

Service-Learners at Dementia Care Programs: An Intervention for Improving Contact, Comfort, and Attitudes

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ABSTRACT. Service-Learning can be a rewarding and challenging experience for students. One of the rewards for students can be the connection between their course work and real life experience. However, students interacting with populations with which they have limited prior experience face unique challenges. We developed a training program designed to facilitate comfort with older adults who have dementia for service-learners in a gerontology course who were serving at an Adult Day Services (ADS) program. Students in the course completed pre- and post-surveys assessing level of contact with older adults and attitudes on

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aging. Service-learners serving at the ADS comprised the treatment group (n = 5) while those serving at other S-L sites made up the control group (n = 11). Independent and paired sample t-tests indicated that the training program contributed to intra-individual and group differences in comfort working with older adults and with adults who are cognitively impaired. Differences in attitudes about older adults were also identified. Implications for adult development courses involving S-L at dementia care programs are discussed. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2004 by The Haworth Press, Inc. All rights reserved.]

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Gerontology educators seek means to make adult development and aging relevant to students, most of whom view later adulthood only in the far distant horizon. Service-learning (S-L) brings to light issues in aging as it provides them with the opportunity to apply course material in a community setting. Research of service-learners' experiences reveals important benefits, including enhanced civic commitment (Gray, Ondaatje, & Zakaras, 1999), improved self-efficacy (Tucker, McCarthy, Hoxmeier, & Lenk, 2001), and greater comprehension of course material (Astin, Vogelgesang, Ikeda, & Yee, 2000; Fisher & Finkelstein, 1999). At the same time, however, many service-learners have reported less than optimal experiences (Blieszner & Artale, 2001) and may benefit from further training.

S-L opportunities frequently link students with community sub-groups whose members possess characteristics distinct from their own. Indeed that is often a key objective of S-L. In gerontology courses, age typically represents the primary source of disparity, or *social distance*, between service-learners and community members. Kidwell and Booth (1977) attributed the social distance between older adults and every other age group to lower levels of contact between groups' members. Instructors develop courses with S-L options in order to enhance students' comprehension of course material and to reduce social distance with the expectation that increased contact, paired with instruction, will improve attitudes towards older adults and the aging process.

Research supports the value of increased contact in fostering positive attitudinal and behavioral change. In the human services field Gorelik and colleagues found that S-L successfully increased students' interest in the field of aging

(Gorelik, Damron-Rodriguez, Funderburk & Solomon, 2000). Rockquemore and Schaffer (2000) developed a theory of engagement based on their observations of service-learners' experiences working with socioeconomically disadvantaged individuals. They deemed familiarity, which resulted from contact with the individuals they served, central to "normalizing" interactions with group members. Normalizing, according to Rockquemore and Schaffer, follows students' initial feeling of shock at the disparities between the service-learners and members of the group they encounter at the S-L sites; it precedes engagement in the learning process.

Some service-learners, however, find themselves ill prepared to normalize the disparities between themselves and the individuals with whom they interact in the S-L setting (Kretchmar, 2001; Whitbourne, Collins, & Skultety, 2001). These challenges are often compounded if the individuals served have cognitive impairments (Blieszner & Artale, 2001). Instruction, combined with increased contact and familiarity, may not always be sufficient to support positive attitudinal and behavioral change among service-learners. Consequently, it is incumbent upon instructors to identify theoretical and empirically informed methods to foster student achievement in the gerontology S-L course.

Allport's theory of contact (1954) provides a theoretical framework for linking individuals with characteristic differences. Originally developed to foster optimal interracial contact, Allport's theory has been utilized in linking a wide range of disparate groups (Pettigrew, 1998). Central to the theory's inception is Allport's insistence that contact, or familiarity, is not sufficient to promote positive attitudinal change. Rather, specific conditions must first be met in the contact situation. Interactions must be characterized by cooperation with members working towards a common goal. The interactions must receive support from key authority figures, and participants must perceive themselves as possessing equal status within the contact situation.

Research by Gladwell (2003) illustrated the value of employing the theory of contact to foster positive intergenerational contact. Using the contact theory to plan intergenerational activities for pre-school aged children and older adults with dementia, Gladwell found that levels of group social behavior and positive affect were higher among adult participants during the intergenerational activities compared to the adults' unigenerational programming. Understanding service-learners' experiences in the context of the contact theory may shed light on why familiarity alone does not contribute to greater comfort working with older persons with cognitive impairment.

The culture of care that predominates at many dementia care programs further confounds service-learners' efforts to become comfortable interacting with cognitively impaired older adults. In his discussion of the theory of personhood, Kitwood (1997) characterized a culture of institutional dementia

care programs (e.g., nursing homes and adult day programs) fraught with “malignant social psychology.” In these care settings, according to Kitwood, the person in “person with dementia” is neglected, and the focus of care turns to the medical and physical domains of client care. In contrast, staff at programs guided by the theory of personhood, strive to support the history and individuality of each client with dementia. Clients at these programs receive person-centered care. They are treated with respect, and research has linked person-centered care with greater well-being and fewer problematic behaviors among adults with dementia (Kitwood, 1995). Unfortunately, such programs are quite rare; thus, students are typically initiated to a medical model of care without learning about the history or personhood that an individual client with dementia possesses. Some dementia care programs combat malignant social psychology with innovative staff development programs and creative caregiving that supports the personhood of older adults and staff members.

Burgio and colleagues (Burgio et al., 2001) promoted client personhood when they provided communication skills training to CNAs at a nursing home facility. Residents were given memory books, which staff were instructed to use with the residents during caregiving activities. The memory books provided a variety of information, including biographical information about the resident, photos of family members, a daily schedule, and information on caring for the resident. Further, memory books were placed with the resident at all times (i.e., they were attached to the residents’ wheelchair or to their torso if ambulatory). CNAs learned how to communicate effectively with residents using the memory book, and evaluation focused on how use of the memory book affected the quality and content of the CNAs’ communication with residents. Members of the treatment group exhibited improvement in overall communication skills and use of positive statements. Burgio and colleagues’ training program achieved positive outcomes by increasing the level of person-centered care residents received. The program that we implemented utilized elements similar to those of Burgio and colleagues (i.e., we included memory books, a training session on communication with older adults, and an evaluation at the end of the semester) in an effort to enhance the experiences of service-learners placed in a dementia care program.

The current paper focuses on the results of a program, grounded in contact theory and theory of personhood, designed to remedy some of the challenges faced by service-learners in dementia care programs. We piloted the training project with service-learners placed at an adult day services program (ADS) serving adults with dementia (treatment group) and compared their experiences to those of service-learners at dementia care programs who did not receive specialized training (comparison group). With the primary goal of using S-L to enhance comfort working with older adults among this group of ser-

vice-learners, we identified two objectives for our program: (a) train service-learners how to communicate effectively with cognitively impaired adult day services (ADS) clients and (b) provide a structured, cooperative activity for service-learners to conduct with ADS clients. Based on these objectives, we developed two research questions about the experiences of service-learners at dementia care sites who participated in the dementia-specific training program compared to service-learners placed at dementia care sites who did not participate in the program. Are treatment group members' experiences of S-L different from comparison group members in regards to: (a) contact with cognitively impaired adults and (b) attitudes about older adults?

METHODS

Participants

Data for this study came from pre- and post-surveys of undergraduate students enrolled in an Issues in Aging or Sociology of Aging course at Virginia Polytechnic Institute and State University. Students in both courses had the option of completing either an S-L experience or a research project. Both options required equivalent hours of work on the final project. Those students completing an S-L project were required to complete 15-20 hours of work at their assigned site, keep a journal, and provide a reflection paper and presentation at the end of the semester.

Students completed pre-surveys early in the semester prior to beginning their S-L experience. Students completed post-surveys in the last two weeks of the semester after most of them had completed their S-L hours. Respondents provided demographic information, academic major, and answered questions regarding both their general contact with older adults and their specific S-L experience.

Sixteen service-learners were placed at dementia care programs. The director of S-L at Virginia Polytechnic Institute and State University placed service-learners at specific sites. Service-learners were asked to identify up to three sites to which they might want to serve. Our interactions with the service-learners at ADS showed that they were serving at ADS because of the convenience of the location (i.e., it is on campus). Five served at an ADS program on campus; they received the training intervention and comprise the treatment group. Eleven service-learners placed at other dementia care programs; including nursing homes and assisted living facilities, represent the control group, as they received no specialized training (non-ADS).

Of the 16 students who completed a pre- and post-survey, 14 were female (two males participated in the control group), and 15 were white. Twelve of the ser-

vice-learners were Human Development majors with a number of other majors represented (i.e., psychology, sociology, and business). Participants ranged in age from 19 to 23 ($M = 21.06$, $SD = 1.18$) years, and 15 of the participants were upper classmen (i.e., juniors or seniors). Eight of the participants had previously completed an adult development and aging course and 12 of the participants had previous S-L or volunteer experience prior to enrolling in the current courses.

Procedures

To respond to the concerns addressed in the gerontology S-L literature, the research team implemented a program for service-learners at ADS to alleviate the discomfort students frequently feel in dementia care settings (Blieszner & Artale, 2001; Whitbourne et al., 2001). The program was developed and facilitated by the authors, who had experience with the older adults at ADS and with the mission of S-L. The training program integrated an orientation, which included dementia education and communication skills instruction, a structured activity (i.e., a scrapbook project to complete with the ADS clients) (Jarrott, 2001), a mid-semester meeting, and a student evaluation session at the end of the semester. The ADS director also provided a separate orientation addressing issues of confidentiality and ADS policies and procedures. (Please see Lambert-Shute, Jarrott, and Fruhauf [2004] for a detailed description of the training program.)

Measures

We utilized three scales to assess the service-learners' contact, comfort with older adults, and attitudes towards older adults.

The *Queens University Contact Questionnaire*, developed by Knox, Gekoski, and Johnson (1986), captures different aspects of contact with older adults in general and with one older adult in mind. The 57-item survey, utilizes a 7-point scale, to respond to overall quantity and quality of contact and quantity with older adults when the respondent was between the ages of 0-5, 6-10, 11-15, and 16-20. The scale was further designed to illicit information from respondents regarding overall quantity and quality of contact with elderly friends and relatives, and with elderly individuals in neighborhood/social, work/school, and service/economic settings. The remaining questions focus on various aspects of respondents' quantity and quality of contact with older adults, including assistance from, assistance to, competition with, and typical intimacy with elders as well as mutual assistance and similarity to self of older adults. The Knox scale does not explicitly capture comfort of the respondents with older adults, which Blieszner and Artale (2001) specifically identified as lacking among service-learners placed at dementia care programs.

A *Comfort Scale* was developed by the researchers that consists of seven Likert-scale items using a 5-point scale ranging from 1, “very comfortable” to 5, “not comfortable at all.” Questions focus on students’ comfort in the presence of, talking with, and working with someone over the age of 65. Further, respondents answered questions in regard to comfort with cognitively impaired older adults, with physically disabled older adults, with an older adult whom they cannot understand, and with older adults when they are agitated.

A third scale, Rosencranz and McNevin’s *Aging Semantic Differential (ASD)* (1969), was used and includes 32 Likert-scale items consisting of polar adjectives that describe older adults. Rosencranz and McNevin initially developed three dimensions (i.e., instrumentality, autonomy, and acceptability) to examine attitudes, however, more recent work by Intrieri, von Eye, and Kelly (1995) propose a four-factor model. Based on Intrieri and colleagues’ (1995) findings and support from Polizzi’s (2003) work, we chose to examine the *ASD* using a four-factor model on dimensions of instrumentality, autonomy, acceptability, and integrity. Scored on a 7-point scale, lower scores indicate more positive, less stereotypical views, and higher scores indicate more negative stereotypical views of aging. Students completed the *ASD* at the start and end of the semester. For the post-survey, service-learners were asked to complete the *ASD* twice. First, they completed the scale keeping in mind the elderly in general. The second time, students responded to the items with regard to one older adult with whom they had spent the most time at the S-L site. Sum scores for the four factors were computed by adding scores of the individual items that loaded on to the factors identified by Intrieri and colleagues.

RESULTS

Independent t-tests compared the two groups (i.e., ADS and non-ADS service-learners) on demographic characteristics. Results indicated that the students in the different groups were comparable on demographic and descriptive characteristics ($p < .05$). Below, we report findings for our questions concerning contact, comfort, and attitudes of service-learners. Statistical analyses, paired and independent sample t-tests, assessing contact, comfort, and attitudes of service-learners were all two-tailed.

Contact

Service-learners’ contact as measured by the *Queens University Contact Questionnaire* was assessed using paired and independent sample t-tests. Independent sample t-tests at the pre-test, in which students addressed their con-

tact with older adults in general, revealed one significant difference. Non-ADS service-learners indicated more positive quality of contact with older adults when they were 16-20 years old ($M = 6.55$, $SD = 1.214$), $t(11) = 2.48$, $p < .05$) than did the ADS service-learners. However, independent t-tests on the post-survey revealed no significant group difference for quality of contact with older adults from age 16-20 years old.

Paired sample t-tests were performed with non-ADS and ADS service-learners regarding contact with older adults in general at the pre- and post-surveys. The ADS service-learners revealed a significant increase in positive experiences with older adults in general (pre $M = 5.40$, $SD = .894$; post $M = 6.40$, $SD = .548$); $t(5) = -3.16$, $p < .05$) and with older adults in service/economic settings (pre $M = 5.40$, $SD = .894$; post $M = 6.40$, $SD = .548$); $t(5) = -3.16$, $p < .05$). There was also a significant increase in quantity of contact at 16-20 years of age with older adults (pre $M = 3.60$, $SD = 2.07$; post $M = 4.80$, $SD = 1.48$); $t(5) = -3.20$, $p < .05$).

Turning to ADS service-learners' responses to items on contact with older adults in general, paired sample t-tests were performed to compare pre- and post-survey data. The non-ADS service-learners had a significant decrease in assistance received from older adults (pre $M = 5.36$, $SD = 1.50$; post $M = 3.27$, $SD = 1.62$), $t(5) = 3.82$, $p < .05$), their evaluation of perceived level of intimacy in relationships with older adults (pre $M = 6.09$, $SD = .944$; post $M = 5.18$, $SD = 1.47$), $t(5) = 2.32$, $p < .05$), as well as the quality of contact in service settings (pre $M = 5.73$, $SD = 1.62$; post $M = 4.00$, $SD = 2.45$), $t(5) = 2.26$, $p < .05$) with older adults.

Results from independent t-tests at the post-survey on service-learners' contact with older adults at their S-L site revealed two significant differences. ADS service-learners indicated receiving a higher level of assistance from older adults ($M = 3.60$, $SD = 1.52$), $t(5) = -2.95$, $p < .05$), and they perceived a higher level of intimacy with older adults with whom they interacted at the S-L site ($M = 4.80$, $SD = .48$), $t(5) = -2.18$, $p < .05$) than did the non-ADS service-learners ($M = 3.73$, $SD = 1.49$).

Comfort

Participants' comfort working with older adults was assessed using paired- and independent-sample t-tests. Table 1 presents mean responses of the ADS and non-ADS service-learners' pre- and post-survey responses to the *Comfort Scale* items. Independent t-tests were used to analyze differences between the groups in comfort level at the pre- and post-surveys. Independent t-tests at the pre-survey revealed no significant differences between ADS and non-ADS service-learners. However, at the post-survey independent t-tests revealed that

the ADS service-learners perceived greater comfort working with older adults than did members of the non-ADS service-learners. The participants in the ADS group also reported greater comfort interacting with cognitively impaired older adults than did the non-ADS service-learners.

Paired sample t-test of the ADS S-L group revealed no significant change from pre- to post-surveys on comfort with older adults. Turning to the non-ADS service-learners, paired sample t-tests revealed a significant decline in comfort working with older adults when “you have a hard time understanding what they are trying to say.”

Attitudes

Independent and paired sample t-tests were conducted to examine responses to Rosencranz and McNevin’s *Aging Semantic Differential (ASD, 1969)* for ADS and non-ADS service-learners. Table 2 presents analyses of the pre- and post-survey responses on the attitudes of ADS and non-ADS service-learners for older adults in general. Independent t-tests revealed no significant differences between groups at pre- and post-surveys ($p < .05$) when students responded to the items with reference to the elderly in general. However, the paired t-test analyses of responses to the *ASD* with consideration of the elderly in general revealed a significant negative change among ADS ser-

TABLE 1. Intra- and Inter-Group Comparisons of Comfort Pre- and Post-S-L Experience

	ADS				Non-ADS			
	Pre		Post		Pre		Post	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
How comfortable are you or do you think you will be...								
in the presence of adults over 65?	2.00	1.00	1.40	.55	1.55	.68	1.73	.79
talking with older adults over 65?	2.00	1.00	1.80	.84	1.82	.75	1.91	.83
working with older adults over 65?	2.00	1.00	1.40 ^a	.55	1.91	.70	2.55 ^a	1.21
with cognitively impaired adults over 65?	2.40	1.14	2.00 ^a	.71	2.55	.82	3.18 ^a	1.08
with physically disabled adults over 65?	2.60	.89	2.20	.44	2.36	.80	2.27	1.01
with adults over the age of 65 if you had a hard time understanding what they are trying to say?	3.00	1.00	2.60	.55	2.27 ^b	.91	3.27 ^b	1.19
with adults over the age of 65 when they are agitated?	3.00	1.00	3.20	.84	3.09	1.14	3.27	1.27

Note. Lower scores indicate greater comfort. ADS n = 5, Non-ADS n = 11
^aIndicates inter group differences at the post-test. ^bIndicates intra group differences pre to post. All are at the $p < .05$ level.

vice-learners for the autonomy factor. At the post-survey, the ADS service-learners viewed older adults in general as more dependent. Non-ADS service-learners' responses to the *ASD* items did not significantly change from the pre- to post-surveys.

Results of the independent t-tests for ADS and non-ADS service-learners on the *ASD* with the Service-learning site specifically in mind revealed significant differences at the post-survey. ADS service-learners rated older adults at their site more highly on the *instrumental* dimension (i.e., adaptability, vitality, and activity) than did the non-ADS service-learners. Older adults at the S-L dementia care sites were rated more positively on the *integrity* dimension (i.e., possessing personal satisfaction) by the ADS service-learners than the non-ADS service-learners. ADS service-learners' responses to items in the *autonomy* dimension demonstrated a trend towards rating older adults at their S-L site as more autonomous than non-ADS service-learners. Post survey responses to items on the *acceptability* dimension were comparable. Table 3 presents mean pre- and post-survey responses by ADS and non-ADS service-learners for site-specific responses for the *ASD*.

DISCUSSION

We achieved our objectives of training ADS service-learners to communicate effectively with cognitively impaired persons and to share an activity with these older adults using innovative dementia-specific training and a structured activity. Consequently, our goal of enhancing contact of service-learners with older adults was achieved. By incorporating contact theory and theory of personhood we enhanced ADS service-learners' contact with cognitively impaired persons by training them how to interact with this group of clients and

TABLE 2. Intra- and Inter-Group Comparisons on the Aging Semantic Differentia (ASD)¹

Group	<u>Instrumentality</u>				<u>Autonomy</u>				<u>Acceptability</u>				<u>Integrity</u>			
	Pre		Post		Pre		Post		Pre		Post		Pre		Post	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
ADS	18.2	6.4	17.6	3.5	20.8 ^a	5.9	23.4 ^a	7.4	19.0	8.1	17.6	3.0	14.8	4.8	14.2	4.1
Non-ADS	21.8	12.9	22.7	8.7	25.4	17.1	27.7	9.3	21.5	14.6	20.1	6.2	16.3	10.1	16.1	6.0

Note: Lower scores indicate ratings of greater instrumentality, autonomy, acceptability, and integrity. Maximum mean scores are 42 for instrumentality, 56 for autonomy, 49 for acceptability, and 35 for integrity. ADS n = 5, Non-ADS n = 11

¹Indicates intra-group differences at the pre- to post-tests. All are at the $p < .05$ level.

TABLE 3. Inter-Group Comparisons for Service-Learners: Site Specific Responses to the Aging Semantic Differential

Group	Instrumentality		Autonomy		Acceptability		Integrity	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
ADS (n = 5)	15.2 ^a	5.2	24.2	9.5	16.6	5.0	12.6 ^a	4.4
Non-ADS (n = 11)	29.6 ^a	11.1	39.1	14.7	29.0	15.0	22.9 ^a	9.2

Note: Lower scores indicate ratings of greater instrumentality, autonomy, acceptability, and integrity. Maximum mean scores are 42 for instrumentality, 56 for autonomy, 49 for acceptability, and 35 for integrity. ADS n = 5, Non-ADS n = 11

^aIndicates inter-group differences. All are at the $p < .05$ level.

by giving them a structured, appropriate activity to conduct with the clients. Results of the preliminary study provide insight to how such programming enhances service-learners' experiences and directs researchers to related questions for future investigation. The strengths of the project make it a program suitable for replication and continued assessment.

Previous research by Blieszner and Artale (2001) indicated that service-learners placed at dementia care programs reported not knowing how to interact with clients. Although students in the current study were simultaneously enrolled in a gerontology course, they did not receive in-class training on how to communicate with or engage the clients experiencing dementia. As Burgio and colleagues (2001) reported, providing care staff with communication training and guidelines for interactions can contribute to more positive interpersonal communication with clients with dementia. Our findings similarly support the value of specialized training for service-learners placed at dementia care programs.

Our training included detailed information on the limitations commonly experienced by persons with dementia; it also provided concrete guidelines on how to effectively communicate with members of this group of adults (see Lambert-Shute, Jarrott, and Fruhauf (2004) for a description of the ADS orientation and training program and a qualitative analysis of service-learners' experiences). Service-learners at other dementia care programs did not receive any training on clients' needs and abilities (Lambert-Shute et al., 2004), nor were they given structured activities to engage clients. Rather, non-ADS service-learners visited informally with clients or assisted staff with various activities. Such experiences likely contributed to the observed decline in comfort interacting with someone who is hard to understand. With enhanced understanding of clients' needs and a plan for engaging the adults, it is not surprising that ADS service-learners reported increased comfort working with this group of adults and greater intimacy with site clients.

Although the two groups of service-learners placed at dementia care sites began their S-L experience with similar attitudes towards older adults in general, as measured by the *ASD*, their attitudes about the older adults served at their respective S-L sites are quite different. ADS service-learners rated the older adults at the ADS significantly higher on instrumentality and integrity than non-ADS service-learners rated their sites' clients. The more positive ratings could reflect ADS service-learners' enhanced knowledge of and intimacy with the site clients, which resulted from the training sessions and structured activity. ADS service-learners were thus better able to support clients' personhood and, in turn, their autonomy, integrity, and instrumentality, which could contribute to more favorable ratings on these dimensions. For example, the dimension of instrumentality captures one's ability to adapt to the environment (Rosencranz & McNevin, 1969). While ADS service-learners came to know a group of individuals unable to maintain a fully reciprocal relationship with society, because of their enhanced understanding of dementia, the service-learners may have supported and observed the ADS clients' ability to adapt to a changing environment that challenged their compromised abilities. Recognizing this ability to adapt to varied caregivers, activities, and environments may have influenced the ADS service-learners to report greater levels of instrumentality at the end of their S-L work.

Service-learning experiences at dementia care sites seem to affect students' evaluation of contact and attitudes not only of site clients but also of older adults in general. The positive experience of the ADS service-learners may have generalized to the students' more positive evaluation of contact with older adults in general and with older adults in service/economic settings. Conversely, non-ADS service-learners reported receiving less assistance from older adults, they characterized their contact with older adults as less intimate, and they reported poorer quality of contact in service settings. Finally, while both groups of students performed 20 hours of service-learning at their respective sites, only the ADS service-learners reported greater contact with older adults.

Turning to attitudes towards older adults in general, the one significant attitudinal change was expressed by the ADS service-learners, who rated older adults as more dependent and less autonomous following their S-L experience. The more negative evaluation of older adults' autonomy reflects the reality of the frail group of older adults with whom they worked at ADS, and these experiences may have influenced the service-learners' evaluation of all older adults. Adults with dementia typically lose most elements of autonomy as they become increasingly dependent on others. While it may be anticipated that other service-learners would express similar change in ratings on the independence-autonomous dimension, the more negative evaluation by ADS ser-

vice-learners may reflect greater knowledge of the clients they served and, consequently, the potential for older adults in general to similarly lose autonomy. Non-ADS service-learners may not have had sufficient interactions with the adults at their sites to adequately comprehend the clients' abilities and limitations. Such a conclusion is supported by the change in service-learners' evaluation of contact with older adults from the pre- to post-survey.

According to Pettigrew (1998), a challenge to fostering positive attitudes towards disparate groups is that attitudinal change toward outgroup members in a contact situation often does not generalize to group members outside the contact situation. The finding that ADS service-learners experienced attitudinal change not only towards site clients but also older adults in general suggests that our program was powerful. The negative change in ADS service-learners' evaluation of autonomy suggests that instructors and facilitators address with students the generalizability of the S-L experience to the older adult population.

Recommendations for Future Research

Future research may improve upon the strengths of the current study. To increase sample and sub-sample sizes, and thus statistical power, replication of the training program should include service-learners placed at other dementia care S-L sites. Including service-learners from other programs would also help to control for potential confounds associated with a single site such as program staff or client functional abilities.

Differences among clients of the dementia care programs, and among the programs, should also be assessed. Although the ADS clients represented a wide range of cognitive and functional abilities, they may have been higher or lower functioning than clients of the other dementia care facilities, which could affect service-learners' success in communicating with clients. Including a measure of the average level of cognitive and functional impairment of clients at each program would permit researchers to consider this potential source of influence on service-learners' experiences. Program staff who provide high levels of person-centered care would model how to effectively engage cognitively impaired adults with communication skills and appropriate activities, yet not all programs demonstrate such behavior. The level and quality of person-centered care or staff performance can be assessed using techniques such as Dementia Care Mapping (Brooker, Foster, Banner, Payne & Jackson, 1998) or a Communication Skills Checklist (Allen-Burge, Burgio, Bourgeois, Sims, & Nunnikhoven, 2001). Capturing this data would allow researchers to control for program variation in staff care, programming, and clients' cognitive abilities.

Interpreting the Semantic Differential in the context of S-L at dementia care programs is problematic. A score increase on a given dimension indicates a negative attitude change; however, in the current study a higher score on the dimension of autonomy may represent a realistic assessment of the older adult clients, some of whom are quite capable while others are frail and dependent. Consequently, scores for this scale must be interpreted carefully with sensitivity to the program and client characteristics, which may influence respondents' scores.

Student characteristics and previous experience with older adults, particularly adults with dementia, may influence students' comfort with clients at an S-L site. Students in the ADS and non-ADS groups possessed a similar range of S-L and volunteer experiences. Members of the non-ADS group, however, rated the quality of their interactions, between the ages of 16 and 20, with older adults more favorably than did members of the ADS group. Favorable contact with older adults may contribute to a student's willingness to be placed at a dementia care site; that this difference disappeared at the post-survey provides particularly strong testimony to the effectiveness of our training program.

Future research should expand on population-specific training for service-learners and volunteers. Researchers should measure the potentially confounding variables described above, including the service-learners' previous quantity and quality of experience with cognitively impaired persons, the level of functional and cognitive impairment of clients at the different programs, and information on how dementia care service-learners spent their time at their S-L site. The research focus could expand beyond the individual unit to include the experiences of clients and staff at the S-L setting. The benefits of population-specific training may extend beyond the participating students to encompass clients and staff. By expanding the unit of analysis, increasing sample size, and measuring potentially confounding variables, scholars can more confidently assert the effects of a training program on those involved with the S-L program.

Our society faces a crisis in geriatric care staffing. A typically powerful vehicle for attracting students to a particular field is through courses in topics relevant to the discipline; another is through volunteer or S-L opportunities in the field. If coursework and S-L can contribute to individuals having more negative attitudes towards a client population, these vehicles may turn into roadblocks. Our program demonstrates that specialized training, in conjunction with coursework and field opportunities, can enhance students' experience and may make a career in aging more attractive. The preliminary dementia-specific program developed for the current study holds promise for other gerontology S-L classes as well as S-L serving other disparate groups. Gerontology S-L instructors should ensure that, besides text book instruction, ser-

vice-learners receive population-specific training as they begin their S-L experience because contact alone will not lead to positive changes in attitudes towards out group members. Providing students with knowledge of clients and necessary communication skills contributes to greater comfort interacting with older adults. Provision of such training will enhance service-learners' experiences at the site and will likely enhance the experiences of the older adults and program staff at the S-L sites as well. While previous S-L research has focused on the effects of S-L students' experiences on their knowledge, future research should consider the effects of students' knowledge and training on their S-L experiences.

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