Undergraduate Student Preference for Client Age Groups: Why the Young Avoid the Old

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Abstract

The purpose of this study was to determine Therapeutic Recreation students' expressed desire to work with older adults, as well as environmental, and educational reasons for their attitudes. A survey was developed to access students' basic demographic characteristics, work preference in age and disability groupings, factors that may influence work preferences, and attitude towards current educational opportunities. Surveys were completed by a total of 172 students in six universities across the country. Data were analyzed to identify underlying relationships among preferences for older age clients through chi-square, discriminant analysis and regression analysis. Although a number of bivariate relationships were found, the best discriminating variables were found to be comfort with older adults and teacher support for students' decision. In addition, comfort was more likely to be reported among students who were older and perceived greater competence in working with older adults. Results from this study are compared to other previous interdisciplinary studies. Educators are presented with suggestions for changing current classroom practices that could have the potential of positively impacting students' attitudes towards working with older adults.

Keywords: ageism, students, preference, employment, older adults, recreation

Biographical Information

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Introduction

Times are changing dramatically. In 1900, Americans could anticipate a life expectancy of 47 years (Administration on Aging, 2000). One hundred years later the life

expectancy in the United States has risen to 77.26 years (Central Intelligence Agency, 2001). Persons age 65 and older currently number 34.7 million. This figure will rise to 39.4 million in the year 2010, and 53.2 million in the year 2020. The growth of the older adult population in the United States will not peak until the year 2050 when an anticipated 78.9 million people will be age 65 or older (Population Reference Bureau, 1999).

What does this mean for the students currently being taught? A student today has a one in eight possibility of coming into contact with an older adult in the community. In 2030 this statistic rises to a one in five possibility of meeting an older adult (Administration on Aging, 2000). Put another way, students graduating this year at age 20 will be exposed in just 20 years to an older population of clientele some 53% more often than they are today. Figures from a recent study by Stumbo and Carter (1999) show that for therapeutic recreation students, 45.61% of employment following graduation is in a long-term care/nursing home setting. Yet, for more than a decade, results from numerous interdisciplinary studies have shown that students prefer to work with younger clientele and avoid working with older adults (Barber & Magafas, 1992; MacNeil, Hawkins, Barber, & Winslow, 1990; Moser-Ashley & Ball, 1999; Schwalb & Sedlacek, 1990; and Shoemake & Rowland, 1993; Valeri-Gold, 1996).

The impact of students' choices not to work with older adults will place the field of therapeutic recreation in a similar position as other allied health professions are faced with today. MacNeil et al. (1990) reported that no matter what the disability posed to therapeutic recreation students, the preference was to work with younger clientele. Likewise, Barber and Magafas (1992) determined that future therapeutic recreation practitioners most preferred to work with younger clients aged 0 to 20 years of age. Cornell Gerontology Research Institute noted, "Nursing homes and other long-term care facilities are facing the worst staffing crisis ever, resulting in patient deaths, injuries, careless errors, and risk of abuse" (Gerontologist calls, 2001, p. 2). Thus, there is a critical need for new professionals trained to provide services to the geriatric population, yet at the same time working with older adults has historically been found to be the least preferred area of practice among students.

Although a variety of studies have consistently found that both students in therapeutic recreation as well as other fields have indicated little intention to work with older adults, few have used a theoretical framework to understand what factors contribute to these negative views. The present study utilized Azjen's (1991) theory of planned behavior as a framework for analysis.

Theory of Planned Behavior

The theory of planned behavior (Figure 1) is a revision of the theory of reasoned action first developed by Fishbein and Ajzen (Ajzen & Fishbein, 1969; Azjen & Fishbein, 1972). The theory of planned behavior proposes that human action is guided by three factors: a) beliefs regarding attitudes related to engaging in a behavior (behavioral be-

liefs), b) beliefs regarding expectations of others (normative beliefs), and c) beliefs about phenomena that could potentially influence the performance (control beliefs) of the behavior (Hrubes, Ajzen, & Daigle, 2001).

In detail, behavioral beliefs link behaviors to outcomes, or attribute of the behavior (Ajzen & Driver, 1991). To the extent that one values the results of a particular behavior, the attitudes towards the behavior are likely to be more positive. Normative beliefs are related to the perception that "important referent individuals or groups would approve or disapprove of performing the behavior" (Ajzen & Driver, 1991, p. 187). In other words, to the extent that others such as peers, parents and teachers are supportive of a particular behavior, a student is more likely to develop the intention to engage in such a behavior. Finally, control beliefs address perceptions of one's resources and opportunities to engage successfully in a behavior. Ajzen and Driver noted that control beliefs are affected both by direct and indirect experiences.

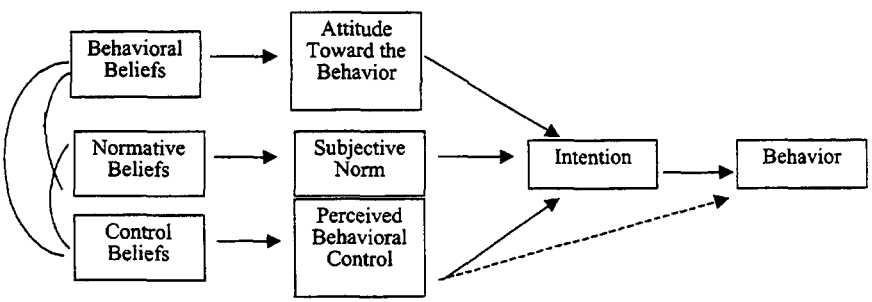

Figure 1: Theory of Planned Behavior (Ajzen, 1991)

The theory suggests that the combination of these beliefs act in such a way that a person's intention is affected, thus influencing the ultimate behavior expressed. As a result, attitudes about working with older adults were viewed in terms of behavioral beliefs, normative beliefs conceptualized as representative of the support offered by others regarding the intention to work with older adults, and control beliefs represented by perceived competence in working with older adults.

Behavioral Beliefs Regarding Older Adults

One avenue for explaining the persistent negative attitudes towards working with older adults is through the concept of ageism. Research on the impact of ageism on perceptions of older adults may be useful in providing clues to educators regarding ways to assist students in clarifying misinformation about older adults. Explicit ageism refers

to overtly negative attitudes towards older adults, which are nurtured by stereotypes commonly applied to the entire population of elders. A much more subtle form of ageism occurs implicitly without conscious awareness or control. The history of study on implicit ageism goes back to the automatic process work of William James and Sigmund Freud's studies on the unconscious (Levy, 2001). Members of socialized cultures are likely to engage in implicit ageism as cultural beliefs become integrated into socially acceptable thinking and behavior. An example from today's culture would be the internalized belief of many Generation Xers that Baby Boomers are nothing but "greedy geezers" who are using all of the available resources creating a depletion in the resources and assistance available to them when they retire (Dychtwald & Flower, 1989). A 1999 survey of implicit ageism found that 95% of study participants held negative views of older adults, a proportion higher than that for implicit racism or sexism (Levy, 2001). Students are exposed to negative stereotypes of older adults by their family, friends, and significant others, such as teachers. Consequently, ageism, whether explicit or implicit, often becomes a means of categorizing people causing perceived barriers that act as a type of "comfort zone." Young people may find that avoiding older adults provides a way to reduce their own fears of aging (Kausler, 2001). To address implicit ageism, Mosher-Ashley and Ball (1999) suggested combining didactic instruction with opportunities for intergenerational experiences. This type of pedagogical style was observed to stimulate students' positive attitudes towards their own aging.

Normative Beliefs Regarding Older Adults

Although few studies have actually examined the impact of normative beliefs on career choices of pre-professionals, some findings have supported this influence. Schwartz and Simmons (2001) referred to a study by Wittig and Grant-Thompson in 1998, which identified voluntary contact supported by authority figures was a condition related to students' positive attitudes towards older adults. Family perceptions of aging were found to also influence attitudes of students. Gorelik et al. (2000) reported the results of an earlier study conducted by McKillip (1980) that found that the quality of undergraduate familial contact with older adults positively influenced the decision to work in the field of gerontology. Exploring family influence on choice to work with older adults, Gorelik (2000) discovered that contact with family elders significantly increased students' interest in aging but that contact with non-family elders contributed significantly to the decision to pursue a career in the field of aging.

The attitudes projected by course instructors do appear to influence students' attitudes towards older adults (Tollert & Adamson, 1982; Wilhite & Johnson, 1976). McNeil et al. (1990) also proposed increasing the number of courses in aging offered to students, assuring that the attitudes projected by the instructors display positive aspects toward working with older adults. Thus, to the extent that significant persons (i.e. instructors and families) are supportive of working with older adults, it could be argued that students will be more likely to develop behavioral intentions to do so. Further study into the influence of peers on a student's decision to work in the field of aging may prove informative.

Control Beliefs Regarding Older Adults

The theory of planned behavior posits that control beliefs are related to perceptions that one has the necessary resources to successfully carry out a behavior. As noted previously, control beliefs are influenced by both direct experience as well as indirect information about the behavior. Direct contact has been found to influence students' beliefs about working with older adults. For example, Paton, Sar, Barber, and Holland (2001) conducted a study with nursing students and discovered that a strong positive relationship existed between the number of personal and professional experiences with older persons and the student's level of interest in working with older adults. In addition, Schwartz and Simmons (2001) argued that it is the favorable quality in the experience and not the quantity of experiences with older adults that is significantly related to more positive attitudes towards this age population. Favorable contact with older adults was also found to be indicative of students' perceptions about their abilities to form meaningful relationships with older adults (Shoemake & Rowland, 1993).

In addition, indirect experience, largely through coursework, has also been found to be related to behavioral intentions associated with older adults. Harris and Dollinger (2001) found that students who participated in a course on aging increased their positive view toward older adults moreso than students in a comparison course without aging-related content. Although a number of previous authors have suggested the inclusion of aging-related coursework to increase student vocational interest, concerns are raised as to the effectiveness of gerontology coursework alone. Davis-Berman and Robinson, 1989 discovered students who took a course on aging were actually less interested in working with older adults (Robert, & Mosher-Ashley, 2000). And Gorelik, et al., (2000) reported that gerontology course work attracts students to the field but cannot duplicate the benefits of personal contact.

The purpose of this study was to identify therapeutic recreation students' expressed desire to work with older adults. Given that it has been a decade since attitudes have been examined (e.g., Barber & Magafas, 1992), there is the possibility that the historically negative attitudes towards older adults have changed. In addition, this study sought to identify characteristics of perceptions and experiences that contributed to expressed desires.

Methods

Subjects

Participants for this study were 172 therapeutic recreation students at seven universities across the country. The universities were purposively selected from a world wide web listing (www.recreationtherapy.com) of universities offering a curriculum in therapeutic recreation. Four of the selected curricula were at research universities and the remaining three curricula were housed at comprehensive universities. Four universities were located in the east, one in the mid-west, and the remaining two universities were located in the western United States. One university in the east subsequently with-

drew, thus the data reported are from the six remaining programs. Coordinators of the various therapeutic recreation programs were asked to implement the study. Participants were enrolled in therapeutic recreation courses and were asked to voluntarily participate without compensation. The subjects included 152 (88%) females and 20 (12%) males. This figure indicates that males were slightly underrepresented as compared to the composition of nationally certified personnel (17% male) in therapeutic recreation (Riley & Connolly, 1997). Both undergraduate (n= 166) and graduate students (n= 5) were included in the study. One person failed to report any demographic information. The sample ranged in age from 18 to older than 27 years of age. The subjects' ages were 18-20 category (n=60), 21-23 (n=79), 24-26 (n=16), and >27 (n=16). Subjects reported the number of therapeutic recreation courses taken (including the current class) to be 0-1 (n=30), 2-3 (n=29), 4-5 (n=54), 6-7 (n=32), >8 (n=25) with two persons failing to answer the question. A majority of the subjects questioned planned to work in the field of therapeutic recreation 152 (88.4%) versus 20 (11.6%) that chose to work in other fields.

Instrument

Using the theory of planned behavior as a guide, a survey instrument was designed specifically for this study to gather nominal demographic information (12 questions), ordinal preference rankings of both age and disability groups (9 questions), interval information regarding the first and last preference noted in both the age and disability groups (24 questions requiring 48 responses), and three qualitative open ended questions to gather information pertaining to the amount of contact and experience subjects have had with various age groups, learning experiences they would like to see included in their curriculum, and current learning experiences offered by their program that they believe to be beneficial. Demographic information included gender, class rank, age, number of therapeutic recreation classes taken, anticipated graduation year, anticipated work in the field when finished with school, type of setting preferred, income expected, relocation plans, and whether or not they would become certified to practice therapeutic recreation. Students were requested to rank the most preferred and least preferred age group with which they would like to work. Age choices were young children ages 3-10, adolescents age 11-18, adults ages 19-54, and older adults ages 55 and older. Students were requested to answer 12 questions using a five-point Likert scale related to their most and least preferred age groups. Questions were asked about students' desired employment settings, perceived comfort, competence, and previous work and personal experience with the age groups identified. To discover if direct contact or implicit contact through coursework affected choice of age populations, students were requested to evaluate the impact of coursework and assignments in their decision to work with a specific population. In addition, three questions were asked about the perceived support of parents, teachers, and peers to work, or not work, with the most and least preferred age groups selected. The instrument was reviewed for content validity and approved by faculty researchers before being mailed to participating schools.

Procedures

Human Subjects approval was granted and the survey instrument was then pilot tested on 20 therapeutic recreation graduate students to ensure clarity of the questions before being distributed to subjects. After minor adjustments to wording, adding the choices of Outdoor/Camp/Adventure, Corrections/Prisons, and "other" to the demographic page asking about desired employment setting, surveys were sent to participating university program coordinators for distribution in therapeutic recreation courses of their choice. Coordinators appointed a student monitor to implement the survey and were not present when the survey was completed. Students placed the survey in a large self-addressed stamped envelope in the front of the classroom when they were finished. The student monitor collected all surveys, sealed the envelope, and delivered it to the coordinator for mailing. Noting the sequence in code numbers of surveys returned, it was determined that 20 surveys failed to be completed providing an 89.6% return rate.

Statistical Design

Completed surveys were analyzed using the Statistical Package for Social Sciences (SPSS) software program. Descriptive statistics were generated to identify the proportion of students expressing older adults as their most and least preferred population. Chi Square analysis was conducted to determine if relationships existed between identification of older adults as the most or least preferred age group and other potentially influencing variables such as gender, age, class rank, or number of therapeutic recreation courses completed. Discriminant analysis was used to identify those characteristics that differentiated students who identified older adults as their most ($n = 25$) or least ($n = 91$) preferred age population. A stepwise method of discriminant analysis was used to identify variables that were most valuable in discriminating the two groups (Klecka, 1980). Two multiple regression analyses were subsequently conducted to further examine students' perceptions of their comfort and competence in working with older adults.

Results

Student Age-Group Preference

As can be seen in figure 1, young children were predominantly identified as the most preferred (first choice) age group and older adults were the majority identified as the least preferred (fourth choice) age group. This result is consistent with previous age preference findings among therapeutic recreation students that showed preference to work with various disabled populations decreased as the age of the client increased (Barber & Magafas, 1992; MacNeil, et al., 1990).

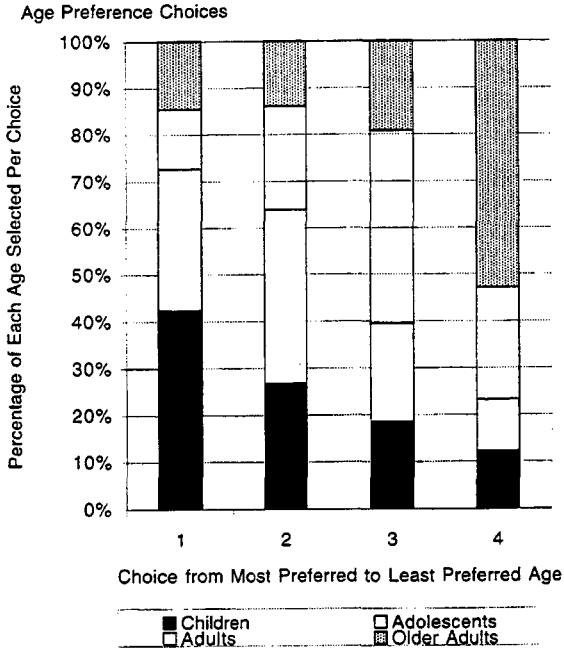

Figure 2.

Older Adults as First Choice

To examine differences among students identifying older adults as their highest age group preference, this group was compared to all other students using Chi-Square analysis. Findings indicated that students identifying older adults as most preferred were no different from other students in terms of the school attended, age, gender, class rank, or number of Therapeutic Rrecreation courses taken. They were significantly different from other students in terms of reported exposure to older adults in therapeutic recreation courses ($\underline{X}^2$= 6.326, *df* = 2, p = .042). Specifically, students who preferred working with older adults were more likely to report having had exposure in therapeutic recreation courses.

Older Adults as Last Choice

In addition, students who identified older adults as their least preferred age group were also compared to all other students. Results indicated that these students were not different from their peers in terms of school attended, age, gender, class rank, or number of therapeutic recreation courses taken. Those reporting older adults as least preferred were significantly more likely to report teacher ($\underline{X}^2$ = 10.398, *df* = 4, p = .034) and peer support ($\underline{X}^2$ = 10.607, .*df* = 4, p = 031) for their decision *not* to work with older adults.

TABLE 1

Zero-Order Correlation Coefficients

Variable	1[a]	2	3	4	5	6	7	8	9
Preference for OA (0=lo; 1=hi)	1.00								
Comfort with OA	.69**								
Perceived Competence w/OA	.55**	.66**							
Personal Exposure to OA	.28**	.35**	.29**						
Experience working w/OA	.40**	.38**	.41**	.63**					
Direct Class Exposure to OA	.25**	.32**	.31**	.55**	.70**				
Non-Direct Class Exposure to OA	.25**	.27**	.39**	.25**	.23**	.33**			
Family Supportive of OA Choice	.36**	.33**	.35**	.22*	ns	ns	ns		
Teachers Supportive of OA Choice	.31**	ns	.36**	.20*	ns	ns	ns	.62**	
Peers Supportive of OA Choice	.36**	.30**	.34**	.34**	.22*	ns	ns	.76**	.63**

Note: *p<.05; **p<.01; [a] n=115; OA refers to older adults, (N=116 unless otherwise noted)

Discriminating Age Preference

Discriminant analysis (Klecka, 1980) was used to identify those factors that were most useful in differentiating those students who most preferred older adults from those students who least preferred older adults. First, zero-order correlation coefficients were examined to identify underlying bivariate relationships (see Table 1). All of the study variables were found to be significantly related to student's ranking of older adults as a preferred population. The strongest relationships were seen in feeling of competence and comfort. Specifically, those students who ranked older adults as their most preferred age group were also likely to report feelings of comfort and competence in working with this population.

Following examination of zero-order relationships, a stepwise discriminant analysis was conducted to identify those variables that were most important in discriminating students who ranked older adults as their most preferred age group from those students who ranked older adults as their least preferred age group. Disciminating variables were selected to reflect background characteristics (age, gender, number of therapeutic recreation classes taken), student self perceptions (feelings of comfort and competence), past experience (employment, direct/indirect coursework exposure, personal contact) and perceived support (family, teachers, peers). The stepwise analysis achieved the best solution in two steps, in which feelings of comfort with older adults was entered in the first step, with perceptions of teacher support added in the second step. Table 2 reports the finding from the second step in the discriminant analysis. Based on this analysis, it appears that students' comfort with older adults and their perceptions of teachers' support for working with this population are the best discriminators. In addition, as can be

TABLE 2

Stepwise Discriminant Analysis of Age Group Preference (n=114)

Function	Eigenvalue	Percent of Variance	Canonical Correlation	Wilks' Lambda	Chi-Square	df	p
1	1.05	100.0	79.41	.489	79.41	2	>.001

Variables	Standardized Function Coefficients	Structure Coefficients
1. Comfort with OA	.949	.932
2. Teachers Supportive of OA Choice	.362	.318
3. Perceived Competence w/OA		.539
4. Family Supportive of OA Choice		.325
5. Peers Supportive of OA Choice		.288
6. Personal Exposure to OA		.285
7. Direct Class Exposure to OA		.217
8. Experience Working with OA		.171
9. Non-Direct Class Experience to OA		.128
10. Age		.145
11. Number of TR Courses		-.150
12. Gender		.009

Group Centroid = OA ranked lowest, -0.54; OA ranked highest, 1.91

Classification Results for Age Group Preference

Actual Group	Number of Respondents	Predicted Group (percentage)	
		Older Adults Most Preferred	Older Adults Least Preferred
Older Adults Most Preferred	25	21 (84.0%)	4 (16.0%)
Older Adults Least Preferred	89	3 (3.4%)	86 (96.6%)

Percentage of groups correctly classified = 93.9%

seen from the classification analysis in Table 2, this group of variables correctly classified 93.9% of the cases in the sample. Thus the variables appear to be good discriminators.

Additional examination of Table 2 indicates that although only perceived comfort and teacher support are necessary to discriminate the two groups, many of the variables not included in the solution were correlated with the discriminant function. The structure coefficients in Table 2 represent the product-moment correlation between each variable and the discriminant function (Klecka, 1980). These coefficients appear to be similar to those of the zero-order correlation coefficients in Table 1. In addition, although perception of peer and family support demonstrated stronger zero-order correlation coefficients with choice of older adults, neither was included in the final solution. This solution is not surprising given that comfort with older adults was found to be related to peer and family support, but not to perceived teacher support (Table 1). Given that perceived comfort was nearly identical to the discriminant function (structure coefficient = .932), multiple regression analysis was pursued to identify those variables that predicted perceptions of comfort with older adults. Since perceived teacher support appeared to be unrelated to perceptions of comfort with older adults, it was not included in the subsequent regression analysis.

A blocked regression design (Table 3) was employed in which perceived comfort in working with older adults was regressed on background characteristics (block 1) and study variables (block 2). As with both chi-square and discriminant analyses, most background characteristics were unrelated to variables of interest. The first block of the analysis indicated that older students were more likely to report feelings of comfort working with older adults than younger students. Otherwise, gender and number of therapeutic recreation courses taken were unrelated to perceived comfort with older adults. In addition, the first block explained an insignificant portion (Adj. $R^2 = .04$) of the variance in comfort with older adults. The second block in the regression equation included all background and study variables identified previously. The equation accounted for 46% of the variance in reported comfort with older adults. Specifically, the variables of perceived competence with older adults as well as age of the student were the only variables that were significant predictors of comfort with older adults.

TABLE 3

Blocked Regression Analysis of Comfort with Older Adults (N=114)

Variable	b	SE b	Beta	p
Block 1				
Age	.30	.12	.25	.01
Gender	.37	.37	.09	ns
# of TR Courses	.01	.09	.11	ns
Block 2				
Perceived Competence w/ OA	.62	.10	.60	.001
Age	.21	.09	.17	.05
Family Supportive of OA Choice	.19	.14	.15	ns
Direct Class Exposure to OA	.12	.11	.11	ns
Personal Exposure to OA	.12	.12	.09	ns
# of TR Courses	-.01	.01	-.08	ns
Gender	-.30	.30	-.07	ns
Experience Working with OA	.01	.10	.03	ns
Peers Supportive of OA Choice	-.01	.15	.03	ns

Note. Adj. $R^2 = .04$ for Block 1; * Adj. $R^2 = .42$ for Block 2 ($p<.001$)

Discussion

The findings of this study suggest that although past experience and perceptions of support are related to choice to work with older adults, feelings of comfort and competence are the most influential variables in identifying this choice. Degree of comfort and perceived teacher support distinguished those who preferred from those who least preferred working with older adults. In addition, those reporting the most comfort were those who felt competent with the age group and were older. The current study suggests that factors influencing the ultimate behavior of students do exist. Perceptions of support from family, friends, and significant others, as well as experience with older adults

combine to influence the perception of behavioral, normative, and control beliefs held by students. These beliefs combine to determine the student's attitude, which in turn affects the student's feelings of control and competency. Thus, when the student is questioned as to their intentions, the internalized beliefs are expressed in outward behaviors shunning older adults. Therefore, if educational interventions are undertaken to change students' behavioral intentions, all three areas of contributing factors should be considered.

Shoemake and Rowland (1993) reported that students can absorb ideas and concepts in the cognitive realm but that attitudes change in the affective realm. They recommend that students be exposed to older adults as early as their freshman year in college. Gorlik et al. (2000) make the same suggestion, expanding it to include all undergraduate students. Given that comfort seems to be a critical affective component of this choice, the nature of exposure to older adults must be considered. Contact theory postulates, "prejudice, stereotyping, and discrimination may be reduced by equal status contact and a focus on common interests and goals" (Devine & Wilhite, 1999). Thus, exposure to older adults through simply volunteering at nursing homes could actually lead to unfavorable attitudes towards older adults if the relationship is built on unequal status, and/or individual goals.

Implications for Educators and the Field

Carter (1998) wrote of increasing professionalism in the field of therapeutic recreation. She said, "A profession is born out of a society's need to have available certain services that require specialized knowledge and skills" (p. 20). The field of therapeutic recreation is in the position to fill the needs associated with an increasing older adult population. Researchers in the field of leisure, MacNeil et al. (1990), Barber and Magafas (1992), and Stumbo and Carter (1999) have all noted the importance of preparing students to work with older adults. Students must be provided with opportunities to become comfortable with their own fears of aging (Barber & Magafas, 1992) and working with elders (MacNeil et al., 1990).

Similarly, educators must be aware of the desire of students to "try out" a profession before making a commitment to work in that area (Shoemake & Roland, 1993). Robert and Mosher-Ashley (2000) determined that students wishing to work with older adults listed positive characteristics of this age population as interesting, challenging, emotionally lifting, and productive. Providing students with opportunities to increase their knowledge, experience, and confidence in their abilities can positively influence a student's competency levels. By increasing competency levels, students who have reported neutral attitudes about older adults but low interest in working with them (Paton., Sar, Barber & Holland, 2001) may show a renewed desire to explore the possibility of working with older adults. Similar to the findings of this study related to comfort and competency, Gorelik et al. (2000) wrote, "perhaps elements of intention and choice lead to a more satisfying experience with older adults and more desire to have further contact

with them, as well as creating conditions more similar to those of a professional relationship" (p. 635).

Overall, this study found that the use of a theoretically grounded model for identifying students' vocational age-preferences was useful. The theory of planned behavior may provide a way for educators to further explore and influence students' attitudes toward working with older adults. Students' beliefs about control, competency, and comfort can be further explored using this theory as a base for developing and testing educational interventions to increase the supply of therapeutic recreation practitioners desiring to work in geriatric settings.

References

Administration on Aging. (2001, February 21). *The growth of American's older population.* [demographic page]. Retrieved August 25, 2001 from the World Wide Web: http://www.aoa.dhhs.gov/May2000/FactSheets/Growth.html

Ajzen, I (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Procesess, 50,* 179-211.

Ajzen, I., & Driver, B. (1991). Prediction of leisure participation from behavioral, normative and control beliefs: An application of the theory of planned behavior. *Leisure Sciences, 13,* 185-204.

Ajzen, I., & Fishbein, M. (1972). Attitudes and normative beliefs as factors influencing behavioral intentions. *Journal of Personality and Social Psychology, 21*(1), 1-9.

Ajzen, I., & Fishbein, M. (1969). The prediction of behavioral intentions in a choice situation. *Journal of Experimental Social Psychology, 5*(4), 400-416.

Barber, E. H., & Magafas, A. (1992). Therapeutic recreation majors' work preference. *Therapeutic Recreation Journal, 26*(4), 43-54.

Carter, M. J. (1998). Increased professionalism: An experience from the United States. *Journal of Leisurability, 25*(2), 20-25.

Central Intelligence Agency. (2001). *The World Factbook 2001.* [an online reference sourcebook]. Retrieved October 8, 2001 from the World Wide Web: http://www.cia.gov/cia/publications/factbook/fields/life_expetancy_at_birth.html

Devine, M. A., & Wilhite, B. (1999). Theory application in therapeutic recreation practice and research. *Therapeutic Recreation Journal, 33,* 29-45.

Dychtwald, K., & Flowers, J. (1989). *Age wave: The challenges and opportunities of an aging America.* Los Angeles, CA: Jeremy P. Tarcher, Inc.

Gerontologist calls for pay hikes, training to increase nursing staff. (2001, February). *Aging Research and Training News, 24* (2), 2.

Gorlik, Y., Damron-Rodriguez, J., Funderburk, B., & Solomon, D. H. (2000). Undergraduate interest in aging: Is it affected by contact with older adults? *Educational Gerontology, 26*(4), 623-638.

Harris, L. A., & Dollinger, S. (2001). Participation in a course on aging: Knowledge, attitudes and anxiety about aging in oneself and others. *Educational Gerontology, 27*, 657-667.

Hrubes, D., Ajzen, I., & Daigle, J. (2001). Predicting hunting intentions and behavior: An application of the theory of planned behavior. *Leisure Sciences, 23,* 165-178.

Kausler, D. H. (2001, October 10). Why the young avoid the old. *The Herald Times,* p. J3.

Klecka, W. R. (1980). *Discriminant analysis*. Beverly Hills, CA: Sage.

Levy, B. R. (2001). Eradication of ageism requires addressing the enemy within. *The Gerontologist, 41*(5), 578-579.

MacNeil, R. D., Hawkins, D. L., Barber, E. H., & Winslow, R. (1990). The effect of a client's age upon the employment preferences of therapeutic recreation majors. *Journal of Leisure Research, 22*(4), 329-340.

McKillip, J. (1980). Predicting undergraduate interest in gerontology. *Educational Gerontology, 5*(1), 97-103.

Mosher-Ashley, P. M. & Ball, P. (1999). Attitudes of college students toward elderly persons and their perceptions of themselves at age 75. *Educational Gerontology, 25*(1), 89-103.

Paton, R. N., Sar, B. K., Barber, G., & Holland, B. E. (2001). Working with older persons: Student views and experiences. *Educational Gerontology, 27,* 169-183.

Population Reference Bureau (1999). *Aging in the United States: An education module* (Report No. SO 030947). Bethesda, MD: Department of Health, Education, and Welfare. (ERIC Document Reproduction Service No. ED439 991).

Riley, B., & Connolly, P. (1997). Statistical results of the NCTRC certification exam: The first five years. *Therapeutic Recreation Journal, 31,* 38-52.

Robert, R., & Mosher-Ashley, P. M. (2000). Factors influencing college students to choose careers working with elderly persons. *Educational Gerontology, 26,* 725-736.

Schwalb, S. J., & Sedlacek, W. E. (1990). Have college students' attitudes toward older people changed? *Journal of College Student Development, 31*(2), 127-132.

Schwartz, L. K., & Simmons, J. P. (2001). Contact quality and attitudes toward the elderly. *Educational Gerontology, 27,* 127-137.

Shoemake, A. F., & Rowland, V. T. (1993). Do laboratory experiences change college students' attitudes toward the elderly? *Educational Gerontology, 19*(4), 295-309.

Stumbo, N. J., & Carter, M. J. (1999). National Therapeutic Recreation curriculum study part B: University, faculty, student, and placement characteristics. *Therapeutic Recreation Journal, 33*(3), 241-250.

Tollett, S., & Adamson, C. (1982). The need for gerontologic content within nursing curricula. *Journal of Gerontological Nursing, 8*(10), 576-580.

Valeri-Gold, M. T. (1996). College developmental learners' perceptions, knowledge, and experiences with aged persons. *Educational Gerontology, 22,* 303-316.

Wilhite, M., & Johnson, D. (1976). Changes in nursing students stereotypic attitudes toward old people. *Nursing Research, 25*(6), 430-432.