-learning programs, it is not surprising that participants in both groups also referenced learning as a theme and something they enjoyed and took out of the experience. Learning is an important element not only in terms of knowledge, but also to inspire attitude change and reductions in ageism (Allan & Johnson, 2008; Lee, 2009; Zucchero, 2011; Palmore, 1998). The sensitizing concept of experiential learning was illuminated in two ways and these were the sub-themes of learning from the experience and learning from the older adults. It was more common for
participants to mention learning from the older adults themselves, via terms like “wisdom” and “advice”.

**Sub-theme 1: Learning from the Experience.** Both groups either directly or indirectly referenced experiential learning as an outcome of the project they appreciated. For example, participant 5 from the comparison group indirectly referenced experiential learning when they commented, “...I truly enjoyed both of my visits with older adults, one with 4 older women and the other with 3 veteran men. Both times I heard a lot of powerful stories and it was very different experiencing the conversations rather than just talking about them in class.” Another participant in the comparison group more directly referenced experiential learning when they said, “I enjoyed this project because it allowed me to apply what I am learning in the classroom to real life”. In the intervention group, even though it was stated as a negative, one participant made a connection to didactic material learned in class on communication strategies with the hearing impaired and those with dementia and their experience doing the Lives Well Lived project. “What I liked least about this project was that it was at times difficult to communicate with my resident over the phone and to meet up with them in person. That being said, working on this type of communication seemed like a valuable life skill to me.” Participant 310 from the intervention group even used the word “experiential” when describing their experience. “My experience during this project was overwhelmingly positive! I loved getting to know the resident that I was paired up with, and on top of that I feel that I’ve become close friends with them. I loved how experiential the project was by simply
having you have a conversation with a resident. I think the aspect that I liked the least was the travel aspect of it, but that was honestly easy to work around.”

Various elements of the projects also created learning opportunities. In the intervention group, some commented on the Lives Well Lived documentary itself. Others liked slowing down and having time to learn about themselves and their own psychosocial development, which was facilitated by the interview questions about living a life well lived. Said one participant “I loved being able to make a new friend and being able to slow down and reflect”. Another participant credited the older adult they were paired with in helping them with this process. “I had a pretty good time hanging out with my person. It was nice actually sitting down with and talking about life with someone who was actually interested in hearing me.” Some negative experiences were also captured under this sub-theme. In the comparison group, some participants felt they didn’t have enough time there to get the most out of the experience. And in both groups, some participants had negative comments about the reflection term papers they were asked to write. This is interesting, because reflecting on a service-learning experience in written form is a typical part of the learning experience. Only a few participants commented on this in a negative way, but none commented on it as a positive aspect of learning.

**Sub-theme 2-Learning from the Older Adults.** It was more common in both groups to mention what and how they had learned from the older adults involved in the projects. Participants cited wisdom and advice giving as encapsulating this quality. For example, one student from the comparison group referenced wisdom. “It was really
great! getting to talk to people who are older than you to seek wisdom and basically get to know their story is too awesome! i loved it!” A participant in the intervention group said, “I liked the opportunity to get advice from older adults in our community. “Another participant from the intervention group more indirectly referenced wisdom by stating, “I liked being able to hear all their stories and being able to learn from them. Everyone has something new to offer you just have to get it out of them and listen”. In the comparison group, one participant mentioned having a “perspective shift” regarding older adults after participating in the project. Those in the comparison group who visited the lower SES congregate meal site also were able to learn about different life trajectories unlike many of their own. Said one participant, “I really liked getting to connect with the older generation that I most likely would not have been able to connect with otherwise. It was especially interesting getting to talk to older adults in this space because they’re older adults of a lower socioeconomic level and have an entirely different perspective on life and even the central coast than most of the more privileged people you’re likely to run into around here.”

The “Comfort Zone”-Emotions. Both groups also described something akin to a “comfort zone”, and this accounted for both negative and positive feelings regarding the experience that fell on a continuum. On the negative side, some students felt uncomfortable, experiencing feelings like anxiety, by being forced to interact with strangers and with those outside their age group with whom they would not normally interact. In some cases, particularly in the comparison group, it was elements of the interaction itself. For example, one student in the comparison group felt uncomfortable
with remarks made by an older adult participant at the congregate meal site. “My least favorite part was when one of the older men started to say some offensive things and I wasn't quite sure what to do.” Another noticed the lack of diversity. “…the thing I liked least about it was I felt limited in my access to the older adult population, since [the facility] seemed to be a predominantly white, high SES population.” Discomfort at the comparison group largely centered around not knowing where to sit, not knowing how many questions to ask or trying to engage in conversation with participants who were sometimes hesitant to talk. There were also some older adults at one site who had some mental illness, and this made some participants uncomfortable, but this wasn’t directly related to older adulthood. The intervention group struggled less with negative feelings associated with the actual interactions themselves, perhaps because they had more time to engage with the older adult and ease into the process. However, they did cite other elements of the project that made them uncomfortable. For example, having to get to the location, scheduling it around their other classes, etc. made them feel a bit stressed at times. Several students didn’t like having to give a presentation as part of the project, as they didn’t like public speaking. For example, participant 131 from the intervention group said, “I least liked the aspect of presenting my own project, but I enjoyed hearing everyone's projects. I mostly disliked it because I don't enjoy public speaking. This aspect was easy to overcome, however.” And some enjoyed the wrap party and others didn’t-this element seemed to be indirectly linked with how they felt about the presentation part of the project. Moving along the continuum, participants in the comparison group talked about the older adults being welcoming, social, and friendly, enjoying the experience overall, and appreciating having their comfort zone stretched in such a way they wouldn’t
have if not given the opportunity. Said one student in the comparison group, “*I never would have gone out of my comfort zone like this if it hadn’t been required so I’m glad it was.*” In the intervention group, participants also commented on their comfort zone being stretched. Participant 307 said, “*I really enjoyed the opportunity to meet an elder in the community and understand life from their perspective. I was scared at first to get out of my comfort zone but in the end that was a good thing.*” Stretching outside one’s comfort zone is a necessary part of learning according to Kolb (1984).

**Altruism and Empathy.** Another theme that emerged in both groups was the benefits participants expressed in being altruistic, particularly in the comparison group as well as elements of empathy.

**Sub-theme 1: Altruism.** Participants felt a sense of purpose and giving back by being there for older adults to listen to their stories and validate their experiences. One participant in the comparison group said, “*I loved talking to different individuals and hearing about their lives/upbringings. I went for dinner at [] both times and sat with different people. Everyone was super nice and friendly, and they loved asking me questions about my life. The second time I went I sat with 3 women and they were trying to hook me up with the waiter, they were so funny. Even though the project is over I will be going back to hang out with them because I could tell how much it meant to them.*” They also felt good about visiting them and helping to decrease their loneliness and social isolation. For example, Participant 308 from the intervention group said: “*I thought that the Lives Well Lived project was a great opportunity for younger students to connect with their elders. It was a unique experience getting to hear about our resident’s life and all of*
his stories. I think what I least enjoyed about the project was the fact that our resident did not often have many words of wisdom to share with us and was not very expressive. His loneliness and outlook on life often saddened me, but I was thankful for the opportunity to be there for him and listen to him.” In this case, the participant was able to acknowledge that while her own needs were partially not met in the relationship, she felt fulfilled by contributing to the social needs of the older adult. Another participant actually noted that the older adult expressed appreciation for them being there, “I did Lunch Bunch…and really enjoyed having lunch/dinner with the older adults. I enjoyed seeing their faces light up and hearing their stories. They as well told me how much they appreciated this project.” And yet another student looked at the negative side of altruism, wondering if the older adults really wanted the participants there. “I felt awkward when I was there because I wasn’t sure if the older people necessarily wanted to have students visit them.” This was more evident in the comparison group because participants visited an already existing program while at the intervention, the older adults signed up to participate. Although the sub-theme of altruism was evident in both groups, it seemed more prevalent in the Comparison group, being directly referenced 10 times, while it was only referenced four times in the Intervention group. Perhaps this was due to the shorter time frame of the comparison group, which mimicked the role of volunteering at a congregate meal. It could also be the lack of bidirectionality in the comparison group. Because there wasn’t enough time or depth for a relationship to truly develop, participants felt more like they were doing the older adults a favor for visiting because they weren’t receiving as much personally out of the experience. However, in the Intervention group, participants had the chance to get to know the older adults more and received advice and wisdom from them.
Since they received as well as gave in the relationship, altruism wasn’t at the top of their lists as an experience they took from the project. Other evidence for the service-learning experience itself playing a role in the experience with altruism comes from the fact that many participants in the intervention group mentioned altruism in their responses to question four from the post-test about living a life well lived. They obviously had thought about the importance of altruism just like the comparison group did but didn’t necessarily apply it to the project itself due to the bidirectionality of influence between the older adult and young adult participant.

**Sub-theme 2: Empathy.** The sub-theme of empathy was less about feeling like one was helping the older adults by participating in the project but was more a sense of appreciation for learning about what the older adults’ experiences were like. Similar to altruism, this sub-theme had different nuances for the intervention and comparison groups. The intervention group did not note any instances of negative experiences for the older adults they were empathizing with. Rather, they mentioned observing positivity among the older adults and also compared the experiences of the older adults to their own grandparents’ experiences more frequently. They seemed to be trying to visualize what life was like for the older adults they were matched with in an attempt to better understand older adulthood. The intervention group referenced a comparison between the service-learning experience and their own grandparents more than the comparison group did. This is interesting because the comparison group, by chance due to the lack of randomization in this study, actually had a higher score on measures of relationship with one’s grandparents. However, this did not seem to spill over into the qualitative
evaluation of their service-learning experience. The comparison group also observed positive interactions of older adult relationships and their physical environment. However, they were more apt to also empathize with negative issues, like bad food or a depressing setting. Participants empathized with negative aspects of the older adults’ experience, while also noting a sense of altruism. “I went to lunch bunch…and had a great experience. My least favorite part was the food because it was really bad, but I didn’t want to be rude and not eat it, and it was sad they had to eat it every day. The best part was getting to know the people and seeing how happy they were to talk to us and tell us stories.” Said another, “My least favorite part of this project was hearing them…complain about the facility and food. I had practically become friends with them after eating two meals with them and it hurt to hear how much they were not enjoying most of their time in the facility.”

<table>
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<th>Table 9</th>
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<tr>
<td><strong>Domain 1: Learning Outcomes of the Intervention via Experiences</strong></td>
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<tr>
<td>Theme</td>
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<td>Learning Outside the Classroom</td>
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<td>The “Comfort Zone” - Emotions</td>
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Domain 2: Changes in Knowledge, Attitude and Ageism Resulting from Engagement in the Service-Learning Project

The second domain corresponded to the question that asked what had or had not been changed or reinforced by doing the service-learning project. Before developing themes, the comments about reinforced and changed were combined, since so few participants discussed what had been reinforced by the project. See Table 10 for Domain 2. This second domain revolved around knowledge, attitude and ageism, the variables of interest in this study. Participants were asked to think about how their previous knowledge, attitudes or ageist beliefs were changed or reinforced by doing the service-learning project. Both groups noted an increase in recognition of the importance of intergenerational relationships and a reduction in stereotypes. However, a sub-theme developed in that the intervention group seemed to take this knowledge and apply it to their own behavior more than the comparison group did. This difference of how the reduction in stereotypes was translated into behavior was also seen in the quantitative measures, with the intervention group showing a greater decrease in Antilocution (stereotypes) on the FSA than the comparison group. Additionally, the intervention group showed a theme of a change in perspective on their own aging process that the comparison group did not. The comparison group showed themes in noticing inter-
individual differences and again noting altruism and empathy that the intervention group did not. A discussion of the two themes within this domain that the intervention and comparison groups shared is warranted here. The other themes will be discussed in subsequent sections on the specific qualitative outcomes of the Intervention and Comparison groups.

**Importance of Intergenerational Relationships.** In the intervention group, many participants cited an increased value in intergenerational relationships as their biggest take-away from the project and learned that older adults enjoy such relationships too. Statements related to an increased value in intergenerational relationships were mentioned over 20 times. One participant commented, “One viewpoint that changed for me was the fact that older adults that are not familiar with a person do actually seek that social connection. Prior to this project I always felt as though there was a cultural disconnect in which the older adults did not seek to mend”. Another said, “It is much easier to interact with elders than I first thought, and it can be very beneficial for both parties.” Some specific intergenerational connections they made were that older adults are just as interesting as younger adults, that older and younger adults have more similarities than they previously thought, an appreciation for the wisdom older adults possess from which younger adults can benefit, and an awareness that for older adults, socializing with their families brings joy. For example, one participant in the intervention group who realized a similarity between generations said, “My viewpoints on aging changed a lot as a result of this project. I used to think that older people were mostly very conservative and didn’t like to talk about things that might be considered
"inappropriate." However, I felt as though I was talking with one of my 20 year old friends whenever I was talking to the resident I was assigned to. I didn't have to censor my language nearly as much as I thought I would.” This realization of similarities has the potential to increase one’s likelihood of engaging in intergenerational relationships.

The comparison group also noted the similarities of generations and increased valuing of wisdom, the importance of family to older adults, and the openness they have towards intergenerational relationships. A few also felt they should interact to help older adults more, which connects to a theme for the comparison group not present in the intervention group in this domain which will be discussed in the section on specific qualitative responses for the comparison group—altruism.

**“They Aren’t all Grumps”-Stereotypes Debunked Create Attitude Shift.** Both groups noted many various stereotypes they felt were debunked by doing the service-learning projects. The groups differentiated between stereotype reduction related to older adult attitudes/behaviors and stereotype reduction associated with older adult functioning. When commenting on older adult functioning, they further differentiated on physical/cognitive functioning versus social functioning. In the intervention group, the changes they experienced in attitudes about aging and ageism led, in some cases, to a change in participant behavior towards older adults and in other areas of their lives. This became a sub-theme for the intervention group only, *Behavioral Change*. The intervention group also took the changes they experienced in attitudes on aging and applied it to envisioning their own futures as older adults. This was not noted in the comparison group. This became a theme, “*With My New Perspective on Aging, I’m not*
so Afraid of Aging Myself,” and will be discussed in the specific qualitative results section for the intervention group. In the comparison group, this change in attitudes toward aging and ageism seemed more connected to a recognition of inter-individual differences and individuality of older adults. This also became a separate theme, “Not All Older People are Alike”—Inter-individual Differences, and will be discussed in the specific qualitative results section for the comparison group.

When it came to older adult attitudes and behaviors, participants were surprised at how positive and optimistic older adults could be. Said one participant: “I changed because of seeing how positive and optimistic and hopeful my resident was, which is not how I previously thought of older people being.” They also mentioned learning that older adults were much happier than they expected. Participant 16’s comment actually became part of the title of this theme when they said, “Not all of them are grumps.” Other participants used the word “grump”, “grumpy”, or “cranky” to describe an attitude they previously believed older adults to have that was challenged by the project. They found older adults to be more interesting, social, relatable, kind, open-minded, and to have more inter-individual differences than previously thought.

In terms of older adult functioning, most participants who commented on this referenced how well they were functioning. For example, participant 102 said, “Age is just a number and the older people can still have the capacity as someone who is younger. They are capable of doing things that any other person can do. It might take some time, but they can still manage to do it”. At least one participant noted an example of optimal aging when they said they learned that, “Older people can be very creative
and optimal aging is very legitimate.” They also noticed the older adults enjoying their retirement because they were functioning well enough to do so. Also, since they enjoyed being social, this opened up new avenues for activity in retirement. One negative concept that was reinforced related to functioning was that some older adults need assistance with activities of daily living, and this shows a decline in functioning. Participants noticed that some older adults were successfully aging and drew this connection between their didactic and experiential learning, utilizing course concepts like “primary vs. secondary aging” to describe their observations (Whitbourne & Whitbourne, 2019). “I think my viewpoint that older adults are 75+ and are typically the ones to have more of the primary age related changes has changed to trying to encompass 65+ into the older adult category and realize that older adults are very capable and able to keep up with us youngsters and live their lives how they always have”. Others referred to the way the older adults were generally functioning well, while also noting the heterogeneity among older adults. Said Participant 233, “It was really cool to meet older adults who are still in great physical and mental health, as my previous viewpoint was that all older adults had illnesses/were incapable of having a fulfilling life. At the same time, it was tough hearing about a lot of the challenges the older adults face; a lot of them did have deteriorated health, or financial issues.”

In terms of social functioning, some participants indicated that older adults were more open to intergenerational relationships than they expected them to be. They reported that they learned how important family relationships are to older adults. Older adults maintained a general social capacity participants weren’t anticipating. Participant
28 said, “The viewpoint that was challenged for me was the level of social involvement in older adults. I thought these older adults would be socially isolated outside of their networks in the facility. However, many of them visited with their families or friends frequently outside of []. There was even a 90 year old couple who were getting married the week that I met with them!” This can be tied to the stereotypical belief of disengagement theory, which states that older adults pull away from relationships in an attempt to prepare for death by not having so many close relationships (Cumming & Henry, 1961). One point to note about the inter-individual differences observed in the comparison group is that the participants were interacting with a particular sub-set of older adults—those who were well functioning enough to get to a congregate meal program independently and those who enjoy socializing, as many of those who don’t enjoy socializing wouldn’t attend the meals. Congregate meals have long been about the socialization aspect in addition to the food (https://acl.gov/sites/default/files/programs/2019-03/MealProgramValueProposition.pdf).

**Sub-theme 1 (Intervention group): Behavioral Change.** As a result of the attitude shift participants in the intervention group experienced, they seemed to acknowledge some behavioral changes that would or did take place in their own behavior as well. They had increased empathy and understanding for older adults and what they go through. They felt their communication became better. They valued their friendships more. They became more open to the perspectives of older adults and realized the importance of interacting with their own older relatives (this also connects to the increased importance of intergenerational relationships). They experienced joy and
learned to enjoy the moment more and stress less. And they noted decreased ageism. So many mentioned viewing their own aging process differently that a separate theme was created for it and will be discussed in the section on the intervention group specifically.

There were no sub-themes for the comparison group. The comparison group also commented on a decreased fear of aging but not as much. Some stated they were less ageist but at least one acknowledged still being a little ageist. Other ageist attitudes still evident were that older adults have unhealthy habits and are fatigued. More positive attitude shifts related to one’s personality included that older adults are happy and not as grumpy as participants thought, are nice and good-hearted, are open-minded, and that personality may be consistent over time. They also noted their views that older adults have wisdom were reinforced, as well as the gratitude older adults express for their lives. As explained in the comparison group qualitative results section, this group focused more on inter-individual differences than the intervention group did. Most likely seeing older adults as individuals helped inform some of the attitude changes that transpired.
TABLE 10

Domain 2: Changes in Knowledge, Attitude, and Ageism Resulting from Engagement in the Service-Learning Project

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<thead>
<tr>
<th>Themes</th>
<th>Sub-theme</th>
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<th>Comparison-times mentioned</th>
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<td>Stereotypes Debunked Create Attitude Shift</td>
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<tr>
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<tr>
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Domain 3: Influence on Future Career Choice with Older Adults

The third domain examined whether the participants had an interest in careers in aging prior to the service-learning project and whether that interest decreased, increased or stayed the same after the project. The researcher’s reflexivity was important in this domain, as a major goal of the intervention was to increase interest in careers in the field.
of aging. See Table 11 for Domain 3. Participant responses indicated that most were not interested in careers in aging related fields and that for the most part, this didn’t change as a result of the intervention. However, one must also acknowledge that Psychology of Aging at the university in which this study took place is a General Elective (GE) course and many take it who aren’t Psychology or Social Work majors. Thus, it would make sense that participants didn’t have much interest in aging related fields. The researcher realized that some participants were planning careers in health or medical fields where they would interact with older adults, although not in an exclusive way. These participants therefore indicated the usefulness of being provided with an intergenerational service-learning experience that would help them better understand and relate to older adults when encountering them in their chosen professions. In general, three shared themes emerged for the intervention and comparison groups related to future career trajectories in the field of aging—some did not plan such a career, others did, and some were planning a different career but still thought they would interact with older adults in some way in the future.

“I’m not Cut Out for This”. Some participants had no interest in aging related career fields prior to engaging in the service-learning project and this stayed the same after the project. Common reasons were personality characteristics, like finding it depressing being around loss and death because they felt they were so empathetic, not having enough patience, or feeling like they weren’t “the caregiver type”. For example, one participant from the comparison group said, “I don't have interest in a career in aging - just like I don't have an interest in a career with children. I'm not the caregiver...
kind-of-person. The interest has stayed the same after Meals that Connect.” In the intervention group, one participant stated, “Working with older people seem to be interesting, but I think that [it] can be stressful and depressing seeing them going through so much pain. As a result I don't think, I would want to work with them.”

Another common reason for not wanting to pursue aging related professions was simply interest in other areas. A common response was that of Participant 337 who commented, “I did not have any interest in pursuing a career in aging and my interest has stayed the same. This has nothing to do with the project itself but just that I have other career interests that have been cemented and that I really enjoy doing.” Others indicated lack of interest but did not elaborate.

“I’ve Been Changed in Other Ways”. These participants didn’t have interest in aging related careers before or after the project, but after the project their interest increased in other areas. They talked about wanting to interact with older adults in other settings, feeling more comfortable around them and feeling more understanding. Several mentioned wanting to volunteer with this age group. One participant from the comparison group said, “I do not have interest in pursuing a career in aging, however, this class has increased my interest in volunteering for organizations related to aging. I went through training to be a hospice volunteer and am excited to be paired with a patient next quarter.” In the intervention group, several participants mentioned being interested in volunteering. For example, Participant 305 said, “My career path is unrelated to aging and that hasn’t changed, however my interest in volunteering in aging rated programs has greatly increased.”
“I’ll Be Working in Careers Related to Older Adults”. In both groups but more so in the intervention group, interest in aging related careers increased after the project. Reasons for this included altruism (wanting to help this population and recognizing their needs and that of the community); enjoyment of the population (one participant in the intervention group decided to become a Gerontology minor after doing the project); and seeing the growth in jobs in this area and opportunity it presents. Other participants already had a general interest in medicine, physical therapy, social work, or psychology that includes serving older adults. Their viewpoint wasn’t changed by the project. Finally, some participants had a general interest in medicine, physical therapy, social work, or psychology and after the project, wanted to specialize in older adults as a subpopulation. One participant said, “I became very interested in successful aging through this class. I am interested in a career in genetics, and previously did not think about connecting aging and genetics in my pursuits. I think this is a very interesting connection I am considering pursuing because of this course and my experience at Meals That Connect.”

Overall, the themes for the domains developed from the open-ended questions on the questionnaire had a fair amount of overlap between the intervention and comparison groups with the exceptions of the differences just noted. Additionally, there were more specific differences between groups including themes present in one group but not the other.
### TABLE 11

<table>
<thead>
<tr>
<th>Interest in Careers in Aging</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Intervention</td>
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<tr>
<td>Comparison</td>
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</table>

*indicated will volunteer with older adults

**Some responses undetermined-participant either didn’t indicate their previous interest level or didn’t indicate their interest level after doing the service-learning project

**Intervention Group**

**Domain 1: Learning Outcomes of the Intervention via Experiences**

A focus on friendship emerged as a positive outcome of the intervention, with 11 participants mentioning their new friend or friendship in their qualitative responses. The intensity of this relationship lies at one end of the intergenerational relationship continuum and was more intense than anything the comparison group discussed. Also, the bidirectional relationship between the older adult and participant may have led to both of their needs being met. This may have accounted for why the intervention group did not mention altruistic acts they felt they bestowed on the older adults. Perhaps the participants saw the older adults as friends and equals more than as someone in need of assistance. This is of note because true relationships are interdependent, not dependent, and per Relational-cultural Theory, this is important for relational well-being (Jordan, 2018). The intervention group also had less empathetic experiences from negative incidents, but rather seemed to enjoy observing the positives in the older adults’ lives.
They also referenced their grandparents more. Perhaps due to the more intimate relationships with the older adults in the project, this allowed for these comparisons with one’s family to take place. For example, Participant 300 said, “I liked being given the opportunity to meet someone from a different generation. My only real experience with elderly people are my grandparents who I don’t see for long stretches of time. So, it was nice becoming friends with someone who could provide me with a different perspective.”

Domain 2: Knowledge, Attitude and Ageism

Emerging from the theme of “They Aren’t All Grumps”-Stereotypes Debunked Create Attitude Shift, came, as previously noted, the sub-theme of behavioral changes participants experienced or intended to experience because of this attitude shift. This was not indicated in the comparison group. Stereotypes for this group seemed more differentiated into those concerning older adult attitudes/behaviors and older adult functioning.

“With My New Perspective on Aging, I’m Not so Afraid of Aging Myself.”
This related but separate theme emerged in the intervention group. This decreased fear of aging was not reported in the comparison group. Many participants applied the reduction in stereotypes and more positive view of aging they experienced to their own lives, expressing a decreased fear of the aging process. Said one participant, “I thought aging, for the most part, was a defeating process and the thought of it scared me. Meeting [G] and [M.R.] changed my perspective on aging and I now know that if I'm satisfied with the life I lived, I don’t have to be scared about anything.” Some also had an awareness of the
optimism some older adults have that leads to a positive aging experience, similar to the
conceptual definitions of subjective aging. Participant 321 explained, “After doing this project, I am actually looking forward to growing old. Every time we visited [the facility], it was so beautiful outside and all of my stresses were melted away. Also, listening to my resident talk about his daily routine and his perspective on life helped me adjust my perspective on aging.” Many participants expressed a general appreciation for the older adulthood phase of life, which they connected to the older adults seen in the study, their own grandparents, and their future expectations of their own aging process. This finding aligns with recent research on the influence of role models of successful aging on young adult views of their own aging process (Jopp et al., 2017).

**Domain 3: Influence on Future Career Choice with Older Adults**

As seen in Table 11, there wasn’t much difference in the comparison and intervention groups in whether or not participants had considered a career in a field that serves older adults. There were seven participants in the intervention group (versus three in the comparison group) who felt they would now volunteer with older adults as a result of their experience doing the intervention and several mentioned continuing their intergenerational friendship. However, this does not necessarily translate into an increased propensity to work in aging related fields. There was one student in the intervention group who had a complete mind-shift as a result of the intervention, changing her minor to Gerontology because of it.
Domain 4: Participant Psychosocial Development

Participants in the intervention group answered one additional question on their open-ended questionnaire at post-test. Because the project centered around the concept of “a life well lived”, participants were asked to reflect on what their definition of a life well lived was after completing the intervention. This domain, which examines a piece of these young adults’ psychosocial development, indirectly relates to the research question because their perception of what is important in life had the potential to be influenced by this experience. When this shift in mindset occurred, it is possible a connection was made to their own aging experience by examining the experience of the older adult they were matched with in terms of themselves. In a sort of mentoring relationship, the participant had the opportunity to gain advice and wisdom from the older adult about lessons and values related to living a life well lived. Through social learning theory, participants could model their own ideas of a life well lived after the older adults with whom they were matched (Bandura, 1977). Such knowledge and perspective acquisition could influence participants throughout life as per Atchley’s Continuity Theory (1989), many of the values set by those in young adulthood will persist into the older adult years. Arnett’s phase of Emerging Adulthood shows how the young adulthood period of life, encompassing years 18-24, is a powerful period of identity development (2006). See Table 12 for Domain 4.

Erikson’s Psychosocial Developmental Theory Evident. Participants gave many definitions of what makes a life well lived. One interesting theme that developed was tying their responses to Erikson’s Psychosocial Theory and its stages (Erikson,
This theme contained four sub-themes, each representing one of his psychosocial stages relevant to adulthood.

**Sub-theme 1: Identity vs. Role Confusion.** Several participants noted that self-care and self-love was necessary to live a life well lived and this code was merged into sub-theme one. Participants cited authenticity of self, self-confidence, personal growth, pursuing passions, doing what you love, and integral personal interests like faith, physical activity and connection to nature as elements of identity that were important to them. For example, Participant 338 said, “A life well lived encompasses one that is happy, where one was able to feel as though they were truly themself, they were passionate about what they did, and they do not have too many regrets.” Knowing and valuing oneself sets a foundation for quality of life and can set a path for future endeavors.

**Sub-theme 2: Intimacy vs. Isolation.** Participants felt loving and being loved were integral to living a life well lived. They also discussed having supportive relationships, being trustworthy, and forgiveness of others as important qualities. Qualities related to love and relationships were mentioned over 30 times. They ranged from simple, “Having a lot of people to love and love you” (Participant 301) to more complex, “My definition of a life well lived is where you live each day, surrounded by the people you love, doing what matters to you, and striving to have a positive impact on the people in your life” (Participant 304). Other perspectives on relationships contained elements of altruism present in the Generativity vs. Stagnation stage. For example, one participant said a life well lived was, “One where you make a positive impact on the lives of people around you. Love and serve others, and continually learn and grow as a
person.” The development of intimate, loving relationships, in which the individual can be their authentic self is the psychosocial phase of young adulthood per Erikson (1980) and seems to directly apply to these definitions of a life well lived.

**Sub-theme 3: Generativity vs. Stagnation.** This psychosocial phase was attributed to middle adulthood by Erikson (1980). However, young adult participants in the intervention groups were exposed to older adults who had lived through this stage and were able to reflect on it with their young adult counterparts. This is where social learning may come into play, as participants integrate older adults’ wisdom into their own definitions of a life well lived. Many participants spoke about altruism and being of service to others. Said one participant, “I would say that my definition would be having a positive impact on people or the planet because those are the things that I have found I continually see as the most important in the past years.” This relates to another concept specified, that of “making an impact” on others and the world. This concept directly relates to Generativity, which is when one seeks to produce something that will outlast them and yearns to leave a part of themselves left behind to improve future generations (Erikson, 1980). In fact, one participant described generativity in just this way stating living a life well lived meant, “Leaving the right, lasting impact behind.” Also included in generativity is the idea of betterment of the next generation. Participant 311 captured this when responding that a life well lived is, “a life characterized by laughter and leaving places and people better off than you found them.”

**Sub-theme 4: Ego-integrity vs. Despair.** Participant 120 stated, “My definition [of a life well lived] has changed in that life is what you make of it and how you look at it.
There’s always going to be hardships or things that don’t go your way, but overall life is what you make of it beyond the hard times.” One also hears the expression “life is what you make of it” in the Lives Well Lived documentary and it is a sentiment often voiced by many adults who have lived through negative as well as positive experiences. Ego integrity is a sense of coming to terms with one’s life, being at peace with decisions one has made, having few regrets, and making sense of negative events (Erikson, 1980). In fact, participants commented over 20 times about the theme of a life well lived having no regrets and being grateful for one’s life despite hardship. For example, regarding regret, one participant commented, “A life well lived is a life without regrets. This does not mean not making mistakes because this is an integral part of being human, but rather means that no matter what choices you make in life, you should feel satisfied and not think of the would-ifs. Spend time with those who make you feel good about yourself and truly live in the moment to live a life well lived.” Regarding gratitude, Participant 337 said, “Just being grateful for the things you have, people you have, and just for everything in life. Appreciating everything and the time you have. Fulfilling all commitments and promises to others.” A positive outlook on life, also seen in the second domain as something contributing to a happy aging experience, was noted as something that leads to a life well lived. “Express gratitude for everything, and choose to emulate joy. Don’t try to control everything. Everything will work out in the end.”

**Happiness and Joy: A Goal and an Outlook.** Another definition of a life well lived emerged. While there was cross over with positivity, which was a part of the sub-theme of ego integrity vs. despair, this theme warranted a separation because of

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comments from participants primarily centered on being happy because of the choices made throughout life and making decisions based on whether or not it will lead to contentment, versus a focus on having a positive outlook on negative events as well. One example of this theme comes from Participant 108 who put it simply when they said, “Do what makes you happy and satisfied.” Another participant looked at happiness as not only something to obtain for themselves, but to share with others, “I would say that a life well lived is one where you surround yourself with people that you love and you participate in the things that make you happy. It’s one where you can spread positivity and optimism rather than negativity.”

**Actions Influence Life.** An additional theme emerged within this domain that looked at the actions individuals sought to take to insure they lived a good life. These appeared almost as pieces of advice, perhaps advice they received from the older adults who participated in the intervention. Elements like, “living in the moment” and “it’s never too late” encapsulated other ideals, like taking risks, being open-minded, and remembering to have fun and find humor in situations. One participant said, “Doing the things that make you happy. Don’t be afraid to take risks. And it is never too late in your life to do something.” Another commented that a life well lived is, “One where you say yes to as many opportunities as you can, take risks, build lasting relationships and help those around you who you care about. Also have accomplishments that you look back on and are proud of and have a legacy.”
### TABLE 12

<table>
<thead>
<tr>
<th>Theme/Sub-theme</th>
<th>Number of Times Referenced</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme:</strong> Erikson’s Psychosocial Developmental Theory Evident</td>
<td>110</td>
</tr>
<tr>
<td>Sub-theme: <em>Identity vs. Role Confusion</em></td>
<td>20</td>
</tr>
<tr>
<td>Sub-theme: <em>Intimacy vs. Isolation</em></td>
<td>31</td>
</tr>
<tr>
<td>Sub-theme: <em>Generativity vs. Stagnation</em></td>
<td>26</td>
</tr>
<tr>
<td>Sub-theme: <em>Ego Integrity vs. Despair</em></td>
<td>33</td>
</tr>
<tr>
<td><strong>Theme:</strong> Happiness and Joy—a Goal and an Outlook</td>
<td>26</td>
</tr>
<tr>
<td><strong>Theme:</strong> Actions Influence Life</td>
<td>16</td>
</tr>
</tbody>
</table>

Taken together, the participants’ definitions of a life well lived were broad and consisted of values, beliefs, and actions. They also contained elements pertinent to current life stage for these young adults as well as for their future life stages. It seems reasonable to assume some of the participants’ definitions of what it means to live a life well lived were influenced by the older adults in the intervention. This lends credence once again to Relational-cultural Theory as well as Intergenerational Theory. The bidirectionality of the intervention led to the participants’ receiving advice and wisdom while the older adults benefitted from dispersing this advice and wisdom, a form of mutuality in the relationship (Jordan, 2018).

**Comparison Group**

*Domain 1: Learning Outcomes of the Intervention via Experiences*
The economic disparities of the older adults at the low-income congregate meal site vs. the higher income one did come to light in participants’ comments about their experience. Under the theme of *Altruism and Empathy, sub-theme Empathy*, participants noted either positive, pleasant environment or the depressing, unpleasant one. They didn’t reference themselves being in these environments but rather expressed emotion about the older adults having to be there (hence the tie to empathy). Having quantitative data to show that the two quarter groups were equivalent is important—there didn’t seem to be any difference in outcome measures between those who visited the lower income sites vs. those who visited the higher income sites. Thus, even though participants noticed and thought about these differences in settings, it did not affect their knowledge, attitude or ageism during the course of the project.

**Domain 2: Knowledge, Attitude and Ageism**

“*Not All Older People are Alike*”-Inter-individual Differences. While both the intervention and comparison groups specified a decrease in aging stereotypes as a change they experienced from the projects, the comparison group seemed to place a higher emphasis on noticing inter-individual differences in older adults at the field site, which many referenced as “individuality”. The term inter-individual difference can be used to describe the differences between those of roughly the same age bracket and is seen in gerontological literature as a way of recognizing the uniqueness of older individuals and combatting generalities and stereotypes (Whitbourne & Whitbourne, 2019). In general, this theme was captured in statements like the following: “*I think it mostly highlighted for me how diverse the aging population is, since there were folks at the event that*...”
represented a broad range of physical and cognitive abilities and personalities.” Another participant said, “Like any age group, people within an age group have differences from one another. Their outlook on life is largely determined by their own experiences, it isn't uniform because they're old.”

**Empathy More than Altruism.** While Altruism and Empathy was a theme for both groups under the first domain of general learning outcomes, it really only emerged enough to constitute a theme in the second domain for the comparison group. In this domain, there was more of an emphasis on empathy, in terms of the participants having an awareness of the struggles some of the older adults faced, including poverty, food insecurity and a general need for services. Some did state they thought they should interact more to help older adults, which is also an element of intergenerational relationships, but shows the altruistic tendencies of some participants. “I realized that I should interact more with the older population because it positively impacts their life”. In relation to this domain, which looked at the changes participants experienced in their knowledge, attitudes or ageism, there were both positive and negative viewpoints. Acquiring an awareness of older adult struggles is positive, especially if it spurs action towards helping, but could also be viewed as negative if participants think of older adulthood as a time of poverty and struggle in general.

**Domain 3: Influence on Future Career Choice with Older Adults**

As seen in Table 11, there wasn’t much difference in the intervention and comparison groups in this domain. Slightly fewer in the comparison group mentioned
wanting to volunteer with older adults in the future. See discussion of findings for both groups.

**Summary of Qualitative Findings**

The two groups shared many themes within these domains, and there was overlap in themes between domains. The main differences between intervention and comparison groups found in the qualitative research can be summarized as follows:

1) While both groups realized the benefits of intergenerational relationships after doing the projects, the intervention group mentioned it more and had more intensity of relationship. They were more likely to describe the older adults they were matched with as their friends.

2) When looking at intergenerational relationships as a construct, the comparison group focused more on inter-individual differences among older adults and they described having less ageism as a result of this realization.

3) When looking at intergenerational relationships as a construct, the intervention group focused more on how they could change their behaviors concerning interacting with older adults to better their relationships with them and felt this led to decreased ageism.

4) The intervention group applied what they were learning about older adulthood to their outlook about their own aging process and seemed to have less ageist beliefs about their own future after doing the intervention.
Both groups expressed a sense of altruism and empathy toward helping and understanding older adults. The comparison group expressed more of this, while the intervention group seemed to focus more on the positive side of aging.

Changes in the intervention group seemed to occur not only at the individual level, as participants formed a relationship with one older adult, but at the societal level, when participants used their service-learning experience to inspire themselves to engage in future intergenerational relationships as well. This finding confirmed theoretical support of the intervention from Relational-cultural Theory that the potential for decreasing social isolation among older adults should occur at the individual and societal level, thus decreasing ageism at the societal level (Jordan, 2018). The connection to Intergenerational Theory was also evident, especially when connected to ageism (Lerner, 2004; VanderVen, 2004). It seems possible from these findings that it is through reduction of ageism that we can increase intergenerational relationships because once one’s view of aging moves beyond stereotypes and towards a mutual connection with the individual, the desire for more intergenerational relationships increases. Intergenerational Theory shows us that not only can the developmental needs of both members of the intergenerational relationship work in symbiotic fashion, but those engaged in it will hold less ageism. By defeating ageism, more young adults might be willing to engage in intergenerational relationships; this becomes a cycle. There is also a bidirectional relationship between Intergenerational Theory and Relational-cultural Theory. The mutual benefits of the relationship formed between different generations decreases age
stratification, both sending a message that there is no need for ageism, as well as increasing social connectedness for young and old.

Relational-cultural Theory

Intergenerational Theory

Decreased Ageism
CHAPTER 5: Discussion and Conclusion

Aim of Study-Key Findings

Those in the field of gerontology admire the value, wisdom and beauty of older adulthood while also being painstakingly aware that many others do not share this view. Given the aging of America, it is more important than ever to create opportunities for society to have their ageist and age segregated views challenged. This is especially true in undergraduate education, as young adults could be the future work force of much needed services for older adults in the coming decades. This study sought to measure whether an intergenerational service-learning program based on relational, intimate contact between a student and an older adult would be more effective than a shorter, less relational, less intimate intervention. The hypothesis that the intervention would lead to increased bias-free knowledge, improved attitudes about aging, and reduced ageism was partially supported. Levels of net bias and one aspect of ageism related to stereotypes, antilocution, were improved more in the intervention group than in the comparison condition. There was no difference in other measures, leading to ambiguous results. Should the goal of intergenerational service-learning be to increase knowledge, improve attitudes about aging and decrease ageism, it’s possible that a shorter, more efficient program may be enough to produce some educational gains in undergraduate Psychology of Aging curriculum, especially when resources are limited. Perhaps small changes in the comparison intervention, such as matching students individually with older adults, may add a more personal perspective that could lead to the decrease in net bias and stereotypes seen in the intervention group.
However, qualitative results revealed a divergence between the intervention and comparison groups in relational outcomes. Those in the intervention group formed closer relationships with the older adult with whom they were paired. They connected with them more as individuals and friends, were more aware of the impact the intervention had on their own lives, and seemed more committed to ongoing behavioral change regarding their interactions with older adults in their own futures, gains that would likely continue past the class itself. Most literature on intergenerational service-learning has focused on the measured constructs in this study: knowledge, attitude, and ageism (Allan & Johnson, 2008; Lee, 2009; Zucchero, 2011). This additional finding regarding a broader relational value of intergenerational relationship shows promise that the time and effort required from gerontology educators to create longer, more intimate, more intensive service-learning programs may lead to greater lasting impacts among undergraduates, with implications for shifting the value frameworks surrounding aging and ageism.

Overall, the biggest connection between the quantitative and qualitative analysis lies in the confirmation that the influences of ageism, Relational-cultural Theory, and Intergenerational Theory interacted in the intervention group to produce results (Jordan, 2018; VanderVen, 2004). Both groups showed decreases in ageism. But the comparison group linked the decrease more with inter-individual differences and altruism, still viewing older adults as “other”. In the intervention group, through really getting to know an older adult and seeing them as an equal, participants were able to view them as an individual, and not just a representative of a group, making them more likely to permanently decrease aging stereotypes (antilocution). They also applied this reduction in ageism to their behavioral intentions to continue forming intergenerational relationships.
and in projecting more positive views of their own aging process. This connection tells us that it is through relationship that we can defeat ageism in a more fundamental way, thus leading to more open-ness to intergenerational relationships as a result.

**Knowledge, Attitude, and Ageism**

**Knowledge.** Despite the intervention group missing more in-class instruction in order to attend the service-learning encounters, they learned the same amount. This was evident from both groups having similar change in post-test scores on the FAQ and from both groups referencing learning as a project benefit in their qualitative responses. Participant reference to experiential learning shows further support for Kolb’s model of experiential learning as it relates to intergenerational service-learning programs (Kolb, 1984). Through the process of observing, reflecting, and experimenting, learning occurred. Utilizing Kolb’s approach, it is necessary to have at least two service-learning encounters so that the student can apply previously acquired knowledge to subsequent interactions. While students in the comparison group only attended twice, they did at least have a chance to integrate their experiences and reflections with this second interaction. Some students in the comparison group stated they wished they had more time to interact with the older adults; this may speak to their yearning to integrate what they’d learned in a more thorough way, like in the intervention group. Perhaps this partially explains why the intervention group had less net bias, as they had more opportunity to integrate their knowledge since they had more meetings with the older adult. Overall, there is support in this study that students participating in intergenerational service-learning programs with at least two service-learning encounters with older adults
exemplifying successful aging can enhance and increase knowledge about older adults gleaned from the classroom, leading to more positive views on aging (Zucchero, 2011).

**Attitudes.** While the literature does differentiate between attitudes and ageism, it was difficult to separate these concepts in this study. Lack of statistically significant difference on the ASD could be explained by Caspi’s (1984) adaptation to Contact Theory which states it is the quality, not the quantity of interactions that makes a difference in attitudes about aging. Both groups experienced a positive interaction with individual older adults, despite the comparison group having less interaction. One meta-analysis showed that even a minimal level of additional information about an older adult could improve attitudes about them, and this was the case in the comparison group (Kite, et al., 2005). This could have led to the similar changes in the ASD for both groups.

However, differences in attitude between groups were noted in the qualitative analysis. The intervention group showed more behavior change in their interactions with older adults currently and likely in the future, as well as in their own future aging. This additional application of positive change in attitude can be partially explained by the Theory of Reasoned Action (Lee, 2009). While both groups had a shift in attitude based on exposure to high quality contact with older adults, the more extensive interaction that the intervention group had led to enhanced positive outcomes, particularly in belief systems about their own aging process and changes in behavior. It’s possible social learning theory also applies (Bandura, 1977). The intervention participants modeled their behavior and belief systems on the advice and wisdom bestowed on them by the older adults with whom they were matched. The ability to apply attitude change to one’s own thoughts and behaviors can be connected to empathy, specifically cognitive empathy. A
theme of empathy was evident in the qualitative responses. Cognitive empathy requires visualization of oneself in another’s place and the emotions that go with that (S. Bloom, personal communication, June 11, 2019). It is a cognitive as well as an affective process. As participants in the intervention group gained more wisdom and advice about living a life well lived, they may have had more of an ability to put themselves in the place of the elder with whom they were matched, thus imagining their own aging through this role modeling process (Jopp et al., 2017).

**Ageism.** As established by Contact Theory, getting to know an individual from a group different than one’s own can decrease one’s adherence to stereotypes, including ageism (Allport, 1954; Caspi, 1984; Pettigrew, 1998). The intervention group service-learning project provided more opportunity for personalized engagement than the comparison group. Intervention participants spent more time with the older adults than in the comparison group and grew emotionally closer. Since ageism captures more of the emotional component of prejudice against older adults, this may explain why the intervention group had more of a decrease in antilocution. Possibly there have been no significant differences in discrimination because there was limited capacity for participants in this study to discriminate against the older adults as the service-learning project was part of their grade and no significant difference in avoidance because participants couldn’t avoid interacting with older adults since the service-learning programs were part of the participants’ grades. Lack of significant difference between groups on two of the three scales then may have led to overall lack of significance between groups on the FSA.
Both groups recognized alternatives to stereotypes about aging while engaging in the service-learning projects. However, the comparison group mostly focused on the presence of inter-individual differences and the fact that there is great variability among older adults (Nelson & Dannefer, 1992; Tess-Römer, et al., 2017). The intervention group applied the debunking of stereotypes to their own lives, speculating about how the lessons they learned about aging could be applied to their own individual futures, while envisioning their own aging process as positive. This seems to show a reduction of ageism according to Terror Management theory (Solomon, 1991). They also discussed changes in their behavior due to the reduction of these stereotypes. For example, the intervention groups’ intention to continue to form intergenerational relationships seems to show a reduction of ageism according to Modernization Theory (Cowgill & Holmes, 1972). These additional insights showed the intervention may have had a more lasting impact on reduction of ageism.

**Relationship to Grandparents**

The comparison group scored higher on relationship to grandparents at pre-test, indicating that participants in that group had stronger relationships with their grandparents. This influenced quantitative results. The intervention group had more change at post-test on several of the quantitative measures but the closer relationship with grandparents in the comparison group deemed these differences insignificant. This finding lends support for prior empirical evidence that relationship to grandparents does influence college students’ attitudes about older adults (Gorelik, et al., 2000; Cummings & Galambros, 2002; Jopp et al., 2017). Interestingly, the comparison group didn’t discuss their grandparents more than the intervention group in the qualitative responses.
Future Career Choice

Qualitative data revealed there were not many participants interested in future careers in aging either before or after the service-learning program in either the comparison or the intervention group. Psychology of Aging is a GE (General Elective) course that all majors can take to satisfy the GE degree requirement and the majority of those enrolled were taking the course as a GE. Therefore, this turned out not to be an appropriate outcome for whether or not the intervention was superior to the comparison group. This outcome would be more likely applicable to a class designed only for social work or psychology majors. A general sense of long-lasting positive change related to attitudes about older adults emerged for the intervention group, so follow up with this group may reveal a reconsideration of aging related careers in the future for those considering helping professions.

Defining a Life Well Lived

The interview questions used in the intervention were based on life review, reminiscence, positive psychology, and successful aging, all elements that have been incorporated into successful intergenerational service-learning programs (Erikson, 1980; Butler, 1963; Lin, et al., 2003; Knight et al., 2014; Lee, 2009; Linley et al., 2006, Angiuloo, et al., 1996). Specifically, participants’ views on living a life well lived indirectly relates to the outcome measures in this study because examining participants’ views on a well lived life lends clarity to what transpired in their relationship with the older adult with whom they were matched. Much of what participants said about this topic corresponded to older adults’ views, as referenced in the film Lives Well Lived, in the service-learning intervention, and in research on successful aging. In this way one can
see the influence older adults can have over young adults at a pivotal time in their lives. More positive attitudes about the value of older adults and the contribution they can make towards young adult psychosocial development may then result.

Given that much of Intergenerational Theory centers around complimentary psychosocial development categorized by Erikson’s psychosocial stages, it wasn’t surprising that the participants’ definitions of a life well lived yielded many examples applicable to the stages of Erikson’s psychosocial theory (Erikson, 1980). As emerging adults, participants referenced Identity vs. Role Confusion; for example, being one’s authentic self, pursuing one’s passions, growth, and finding one’s place in the world. Contemplation of identity then helped them formulate their future sense of self, and what would be important in their later life. As participants listened to the older adults’ description of what constitutes a life well lived, participants could integrate parts of this advice into their own definition. Intervention participants also referenced elements of a life well lived that related to the stage of intimacy vs. isolation in terms of love and the maintenance and value of relationships, which was also referenced by older adults in the project (Erikson, 1980). Participants hadn’t yet had the opportunity to have children or careers, but they still looked at Generativity vs. Stagnation as influencing their definition of a life well lived. Most likely, they relied on the older adults’ wisdom, example, and advice when making these connections. They gave examples like helping others, making an impact on the world, having a sense of purpose, and accomplishing goals. Lastly, these participants referenced Ego Integrity vs. Despair (Erikson, 1980). As the older adults in the intervention were currently in this life stage, much of what they related to living a life well lived centered around this. Participants incorporated their examples and advice into
their own definitions of a life well lived, referencing things like gratitude, acceptance, no regrets, faith, and trying not to worry. Young adults received advice and modeling from older adults regarding aspects of their life much sooner than they would have had they not engaged in such a relationship. The incorporation of psychosocial developmental aspects of Intergenerational Theory into the intervention appeared to influence participants in positive ways.

As established in Continuity Theory, the young adults in this study were already in the process of establishing patterns of adaptation and behavior that they may carry with them throughout their lives (Atchley, 1989). Participants were provided an opportunity to connect with an older adult who showed them what this looks like in the future. Receiving such advice was part of what participants said made the intergenerational relationship so valuable to them. This opportunity to learn and grow as part of an experience of interacting with older adults, subsequently may have provided participants knowledge, increased positive attitudes about older adults and reduced ageism.

Participants also stated that living a life well lived meant being happy, fulfilled, joyful, and maintaining positivity. The older adults modeled this outlook for young adult participants, who then internalized elements of successful aging which overlap with the field of positive psychology when expanding this concept to other ages (Bandura, 1977; Vahia et al., 2012; Linley et al., 2006). Participants also defined a life well lived in terms of action-based characteristics such as taking risks, being open-minded, living in the moment, having fun and finding humor. These qualities can also be tied to successful aging, particularly more recent research regarding the use of humor as a coping strategy (Kenaley, et al., 2019). Hearing stories of travel, taking chances in jobs or relationships,
and novel experiences may have influenced the young adult participants to want this for themselves.

**Endurance of Effects**

While participants were exposed to older adults through this intervention, it was in an artificially constructed program to enhance learning. The intervention was highly relational in nature with both the participant’s and the older adult’s personalities influencing the process. However, the personalities of both the older adult and the participant might be different than “normal” based on the context. Any shifts in knowledge, attitudes, or ageism that occurred might not maintain external validity to other times and places if their effects are solely confined to this specific context. Social learning theorists would call this “situation specificity” (Burr, 2015, p. 36). By creating a context (situation) in which participants are basically forced to interact with older adults, one might presume there is an artificial, or at least different interaction style and display of personality than one might normally have if they were engaged in a more authentic encounter. It is therefore encouraging that participants referenced their anticipated endurance of attitude change in their qualitative responses.

In this sense, it is beneficial to envision the changes stemming from the project falling on a continuum of scope, impact, duration, and significance (Witkin, 2017). While the hope is that this intervention may make a major and enduring impact on participant attitudes regarding aging, one may need to re-evaluate the scope—perhaps it’s not enough of an intervention to increase students’ interest in aging related fields but if it can change the way they interact with older adults and view the aging process, then it will have accomplished important aims. Potential also exists for changes to occur in the way
students perceive relationships, formation of relationships, and engagement in life. Even if participants still do not consider a career in aging, they acknowledged intrinsic change from the intervention. The intervention has the potential to be transformative if after the project ended the participants maintain their more positive attitudes regarding aging and views on the formation of intergenerational relationships as a way of enhancing their strengths.

Strengths and Limitations

Sampling strategy and sample characteristics

This sample size is larger than most previous studies on intergenerational service-learning programs. For example, a systematic review of intergenerational programs found that N=51 or less in 27 of 50 programs studied (Canedo-Garcia et al., 2017). With expectation of a medium effect size at .80 Power for $\alpha=.05$, a sample size of 64 in the intervention group and 64 in the comparison group is optimal (Cohen, 1992). Medium effect size was estimated using the results from the meta-analysis done on intergenerational programming by Canedo-Garcia et al. They found that studies with four or more controls, minimal study attrition, higher academic level of study participants, and membership to an organization (in this case the university) all increased effect size and this study met all these conditions (Canedo-Garcia et al., 2017). This sample size included 71 in the comparison group and 68 in the intervention group, in line with the medium effect size cited in Canedo-Garcia et al.

Use of a convenience sample led to lack of generalizability of the sample. There was a lack of racial variance amongst both the participants and the older adults. This
prevented utilizing specific race categories as a control variable to evaluate if characteristics such as filial piety, familisimo, or acculturation were relevant to levels of knowledge, attitude change, or ageism (Silverstein & Chen, 1999; Dong et al., 2014). The lack of racial diversity also limits the generalizability of the sample to broader arenas. As in most literature on intergenerational service-learning, the sample was also primarily female and were traditional college age, both factors which have been found to influence attitudes on aging and ageism (Candedo-Garcia et al., 2017; Rupp et al., 2005). While this study did meet the expectations set forth in Canedo et al. for a medium effect size (2017), there was a smaller sample than anticipated. In March of 2020, the Coronavirus hit full swing in the U.S. As the instructor prepared for the Spring quarter intervention, the university moved to virtual instruction. Since the college was not meeting in person, the in-person service-learning couldn’t operate either so the study had to be prematurely discontinued.

**Quantitative Measures**

The FAQ, ASD, and FAS are all well-established scales for measuring the constructs of knowledge, attitude, and ageism (Funderburk et al., 2006; Allan & Johnson, 2009; Gonzalez et al., 2010; Fabroni et al., 1990; Palmore, 1998). They are all strong measures with high internal consistency reliability and good construct and criterion validity (Palmore, 1998; Angiullo et al., 1996; Gellis et al., 2003; Allan & Johnson, 2009; Rupp et al., 2010). Alphas for the ASD and FAS were adequate in this study, so results from these measures was an accurate reflection of the constructs being measured. However, for the ASD, the low adjusted R for the male and female version of the scales may indicate a poor relationship between the independent variable and this scale as a
measure of attitude. There was some concern of testing fatigue, as participants were asked to complete five scales at pre-test and four scales and open-ended responses at post-test. However, this did not appear to be a problem, as the majority of participants completed most of the questionnaire. It was a strength that the questionnaire was given during class time and no time limit given for its completion. The questionnaire assessing participant’s relationship to their grandparents was a limitation. When doing t-tests for equivalency of samples, there was too much collinearity when running each question separately. Therefore, all 12 questions (the three questions asked for each of four grandparent relationships) had to be combined into one grandparent score. When doing this, the nuance of how close participants were to which grandparents was lost. This could have contained valuable information since some studies have shown closeness to maternal grandmothers as having the largest influence on attitudes about older adults (Dunifron & Bajracharya, 2012; MaloneBeach, et al., 2018).

**Methodology**

The biggest limitation in the design strategy was the lack of random assignment. It simply wasn’t possible to randomly assign participants in each class to the intervention or the comparison group for logistical reasons. The quasi-experimental design limits causal inference, as inherent differences between the groups could affect outcomes. To account for this, the researcher collected data on many variables that might have affected the outcome of the study in order to maximize equivalency of groups. However, some inherent differences may well not have been measured. Another study limitation is the use of self-report responses. Self-report questionnaires, while the dominant means of measurement in service-learning research, have been shown to have some inaccuracies,
including over-or under-reporting of effects (Celio et al., 2011). Another methodological limitation is that the researcher was also the instructor. The researcher had to be vigilant about not letting her desire for the intervention to have positive support interfere with objectivity of the research. However, this may also have been a strength in ensuring the intent of the intervention was achieved. Use of multiple scales and a mixed-methods design sought to ameliorate these potential biases. The biggest limitation of the qualitative analysis was that there was no second coder. Ideally, a second coder could have provided for consistency of code and theme development.

A major strength of the methodology in this study is the presence of a comparison group and a pre-test/post-test mixed methods design. The field of intergenerational programming has long had difficulties providing evidence of effectiveness due to the lack of stringent methodology in study designs, with low proportions of programs utilizing a comparison group, pre/post-test, or mixed methods designs (Canedo, et al., 2017; Martins et al., 2018). Reporting that there were gains after an intervention is important but compared to no service-learning intervention at all, this seems to only prove the obvious. As seen in this study, when comparing a more involved service-learning intervention with a shorter, less involved one, some of the effects one would normally find become more ambiguous. Valuable insights emerged from the qualitative data collected at post-test regarding the study variables. Another strength is the use of three different quantitative measures of effects as opposed to one or two (Funderburk et al, 2006; Allan & Johnson, 2009; Angiullo et al., 1996; Rupp et al., 2010).
Challenges and Feasibility of Implementing Intervention

Strengths and limitations of the intervention are guided by review of the eleven best practices for intergenerational programs (Jarrott et al., 2019). The intervention as designed met all of these best practice guidelines, except two which involve participant control over the intervention. Since participation in the intervention was a course requirement, it had to be standardized so participants were not able to modify it per their preferences. There were some difficulties with doing the intervention itself. In a 10-week quarter system, it is difficult to schedule all the service-learning encounters while taking various considerations into account, such as students adding the class late, avoiding a service-learning encounter during finals week, school holidays, mid-terms, the filmmaker’s availability, and special events taking place at the retirement communities. Another challenge was illness. If the participants got sick, they would have to reschedule or cancel so as not to potentially infect the residents. Alternatively, residents sometimes became ill or had health issues and either rescheduled/missed service-learning encounters or backed out of the project all together, necessitating the researcher and staff at the retirement community to have to quickly recruit another resident to participate so the participant would not be left without a match. In contrast, because this project centered around older adults meeting the criteria for successful aging, residents were sometimes so active they would forget or intentionally not attend the assigned service-learning encounter to participate in other activities or programs. There were also practical considerations such as transportation problems for the participants. Lastly, the facilities were not able to recruit enough residents to participate in the intervention so that all participants were matched individually with an older adult. Large class size at the college...
of up to 40 students made it difficult to find enough older adults to participate. This led to some of the participant/resident relationships consisting of two participants matched to one resident which wasn’t ideal, as then the participant didn’t get as much individual interaction with the older adult. Part of this issue is due to the relatively small size of the retirement communities in this semi-rural area compared to what would be available in larger, urban environments. However, a strength of this model was that some participants had reduced anxiety by being able to work with another participant on the project and this may have enhanced their learning process.

**Implications for Social Work**

From a macro-level perspective, this intervention seeks to challenge socially constructed beliefs that aging equals decline and that older adults hold less worth in society than the young (Gergen & Gergen, 2004). It sought to encourage acceptance of a counter-narrative of successful aging through exposure to adults exemplifying this. For participants entering the field of social work, maintaining this more positive view of aging will likely influence their practice whether they specialize in geriatrics or interact with older adults indirectly through family systems. Previous research has shown that first year MSW students already hold negative attitudes about aging upon entering their programs (Gellis et al., 2003). Providing positive experiences with older adults at the undergraduate level may contribute to more positive attitudes about older adults upon entrance to social work programs. Another macro-level implication for social work is re-envisioning the strengths-based perspective as it applies to intergenerational relationships. While the *Lives Well Lived* project isn’t a social work intervention, it does seek to benefit the lives of a marginalized group, older adults. According to Witkin
(2017), we only know ourselves as formed through our social relationships and interaction. Life review is a common and powerful strategy older adults use for gaining ego integrity and developing resilience, yet this depends on interaction with others and the participation in communal cognition (Witkin, 2017; Butler, 1963; Erikson, 1980). As people age and become segregated in our society, they lose such opportunity to utilize this strength. With their joint emphasis on relationships, Relational-cultural Theory and Intergenerational Theory provide a powerful framework that can inform interventions for older adult isolation and enhance their resilience through life review (Jordan, 2018; Hartling, 2008; Lerner, 2004). In this intervention, both the older adult and participant enhanced their strengths through participation in a mutual relationship that provided mutual negotiation of meaning and mutual empathy as they jointly discussed their lives and meanings of a “life well lived.” One alternative way of re-envisioning the strengths-based perspective comes from Witkin (2017):

“The strengths perspective invites us to imagine a world in which all people are treated with respect and dignity: in which difficult situations are opportunities for growth, where the marginalized and disadvantaged can teach the rest of us about resourcefulness, resilience, and heroism; in which our focus is on how people thrive and endure rather than how they deteriorate and fail, and in which our bootstraps are interlaced and lifted by us all” (p. 125).

Intergenerational service-learning projects have the potential to be a vital resource for marginalized older adults who are socially isolated or lonely and in need of a relational intervention, while also providing benefit to adults of other ages. With proper
development, such programs could become an intervention social workers use to enhance older adult resilience. This is especially true in semi-rural areas and in low-income senior housing, where programs to support older adults aren’t as plentiful. One of the core tenets of social work is advocacy and support for those who are marginalized or oppressed. Since Butler coined the term “ageism” in the 1950s, those in the field of aging have sought to establish prejudice and discrimination against older adults as another important “ism”. The age-as-leveler viewpoint states that all social work clients will eventually experience ageism. For those already marginalized, ageism presents a further challenge, exposing clients to double or multiple jeopardy (Ferraro & Farmer, 1996). Reducing ageism helps all social work clients at some point in their lives.

**Implications for Teaching**

Given the current and projected demographics of aging, systemic changes are warranted regarding the priority of geriatric course work in undergraduate education. Intergenerational service-learning should be part of any such courses. Presenting an intergenerational service-learning intervention that shows some evidence of effectiveness in 10 weeks or less can hopefully provide evidence to undergraduate Psychology or Sociology courses that it is worth the increased resources for such a project. Successful intergenerational service-learning projects can also support an argument that there is a need for more expansive gerontological content in undergraduate curriculum.

**Directions for Future Research**

In order to achieve a larger sample size, research on this intervention should continue. Future research should look at pre/post intervention change in feelings of generativity in the older adults as well, as this is not commonly done in studies on
intergenerational service-learning (Andreoletti & Howard, 2018). Researching the older adults’ perspective on the project is in line with the Reframing Aging Initiative (American Gerontological Society, https://www.geron.org/programs-services/reframing-aging-initiative) which seeks mutuality in aging programs. Measuring generativity could be done in a mixed-methods study combining a scale of generativity like the Loyola Generativity Scale with qualitative interview questions (Erikson, 1980; McAdams & de St. Aubin, 1992) Older adults could also be assessed for change in social isolation/loneliness using qualitative questions at pre/post intervention and a loneliness evaluation tool, such as the UCLA Loneliness scale, a widely used measure of perceived feelings of loneliness validated for use among older adults (Neto, 2014).

Participants from the current study should be followed up approximately one-two years after taking the course regarding their current career plans, if that entails careers in the field of aging, and endurance of knowledge, attitude and ageism effects from the intervention. Few studies of intergenerational service-learning interventions have provided such follow up (Eshbaugh, Gross, & Satrom, 2010; Fuderburke, et al., 2006), but among studies that have, it has been found that positive attitudes toward older adults endured after service-learning interventions (Funderburk, et al., 2006; Eshbaugh, Gross, & Satrom, 2010; Vandsberger & Wakefield, 2006). Eighty-two participants from this study provided follow up contact information.

Based on the qualitative findings that participants in the intervention group valued getting to know an individual older adult, the comparison group program could be altered so that participants were matched individually with older adults rather than the group format of the program. One could then investigate if the more personal nature of the
shorter intervention makes a difference in outcomes similar to that of the intervention. Additionally, the relational aspect of intergenerational service-learning should be specifically investigated, perhaps using a scale designed for this purpose, such as the Mutual Psychological Development Questionnaire (MPDQ), Relational Health Indices (RHI), or Connection-Disconnection Scale (CDS) (Jordan, 2018). Finally, given the COVID-19 pandemic and continued social distancing policies, this intervention should be adapted so it may be done virtually. Future research could evaluate the effectiveness of an online format vs. in-person format.

**Conclusion**

Intergenerational programming, specifically service-learning, has grown over the last several decades and this trend must continue to keep pace with the burgeoning older adult population. Leaders in the field suggest that more diligent research is necessary so that best practices can guide program development (Jarrott, et al., 2019). This study contributed to this research by undertaking a mixed-methods, pre-test/post-test comparison group design examining multiple outcomes of effectiveness. Many of the outcomes found in this study, such as increases in knowledge, reduction in ageism, positive personal growth of participants, increased empathy, and decreased fear about one’s own aging process, have been found in other intergenerational service-learning programs as well (Roodin, Brown, & Shedlock, 2012). As in other programs, participants expressed much satisfaction with the service-learning experience and articulated awareness of changes in perspective that occurred as a result (Roodin, et al., 2012). Achieving such outcomes in short-term projects such as this one is important in current academic environments with short quarter or semester systems. While results of the
specific study outcomes were mixed, the influence of intergenerational relationships emerged as a key outcome. Establishment of such a relationship might not be enough to inspire undergraduates to pursue careers in the field of aging, but it may contribute significantly to their overall view of the value and beauty of older adulthood. Such broad implications can still have beneficial effects on student learning, as well as an impact on both older and younger adult psychosocial development. The formation of intergenerational relationship provides symbiotic gains which infiltrate multiple areas of well-being throughout the life cycle.
APPENDIX

Appendix A: Letter of Commitment with Sky Bergman

July 1, 2019

Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, “Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism.” I have enjoyed working with you in developing this project and am excited to support your formalized research in this area. Specifically, I agree to do the following during the 2019-2020 academic year (all three quarters):

- Provide a copy of Lives Well Lived for screening for your students and the residents at the retirement community.
- Attend the screening and provide a brief presentation about why I made the movie, its importance, etc.
- Be present for the third and fourth service learning encounters if possible to take photos of the student-resident pairs. Provide model release forms for residents and students to sign.
- Be present at the fifth service learning encounter if possible to celebrate the completion of the project and present on how the project exemplifies the Lives Well Lived perspective.

Please let me know if there is anything else I can do to make this project a success.

Sincerely,

Sky Bergman
Appendix B: Letter of Commitment with Retirement Communities-The Villages

July 1, 2019

Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

On behalf of The Villages, San Luis Obispo, I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, “Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism.” We have enjoyed working with you and your students on past projects and are excited to support your formalized research in this area. Specifically, we agree to:

- Post flyers promoting the screening of Lives Well Lived as the kick off for the project
- Provide refreshments to residents who want to come to the screening to aide in recruitment
- Provide a space at our facility large enough to hold the residents as well as your class of students. This space will include a large screen t.v. or other way of viewing Lives Well Lived. We will also furnish a PA system so Sky Bergman (the film maker) and you can give brief presentations about the film and project
- Collect the names of interested residents and provide you with their names, phone numbers, and apartment numbers so students can contact them.
- Sign in the time sheets of your students when they come for their service learning encounters
- Assist as needed with coordination of meetings between students and residents
- Utilize our vans to transport residents to Cal Poly for the final service learning encounter
- Provide up to a $100 food budget for final service learning encounter

Please let us know if there is anything else we can do to assist. We are looking forward to this opportunity.

Sincerely,

Natalie Ellingson, Life Enrichment Director
The Villages, San Luis Obispo
Appendix B: Letter of Commitment with Retirement Communities-Judson Terrace Homes

Judson Terrace Homes
a humanistic community

July 1, 2019

Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

On behalf of Judson Terrace Homes, I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, “Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism.” We are looking forward to working with you and your students and are excited to support your formalized research in this area. Specifically, we agree to:

- Post flyers promoting the screening of Lives Well Lived as the kick-off for the project
- Provide refreshments to residents who want to come to the screening to aide in recruitment
- Provide a space at our facility large enough to hold the residents as well as your class of students. This space will include a large screen TV, or other way of viewing Lives Well Lived. We will also furnish a PA system so Sky Bergman (the film maker) and you can give brief presentations about the film and project.
- Collect the names of interested residents and provide you with their names, phone numbers, and apartment numbers so students can contact them.
- Sign the time sheets of your students when they come for their service learning encounters
- Assist as needed with coordination of meetings between students and residents
- Provide up to a $100 food budget for final service learning encounter

Please let us know if there is anything else we can do to assist. We are looking forward to this opportunity.

Sincerely,

[Signature]

Franzine Martinez
Service Coordinator
Judson Terrace Homes

Life. It’s personal.
Appendix C: Letter of Commitment with Meals That Connect-Anderson Hotel Field Site

July 1, 2019
Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

On behalf of Meals That Connect, I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, “Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism.” We have enjoyed working with you and your students in the past and are excited to support your formalized research in this area. Specifically, we agree to:

- Allow your students to visit the Meals That Connect congregate meal site in downtown San Luis Obispo, with each student attending twice over the course of the academic quarter
- Sign the timesheets for your students when they come for their service learning encounters
- Keep our MOU current with Cal Poly as a service learning site

Please let us know if there is anything else we can do to assist. We are looking forward to this opportunity.

Sincerely,

Janine Lloyd, Site Manager
Meals That Connect
Senior Nutrition Program of San Luis Obispo County
Appendix C: Letter of Commitment with Meals That Connect-United Church of Christ Congregational Field Site

July 1, 2019

Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

On behalf of Meals That Connect, I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, “Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism.” We are looking forward to working with you and your students and are excited to support your formalized research in this area. Specifically, we agree to:

- Allow your students to visit the Meals That Connect congregate meal site in downtown San Luis Obispo, with each student attending twice over the course of the academic quarter
- Sign the timesheets for your students when they come for their service learning encounters
- Keep our MOU current with Cal Poly as a service learning site

Please let us know if there is anything else we can do to assist. We are looking forward to this opportunity.

Sincerely,

Les Winger, Site Manager
Meals That Connect
Senior Nutrition Program of San Luis Obispo County
Appendix C: Letter of Commitment for Lunch Bunch - Las Brisas

September 11, 2019

Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

On behalf of Las Brisas, I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, “Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism.” We are looking forward to working with you and your students and are excited to support your formalized research in this area.

Specifically, in Fall quarter of 2019 when students are participating in the Meal Visitation program, we agree to:

- Allow your students to visit Las Brisas at meal times, with each student attending twice over the course of the academic quarter
- Sign the timesheets for your students when they come for their service-learning encounters
- Keep our MOU current with Cal Poly as a service-learning site

Specifically, in Spring quarter of 2020 when students are participating in the Lives Well Lived program, we agree to:

- Post flyers promoting the screening of Lives Well Lived as the kick off for the project
- Provide refreshments to residents who want to come to the screening to aide in recruitment
- Provide a space at our facility large enough to hold the residents as well as your class of students. This space will include a large screen tv. or other way of viewing Lives Well Lived. We will also furnish a PA system so Sky Bergman (the film maker) and you can give brief presentations about the film and project
- Collect the names of interested residents and provide you with their names, phone numbers, and apartment numbers so students can contact them.
- Sign the time sheets of your students when they come for their service-learning encounters
- Assist as needed with coordination of meetings between students and residents
- Provide up to a $100 food budget for final service-learning encounter (“wrap party”)

Please let us know if there is anything else we can do to assist. We are looking forward to this opportunity.

Sincerely,

Juliana Tacker
Resident Experience Coordinator
Las Brisas
Appendix D: Letter of Commitment with Cal Poly

CAL POLY
Psychology and Department
College of Liberal Arts
Tel 805-756-2033
Fax 805-756-1134

July 1, 2019

Sara Bartlett, LCSW
Cal Poly, San Luis Obispo
1 Grand Ave.
San Luis Obispo, CA 93407

Dear Mrs. Bartlett:

On behalf of the Psychology & Child Development Department, College of Liberal Arts at Cal Poly, San Luis Obispo, I am pleased to confirm our agreement of understanding and to specify our responsibilities for your research project, "Effectiveness of an Intergenerational Service Learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism." Specifically, we agree to:

- Assign you two sections of Psychology of Aging in Fall 2019, Winter 2020, and Spring 2020 if course demand and budgetary allocation allow;
- Keep the enrollment cap between 36-40 students per class;
- Provide up to a $100/quarter budget for food for the final gathering of the Lives Well Lived project.

We have appreciated the positive feedback your students have provided in course evaluations about the various service learning opportunities you have provided for them and anticipate that formal evaluation of this service learning project will provide valuable knowledge not just for Psychology of Aging at Cal Poly, but for similar courses throughout the CSU.

Please let us know if there is anything else we can do to support this endeavor.

Sincerely,

Jasna Jovanovic, Ph.D.
Professor & Chair
Department of Psychology and Child Development
Appendix E-Informed Consent Form

University of Pennsylvania Informed Consent Form

Title of the Research Study: Effectiveness of an Intergenerational Service-learning Program on Increasing Knowledge on Aging, Creating Attitude Change Regarding Older Adults, and Reducing Ageism

Protocol Number: 833994

Principal Investigator: Phyllis Solomon, PhD
University of Pennsylvania, School of Social Policy and Practice
3701 Locust Walk, Caster Building, Room C13
Philadelphia, PA 19104-6214
(215) 898-5533
solomonp@sp2.upenn.edu

Co-investigator: Sara Bartlett, LCSW
University of Pennsylvania, School of Social Policy and Practice
3701 Locust Walk
Philadelphia, PA 19104
spbartle@upenn.edu

You are being asked to participate in a research study which examines student knowledge and attitudes about aging and how this might be affected by service-learning projects. This study is a dissertation in partial fulfillment of the requirements for the co-investigator’s Doctorate in Social Work degree at the University of Pennsylvania. The study includes an online pre-test survey which should take approximately 15 minutes to complete and a post-test survey, which should take approximately 20-30 minutes to complete. You will be asked to answer a series of questions by clicking on response options. The post-test contains several open-ended questions as well. When you have completed the survey, simply close the window in your Internet browser to exit. If you decide to participate, you will be asked to click “I consent, begin the study” at the end of this document and the survey will begin.

You are being asked to participate because you are enrolled in Psychology of Aging this quarter. Participation in the study, which involves the pre-test and post-test surveys, is optional and is separate from participation in the project which is a mandatory part of the course. Further information on the service-learning project is available in the course syllabus. The researcher is also asking for consent to recontact you after completion of the study. If you consent to this, please check the additional box for consent to recontact on the post-test survey given at the end of the quarter. This will take you to a separate survey not tied to your pre-test or post-test.

Participants should not feel obligated to participate in the study. Your grade will not be affected by whether or not you choose to participate in the study, because the instructor/researcher will not know who has chosen to participate in the study and who hasn’t, as the survey is anonymous. No personal identifying information will be collected from you. The researcher will not analyze the
data collected until after all student grades have been submitted for the quarter in which you participate. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used, and your responses will be analyzed as part of the total group data. The IRB at the University of Pennsylvania will have access to the records for this project. There are no costs for you associated with this study. You should bring your laptop, cell phone, or other wi-fi enabled device to class on the days of the pre-test/post-test. If you do not have a wi-fi enabled device, you may go to a computer lab to complete the pre-test/post-test. There may be transportation costs associated with travel to the service-learning sites. However, this would be required for the course anyway and is not directly part of the study. Risks of participation include some discomfort in answering the survey questions.

There is no benefit to you. However, your participation could help us understand what types of service-learning programs most influence student’s perceptions about aging which can benefit future student learning outcomes and possible career choices.

If you have questions, concerns or complaints regarding your participation in this research study or if you have any questions about your rights as a research subject, you should speak with the Principal Investigator listed on page one of this form. If a member of the research team cannot be reached or you want to talk to someone other than those working on the study, you may contact the Office of Regulatory Affairs with any question, concerns or complaints at the University of Pennsylvania by calling (215) 898-2614.

When you click “I consent, begin the study” on this document, you are indicating that you read and understood the information above and you agree to take part in this research study. If you have any questions or there is something you do not understand, please ask. You will receive a copy of this consent document upon request.

I consent, begin the study_____

I do not consent, I do not wish to participate_____
Appendix F: Gantt Chart

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>YEAR 01</th>
<th>YEAR 02</th>
<th>YEAR 03</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1  (July-Sept.)</td>
<td>Q2  (Oct.-Dec.)</td>
<td>Q3  (Jan.-Mar.)</td>
</tr>
<tr>
<td>Request optimal scheduling of PSY 318</td>
<td></td>
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<tr>
<td>Recruit Retirement Communities</td>
<td></td>
<td></td>
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<tr>
<td>Planning meeting with Sky Bergman</td>
<td></td>
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<tr>
<td>Planning meeting with retirement communities</td>
<td></td>
<td></td>
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<tr>
<td>Development of computer based assessment tool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolling start of study/pre-tests (academic quarters)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention (each academic quarter)</td>
<td></td>
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<tr>
<td>Post-tests (academic quarters)</td>
<td></td>
<td></td>
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<tr>
<td>Data matching pre/post tests; data analysis</td>
<td></td>
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<tr>
<td>Report writing</td>
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<td></td>
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<tr>
<td>Dissemination of findings</td>
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</table>
Appendix G: Budget

First Year of Study (September 2019-June 2020)

Costs

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sara Bartlett: DSW student researcher</td>
<td>No cost</td>
</tr>
<tr>
<td>Justification: DSW student researcher is also the instructor of both courses being studied each quarter. Delivery of the intervention/comparison projects is considered part of her normal job function.</td>
<td></td>
</tr>
<tr>
<td>• Sky Bergman: <em>Lives Well Lived</em> film creator</td>
<td>No cost</td>
</tr>
<tr>
<td>Justification: Sky is a professor at the university. She has agreed to offer her services in assisting with delivery of the intervention (being present for film screening and conducting a photo shoot of the resident/student pairs) at no cost, as for her, she considers it part of the educational purpose of the film and part of her job duties.</td>
<td></td>
</tr>
<tr>
<td>• Student aides for photo shoot</td>
<td>$600</td>
</tr>
<tr>
<td>Justification: Sky employs two student aides from her department (Art and Design) to assist her with the photoshoot and subsequent film development. This costs $200/quarter ($100/student x two participants/quarter x three quarters). Sara has received a “Learn by Doing” grant through the university for $1,000. This money will be used to pay the student assistants.</td>
<td></td>
</tr>
</tbody>
</table>

Materials and Supplies

<table>
<thead>
<tr>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>• Printing/Photocopying</td>
</tr>
</tbody>
</table>
Justification: Printing/photocopying copies of the Letter of Intent, explaining the project to the residents of the retirement communities, printing copies of time sheets for participants to keep track of their service-learning hours, and printing copies of project evaluation forms for residents are all part of the normal costs associated with doing service-learning projects at the university and the university will incur these costs.

- Refreshments for Lives Well Lived “Wrap Party” $300

Justification: $100 will be spent each quarter to provide refreshments for residents and participants during the Lives Well Lived “Wrap Party,” which is part of the intervention. The psychology department at the university has agreed to pay this and this is specified in their Letter of Commitment with the researcher. The retirement communities will match these costs, also contributing $100 for refreshments for the “Wrap Party” and have agreed to pay this as specified in their Letter of Commitment with the researcher.

- Refreshments at Lives Well Lived screening No cost

Justification: Refreshments will be provided to residents of the retirement facility when they come to the screening of Lives Well Lived to meet the participants and learn more about the project. The facilities have agreed to provide this food to their residents as specified in the Letter of Commitment with the researcher.

- SPSS software Licensing provided by Penn

- Qualtrics software Licensing provided by Penn

**Transportation** Cost
• Transportation of researcher to field sites  No cost

Justification: Researcher must pay for transportation from college to the retirement communities. These costs are absorbed by the researcher as part of the normal costs of conducting service-learning projects and are minimal, as the retirement communities are all within five miles of the university.

• Transportation of residents to campus  No cost

Justification: For the intervention, if the retirement community chooses to conduct the “Wrap Party” on Cal Poly’s campus, they will incur a cost in transporting the residents to campus via their community van. They have agreed to incur this cost, and this is specified in their Letter of Commitment with the researcher.

Funding

This study is partially funded by the “Learn by Doing Scholar Award” grant provided by the Library Dean’s Advisory Council at Cal Poly, San Luis Obispo. The grant will provide $1,000 to be utilized for the study and will be formally awarded in September, 2019.

Second Year of Study (July 2020-May 2021)

Costs

<table>
<thead>
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<th>Personnel</th>
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<tbody>
<tr>
<td>• Sara Bartlett: DSW student researcher</td>
<td>No cost</td>
</tr>
</tbody>
</table>

Justification: DSW student researcher is also the instructor of both courses being studied each quarter. Delivery of the intervention/comparison projects is considered part of her normal job function.
• Sky Bergman: *Lives Well Lived* film creator  
  No cost

Justification: Sky is a professor at the university. She has agreed to offer her services in assisting with delivery of the intervention (being present for film screening and conducting a photo shoot of the resident/student pairs) at no cost, as for her, she considers it part of the educational purpose of the film and part of her job duties.

• Student aides for photo shoot  
  $200

Justification: Sky employs two student aides from her department (Art and Design) to assist her with the photoshoot and subsequent film development. This costs $200/quarter ($100/student x two participants/quarter x three quarters). Sara has received a “Learn by Doing” grant through the university for $1,000. This money will be used to pay the student assistants.

### Materials and Supplies  

<table>
<thead>
<tr>
<th>Cost</th>
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</table>
| Printing/Photocopying  
  No cost |

Justification: Printing/photocopying copies of the Letter of Intent, explaining the project to the residents of the retirement communities, printing copies of time sheets for participants to keep track of their service-learning hours, and printing copies of project evaluation forms for residents are all part of the normal costs associated with doing service-learning projects at the university and the university will incur these costs.

• Refreshments for *Lives Well Lived* “Wrap Party”  
  $100

Justification: $100 will be spent each quarter to provide refreshments for residents and participants during the *Lives Well Lived* “Wrap Party,” which is part of the intervention.

The psychology department at the university has agreed to pay this and this is specified in
their Letter of Commitment with the researcher. The retirement communities will match these costs, also contributing $100 for refreshments for the “Wrap Party” and have agreed to pay this as specified in their Letter of Commitment with the researcher.

- **Refreshments at Lives Well Lived screening**  
  No cost  
  Justification: Refreshments will be provided to residents of the retirement facility when they come to the screening of Lives Well Lived to meet the participants and learn more about the project. The facilities have agreed to provide this food to their residents as specified in the Letter of Commitment with the researcher.

- **SPSS**  
  Licensing provided by Penn

- **Qualtrics software**  
  Licensing provided by Penn

### Transportation  

<table>
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<tr>
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<tbody>
<tr>
<td><strong>Transportation of researcher to field sites</strong></td>
<td>No cost</td>
</tr>
<tr>
<td><strong>Transportation of residents to campus</strong></td>
<td>No cost</td>
</tr>
</tbody>
</table>

Justification: Researcher must pay for transportation from college to the retirement communities. These costs are absorbed by the researcher as part of the normal costs of conducting service-learning projects and are minimal, as the retirement communities are all within five miles of the university.

- **Transportation of residents to campus**  
  No cost  
  Justification: For the intervention, if the retirement community chooses to conduct the “Wrap Party” on Cal Poly’s campus, they will incur a cost in transporting the residents to
campus via their community van. They have agreed to incur this cost, and this is specified in their Letter of Commitment with the researcher.
Appendix H: Pre-test

Q1 What is your age in years? ______

Q2 What is your current gender identity? Mark one.
   1. Male
   2. Female
   3. Trans male/trans man
   4. Trans female/trans woman
   5. Genderqueer/gender non-conforming
   6. Different identity (please state)

Q3 What is your racial identity? Mark one.
   1. African American
   2. American Indian
   3. Asian only
   4. Filipino
   5. Mexican American
   6. Other Latino
   7. Pacific Islander
   8. White
   9. Two or more races
   10. Unknown

Q4 Have you taken Developmental Psychology? Mark one.
   1. Yes
   2. No
   3. I don’t remember/I don’t know

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally, selecting one of the answers (Crowne & Marlowe, 1960).

Q5 Before voting, I thoroughly investigate the qualifications of all the candidates.
1) True
2) False

Q6 I never hesitate to go out of my way to help someone in trouble.
   1) True
   2) False

Q7 It is sometimes hard for me to go on with my work if I am not encouraged.
   1) True
   2) False

Q8 I have never intensely disliked anyone.
   1) True
   2) False

Q9 On occasion, I have had doubts about my ability to succeed in life.
   1) True
   2) False

Q10 I sometimes feel resentful when I don't get my way.
   1) True
   2) False

Q11 I am always careful about my manner of dress.
   1) True
   2) False

Q12 My table manners at home are as good as when I eat out in a restaurant.
   1) True
   2) False

Q13 If I could get into a movie without paying and could be sure I was not seen I would probably do it.
   1) True

204
2) False
Q14 On a few occasions, I have given up doing something because I felt too little of my ability.
   1) True
   2) False
Q15 I like to gossip at times.
   1) True
   2) False
Q16 There have been times when I felt like rebelling against people in authority even though I knew they were right.
   1) True
   b. False
Q17 No matter who I'm talking to, I'm always a good listener.
   1) True
   2) False
Q18 I can remember "playing sick" to get out of something.
   1) True
   1) False
Q19 There have been occasions where I have taken advantage of someone.
   1) True
   2) False
Q20 I'm always willing to admit it when I make a mistake.
   1) True
   2) False
Q21 I'm always willing to practice what I preach.
   1) True
   2) False
Q22 I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
   1) True
   2) False

Q23 I sometimes try to get even rather than to forgive and forget.
   1) True
   2) False

Q24 When I don't know something I don't at all mind admitting it.
   1) True
   2) False

Q25 I am always courteous, even to people who are disagreeable.
   1) True
   2) False

Q26 At times I have really insisted on having things my own way.
   1) True
   2) False

Q27 There have been occasions where I have felt like smashing things.
   1) True
   2) False

Q28 I would never think of letting someone else be punished for my wrongdoings.
   1) True
   2) False

Q29 I never resent being asked to return a favor.
   1) True
   2) False

Q30 I have never been irked when people expressed ideas very different from my own.
Q31 I never make a long trip without checking the safety of my car.
   1) True
   2) False

Q32 There have been times when I have been quite jealous of the good fortune of others.
   1) True
   2) False

Q33 I have almost never felt the urge to tell someone off.
   1) True
   2) False

Q34 I am sometimes irritated by people who ask favors of me.
   1) True
   2) False

Q35 I have never felt that I was punished without cause.
   1) True
   2) False

Q36 I sometimes think when people have a misfortune they only got what they deserved.
   1) True
   2) False

Q37 I have never deliberately said something that has hurt someone’s feelings.
   1) True
   2) False
Please answer the following questions about your relationship with any living grandparents (adapted from Dunifon & Bajracharya, 2012).

Q38 How close do you feel with each living grandparent? Place a check mark under the number that corresponds to your answer for each grandparent. If you do not have a grandparent that corresponds with the grandparent type listed, leave it blank. 0=not at all close and 10=extremely close

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<tr>
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<th>9</th>
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<td>Maternal Grandmother</td>
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<tr>
<td>Paternal Grandfather</td>
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<tr>
<td>Paternal Grandmother</td>
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</tbody>
</table>
Q39 How frequently in contact are you with your grandparents through activities like talking on the phone, e-mail, visiting, etc.? If you do not have a grandparent that corresponds with the grandparent type listed, leave it blank.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Once a year</th>
<th>A few times a year</th>
<th>1-3 times a month</th>
<th>More than once a week</th>
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<td>Maternal Grandmother</td>
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</table>

Q40 How likely are you to confide in any grandparent if you had a major decision to make? Place a check mark under the answer that corresponds to your answer for each grandparent. If you do not have a grandparent that corresponds with the grandparent type listed, leave it blank.

<table>
<thead>
<tr>
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<th>Definitely wouldn't</th>
<th>Fairly unlikely</th>
<th>Unsure</th>
<th>Fairly likely</th>
<th>Definitely would</th>
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</thead>
<tbody>
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<td>2</td>
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</table>

209
<table>
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<th>Paternal Grandfather</th>
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<tbody>
<tr>
<td>Paternal Grandmother</td>
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<tr>
<td>Maternal Grandfather</td>
</tr>
<tr>
<td>Maternal Grandmother</td>
</tr>
</tbody>
</table>
Please answer the following questions based on what you already know about aging and older adults (Palmore, 1998).

Q41 The proportion of people over 65 who are senile (have impaired memory, disorientation, or dementia) is

   1) About 1 in 100
   2) About 1 in 10
   3) About 1 in 2
   4) The majority

Q42 The senses that tend to weaken in old age are

   1) Sight and hearing
   2) Taste and smell
   3) Sight, hearing, and touch
   4) All five senses

Q43 The majority of older couples

   1) Have little or no interest in sex
   2) Are not able to have sexual relations
   3) Continue to enjoy sexual relations
   4) Think sex is only for the young

Q44 Lung vital capacity in old age

   1) Tends to decline
   2) Stays the same among nonsmokers
   3) Tends to increase among healthy old people
   4) Is unrelated to age
Q45 Happiness among older people is
   1) Rare
   2) Less common than among younger people
   3) About as common as among younger people
   4) More common than among younger people

Q46 Physical strength
   1) Tends to decline with age
   2) Tends to remain the same among healthy old people
   3) Tends to increase among healthy old people
   4) Is unrelated to age

Q47 The percentage of people over 65 in long-stay institutions (such as nursing homes, mental hospitals, and homes for the aged) is about
   1) 5%
   2) 10%
   3) 25%
   4) 50%

Q48 The accident rate per driver over age 65 is
   1) Higher than for those under 65
   2) About the same as for those under 65
   3) Lower than for those under 65
   4) Unknown

Q49 Most workers over 65
   1) Work less effectively than younger workers
   2) Work as effectively as younger workers
   3) Work more effectively than younger workers
   4) Are preferred by most employers
Q50 The proportion of people over 65 who are able to do their normal activities is
   1) One tenth
   2) One quarter
   3) One half
   4) More than three fourths

Q51 Adaptability to change among people over 65 is
   1) Rare
   2) Present among about half
   3) Present among most
   4) More common than among younger people

Q52 As for older people learning new things
   1) Most are unable to learn at any speed
   2) Most are able to learn, but at a slower speed
   3) Most are able to learn as fast as younger people
   4) Learning speed is unrelated to age

Q53 Depression is more frequent among
   1) People over 65
   2) Adults under 65
   3) Young people
   4) Children

Q54 Older people tend to react
   1) Slower than younger people
   2) At about the same speed as younger people
   3) Faster than younger people
   4) Slower or faster than others, depending on the type of test
Q55 Older people tend to be
   1) More alike than younger people
   2) As alike as younger people
   3) Less alike than younger people
   4) More alike in some respects and less alike in others

Q56 Most older people say
   1) They are seldom bored
   2) They are usually bored
   3) They are often bored
   4) Life is monotonous

Q57 The proportion of older people who are socially isolated is
   1) Almost all
   2) About half
   3) Less than a fourth
   4) Almost none

Q58 The accident rate among workers over 65 tends to be
   1) Higher than among younger workers
   2) About the same as among younger workers
   3) Lower than among younger workers
   4) Unknown because there are so few workers over 65

Q59 The proportion of the U.S. population now age 65 or over is
   1) 3%
   2) 15%
   3) 23%
   4) 33%
Q60 Medical practitioners tend to give older patients:

1) Lower priority than younger patients
2) The same priority as younger patients
3) Higher priority than younger patients
4) Higher priority if they have Medicaid

Q61 The poverty rate (as defined by the federal government) among older people is

1) Higher than among children under age 18
2) Higher than among all persons under 65
3) About the same as among persons under 65
4) Lower than among persons under 65

Q62 Most older people are

1) Still employed
2) Employed or would like to be employed
3) Employed, do housework or volunteer work, or would like to do some kind of work
4) Not interested in any work

Q63 Religiosity tends to

1) Increase in old age
2) Decrease in old age
3) Be greater in the older generation than in the younger
4) Be unrelated to age

Q64 Most older people say they

1) Are seldom angry
2) Are often angry
3) Are often grouchy
4) Often lose their tempers
Q65 The health and economic status of older people (compared with younger people) in the year 2030 will

1) Be higher than now

2) Be about the same as now

3) Be lower than now

4) Show no consistent trend

When answering the following questions, think of a man between the ages of 70-85. 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 judgement about the person being rated. Make each item a separate and independent judgement. 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 (Polizzi, 2003).

Q66 For the adjectives below, think of a man between the ages of 70-85. This is a 7-point scale, 1-7 (left to right) with the middle circle (4) representing Neutral.
<table>
<thead>
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<td>Cheerful</td>
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Q67 For the adjectives below, think of a woman between the ages of 70-85. This is a 7-point scale, 1-7 (left to right) with the middle circle (4) representing Neutral.
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Q68 In the questions below, please mark which choice you agree with for each question using the Likert scale (Fabroni, Saltstone, & Hughes, 1990).
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<td>Teenage suicide is more tragic than suicide among the old.</td>
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<td>Many older people are stingy and hoard their money and possessions.</td>
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<td>Many older people are not interested in making new friends, preferring instead the circle of friends they have had for years.</td>
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<td>Many older people just live in the past.</td>
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<td>Complex and interesting conversation cannot be expected from most older people.</td>
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<td>Most older people should not be allowed to renew their driver’s licenses.</td>
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Most older people would be considered to have poor personal hygiene.

Most older people can be irritating because they tell the same stories over and over again.

Older people complain more than other people do.

Older people do not need much money to meet their needs.

There should be special clubs set aside within sports facilities so that older people can compete at their own level.

Older people deserve the same rights and freedoms as do other members of our society.

Older people don't really need to use our community sports facilities.
Most older people should not be trusted to take care of infants.

It is best that older people live where they won't bother anyone.

The company of most older people is quite enjoyable.

It is sad to hear about the plight of the old in our society these days.

Older people should be required to speak out politically.

Most older people are interesting, individualistic people.

I sometimes avoid eye contact with older people when I see them.

I don't like it when older people try to make conversation with me.
Feeling depressed when around older people is probably a common feeling.

Older people should find friends their own age.

Older people should feel welcome at the social gatherings of young people.

I would prefer not to go to an open house at a seniors' club if invited.

Older people can be very creative.

I personally would not want to spend much time with an older person.

Older people are happiest when they are with people their own age.

I would prefer not to live with an older person.
Appendix I: *Lives Well Lived* (Intervention) Post-test

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is *true* or *false* as it pertains to you personally, selecting one of the answers (Crowne & Marlowe, 1960).

Q1 Before voting, I thoroughly investigate the qualifications of all the candidates.
   1) True
   2) False

Q2 I never hesitate to go out of my way to help someone in trouble.
   1) True
   2) False

Q3 It is sometimes hard for me to go on with my work if I am not encouraged.
   1) True
   2) False

Q4 I have never intensely disliked anyone.
   1) True
   2) False

Q5 On occasion, I have had doubts about my ability to succeed in life.
   1) True
   2) False

Q6 I sometimes feel resentful when I don't get my way.
   1) True
   2) False

Q7 I am always careful about my manner of dress.
   1) True
   2) False

Q8 My table manners at home are as good as when I eat out in a restaurant.
Q9 If I could get into a movie without paying and could be sure I was not seen I would probably do it.
1) True
2) False

Q10 On a few occasions, I have given up doing something because I felt too little of my ability.
1) True
2) False

Q11 I like to gossip at times.
1) True
2) False

Q12 There have been times when I felt like rebelling against people in authority even though I knew they were right.
1) True
2) False

Q13 No matter who I'm talking to, I'm always a good listener.
1) True
2) False

Q14 I can remember "playing sick" to get out of something.
1) True
2) False

Q15 There have been occasions where I have taken advantage of someone.
1) True
2) False

Q16 I'm always willing to admit it when I make a mistake.
1) True
2) False
Q17 I'm always willing to practice what I preach.
   1) True
   2) False
Q18 I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
   1) True
   2) False
Q19 I sometimes try to get even rather than to forgive and forget.
   1) True
   2) False
Q20 When I don't know something I don't at all mind admitting it.
   1) True
   2) False
Q21 I am always courteous, even to people who are disagreeable.
   1) True
   2) False
Q22 At times I have really insisted on having things my own way.
   1) True
   2) False
Q23 There have been occasions where I have felt like smashing things.
   1) True
   2) False
Q24 I would never think of letting someone else be punished for my wrongdoings.
   1) True
2) False
Q25 I never resent being asked to return a favor.
1) True
2) False

Q26 I have never been irked when people expressed ideas very different from my own.
1) True
2) False

Q27 I never make a long trip without checking the safety of my car.
1) True
2) False

Q28 There have been times when I have been quite jealous of the good fortune of others.
1) True
2) False

Q29 I have almost never felt the urge to tell someone off.
1) True
2) False

Q30 I am sometimes irritated by people who ask favors of me.
1) True
2) False

Q31 I have never felt that I was punished without cause.
1) True
2) False

Q32 I sometimes think when people have a misfortune they only got what they deserved.
1) True
2) False

Q33 I have never deliberately said something that has hurt someone's feelings.

1) True
2) False

Please answer the following questions based on what you already know about aging and older adults (Palmore, 1998).

Q34 The proportion of people over 65 who are senile (have impaired memory, disorientation, or dementia) is

1) About 1 in 100
2) About 1 in 10
3) About 1 in 2
4) The majority

Q35 The senses that tend to weaken in old age are

1) Sight and hearing
2) Taste and smell
3) Sight, hearing, and touch
4) All five senses

Q36 The majority of older couples

1) Have little or no interest in sex
2) Are not able to have sexual relations
3) Continue to enjoy sexual relations
4) Think sex is only for the young

Q37 Lung vital capacity in old age

1) Tends to decline
2) Stays the same among nonsmokers
3) Tends to increase among healthy old people
4) Is unrelated to age

Q38 Happiness among older people is

1) Rare
2) Less common than among younger people
3) About as common as among younger people
4) More common than among younger people

Q39 Physical strength

1) Tends to decline with age
2) Tends to remain the same among healthy old people
3) Tends to increase among healthy old people
4) Is unrelated to age

Q40 The percentage of people over 65 in long-stay institutions (such as nursing homes, mental hospitals, and homes for the aged) is about

1) 5%
2) 10%
3) 25%
4) 50%

Q41 The accident rate per driver over age 65 is

1) Higher than for those under 65
2) About the same as for those under 65
3) Lower than for those under 65
4) Unknown

Q42 Most workers over 65

1) Work less effectively than younger workers
2) Work as effectively as younger workers
3) Work more effectively than younger workers
4) Are preferred by most employers

Q43 The proportion of people over 65 who are able to do their normal activities is

1) One tenth
2) One quarter
3) One half
4) More than three fourths

Q44 Adaptability to change among people over 65 is

1) Rare
2) Present among about half
3) Present among most
4) More common than among younger people

Q45 As for older people learning new things

1) Most are unable to learn at any speed
2) Most are able to learn, but at a slower speed
3) Most are able to learn as fast as younger people
4) Learning speed is unrelated to age

Q46 Depression is more frequent among

1) People over 65
2) Adults under 65
3) Young people
4) Children

Q47 Older people tend to react

1) Slower than younger people
2) At about the same speed as younger people
3) Faster than younger people
4) Slower or faster than others, depending on the type of test

Q48 Older people tend to be
   1) More alike than younger people
   2) As alike as younger people
   3) Less alike than younger people
   4) More alike in some respects and less alike in others

Q49 Most older people say
   1) They are seldom bored
   2) They are usually bored
   3) They are often bored
   4) Life is monotonous

Q50 The proportion of older people who are socially isolated is
   1) Almost all
   2) About half
   3) Less than a fourth
   4) Almost none

Q51 The accident rate among workers over 65 tends to be
   1) Higher than among younger workers
   2) About the same as among younger workers
   3) Lower than among younger workers
   4) Unknown because there are so few workers over 65

Q52 The proportion of the U.S. population now age 65 or over is
   1) 3%
   2) 15%
   3) 23%
4) 33%

Q53 Medical practitioners tend to give older patients:
   1) Lower priority than younger patients
   2) The same priority as younger patients
   3) Higher priority than younger patients
   4) Higher priority if they have Medicaid

Q54 The poverty rate (as defined by the federal government) among older people is
   1) Higher than among children under age 18
   2) Higher than among all persons under 65
   3) About the same as among persons under 65
   4) Lower than among persons under 65

Q55 Most older people are
   1) Still employed
   2) Employed or would like to be employed
   3) Employed, do housework or volunteer work, or would like to do some kind of work
   4) Not interested in any work

Q56 Religiosity tends to
   1) Increase in old age
   2) Decrease in old age
   3) Be greater in the older generation than in the younger
   4) Be unrelated to age

Q57 Most older people say they
   1) Are seldom angry
   2) Are often angry
   3) Are often grouchy
4) Often lose their tempers

Q58 The health and economic status of older people (compared with younger people) in the year 2030 will

1) Be higher than now

2) Be about the same as now

3) Be lower than now

4) Show no consistent trend

When answering the following questions, think of a man between the ages of 70-85. 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 judgement about the person being rated. Make each item a separate and independent judgement. 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 (Polizzi, 2003).

Q59 For the adjectives below, think of a man between the ages of 70-85. This is a 7-point scale, 1-7 (left to right) with the middle circle (4) representing Neutral.
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Q60 For the adjectives below, think of a **woman** between the ages of 70-85. This is a 7-point scale, 1-7 (left to right) with the middle circle (4) representing Neutral.
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Q61 In the questions below, please mark which choice you agree with for each question using the Likert scale (Fabroni, Saltstone, & Hughes, 1990).
<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<tr>
<td>Teenage suicide is more tragic than suicide among the old.</td>
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<tr>
<td>Many older people are stingy and hoard their money and possessions.</td>
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<td>Many older people are not interested in making new friends, preferring instead the circle of friends they have had for years.</td>
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<td>Many older people just live in the past.</td>
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<tr>
<td>Complex and interesting conversation cannot be expected from most older people.</td>
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<tr>
<td>Most older people should not be allowed to renew their driver’s licenses.</td>
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</table>
Most older people would be considered to have poor personal hygiene.

Most older people can be irritating because they tell the same stories over and over again.

Older people complain more than other people do.

Older people do not need much money to meet their needs.

There should be special clubs set aside within sports facilities so that older people can compete at their own level.

Older people deserve the same rights and freedoms as do other members of our society.

Older people don't really need to use our community sports facilities.
Most older people should not be trusted to take care of infants.

It is best that older people live where they won't bother anyone.

The company of most older people is quite enjoyable.

It is sad to hear about the plight of the old in our society these days.

Older people should be required to speak out politically.

Most older people are interesting, individualistic people.

I sometimes avoid eye contact with older people when I see them.

I don't like it when older people try to make conversation with me.
Feeling depressed when around older people is probably a common feeling.

Older people should find friends their own age.

Older people should feel welcome at the social gatherings of young people.

I would prefer not to go to an open house at a seniors' club if invited.

Older people can be very creative.

I personally would not want to spend much time with an older person.

Older people are happiest when they are with people their own age.

I would prefer not to live with an older person.
Q62 Please describe your experience doing the *Lives Well Lived* project. Indicate what you liked best about doing this project and what you liked least about doing this project.

Q63 Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.

Q64 Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Lives Well Lived project, has your interest in a career in aging increased, decreased, or stayed the same and why?

Q65 Since doing this project, what would you say is your definition of a life well lived?
Q66 How many participants were matched with the older adult, including you? ______

Q67 Of the five out-of-class sessions, how many did you attend (1-5)? ______

Q68 **Consent to recontact:** The researcher is interested in contacting you in the future for follow up. If you consent to this, click “I consent to future follow up” at the end of this survey. If you click this option, you will be rerouted to a new survey where you have the option to enter your contact information. Your contact information will not be linked in any way with your pre-test or post-test. The researcher will not view this information until after conclusion of this study. Re-contact will not occur until after the conclusion of the study, most likely after you have graduated from Cal Poly. If you do not wish to consent to re-contact, click “I do not consent to future follow up” and the survey will end.
Appendix J: Meals That Connect/Lunch Bunch (Comparison Group) Post-test

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally, selecting one of the answers (Crowne & Marlowe, 1960).

Q1 Before voting, I thoroughly investigate the qualifications of all the candidates.
   1) True
   2) False

Q2 I never hesitate to go out of my way to help someone in trouble.
   1) True
   2) False

Q3 It is sometimes hard for me to go on with my work if I am not encouraged.
   1) True
   2) False

Q4 I have never intensely disliked anyone.
   1) True
   2) False

Q5 On occasion, I have had doubts about my ability to succeed in life.
   1) True
   2) False

Q6 I sometimes feel resentful when I don't get my way.
   1) True
   2) False

Q7 I am always careful about my manner of dress.
   1) True
   2) False

Q8 My table manners at home are as good as when I eat out in a restaurant.
   1) True
   2) False
Q9 If I could get into a movie without paying and could be sure I was not seen I would probably do it.
   1) True
   2) False

Q10 On a few occasions, I have given up doing something because I felt too little of my ability.
   1) True
   2) False

Q11 I like to gossip at times.
   1) True
   2) False

Q12 There have been times when I felt like rebelling against people in authority even though I knew they were right.
   1) True
   2) False

Q13 No matter who I'm talking to, I'm always a good listener.
   1) True
   2) False

Q14 I can remember "playing sick" to get out of something.
   1) True
   2) False

Q15 There have been occasions where I have taken advantage of someone.
   1) True
   2) False

Q16 I'm always willing to admit it when I make a mistake.
Q17 I'm always willing to practice what I preach.
   1) True
   2) False

Q18 I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
   1) True
   2) False

Q19 I sometimes try to get even rather than to forgive and forget.
   1) True
   2) False

Q20 When I don't know something I don't at all mind admitting it.
   1) True
   2) False

Q21 I am always courteous, even to people who are disagreeable.
   1) True
   2) False

Q22 At times I have really insisted on having things my own way.
   1) True
   2) False

Q23 There have been occasions where I have felt like smashing things.
   1) True
   2) False

Q24 I would never think of letting someone else be punished for my wrongdoings.
   1) True
2) False
Q25 I never resent being asked to return a favor.
1) True
2) False
Q26 I have never been irked when people expressed ideas very different from my own.
1) True
2) False
Q27 I never make a long trip without checking the safety of my car.
1) True
2) False
Q28 There have been times when I have been quite jealous of the good fortune of others.
1) True
2) False
Q29 I have almost never felt the urge to tell someone off.
1) True
2) False
Q30 I am sometimes irritated by people who ask favors of me.
1) True
2) False
Q31 I have never felt that I was punished without cause.
1) True
2) False
Q32 I sometimes think when people have a misfortune they only got what they deserved.
1) True
2) False

Q33 I have never deliberately said something that has hurt someone's feelings.
   1) True
   2) False

Please answer the following questions based on what you already know about aging and older adults (Palmore, 1998).

Q34 The proportion of people over 65 who are senile (have impaired memory, disorientation, or dementia) is
   1) About 1 in 100
   2) About 1 in 10
   3) About 1 in 2
   4) The majority

Q35 The senses that tend to weaken in old age are
   1) Sight and hearing
   2) Taste and smell
   3) Sight, hearing, and touch
   4) All five senses

Q36 The majority of older couples
   1) Have little or no interest in sex
   2) Are not able to have sexual relations
   3) Continue to enjoy sexual relations
   4) Think sex is only for the young

Q37 Lung vital capacity in old age
   1) Tends to decline
   2) Stays the same among nonsmokers
   3) Tends to increase among healthy old people
4) Is unrelated to age

Q38 Happiness among older people is

1) Rare
2) Less common than among younger people
3) About as common as among younger people
4) More common than among younger people

Q39 Physical strength

1) Tends to decline with age
2) Tends to remain the same among healthy old people
3) Tends to increase among healthy old people
4) Is unrelated to age

Q40 The percentage of people over 65 in long-stay institutions (such as nursing homes, mental hospitals, and homes for the aged) is about

1) 5%
2) 10%
3) 25%
4) 50%

Q41 The accident rate per driver over age 65 is

1) Higher than for those under 65
2) About the same as for those under 65
3) Lower than for those under 65
4) Unknown

Q42 Most workers over 65

1) Work less effectively than younger workers
2) Work as effectively as younger workers
3) Work more effectively than younger workers
4) Are preferred by most employers

Q43 The proportion of people over 65 who are able to do their normal activities is

1) One tenth
2) One quarter
3) One half
4) More than three fourths

Q44 Adaptability to change among people over 65 is

1) Rare
2) Present among about half
3) Present among most
4) More common than among younger people

Q45 As for older people learning new things

1) Most are unable to learn at any speed
2) Most are able to learn, but at a slower speed
3) Most are able to learn as fast as younger people
4) Learning speed is unrelated to age

Q46 Depression is more frequent among

1) People over 65
2) Adults under 65
3) Young people
4) Children

Q47 Older people tend to react

1) Slower than younger people
2) At about the same speed as younger people
3) Faster than younger people
4) Slower or faster than others, depending on the type of test

Q48 Older people tend to be

1) More alike than younger people
2) As alike as younger people
3) Less alike than younger people
4) More alike in some respects and less alike in others

Q49 Most older people say

1) They are seldom bored
2) They are usually bored
3) They are often bored
4) Life is monotonous

Q50 The proportion of older people who are socially isolated is

1) Almost all
2) About half
3) Less than a fourth
4) Almost none

Q51 The accident rate among workers over 65 tends to be

1) Higher than among younger workers
2) About the same as among younger workers
3) Lower than among younger workers
4) Unknown because there are so few workers over 65

Q52 The proportion of the U.S. population now age 65 or over is

1) 3%
2) 15%
3) 23%
4) 33%

Q53 Medical practitioners tend to give older patients:

1) Lower priority than younger patients
2) The same priority as younger patients
3) Higher priority than younger patients
4) Higher priority if they have Medicaid

Q54 The poverty rate (as defined by the federal government) among older people is

1) Higher than among children under age 18
2) Higher than among all persons under 65
3) About the same as among persons under 65
4) Lower than among persons under 65

Q55 Most older people are

1) Still employed
2) Employed or would like to be employed
3) Employed, do housework or volunteer work, or would like to do some kind of work
4) Not interested in any work

Q56 Religiosity tends to

1) Increase in old age
2) Decrease in old age
3) Be greater in the older generation than in the younger generation
4) Be unrelated to age

Q57 Most older people say they

1) Are seldom angry
2) Are often angry
3) Are often grouchy
4) Often lose their tempers

Q58 The health and economic status of older people (compared with younger people) in the year 2030 will

1) Be higher than now

2) Be about the same as now

3) Be lower than now

4) Show no consistent trend

When answering the following questions, think of a man between the ages of 70-85. 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 judgement about the person being rated. Make each item a separate and independent judgement. 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 (Polizzi, 2003).

Q59 For the adjectives below, think of a man between the ages of 70-85. This is a 7-point scale, 1-7 (left to right) with the middle circle (4) representing Neutral.
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Q60 For the adjectives below, think of a **woman** between the ages of 70-85. This is a 7-point scale, 1-7 (left to right) with the middle circle (4) representing Neutral.
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Q61 In the questions below, please mark which choice you agree with for each question using the Likert scale (Fabroni, Saltstone, & Hughes, 1990).
<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td><strong>Teenage suicide is more tragic than suicide among the old.</strong></td>
<td>☐️</td>
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</tr>
<tr>
<td><strong>Many older people are stingy and hoard their money and possessions.</strong></td>
<td>☐️</td>
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</tr>
<tr>
<td><strong>Many older people are not interested in making new friends, preferring instead the circle of friends they have had for years.</strong></td>
<td>☐️</td>
<td>☐️</td>
<td>☐️</td>
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<tr>
<td><strong>Many older people just live in the past.</strong></td>
<td>☐️</td>
<td>☐️</td>
<td>☐️</td>
</tr>
<tr>
<td><strong>Complex and interesting conversation cannot be expected from most older people.</strong></td>
<td>☐️</td>
<td>☐️</td>
<td>☐️</td>
</tr>
<tr>
<td><strong>Most older people should not be allowed to renew their driver’s licenses.</strong></td>
<td>☐️</td>
<td>☐️</td>
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</tbody>
</table>
Most older people would be considered to have poor personal hygiene.

Most older people can be irritating because they tell the same stories over and over again.

Older people complain more than other people do.

Older people do not need much money to meet their needs.

There should be special clubs set aside within sports facilities so that older people can compete at their own level.

Older people deserve the same rights and freedoms as do other members of our society.

Older people don't really need to use our community sports facilities.
Most older people should not be trusted to take care of infants.

It is best that older people live where they won't bother anyone.

The company of most older people is quite enjoyable.

It is sad to hear about the plight of the old in our society these days.

Older people should be required to speak out politically.

Most older people are interesting, individualistic people.

I sometimes avoid eye contact with older people when I see them.

I don't like it when older people try to make conversation with me.
Feeling depressed when around older people is probably a common feeling.

Older people should find friends their own age.

Older people should feel welcome at the social gatherings of young people.

I would prefer not to go to an open house at a seniors' club if invited.

Older people can be very creative.

I personally would not want to spend much time with an older person.

Older people are happiest when they are with people their own age.

I would prefer not to live with an older person.
Q62 Please describe your experience doing the Meals That Connect project. Indicate what you liked best about doing this project and what you liked least about doing this project.

Q63 Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.

Q64 Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Meals That Connect project, has your interest in a career in aging increased, decreased, or stayed the same and why?

Q65 How many Meals That Connect sessions did you attend?

   __ 0  __1  __2

Q66 Consent to recontact: The researcher is interested in contacting you in the future for follow up. If you consent to this, click “I consent to future follow up” at the end of this survey. If you click this option, you will be rerouted to a new survey where you have the option to enter your contact information. Your contact information will not be linked in any way with your pre-test or post-test. The researcher will not view this information until after conclusion of this study. Re-contact will not occur until after the conclusion of the study, most likely after you have graduated from Cal Poly. If you do not wish to consent to re-contact, click “I do not consent to future follow up” and the survey will end.
Appendix K: Recontact Survey

The researcher would like to recontact study participants in the future. The intent of this recontact is to see if the attitudes and knowledge you have gained from this intervention are still effective at this future time of contact. The researcher will also ask questions about what job you have at the time of contact. If you are willing to participate in this future project, please write your contact information below, including your full name, cell phone number with area code and your non-Cal Poly e-mail. Remember, this information is not tied in any way to your pre-test or post-test for the current study you participated in. The researcher will not look at your contact information until after the quarter is over. Thank you.

Name: ________________________________________________

Cell Phone Number with Area Code: ________________________________

Non-Cal Poly E-mail: ____________________________________________
Appendix L: Qualitative Analysis Codebook

Qualitative Analysis Codebook

Comparison Group

**Question 1:** Please describe your experience doing the Meals That Connect/Lunch Bunch project. Indicate what you liked best about doing this project and what you liked least about doing this project.

**Domain:** Learning outcomes of the service-learning project via experiences doing it

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBP</td>
<td>Project-based positive</td>
<td>Participant explained something related to the project format itself that they liked/liked best</td>
</tr>
<tr>
<td>EBP</td>
<td>Experience-based positive</td>
<td>Participant explained something related to their experience doing the project that they liked</td>
</tr>
<tr>
<td>PBN</td>
<td>Project-based negative</td>
<td>Participant explained something related to the project format itself that they disliked/liked least</td>
</tr>
<tr>
<td>EBN</td>
<td>Experience-based negative</td>
<td>Participant explained something related to their experience doing the project that they disliked/liked least</td>
</tr>
<tr>
<td>OA</td>
<td>Older Adult</td>
<td>The older adults at the service-learning sites the service-learning projects took place at; older adults in general</td>
</tr>
<tr>
<td>*</td>
<td>Former code</td>
<td>Indicates an original code that was merged into another code because they were too similar</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Definition</th>
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<tbody>
<tr>
<td>PBP-small group</td>
<td>Field site was an intimate setting, making it easier to get to know the OA there; intimate*</td>
</tr>
<tr>
<td>PBP-experiential learning</td>
<td>Connecting didactic class material with experiential material gained from the service-learning encounter; experiential learning about dementia*</td>
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<tr>
<td>PBP-OA appreciated</td>
<td>OA mentioned to the participant during the course of the project that they appreciated the project</td>
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<tr>
<td>PBP-welcoming</td>
<td>Well organized*, felt welcome at the service-learning site</td>
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<tr>
<td>EBP-low SES</td>
<td>Getting to interact with OA from a lower socio-economic status showed participant a different perspective on aging they wouldn’t have had otherwise</td>
</tr>
<tr>
<td>EBP-intergenerational experience</td>
<td>Connecting experiences between generations*, intergenerational perspectives*, connection with OA*, bidirectionality (OA interested in participant’s life too)*</td>
</tr>
<tr>
<td>EBP-enjoyed overall experience</td>
<td>General comment on enjoying the experience; enjoyed OA company*, OA were welcoming towards participants*</td>
</tr>
<tr>
<td>EBP-positive environment</td>
<td>Retirement community was a positive environment-physically pleasant to visit</td>
</tr>
<tr>
<td>EBP-wisdom</td>
<td>Participant thought they benefitted from OA wisdom while there; enlightening*, interesting*, learning from them*</td>
</tr>
<tr>
<td>EBP-helping OA</td>
<td>Felt like they helped the OA by being there in some way; noticed the OA felt happy and excited by them visiting*</td>
</tr>
<tr>
<td>EBP-social</td>
<td>OA was friendly, social; nice and talkative*</td>
</tr>
<tr>
<td>EBP-stories</td>
<td>Hearing stories the OA told, participant passively receiving this interaction by listening</td>
</tr>
<tr>
<td>EBP-conversation</td>
<td>Participating in conversation with OA, participant actively engaging in this interaction by contributing as well as listening</td>
</tr>
<tr>
<td>EBP-comfort zone</td>
<td>Stretching outside comfort zone by participating in this project was seen as positive, a growth experience</td>
</tr>
<tr>
<td>EBP-perspective shift</td>
<td>Participant experienced change in perspective on older adulthood in general</td>
</tr>
<tr>
<td>EBP-observing positive interactions</td>
<td>Observing mutual support among OA and witnessing their friendships; observing the perspectives of the OA on utilizing the service at the service-learning site*</td>
</tr>
<tr>
<td>PBN-too little time</td>
<td>Too short of time at the service-learning site; wanted more time to get to know OA</td>
</tr>
<tr>
<td>PBN-reflection paper</td>
<td>Participant didn’t like having to write a term paper about their experience doing the service-learning project</td>
</tr>
<tr>
<td>EBN-difficulty engaging in conversation</td>
<td>Participant felt OA didn’t want to talk*; conversations focused on difference vs. similarity due to the generational gap*, wanting to know more about OA but unsure whether to ask (boundaries)</td>
</tr>
<tr>
<td>EBN-feeling like a burden</td>
<td>Felt like a burden—wasn’t sure OA wanted them there; not knowing where to sit and corrected if sat in “someone’s spot”*</td>
</tr>
<tr>
<td>EBN-negative interactions</td>
<td>Offensive interaction—OA made participant feel uncomfortable via aggressive behavior/statements*; OA made racist comments*; OA corrected behavior of participant*</td>
</tr>
<tr>
<td>EBN-negative environment</td>
<td>Bad food and participant empathized with OA regarding this; smelled bad*; setting physically depressing</td>
</tr>
<tr>
<td>EBN-participant personal feelings</td>
<td>Participant’s own negative emotions about going, like anxiety, went beyond their “comfort zone” and were uncomfortable in a negative way; lack of diversity of OA in terms of race and SES made participant uncomfortable</td>
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</table>

**Question 2:** Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.

**Domain:** Changes in knowledge, attitude, and ageism resulting from engagement in the service-learning project

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
<th>Explanation</th>
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</thead>
<tbody>
<tr>
<td>CP</td>
<td>Changed positive</td>
<td>Participant noted a viewpoint about aging they felt changed by doing the project, showing more positivity towards aging in the realms of knowledge, attitude, or ageism</td>
</tr>
<tr>
<td>RP</td>
<td>Reinforced positive</td>
<td>Participant noted a positive viewpoint about aging in the realm of knowledge, attitude, or ageism that they already had prior to the project that they felt was reinforced by doing the project.</td>
</tr>
<tr>
<td>CN</td>
<td>Changed negative</td>
<td>Participant noted a viewpoint about aging they felt changed by doing the project, showing more negativity towards aging in the realms of knowledge, attitude, or ageism</td>
</tr>
<tr>
<td>RN</td>
<td>Reinforced negative</td>
<td>Participant noted a negative viewpoint about aging in the realm of knowledge, attitude, or ageism that they</td>
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</table>
already had prior to the project that they felt was reinforced by doing the project

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>OA</td>
<td>The older adults at the service-learning sites the service-learning projects took place at; older adults in general</td>
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<td>*</td>
<td>Indicates an original code that was merged into another code because they were too similar</td>
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<tbody>
<tr>
<td>CP-decreased fear of aging</td>
<td>Participant feared their own aging process less; aging isn’t bad*; negative view of retirement changed*</td>
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<tr>
<td>CP-successful aging</td>
<td>Became more cognizant of the concept of successful or optimal aging</td>
</tr>
<tr>
<td>CP-similarity of generations</td>
<td>There is more similarity between those of different generations than previously thought</td>
</tr>
<tr>
<td>CP-Inter-individual differences</td>
<td>Recognition that there is more individual differences among OA than previously thought, the uniqueness of individual OA</td>
</tr>
<tr>
<td>CP-less ageist</td>
<td>Less ageist belief system; less biased*; more aware of stigma of older adulthood*; OA are valuable because of their wisdom and shouldn’t be institutionalized*</td>
</tr>
<tr>
<td>CP-OA Happy</td>
<td>OA are more happy than thought; more fun*; “not all of them are grumps”<em>; more optimistic</em></td>
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<tr>
<td>CP-OA open to intergenerational relationships</td>
<td>OA want intergenerational relationships too, they want to mend the cultural disconnect between young adults and older adults</td>
</tr>
<tr>
<td>CP-Altruism &amp; Awareness</td>
<td>More awareness of what OA have to struggle with and expressed empathy for this; Participant felt they should interact with OA more to help them*; more awareness of services OA need*; OA can be neglected and this should be changed*</td>
</tr>
<tr>
<td>CP-general enjoyment of OA</td>
<td>A general sense of enjoyment of the company of OA; more comfort with intergenerational relationships*; realization that it’s possible to connect even if not a lot of similarities*; OA more interesting than they thought*</td>
</tr>
<tr>
<td>CP-OA open-minded</td>
<td>OA are more open to new experiences than previously thought; adventurousness is possible in older adulthood*</td>
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<tr>
<td>CP-functioning well</td>
<td>OA are functioning better than expected, both physically and mentally/cognitively</td>
</tr>
<tr>
<td>CP-social</td>
<td>OA enjoy socializing more than participants thought</td>
</tr>
<tr>
<td>CP-personality</td>
<td>Recognition that OA have consistency in personality over time</td>
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<tr>
<td>CP-Technology</td>
<td>OA also use technology-have smartphones, etc.</td>
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<tr>
<td>CP-family</td>
<td>Realized how important family is to OA</td>
</tr>
<tr>
<td>RP-gratitude</td>
<td>OA are grateful</td>
</tr>
<tr>
<td>RP-wisdom</td>
<td>OA give good advice</td>
</tr>
<tr>
<td>RP-social</td>
<td>OA are social; love meeting good people*; are talkative about their past*</td>
</tr>
<tr>
<td>RP-inter-individual differences</td>
<td>Reinforced that no two OA are alike</td>
</tr>
<tr>
<td>RP-intergenerational relationships</td>
<td>OA enjoy participating in intergenerational relationships</td>
</tr>
<tr>
<td>RP-nice</td>
<td>OA are nice and goodhearted</td>
</tr>
<tr>
<td>RP-functioning well</td>
<td>OA are capable and function well, including psychologically*</td>
</tr>
<tr>
<td>CN-struggles</td>
<td>Participant became aware of the struggles OA face; gained an awareness of poverty in older adulthood including food insecurity*</td>
</tr>
<tr>
<td>RN-ageism</td>
<td>Participant still feels they are a bit ageist</td>
</tr>
<tr>
<td>RN-grumpy</td>
<td>Participant found reinforcement that OA are unhappy; older men crankier than older women*; blunt*</td>
</tr>
<tr>
<td>RN-unhealthy habits</td>
<td>Participant thought OA were unhealthy eaters and felt this was reinforced through their observations</td>
</tr>
<tr>
<td>RN-tired</td>
<td>Felt OA are fatigued and often need naps</td>
</tr>
<tr>
<td>RN-low SES</td>
<td>OA experience food insecurity and are lower socio-economic status</td>
</tr>
</tbody>
</table>
**Question 3:** Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Meals That Connect/Lunch Bunch project, has your interest in a career increased, decreased, or stayed the same and why?

**Domain:** Influence on Future Career Choice

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIM</td>
<td>Had interest-more now</td>
<td>Had an interest in a career in aging prior to engaging in the service-learning project and now have an even greater level of interest</td>
</tr>
<tr>
<td>HIS</td>
<td>Had interest-same now</td>
<td>Had an interest in a career in aging prior to engaging in the service-learning project and still have the same level of interest</td>
</tr>
<tr>
<td>HIL</td>
<td>Had interest-less now</td>
<td>Had an interest in a career in aging prior to engaging in the service-learning project and now have less interest in a career in aging after having done the service-learning project</td>
</tr>
<tr>
<td>NIM</td>
<td>No interest-more now</td>
<td>Did not have an interest in a career in aging prior to engaging in the service-learning project but have more interest in such a career after having done the service-learning project</td>
</tr>
<tr>
<td>NIS</td>
<td>No interest-same now</td>
<td>Did not have an interest in a career in aging prior to engaging in the service-learning project and still don’t have an interest in it</td>
</tr>
<tr>
<td>NIL</td>
<td>No interest-less now</td>
<td>Did not have an interest in a career in aging prior to engaging in the service-learning project and have even less interest in such a career after having done the service-learning project</td>
</tr>
</tbody>
</table>

**Code | Definition**
--- | ---
HIM-general | Participant made a general comment that they had an interest in aging related career and had more now but did not give specifics
HIM-subpopulation | Participant had an interest in a health-related field already and were now considering specializing in older adults as a subpopulation
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Participant comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS-general</td>
<td></td>
<td>Participant made a general comment that they had an interest in aging related career and that was the same after the project but did not give specifics (no instances of this)</td>
</tr>
<tr>
<td>HIS-OA included</td>
<td></td>
<td>Participant was planning to enter a field that serves older adults, like medicine or physical therapy. They already knew they would interact with older adults in this career so it did not change after doing the project.</td>
</tr>
<tr>
<td>HIL-general</td>
<td></td>
<td>Had interest in this population but as a result of doing the project, no longer wanted to work with older adults (there were no instances of this)</td>
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<tr>
<td>NIM-general</td>
<td></td>
<td>Participant made a general comment that they had no interest in aging related career prior to the project but now did have an interest</td>
</tr>
<tr>
<td>NIM-altruism</td>
<td></td>
<td>Inspired to work with OA due to the needs of this population, the needs of the community</td>
</tr>
<tr>
<td>NIM-enjoyment</td>
<td></td>
<td>Inspired to work with OA because realized enjoyed the company of OA</td>
</tr>
<tr>
<td>NIS-general</td>
<td></td>
<td>Participant made a general comment that they had no interest in aging related career before doing the project and still had no interest but they now had more understanding and comfort interacting with OA</td>
</tr>
<tr>
<td>NIS-other interests</td>
<td></td>
<td>Participant stated their passion for a career was in a different area</td>
</tr>
<tr>
<td>NIS-personality</td>
<td></td>
<td>Participant stated they knew they couldn’t work with OA because they were not “the caregiver type”; were worried about the grief they would experience when OA clients/patients died</td>
</tr>
<tr>
<td>NIS-volunteer</td>
<td></td>
<td>Participants stated they still did not plan to pursue a career related to aging but they were inspired to volunteer with the OA population and felt more comfortable around them now</td>
</tr>
<tr>
<td>NIL-general</td>
<td></td>
<td>Participant made a general comment that they did not have an interest in aging related career and had less interest after doing the project (there were no instances of this)</td>
</tr>
</tbody>
</table>
**Intervention Group**

**Question 1:** Please describe your experience doing the Lives Well Lived project. Indicate what you liked best about doing this project and what you liked least about doing this project.

**Domain:** Learning outcomes of the service-learning project via experiences doing it

<table>
<thead>
<tr>
<th>Abbreviation</th>
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<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBP</td>
<td>Project-based positive</td>
<td>Participant explained something related to the project format itself that they liked/liked best</td>
</tr>
<tr>
<td>EBP</td>
<td>Experience-based positive</td>
<td>Participant explained something related to their experience doing the project that they liked</td>
</tr>
<tr>
<td>PBN</td>
<td>Project-based negative</td>
<td>Participant explained something related to the project format itself that they disliked/liked least</td>
</tr>
<tr>
<td>EBN</td>
<td>Experience-based negative</td>
<td>Participant explained something related to their experience doing the project that they disliked/liked least</td>
</tr>
<tr>
<td>OA</td>
<td>Older Adult</td>
<td>The older adults at the service-learning sites the service-learning projects took place at; older adults in general</td>
</tr>
<tr>
<td>*</td>
<td>Former code</td>
<td>Indicates an original code that was merged into another code because they were too similar</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBP-experiential learning</td>
<td>Connecting didactic class material with experiential material gained from the service-learning encounter</td>
</tr>
<tr>
<td>PBP-photo shoot</td>
<td>Enjoyed the photo shoot Sky Bergman did with the OA/participant pairs</td>
</tr>
<tr>
<td>PBP-participant partner</td>
<td>Being paired with another student participant when matched with the OA helped decrease participant’s anxiety so they were more in a comfort zone</td>
</tr>
<tr>
<td>PBP-documentary</td>
<td>Liked watching Lives Well Lived documentary</td>
</tr>
<tr>
<td>PBP-wrap party/presentations</td>
<td>Enjoyed attending the wrap party at the end of the project and listening to all of the presentations</td>
</tr>
<tr>
<td>EBP-Wisdom</td>
<td>Receiving wisdom, advice, learning lessons from the OA</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>EBP-Intergenerational relationship</td>
<td>Participant discussed relational gains and mentioned “resident”, “older person”, “generation”, or some other phrase that specified the relationship was with someone not of the same age; elders’ perspectives; interacting with older adults; getting to know an older person; meeting someone from a different age group; making an older friend; Connection*</td>
</tr>
<tr>
<td>EBP-relationship</td>
<td>Participant discussed relational gains but made no mention of difference in ages or generation</td>
</tr>
<tr>
<td>EBP-conversation</td>
<td>Participating in conversation with OA, participant actively engaging in this interaction by contributing as well as listening; liked the interview questions that guided the conversation*; liked “being heard”*</td>
</tr>
<tr>
<td>EBP-observing positivity</td>
<td>Observing OA happiness and enjoying that; observing that one can have fun at retirement communities*</td>
</tr>
<tr>
<td>EBP-comfort zone</td>
<td>Stretching outside comfort zone by participating in this project was seen as positive, a growth experience</td>
</tr>
<tr>
<td>EBP-psychosocial development</td>
<td>Having time to reflect on meaningful questions and thoughts about life</td>
</tr>
<tr>
<td>EBP-stories</td>
<td>Hearing stories the OA told, participant passively receiving this interaction by listening</td>
</tr>
<tr>
<td>EBP-friendship</td>
<td>Participant called OA their friend or made reference to development of a new friendship</td>
</tr>
<tr>
<td>EBP-helping OA</td>
<td>Felt like they helped the OA by being there in some way, like by giving them someone to talk to, making them the memoir, observing the OA enjoy the presentation done about them</td>
</tr>
<tr>
<td>PBN-wrap party</td>
<td>Wanted more time at the wrap party</td>
</tr>
<tr>
<td>PBN-scheduling</td>
<td>Difficulties with scheduling and getting to retirement community from campus when had other classes just before or after</td>
</tr>
<tr>
<td>PBN-presentations</td>
<td>Didn’t like giving the presentations because don’t like public speaking; felt the presentations were too short or too long; felt the presentations weren’t authentic</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PBN-setting</td>
<td>Having the field site off campus made it difficult to get to; walking there*; limitation of meeting places due to liability concerns*</td>
</tr>
<tr>
<td>PBN-interaction</td>
<td>Wanted more time to interact with resident; Wanted to interact with more than one resident*; wanted more intimacy with the OA*</td>
</tr>
<tr>
<td>PBN-reflection papers</td>
<td>Didn’t like having to write reflection papers and term paper about their experience</td>
</tr>
<tr>
<td>EBN-didn’t like OA</td>
<td>Didn’t get along with the resident the participant was matched with; OA had a negative outlook which participant didn’t like*; OA had a lack of wisdom and didn’t contribute much to conversation*; communication difficulties*; OA didn’t always answer the questions they were asked*; participant felt babied by the OA*; OA had dementia and it was hard to schedule with her*</td>
</tr>
<tr>
<td>EBN-uncomfortable</td>
<td>Participant felt uncomfortable asking difficult questions about mortality and aging and this was beyond their comfort zone</td>
</tr>
<tr>
<td>EBN-field site contact</td>
<td>One participant didn’t like the contact at the field site itself</td>
</tr>
</tbody>
</table>

**Question 2:** Please describe any viewpoints about aging that you think changed or were reinforced as a result of doing this project.

**Domain:** Changes in knowledge, attitude, and ageism resulting from engagement in the service-learning project

<table>
<thead>
<tr>
<th>Abbreviation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CP</td>
<td>Changed positive</td>
<td>Participant noted a viewpoint about aging they felt changed by doing the project, showing more positivity towards aging in the realms of knowledge, attitude, or ageism</td>
</tr>
<tr>
<td>RP</td>
<td>Reinforced positive</td>
<td>Participant noted a positive viewpoint about aging in the realm of knowledge, attitude, or ageism that they</td>
</tr>
</tbody>
</table>
already had prior to the project that they felt was reinforced by doing the project.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>CP-decreased fear of aging</td>
<td>Less fear of the aging process; more positive attitude about one’s own aging process</td>
</tr>
<tr>
<td>CP-functioning well</td>
<td>OA functions better than they thought they did; OA still have strength; can even have gains in certain areas; not frequently sick*</td>
</tr>
<tr>
<td>CP-optimistic</td>
<td>OA can be positive, optimistic, and hopeful even when experiencing declines</td>
</tr>
<tr>
<td>CP-OA happy</td>
<td>OA are not all grumpy or cranky; they are happy and content</td>
</tr>
<tr>
<td>CP-relatable</td>
<td>OA are relatable, not scary or intimidating; kind, patient and generous*</td>
</tr>
<tr>
<td>CP-intergenerational relationships</td>
<td>Participant realized the value of intergenerational relationships; realized how much OA value intergenerational relationships too*</td>
</tr>
<tr>
<td>CP-communication</td>
<td>Participant became better at communicating with OA</td>
</tr>
<tr>
<td>CP-social</td>
<td>OA are more social than previously thought they were</td>
</tr>
</tbody>
</table>

* Indicates an original code that was merged into another code because they were too similar.
<table>
<thead>
<tr>
<th>CP-retirement</th>
<th>Previously thought OA dreaded retirement but realized they can actually enjoy retirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP-inter-individual</td>
<td>Individuality of OA—not all the same</td>
</tr>
<tr>
<td>differences</td>
<td></td>
</tr>
<tr>
<td>CP-perspectives</td>
<td>Participant more open to OA perspectives on life</td>
</tr>
<tr>
<td>CP-open-minded</td>
<td>OA are more open to trying new things than thought; like to learn; are creative</td>
</tr>
<tr>
<td>CP-interesting</td>
<td>OA are more interesting than previously thought</td>
</tr>
<tr>
<td>CP-participant joy</td>
<td>Participant learned to enjoy the moment and to stress less</td>
</tr>
<tr>
<td>CP-participant</td>
<td>Participant learned to appreciate friendships more (their own friendships that they</td>
</tr>
<tr>
<td>friendships</td>
<td>already had)</td>
</tr>
<tr>
<td>CP-OA relatives</td>
<td>Participant learned importance of interacting with OA relatives more often</td>
</tr>
<tr>
<td>CP-decreased ageism</td>
<td>Decreased ageism—OA shouldn’t be ridiculed, should be respected</td>
</tr>
<tr>
<td>CP-similarities</td>
<td>OA are more similar to young adults than previously thought, especially as related to</td>
</tr>
<tr>
<td></td>
<td>being conservative and in political views</td>
</tr>
<tr>
<td>CP-empathy</td>
<td>Participant now has more empathy and understanding for what OA go through</td>
</tr>
<tr>
<td>CP-wisdom</td>
<td>The wisdom of OA is more positive and important than using Google</td>
</tr>
<tr>
<td>RP-functioning</td>
<td>Reinforced the idea of optimal aging and that OA are still intelligent*</td>
</tr>
<tr>
<td>RP-general appreciation</td>
<td>Already had a general appreciation for OA and this was reinforced</td>
</tr>
<tr>
<td>RP-family</td>
<td>Reinforced idea that socializing with one’s loved ones makes OA happy</td>
</tr>
<tr>
<td>RP inter-individual</td>
<td>Already recognized uniqueness of OAs and this was reinforced</td>
</tr>
<tr>
<td>differences</td>
<td></td>
</tr>
<tr>
<td>RP-wisdom</td>
<td>OA have wisdom and great insights was reinforced</td>
</tr>
</tbody>
</table>
RP-happiness
Reinforced idea that OA can maintain happiness despite declines in functioning; optimism makes aging a good experience*

RP-interesting
Reinforced idea that OA are just as interesting as young adults

RN-assistance
OA are in need of assistance with ADLs

*No cases of CN

**Question 3:** Prior to taking this class, did you have any interest in pursuing a career in aging? After doing the Lives Well Lived project, has your interest in a career increased, decreased, or stayed the same and why?

**Domain:** Influence on Future Career Choice

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<td>Code</td>
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<td></td>
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<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>HIM-general</td>
<td>Participant made a general comment that they had an interest in aging related career and had more now but did not give specifics (there were no instances of this)</td>
<td></td>
</tr>
<tr>
<td>HIM-subpopulation</td>
<td>Participant had an interest in a health-related field already and were now considering specializing in older adults as a subpopulation</td>
<td></td>
</tr>
<tr>
<td>HIS-general</td>
<td>Participant made a general comment that they had an interest in aging related career and that was the same after the project but did not give specifics</td>
<td></td>
</tr>
<tr>
<td>HIS-OA included</td>
<td>Participant was planning to enter a field that serves older adults, like medicine or physical therapy. They already knew they would interact with older adults in this career, so it did not change after doing the project.</td>
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<tr>
<td>HIL-general</td>
<td>Had interest in this population but as a result of doing the project, no longer wanted to work with older adults (there were no instances of this)</td>
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</tr>
<tr>
<td>NIM-general</td>
<td>Participant made a general comment that they had no interest in aging related career prior to the project but now did have an interest</td>
<td></td>
</tr>
<tr>
<td>NIM-altruism</td>
<td>Inspired to work with OA due to seeing the need for it now</td>
<td></td>
</tr>
<tr>
<td>NIM-enjoyment</td>
<td>Inspired to work with OA because realized enjoyed the company of OA; no longer fear OA now*; minoring in gerontology now*</td>
<td></td>
</tr>
<tr>
<td>NIM-opportunity</td>
<td>Realize now that careers with OA are a growing market</td>
<td></td>
</tr>
<tr>
<td>NIS-general</td>
<td>Participant made a general comment that they had no interest in aging related career before doing the project and still had no interest but want to interact more/feel more comfortable with OA in social settings</td>
<td></td>
</tr>
<tr>
<td>NIS-personality</td>
<td>Would be depressing due to the empathy they would have for OA struggles; don’t have the patience for it; not interested in the caretaking/medical fields</td>
<td></td>
</tr>
<tr>
<td>NIS-volunteer</td>
<td>Participants stated they still did not plan to pursue a career related to aging, but they were inspired to volunteer with the OA population and felt more comfortable around them now</td>
<td></td>
</tr>
</tbody>
</table>
Participant indicated they were pursuing a different career path and still plan to do so

Participant made a general comment that they did not have an interest in aging related career and had less interest after doing the project (there were no instances of this)

**Question 4:** Since doing this project, what would you say is your definition of a life well lived?

**Domain:** Psychosocial Development

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td>Happiness, joy; contentment*; feeling fulfilled</td>
</tr>
<tr>
<td>Positivity</td>
<td>Positivity and optimism in how one views life; “life is what you make of it”*</td>
</tr>
<tr>
<td>Success</td>
<td>Achieving success; accomplishing the goals one has in life</td>
</tr>
<tr>
<td>Love</td>
<td></td>
</tr>
<tr>
<td>Self-care</td>
<td>Self-love*</td>
</tr>
<tr>
<td>Altruism</td>
<td>Helping others; bringing joy to others</td>
</tr>
<tr>
<td>Taking risks</td>
<td></td>
</tr>
<tr>
<td>“It’s never too late”</td>
<td></td>
</tr>
<tr>
<td>Relationships</td>
<td>Being social; valuing family and friendships</td>
</tr>
<tr>
<td>Passions</td>
<td>Doing what you love</td>
</tr>
<tr>
<td>Being open-minded</td>
<td></td>
</tr>
<tr>
<td>Making an impact</td>
<td>Making an impact on others and on the world</td>
</tr>
<tr>
<td>Gratitude</td>
<td>Being grateful for what one has in life</td>
</tr>
<tr>
<td>No regrets</td>
<td>Acceptance; faith it will all work out*; don’t worry*</td>
</tr>
<tr>
<td>“live in the moment”</td>
<td>Enjoy every moment*; take advantage of experiences and opportunities*; having a wide variety of experiences*</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Doing your best</td>
<td></td>
</tr>
<tr>
<td>Authenticity</td>
<td>Being your authentic self; finding your place in the world</td>
</tr>
<tr>
<td>Connection to nature</td>
<td></td>
</tr>
<tr>
<td>Self-confidence</td>
<td>Don’t let others change the way you feel</td>
</tr>
<tr>
<td>Fun</td>
<td>Having fun; Humor*</td>
</tr>
<tr>
<td>Purpose</td>
<td>Having a sense of purpose in life</td>
</tr>
<tr>
<td>Growth</td>
<td>Growing as a person</td>
</tr>
<tr>
<td>Forgiveness</td>
<td>Don’t hold grudges</td>
</tr>
<tr>
<td>Faith</td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td>Being physically active</td>
</tr>
<tr>
<td>Trustworthiness</td>
<td>Knowing you are someone who is trustworthy</td>
</tr>
</tbody>
</table>
REFERENCES


California State University (CSU). *Table 3.0: CSU enrollment by ethnic group and student level, fall 2017.* http://www.calstate.edu/as/stat_reports/2017-2018/feth03.htm


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