

Effects of Aging and Adult Development Education and Service Learning on Attitude, Anxiety, and Occupational Interest

Stefanie S. Boswell¹

University of the Incarnate Word, San Antonio, TX, 78209

Abstract

This study investigated the effect of a semester-long aging and adult development course that included an intergenerational, service-learning component on attitudes toward older adult men and women, aging anxiety, and interest in occupations that serve older adults among individuals training for careers in healthcare and social services. It also investigated the relationship between quality of intergenerational contact and ageist attitudes as well as differences in attitudes toward older adult men and older adult women. Data collection occurred across two semesters. Participants were 70 undergraduates from healthcare and social service majors. Attitudes improved and aging anxiety declined over the semester; interest in occupations serving older adults did not change. Quality of intergenerational contact was related to attitudes and occupational interest at pre-test and post-test. Implications for teaching as well as service-learning are discussed.

Keywords: Intergenerational attitudes, undergraduates, education.

The proportion of older adults living active, independent, and productive lives has rapidly increased over the last century and continues to rise (Potkanowicz, Hartman-Stein, & Biermann, 2009). Despite the greater number of healthy and independent older adults, the aging of the Baby Boomer generation (individuals born between 1946 and 1964) is expected to increase demand upon the United States healthcare and social service systems (Anderson, Goodman, Holtzman, Posner, & Northridge, 2012; Kydd, Touhy, Newman, Fagerberg, & Engstrom, 2014; Tomko & Munley, 2013; Wang & Chonody, 2013). When older adults seek these services, they may encounter ageism that facilitates discriminatory behavior and effects the provision of quality care (Allan & Johnson, 2009; Austin, Qu, & Shewchuk, 2013; Ben Natan, Ataneli, Admenko, & Har Noy, 2013; Eshbaugh, Gross, & Satrom, 2010; Koh, 2012). Moreover, older adults may encounter a shortage of providers qualified to address their particular needs. Although demand for professionals with aging and adult development/gerontology expertise will continue to increase, trainees in healthcare and social services fields cite multiple barriers to working in careers that serve older adults (Henderson, Xiao, Siegloff, Kelton, & Paterson, 2008; Koh, 2012). This study examined if a semester-long aging and adult development course that included an intergenerational, service-learning activity could impact known barriers (e.g., ageism, aging anxiety) to working with older adults.

¹ Corresponding author's email: ssboswel@uiwtx.edu

Ageism, Aging Anxiety, and Other Barriers to Careers Serving Older Adults

Researchers have identified barriers to gerontology work among healthcare and social service trainees (Wang & Chonody, 2013). These barriers include anxiety about one's own aging (Boswell, 2012) and perceptions that jobs serving older adults are of lower status than other careers (Dahlke & Pinney, 2008; Kydd et al., 2014). However, ageist attitudes and pejorative stereotypes may be the most recalcitrant barriers to recruiting individuals to work in the jobs serving older adults (Scharlach, Damron-Rodriguez, & Robinson, 2000). Those in healthcare and social services can be particularly vulnerable to the development of ageist attitudes due to their high degree of contact with narrow subset of older adults – those with chronic health concerns (Yun-e, Norman, & While, 2013). Ageist beliefs among healthcare and social service providers may be related to poor quality contact with older adults (Scharlach et al., 2000; Stewart, Giles, Paterson, & Butler, 2005; Wang & Chonody, 2013), generalization of stereotypes of pathology to all older adults (Rosowsky, 2005), and a dearth of formal aging and adult development/gerontology education in training programs (Kane, 2007; Scharlach et al., 2000).

Ageism is a unique type of negative attitude because young adults who possess these attitudes will one day become old themselves (Packer & Chasteen, 2006; Nelson, 2011). Therefore, mitigating ageism's effects involves two tasks: altering attitudes toward older adults as a group as well as anxieties about individuals' own aging processes (Laditka, Fischer, Laditka, & Segal, 2004). Much research has addressed ageist attitudes of young adult healthcare and social service trainees toward older adults (Narayan, 2008) and several scholars consider education to be a critical influence on trainees' attitudes toward their own aging and in turn, toward older adults as a group (e.g., Ferrario, Freeman, Nелlett, & Scheel, 2008; Lynch, 2000; Weir, 2004).

Aging and Adult Development/Gerontology Education, Ageism, and Aging Anxiety

Several researchers have investigated the ability of aging and adult development/gerontology education to quell ageist attitudes and aging anxiety. Proponents of formal educational interventions avow that knowledge is a crucial influence upon healthcare and social service trainees' attitudes toward aging; accurate knowledge precipitates positive attitudes while inaccurate knowledge precipitates negative attitudes (e.g., Stewart et al., 2005). Prior research supports causal relationships between aging and adult development/gerontology education and ageist attitudes. For example, Cottle and Glover, (2007), Ferrario et al. (2008), and O'Hanlon and Brookover (2002) found that aging and adult development/gerontology education training significantly improved attitudes toward older adults. Additionally, previous research has yielded a positive correlation between knowledge of gerontology and attitudes toward older adults (e.g., Kane, 2007).

Research, however, has yielded inconsistencies in the studies of attitudes toward older adults; for example, Knapp and Stubblefield (2000) and Williams, Anderson, and Day (2007) found no attitude change following participation in an aging and adult development/gerontology education program. One possible reason for inconsistent findings could

be based in how attitudes toward older adults are assessed (Narayan, 2008; Kite, Stockdale, Whitley, & Johnson, 2005). Most studies direct participants to provide attitudinal information about a gender-neutral target; however, it is unlikely that participants are truly evaluating a gender-neutral older adult when completing attitudinal measures (Kite et al., 2005; Kite & Wagner, 2002). When the target older adult is gender-neutral, participants “tend to draw their own conclusion” and evaluate *either* an older adult man *or* an older adult woman (Narayan, 2008, p. 783). Rating of a nonspecific target may contribute to inconsistent study findings as some studies have found that older adult men are viewed more negatively than older adult women (see Laditka et al., 2004; Narayan, 2008). Therefore, it may be useful to specify the gender of the older adult target when researching the effects of education on attitudes.

Informational inaccuracies regarding age-related changes are believed to contribute to aging anxiety (Lynch, 2000). However, there is a dearth of research specifically focused on this relationship (Lynch, 2000). Moreover, the literature that exists has produced inconsistent results (Allan & Johnson, 2009; Harris & Clancy Dollinger, 2001).

Service-Learning, Ageism, and Aging Anxiety

Social psychology’s intergroup contact hypothesis suggests that increased contact between ingroup and outgroup members can improve attitudes toward the outgroup (e.g., Pettigrew, 1998). Caspi (1984) extended the intergroup contact hypothesis to intergenerational attitudes, contending that intergenerational contact would foster positive attitudes toward older adults. Subsequent findings have supported Caspi’s assertion; for example, undergraduates reporting greater intergenerational contact also reported more positive attitudes toward older adults compared to their peers reporting less contact (Van Dussen & Weaver, 2009). These findings suggest that service-learning activities designed to increase intergenerational contact may also be useful interventions for reducing barriers toward work with older adults.

Indeed, intergenerational, service-learning interventions have produced positive effects upon attitudes toward older adults (Penick, Fallshore, & Spencer, 2014). Students experiencing intergenerational contact in the classroom report greater knowledge of older adulthood as well as greater interest in careers related to aging (Vélez Ortiz, Cross, & Day, 2012). Moreover, intergenerational service experiences outside of the classroom also produce improvement in undergraduates’ attitudes. For example, undergraduates conducting intergenerational interviews during an aging course developed more complex perceptions of older adults (rather than maintaining simplified stereotypes of the group) (Hayslip, Caballero, Ward-Pinson, & Riddle, 2013). While many studies of intergenerational service-learning have investigated the effects of semester-long interventions, this study investigated the effect of a short-term service-learning experience imbedded within a course. Moreover, in addition to investigating the interventions effects on attitudes toward older adults, it also investigated the effect on aging anxiety, a variable previously uninvestigated in the service-learning literature.

The Current Study

Given the influence of ageism on healthcare social services, the increasing demand for professionals to have aging and adult development/gerontology expertise, and the inconsistent relationship between formal educational training and ageism, the current study investigated the effect of a semester-long aging and adult development course with an embedded service-learning activity on attitudes toward older adult men and women, aging anxiety, and interest in working in settings that serve older adults. The study focused specifically on individuals training for careers in healthcare and social services (e.g., nursing, counseling, social work, medicine) who were enrolled in a junior-level course on aging and adult development. The course contained didactic lessons on a variety of topics germane to aging and older adulthood; it also involved assignments aimed to increase the salience of trainees' biases so they could identify and create an action plan to address them. It also contained work designed to increase students' perceptions of commonality with older adults; this has previously been associated with improved attitudes toward older adults (Gonzales, Morrow-Howell, & Gilbert, 2010). Finally, it involved a service-learning component designed to increase contact with a known older adult.

For the current study, it was hypothesized that:

1. Given the relationship between quality of intergenerational contact and attitude (Scharlach et al., 2000; Wang & Chonody, 2013), ratings of contact with older adults would be associated with attitudes and occupational interest.
2. Attitudes toward older adult men, attitudes toward older adult women, and occupational interests would increase from pre-test to post-test.
3. Aging anxiety would decline.
4. Finally, it was hypothesized that older adult women would be rated more positively than older adult men. While this finding would be consistent with previous research, it was also hypothesized because the sample of the current study was predominantly female and previous research has found that female participants tend to rate female targets more positively (e.g., Laditka et al., 2004).

Method

Participants

Power analysis was conducted using G*Power 3 (Erdfelder, Faul, & Buchner, 1996; Faul, Erdfelder, Lang, & Buchner, 2007). A power of .90 and an alpha level of .05 were used to calculate the minimum number of participants needed to detect a medium effect size (0.30). The analysis indicated that data from a minimum of 61 participants would be needed for the study.

Participants were recruited from sections of a junior-level course on aging and adult development that addresses physical, psychological, and social changes across the adult lifespan. Students enrolled in the course are typically training for allied health and mental health professions. Data collection occurred over the course of two semesters; 43 stu-

dents participated during the Fall semester and 50 participated during the Spring semester. The initial sample was composed of 83 participants; however, data from two participants were excluded because these individuals withdrew from the course prior to completion of the study. Data from an additional 11 participants were excluded due to incompleteness of study measures. Therefore, the final sample included 70 undergraduates ($n = 62$, 88.6% female; $n = 8$, 11.4% male). Participants' age ranged from 18 to 38 ($M = 21.33$). The sample was ethnically diverse; 45.7% ($n = 32$) identified as Latino/a, 31.4% ($n = 22$) identified as White, 10% ($n = 5$) identified as multiethnic, 5.7% ($n = 4$) identified as Black, and 4.3% ($n = 3$) identified as Asian. One participant identified as Pacific Islander (1.45%, $n = 1$); one participant did not provide information about ethnic background (1.45%, $n = 1$). With regard to college classification, the sample was comprised of 2 freshmen (2.9%), 29 sophomores (41.4%), 26 juniors (37.1%), and 10 seniors (14.3%). Participants reported their major as either nursing ($n = 31$, 44.3%), psychology ($n = 25$, 35.7%), pre-medicine ($n = 4$, 5.7%), nuclear medicine ($n = 2$, 2.85%), music therapy ($n = 2$, 2.85%), sociology ($n = 2$, 2.85%), criminal justice ($n = 2$, 2.85%), or other ($n = 2$, 2.85%).

All participants were students at a medium-sized, open-enrollment university in the southwestern United States. Participants were offered five bonus points toward the first course assignment as incentive for participation. The Institutional Review Board reviewed and approved this study.

Measures

Demographic information. Participants completed a questionnaire to gather information about age, sex, ethnicity, college class, and major.

Attitudes toward older adults. Attitudes toward older adults were measured using Polizzi's Refined Version of the Aging Semantic Differential (ASD; Polizzi, 2003). The ASD contains 24 polar-opposite adjective pairs; each pair forms a continuum from negative to positive. Examples of the adjective pairs include "pessimistic/optimistic," "crabby/cheerful," and "bad/good" (Polizzi, 2003, p. 201). Participants rate a target individual on each of the pairs using a scale that ranges from -3 to +3; the midpoint of the scale is labeled "Neutral," indicating a neutral attitude. Scores can range from -72 to +72; higher scores are indicative of more positive attitudes toward the target individual. A neutral score is zero. To prevent response set, positive and negative adjectives are ordered randomly on the left side (-3) of the scale; positive adjectives are recoded prior to data analysis. Polizzi (2003) and Polizzi and Millikin (2002) reported excellent internal-reliability coefficients for the male ASD ($\alpha = .97$) and female ASD ($\alpha = .97$). In the current study, the internal-reliability coefficients for the male and female ASDs respectively were .93 and .92 at pre-test and .93 and .93 at post-test.

For this study, participants completed two ASD measures at each testing, one for a target described as "the typical male aged 65 to 85" and one for a target described as "the typical female aged 65 to 85." The male ASD and female ASD were counterbalanced to pre-

vent order effects. To avoid the possible introduction of bias, ageist descriptors such as “old” and “elderly” are not used in the ASD (Polizzi & Millikin, 2002, p. 367).

Aging Anxiety. The Anxiety about Aging Scale (AAS; Lasher & Faulkender, 1993) is intended to measure anxiety about one’s own aging process. It is a 20-item, Likert-type instrument; responses are made on a scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Total scores can range from 20 to 80; higher total scores indicate greater aging anxiety. The AAS has four subscales (Fear of Old People, Fear of Loss, Physical Appearance, and Psychological Concerns). The Fear of Old People subscale measures comfort in interaction with older adults (Harris & Clancy Dollinger, 2003). Although these items are not directly related to one’s own aging process, Lasher and Faulkender (2003) state that they measure anxiety in individuals who are “defensive” about aging (p. 257). These individuals may experience discomfort being around older adults, representatives of the aging process. The Fear of Loss subscale assesses anxiety about loss associated with aging (e.g., “I fear that when I am old all my friends will be gone” and “I am afraid there will be no meaning in my life when I am old”) (Lasher & Faulkender, 2003, p. 254). The Physical Appearance subscale measures anxiety about normative age-related changes in physical appearance. Finally, the Psychological Concerns subscale measures anxiety about psychological change and subjective well-being in older adulthood (e.g., “I expect to feel good about myself when I am old” and “I will have plenty to occupy my time when I am old”) (Lasher & Faulkender, 2003, p. 254).

Lasher and Faulkender report a good internal reliability coefficient for the full AAS ($\alpha = .82$). In the current study, the AAS internal reliability coefficient at pre-test and post-test was acceptable, $\alpha = .70$ (Wasserman & Bracken, 2003).

Occupational interest. Participants rated their interest in working in a setting that provides services to older adults using a 7-point, Likert-type scale. The scale ranged from 1 (*not at all interested*) to 7 (*very interested*).

Quality of intergenerational contact. Participants rated the overall quality of their interactions with older adults using a 7-point, Likert-type scale. The scale ranged from 1 (*very negative*) to 7 (*very positive*).

Procedure

A repeated measures, fully within-subjects (pre-test, post-test) design was utilized to examine change in participants’ attitudes toward older adult males and females, anxiety about aging, and interest in working in a career that serves older adults over the course of the 16-week semester. Participants completed all study measures during class time; participants completed the measures on the first and last days of class.

Over the course of the 16-week semester, participants attended classroom lessons and completed readings on modules addressing a breadth of issues related to adult development and aging. These modules included trends and concepts in aging (e.g., increased life expectancy, normative and non-normative influences on development), physical and

sensory changes (e.g., physical appearance, vision, organ functioning), mental health issues (e.g., depression, neurocognitive disorders), relationships and sexuality (e.g., romantic and familial relationships, physical changes affecting sexual behavior), living arrangements (e.g., aging in place, long-term care), occupational issues (e.g., job satisfaction, retirement), leisure and social relationships (e.g., finding meaningful use of time, friendship styles), cognition (e.g., attention, working and long-term memory), and emotional experiences and subjective well-being (e.g., happiness, coping).

In addition to this course material, participants completed a series of assignments linking course material to their personal beliefs and experiences, interpersonal interactions, and developmental concerns. For the first assignment at the beginning of the semester, participants described attitudes toward aging within the context of the cultural groups with which they identify (e.g., religious group, ethnic group). They also described stereotypical beliefs they held that generated feelings of negativity or fear about aging or older adults (e.g., older adults are irritable; aging inevitably involves significant loss of cognitive function) and then created an action plan to examine evidence associated with these beliefs. Students also described personal beliefs that led them to behave in a biased way toward others and created action plans designed to change this behavioral pattern. In the second assignment, students located recent news items describing research related to adult development and aging, thus linking class content with popular media sources that they use regularly. In the third assignment, participants identified and described non-normative, normative history-graded, and normative age-graded experiences that shape the aging process, including their own. At the end of the semester, participants identified and described developmental concerns that are shared by both young adults and older adults (e.g., changing nature of friendships and romantic relationships, job seeking, use of financial resources). Participants selected two developmental concerns and described how their personal experiences with these concerns were similar to that of older adults they know. This component was aimed to increase perceived commonality with older adults. Participants also identified biased beliefs that they continued to hold and created an action plan to manage the impact of these beliefs on their behavior toward older adults.

For the service-learning component of the course, participants submitted a paper based on an intergenerational interview conducted with an individual over the age of 65. For this assignment, participants interviewed an older adult about change in cognitive functioning (e.g., working memory and attention, explicit and implicit long-term memory) and physical functioning (e.g., sensory function, appearance, body build mobility, sleep) across the lifespan. Participants compared information from the interviewee to research findings about normative age-related changes in these domains. Participants also gathered retrospective information about interviewees' expectations and stereotypes about the aging process and how those compared to the interviewees' actual aging experience.

Results

Bivariate correlations for attitudes toward the older adult male, attitudes toward the older adult female, aging anxiety, quality of contact, and occupational interest at pre-test and

post-test are presented in Table 1. At pre-test and post-test, attitudes toward older adult men and older adult women were significantly positively correlated with perceived quality of contact with older adults and inversely correlated with aging anxiety. Perceived quality of interaction with older adults had an inverse correlation with aging anxiety at pre-test and post-test. Occupational interest had positive correlations with attitudes toward older adult men pre-test and post-test; it was inversely related to aging anxiety at pre-test only. Finally, occupational interest was significantly related to attitudes toward older adult men at pre-test and post-test. Occupational interest was not significantly related to attitudes toward older adult women. All significant correlation coefficients were medium or medium-to-large effect size (Cohen, 1992).

Table 1. Pre-Test and Post-Test Bivariate Correlations.

	1	2	3	4	5
1. Attitude, Older Adult Male	--	.55**	-.47**	.35**	.32**
2. Attitude, Older Adult Female	.65**	--	-.38**	.37**	.15
3. Aging Anxiety	-.55**	-.38**	--	-.41**	-.45**
4. Quality of Contact	.50**	.31*	-.39**	--	.50**
5. Occupational Interest	.35**	.10	-.20	.48**	--

Note. Correlations for Time 1 are presented above the diagonal; bivariate correlations for Time 2 are presented below the diagonal.

* $p = .05$; ** $p = .01$

A RMANOVA was conducted to determine if study variables changed over the course of the semester; it was predicted that aging anxiety would decrease over time whereas attitudes toward older men, attitudes toward older women, and occupational interest would increase over time. To keep the total alpha level below the customary .05 value, this value was divided by the total number of repeated-measures analyses to be performed (four); to be considered significant, the alpha value for each analysis had to be below 0.01. As predicted, attitudes toward older men and older adult women significantly increased over time. Aging anxiety significantly decreased over time. However, occupational interest did not change. Means, RMANOVA results, observed power, and effect sizes are presented in Table 2.

Table 2. Means, Repeated Measures Analysis of Variance for Study Variables.

Variable	Mean				Observed Power	η_p^2
	Pre	Post	$F(1, 69)$	p		
Attitude, Older Adult Male	13.36	20.61	29.47	<.001	1.00	.30
Attitude, Older Adult Female	23.63	30.87	30.71	<.001	1.00	.31
Aging Anxiety	41.97	39.91	12.12	.001	.93	.15
Occupational Interest	4.00	3.97	.03	.84	.05	.00

One-sample t-tests were performed to determine if attitudes toward older adult men and older adult women were significantly different from neutral at the beginning of the study. To control the family-wise Type I error rate for multiple comparisons, the customary $\alpha = .05$ was divided by two to produce a significance value of $\alpha = .025$. At pre-test, attitudes toward both older adult men ($M = 13.36$), $t(69) = 5.34$, $p < .001$, and older adult women ($M = 23.63$), $t(69) = 10.12$, $p < .001$, were significantly different from neutral. Participants reported significantly positive attitudes toward older adults at baseline/pre-test.

Paired-samples t-tests were performed to determine if differences existed in attitudes toward older adult men and older adult women at both pre-test and post-test. To control the family-wise Type I error rate for multiple comparisons, the customary $\alpha = .05$ was divided by two to produce a significance value of $\alpha = .025$. At pre-test, attitudes toward older adult women ($M = 23.63$) were significantly more positive than attitudes toward older adult men ($M = 13.36$), $t(69) = 4.48$, $p < .001$. This significant difference remained at post-test, $t(69) = 5.21$, $p < .001$; older adult women ($M = 30.87$) were rated significantly more positively than older adult men ($M = 20.61$).

Discussion

The main focus of this study was to investigate the effect of a semester-long, junior-level aging and adult development course on attitudes toward older adult men and women, aging anxiety, and interest in working in settings that serve older adults among individuals training for careers in healthcare and social services (e.g., nursing, counseling, social work, medicine). Participants also completed a short-term service-learning activity. This study also investigated the relationship between quality of intergenerational contact and ageist attitudes as well as differences in attitudes toward older adult men and older adult women.

Attitudes Toward Older Adult Men and Women and Aging Anxiety

The results of the current study reflect a generally positive view toward older adults by young adult healthcare and social services trainees. At pre-test, participants reported more positive than negative attitudes toward older adults; attitudes improved more across the semester. This finding supported part of the study's primary hypothesis that attitudes toward older adult men and older adult women would improve with completion of the course. These results corroborate those of recent studies that also found trainees to have positive attitudes toward older adults (e.g., Celik, Kapucu, Tuna, & Akkus, 2010; McKinlay & Cowan, 2003). Contemporary young adult trainees may espouse more positive views of older adults as a result of growing up in a more diverse, open culture with exposure to greater models of healthy aging (Narayan, 2008). Given the more recent findings that trainees have generally positive attitudes toward older adults, it is possible that the ageist attitudes present in healthcare and social services settings develop as trainees transition to part-time and full-time work and overgeneralize perceptions formed while serving with range-restricted, high pathology populations or in settings with limited resources (Yun-e et al., 2013).

As predicted, attitudes toward older adult females were significantly more positive than attitudes toward older adult males at both pre-test and post-test. These findings are inconsistent with the assertion that a “double standard of aging” exists in which older adult women are viewed more harshly than older adult men (Sontag, 1972). According to the double standard, women are viewed as “old” at earlier ages than men and viewed more negatively, primarily due to changes in appearance; men may become more attractive with age, however, women become less attractive with age (Sontag, 1972). Findings from multiple studies do not support the existence of an overarching double standard. Some research finds that older adult women are rated more favorably than older adult men (e.g., Laditka et al., 2004, Narayan, 2008); other research finds that preference for the older adult male or older adult female is dependent upon the domain being rated (e.g., family, work) (Kornadt, Voss, & Rothermund, 2013). The more positive views of the older adult female yielded in the current study may also be related to the constituency of the study sample: women dominated this sample. Previous research has found that young adult women tend to rate older adult women more favorably than their young adult men counterparts (Laditka et al., 2004); this may account for the attitudinal difference found in this study.

As hypothesized, participants reported significantly lower aging anxiety at post-test. This finding supports the assertion that informational inaccuracies regarding age-related changes can contribute to aging anxiety (Lynch, 2000). Given that anxiety about one’s own aging is believed to contribute to ageism, educational interventions that lessen aging anxiety may in turn lessen ease negative attitudes toward older adults.

Implications for teaching and learning. The finding that attitudes improved over the course of formal aging and adult development/gerontology coursework may lend more clarity to literature base with some inconsistent findings on the matter (e.g., Boswell, 2012; Ferrario et al., 2008; Knapp & Stubblefield, 2000; Treharne, 1990). More importantly, attitudinal response to formal education has significant implications for the training of individuals in healthcare and social service careers. Findings such as this emphasize the importance of teaching and learning in the development of trainees and also in the development of working professionals. The teaching of innovative, aging-related research may mediate the effects of ageist attitudes in the workplace, in turn mitigating discrimination against older adults in healthcare and social service environments. Creating opportunities for providers to learn new information in their fields, through continuing education workshops or lengthier college courses, may improve attitudes towards those that they serve.

Occupational Interest, Attitudes, Service-Learning, and Quality of Intergenerational Contact

The hypothesis that students would report significantly increased interest in jobs serving older adults was not supported. These findings were somewhat surprising given that participation in aging and adult development and gerontology education is typically associated with higher interest in aging-related careers (Cummings, Adler & DeCoster, 2005; Cummings, Galambos, & DeCoster, 2003). However, some previous research has also

failed to yield a significant relationship between aging/developmental education and interest in working with older adults (Carmel, Galinsky, & Cwikel, 1990).

However, the hypothesis that quality of intergenerational contact was positively associated with attitudes toward older adult men and women, as well as occupational interest, at both pre-test and post-test was supported. Previous research has found that intergenerational contact fosters positive attitudes toward older adults (e.g., Stewart et al. 2005; Van Dussen & Weaver, 2009). Of particular importance is the quality of intergenerational contact; higher quality contact can positively affect attitudes toward older adults even if the contact is not high in quantity (Allan & Johnson, 2009). In this study, quality of intergenerational contact was also positively associated with occupational interest.

Implications for teaching and learning. It is possible that teaching and learning paired with a short-term service-learning intervention within the context of a college class is insufficient to generate significant interest in working with older adults among individuals without this occupational predilection. The integration of more time-intensive service-learning projects into aging and adult development and gerontology courses may provide a mechanism to increase trainees' interest in aging-related careers. Research positively linking the quantity of intergenerational contact with attitudes toward older adults (e.g., Stewart et al., 2005) suggests that greater intensity of service-learning contact may be necessary for attitudinal change. Indeed, Vélez Ortiz et al. (2012) found that semester-long service-learning interventions could increase undergraduates' interest in aging-related careers. Service-learning coursework furthers engagement with course material, reinforces course concepts via application, and encourages commitment to social justice (Hansen et al., 2007; Weinreich, 2003). Moreover, intergenerational service-learning projects tend to be valued by young adults, increase their caring and respect toward older adults, and improve their attitudes toward their own aging (Hwang, Wang, & Lin, 2013; Kalisch, Coughlin, Ballard, & Lamson, 2013; Weinrich, 2003). Individuals who have engaged in intergenerational service-learning projects have reported increased intention to continue to serve older adult populations (Kalisch et al., 2013). Moreover, there is evidence that collegiate service-learning experiences foster occupational interest (Hansen et al., 2007) and impact career interest and development (Warchal, & Ruiz, 2013). Further research is merited to clarify the relationship between aging and adult development education and interest in careers serving older adults. If such formal education can increase interest in these careers, it would be useful to determine if it facilitates intent and efforts to attain such careers. Moreover, additional research is merited to clarify how quantity and quality of intergenerational service-learning activities relate to undergraduates' attitudes toward aging.

Additional Implications for the Scholarship of Teaching and Learning

Additional implications for the scholarship of teaching and learning may be derived from these findings. The design of this study (a pre- and post-course assessment) is an example of the scholarship of teaching and learning in practice (Lambie, Ieva, & Ohrt, 2012). Assessing attitudinal change and interest at the beginning and end of the semester may provide a way to measure if students profited from a course. Although the results of this

study did not support that formal class training and time-limited service-learning alone can facilitate interest in a particular career, its findings do suggest that experiential opportunities (e.g., service-learning, intergenerational classrooms) known to improve attitudes toward others may serve as a pathway to enhance career interest in service-oriented fields.

Limitations

The current study is limited by the absence of a control group. Because of this, it is not fully possible to draw causal inferences about the effect of this approach to aging and adult development education on attitudes. Moreover, it is limited by the constituency of the sample. Women constituted the majority of the sample for this study; given that young adult women tend to rate older adult women more favorably than their young adult men counterparts (Laditka et al., 2004), results of the study may have been affected by the lack of men in the sample. The predominance of women in the sample may also explain the significantly higher ratings for older adult females at both pre-test and post-test.

Caution must be exercised if attempts are made to generalize results from this study to other young adult samples. The individuals enrolled in this course are studying for careers in healthcare and social services. Their attitudes towards older adults may not be reflective of individuals from a broader college population. Moreover, they may be unreflective of a general, non-collegiate young adult population. Given the homogeneity of the sample in terms of age, gender, and major/career interest, caution should be exercised if generalizing results to dissimilar groups.

References

- Allan, L. J., & Johnson, J. A. (2009). Undergraduate attitudes toward the elderly: The role of knowledge, contact and aging anxiety. *Educational Gerontology, 35*, 1-14. doi:10.1080/03601270802299780.
- Anderson, L., Goodman, R., Holtzman, D., Posner, S., & Northridge, M. (2012). Aging in the United States: Opportunities and challenges for public health. *American Journal of Public Health, 102*, 393-395.
- Austin, S., Qu, H., & Shewchuk, R. (2013). Age bias in physicians' recommendations for physical activity: A behavioral model of healthcare utilization for adults with arthritis. *Journal of Physical Activity & Health, 10*, 222-231.
- Ben Natan, M., Ataneli, M., Admenko, A., & Har Noy, R. (2013). Nurse assessment of residents' pain in a long-term care facility. *International Nursing Review, 60*, 251-257. doi:10.1111/inr.12006.
- Boswell, S. S. (2012). "Old people are cranky": Helping professional trainees' knowledge, attitudes, aging anxiety, and interest in working with older adults. *Educational Gerontology, 38*, 465-472. doi:10.1080/03601277.2011.559864.
- Carmel, S., Galinsky, D., & Cwikel, J. (1990). Knowledge, attitudes, and work preferences regarding the elderly among medical students and practicing physicians. *Behavior, Health, & Aging, 1*(2), 99-104.

- Caspi, A. (1984). Contact hypothesis and inter-age attitudes: A field study of cross-age contact. *Social Psychology Quarterly*, *47*, 74-80.
- Celik, S. S., Kapucu, S., Tuna, Z., & Akkus, Y. (2010). Views and attitudes of nursing students towards ageing and older patients. *Australian Journal of Advanced Nursing*, *27*, 24-30.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155-159.
- Cummings, S. M., Adler, G., & DeCoster, V. A. (2005). Factors influencing graduate social work students' interest in working with elders. *Educational Gerontology*, *31*, 643-655.
- Cummings, S. M., Galambos, C., & DeCoster, V. A. (2003). Predictors of MSW employment in gerontological practice. *Educational Gerontology*, *29*, 1-18.
- Dahlke, S., & Phinney, A. (2008). Caring for hospitalized older adults at risk for delirium. *Journal of Gerontological Nursing*, *34*, 41-47.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavioral Research Methods, Instruments, & Computers*, *28*, 1-11.
- Eshbaugh, E. M., Gross, P. E., & Satrom, T. (2010). Predictors of self-reported likelihood of working with older adults. *Educational Gerontology*, *36*, 312-329. doi:10.1080/03601270903058481.
- Faul, F., Erdfelder, E., Lang, A., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175-191.
- Ferrario, C. G., Freeman, F. J., Nellett, G., & Scheel, J. (2008). Changing nursing students' attitudes about aging: An argument for the successful aging paradigm. *Educational Gerontology*, *34*, 51-66. doi: 10.1080/03601270701763969.
- Gonzales, E., Morrow-Howell, N., & Gilbert, P. (2010). Changing medical students' attitudes toward older adults. *Gerontology & Geriatrics Education*, *31*, 220-234. doi:10.1080/02701960.2010.503128.
- Hansen, A., Muñoz, J., Crist, P., Gupta, J., Ideishi, R., Primeau, L., & Tupé, D. (2007). Service learning: Meaningful, community-centered professional skill development for occupational therapy students. *Occupational Therapy In Health Care*, *21*, 25-49.
- Harris, L. A., & Clancy Dollinger, S. M. (2003). Individual differences in personality traits and anxiety about aging. *Personality and Individual Differences*, *34*, 187-194.
- Hayslip, B., Caballero, D., Ward-Pinson, M., & Riddle, R. R. (2013). Sensitizing young adults to their biases about middle-aged and older persons: A pedagogical approach. *Educational Gerontology*, *39*, 37-44. doi:10.1080/03601277.2012.660865.
- Henderson, J., Xiao, L., Siegloff, L., Kelton, M., & Paterson, J. (2008). 'Older people have lived their lives': First year nursing students' attitudes towards older people. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, *30*, 32-45. doi:10.5172/conu.673.30.1.32.
- Hwang, H., Wang, H., & Lin, H. (2013). Effectiveness of supervised intergenerational service learning in long-term care facilities on the attitudes, self-transcendence, and caring behaviors among nursing students: A quasiexperimental study. *Educational Gerontology*, *39*, 655-668. doi:10.1080/03601277.2012.734159.
- Kalisch, H. R., Coughlin, D. R., Ballard, S. M., & Lamson, A. (2013). Old age is a part of living: Student reflections on intergenerational service-learning. *Gerontology & Geriatrics Education*, *34*, 99-113. doi:10.1080/02701960.2012.753440.

- Kane, M. N. (2007). Social work and criminal justice students' perceptions of elders. *Journal of Social Service Research, 34*, 13-26.
- Kite, M. E., Stockdale, G. D., Whitley, Jr., B. E., & Johnson, B. T. (2005). Attitudes toward young and older adults: An updated meta-analytic review. *Journal of Social Issues, 61*, 241-266.
- Kite, M. E. & Wanger, L. S. (2002). Attitudes toward older adults. In T. D. Nelson (Ed.), *Ageism: Stereotyping and prejudice against older persons*. Cambridge, MA: MIT Press.
- Knapp, J. L., & Stubblefield, P. (2000). Changing students' perceptions of aging: The impact of an intergenerational service learning course. *Educational Gerontology, 26*, 611-621.
- Koh, L. (2012). Student attitudes and educational support in caring for older people - A review of literature. *Nurse Education in Practice, 12*, 16-20.
- Kornadt, A. E., Voss, P., & Rothermund, K. (2013). Multiple standards of aging: Gender-specific age stereotypes in different life domains. *European Journal of Ageing, 10*, 335-344. doi:10.1007/s10433-013-0281-9.
- Kydd, A., Touhy, T., Newman, D., Fagerberg, I., & Engstrom, G. (2014). Attitudes towards caring for older people in Scotland, Sweden and the United States. *Nursing Older People, 26*, 33-40. doi:10.7748/nop2014.02.26.2.33.e547.
- Laditka, S. B., Fischer, M., Laditka, J. N., & Segal, D. R. (2004). Attitudes about aging and gender among young, middle age, and older college-based students. *Educational Gerontology, 30*, 403-421. doi:10.1080/03601270490433602.
- Lambie, G. W., & Vaccaro, N. (2011). Doctoral counselor education students' levels of research self-efficacy, perceptions of the research training environment, and interest in research. *Counselor Education and Supervision, 50*, 243-258.
- Lasher, K. P., & Faulkender, P. J. (1993). Measurement of aging anxiety: Development of the Anxiety About Aging Scale. *International Journal of Aging and Human Development, 37*, 247-259.
- Lynch, S. M. (2000). Measurement and prediction of aging anxiety. *Research on Aging, 22*(5), 533-558.
- McKinlay, A., Cowan, S. (2003). Student nurses' attitudes towards working with older patients. *Journal of Advanced Nursing, 43*, 298-309.
- Narayan, C. (2008). Is there a double standard of aging?: Older men and women and ageism. *Educational Gerontology, 34*, 782-787. doi:10.1080/036012708020421231
- Nelson, T. D. (2011). Ageism: The strange case of prejudice against the older you. In R. L. Wiener, S. L. Willborn (Eds.), *Disability and aging discrimination: Perspectives in law and psychology* (pp. 37-47). New York, NY: Springer Science + Business Media. doi:10.1007/978-1-4419-6293-5_2.
- Packer, D. J., & Chasteen, A. L. (2006). Looking to the future: How possible aged selves influence prejudice toward older adults. *Social Cognition, 24*, 218-247.
- Penick, J. M., Fallshore, M., & Spencer, A. M. (2014). Using intergenerational service learning to promote positive perceptions about older adults and community service in college students. *Journal of Intergenerational Relationships, 12*, 25-39. doi:10.1080/15350770.2014.870456.
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology, 49*, 65-85. doi: 10.1146/annurev.psych.49.1.65.

- Polizzi, K. G. (2003). Assessing attitudes toward the elderly: Polizzi's refined version of the Aging Semantic Differential. *Educational Gerontology, 29*, 197-216.
- Polizzi, K. G., & Millikin, R. J. (2002). Attitudes toward the elderly: Identifying problematic useage of ageist and overextended terminology in research instructions. *Educational Gerontology, 28*, 367-378. doi:10.1080/03601270290081344.
- Potkanowicz, E. S., Hartman-Stein, P., & Biermann, J. S. (2009). Behavioral determinants of health aging revisited: An update on the good news for the baby boomer generation. *Online Journal of Issues in Nursing, 14*(3), 11.
- Rosowsky, E. (2005). Ageism and professional training in aging: Who will be there to help?. *Generations, 29*(3), 55-58.
- Scharlach, A., Damron-Rodriguez, J., & Robinson, B. (2000). Educating social workers for an aging society: A vision for the 21st century. *Journal of Social Work Education, 36*, 521-538.
- Sontag, S. (1972). The double standard of aging. *Saturday Review of Literature, 39*, 29-38.
- Stewart, J. J., Giles, L., Paterson, J. E., & Butler, S. J. (2005). Knowledge and attitudes towards older people: New Zealand students entering health professional degrees. *Physical & Occupational Therapy In Geriatrics, 23*(4), 25-36. doi:10.1300/J148v23n04_02
- Tomko, J., & Munley, P. (2013). Predicting counseling psychologists' attitudes and clinical judgments with respect to older adults. *Aging & Mental Health, 17*, 233-241. doi:10.1080/13607863.2012.715141.
- Treharne, G. (1990). Attitudes towards the care of elderly people: Are they getting better? *Journal of Advanced Nursing, 15*, 777-781.
- Van Dussen, D. J., & Weaver, R. R. (2009). Undergraduate students' perceptions and behaviors related to the aged and to aging processes. *Educational Gerontology, 35*, 342-357. doi: 10.1080/03601270802612255.
- Vélez Ortiz, D., Cross, S. L., & Day, A. (2012). Insightful learning of life's lessons with older adult guests in the classroom. *Educational Gerontology, 38*, 854-866. doi:10.1080/03601277.2012.660844.
- Wang, D., & Chonody, J. (2013). Social workers' attitudes toward older adults: A review of the literature. *Journal of Social Work Education, 49*(1), 150-172.
- Warchal, J., & Ruiz, A. (2013). Impact of degrees of service on alumni career development. *Journal of Community Engagement & Higher Education, 5*(2), 25-32.
- Wasserman, J. D., & Bracken, B. A. (2003). Psychometric considerations of assessment procedures. In J. Graham & J. Naglieri (Eds). *Handbook of assessment psychology* (pp. 43-66). New York: Wiley.
- Weinreich, D. M. (2003). Service learning at the edge of chaos. *Educational Gerontology, 29*, 181-195.
- Weir, E. C. (2004). Identifying and preventing ageism among health-care professionals. *International Journal of Therapy & Rehabilitation, 11*, 56-63.
- Williams, B., Anderson, M. C., & Day, R. (2007). Undergraduate nursing students' knowledge of and attitudes toward aging: Comparison of context-based learning and a traditional program. *Journal of Nursing Education, 46*, 115-120.
- Yun-e, L., Norman, I. J., & While, A. E. (2013). Nurses' attitudes towards older people: A systematic review. *International Journal of Nursing Studies, 50*, 1271-1282. doi:10.1016/j.ijnurstu.2012.11.021.