The Effect of Occupational Therapy Education on Students’ Perceived Attitudes Toward Persons With Disabilities

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Key Words: attitude • students

Objectives. The effect of occupational therapy education on students’ perceived attitudes toward persons with disabilities was studied.

Method. The perceived attitudes of 144 occupational therapy students toward persons with disabilities were measured before (retrospective pretest) and after (posttest) the students attended formal professional education at the University of Alberta.

Results. Posttest scores were significantly higher than the retrospective pretest scores, indicating that students’ attitudes became more positive after they commenced formal professional education. The posttest scores of students at various levels of education, however, did not show any significant difference.

Conclusion. On the basis of these observations, a positive but nonlinear relationship between occupational therapy education and attitudes toward persons with disabilities was postulated.

Advancement of medical knowledge and technology leads to an increased number of surviving persons with different disabilities. Their successful social integration becomes a major issue and an ultimate goal of rehabilitation. Although society has become more industrialized and persons with disabilities have been more accepted into mainstream society (Bowman, 1992; Golden, Minnes, & Holden, 1990), negative attitudes toward them remain and hinder their successful social integration (Wilgosh & Skaret, 1987).

Negative attitudes toward persons with disabilities reflect sexual, social, educational, and vocational discrimination and prejudice (Westwood, Vargo, & Vargo, 1981). These negative attitudes encourage devaluation, isolation, and segregation of those persons with disabilities from the rest of the population (Lyons, 1991; Warren, 1985; Wolfensberger, 1983), which ultimately limits their successful rehabilitation, integration, and independence (Antonak & Livneh, 1988). The true challenge for rehabilitation, therefore, is not the development of new technology and treatments, but the overcoming of attitudinal barriers experienced by persons with disabilities in society (Roush, 1986).

Rehabilitation professionals are the chief providers of information about disability. Their attitudes toward their clients greatly affect the clients’ adjustment to their disabilities and public attitudes toward persons with disabilities (Antonak & Livneh, 1988; Lyons, 1991; Lyons & Hayes, 1993). Among the many rehabilitation professionals, occupational therapists are especially important in their attitudes toward persons with disabilities. Occupational therapists have long espoused a humanistic and holistic philosophy that values individual choice, engagement in productive activity, and the right to self-fulfillment and equal opportunity for each person (Bruce & Christiansen, 1988; Christiansen, 1991; Department of

Professional education for occupational therapy students consists of two components: formal academic education within an institution and a period of practical clinical training in various clinical or community settings (Sabari, 1985). The goal of the program is the students’ acquisition of certain ideas, skills, values, and attitudes that enable them to be competent practitioners after graduation (Jacobs, 1992; Jarvis, 1983). Occupational therapy educators continually strive to maintain high quality academic and clinical preparation for entry into the profession (Sabari, 1985) through routine assessment of students’ acquisition of knowledge and skills; however, examination of changes in values and attitudes is less frequent, possibly because of the difficulty inherent in measuring and describing changes in these latter qualities (Barris, Kielhofner, & Bauer, 1985).

Learning can be thought of as a change in a student’s way of thinking, feeling, and acting due to experiences. In occupational therapy education, these experiences include exposure to accurate information about and contact with persons who have disabilities, offered in formal academic and clinical placements and training. Accurate information about disabilities is delivered by accredited persons, professors, and clinical experts, in an educational milieu persuasive enough, as suggested in the Yale attitude change theory (Zimbardo, Ebkes, & Maslach, 1977), to rectify any faulty information about disability in students’ belief systems. Contact with clients who have disabilities is made under conditions similar to those proposed by Yuker (1983): The emphasis on equal therapeutic rapport in the interactions between therapists and clients (Townsend, Brintnell, & Staisey, 1990) and the increased focus on client-centered assessment and intervention approaches (Pollock, 1993; Sumson, 1993) imply the equal status of both parties working toward a common therapeutic goal.

Attitude modification is a popular topic in social psychology literature (Byrne, 1991). Dissemination of accurate information about disabilities and increased contact with persons who have disabilities are two of the most popular strategies used to modify the public’s negative attitudes toward persons with disabilities. Nevertheless, past research has not proved the effectiveness of these strategies when applied singly (Esposito & Reed, 1986; Mathews, White, & Mrdjenovich-Flanks, 1990). Anthony (1972), in a comprehensive article on attitude change, concluded that positive attitude change is most consistently revealed when both dissemination of information and contact with persons who have disabilities are used. He said that

If the combined effect of accurate information and contact does bring about a positive attitude change toward persons with disabilities, as advocated by Anthony (1972) and Berrol (1984), one would expect that occupational therapy students’ attitudes toward persons who have disabilities might change positively as they progress through professional education. This was the central issue examined in the present study.

Method

Research Design

A causal-comparative study was used to examine the change in occupational therapy students’ attitudes toward persons with disabilities as they went through professional education. The perceived attitudes of occupational therapy students toward persons with disabilities were measured by the Attitudes Toward Disabled Persons (ATDP) Scale – Form A (Yuker & Black, 1986). The hypotheses of this study were (a) there are significant differences among the ATDP scores of occupational therapy students at different levels of education, and (b) there are significant differences between the retrospective pretest ATDP scores and the posttest ATDP scores of occupational therapy students at each level of education.

Two different designs were used to test the two hypotheses. A between-groups design was employed to test the first hypothesis. The posttest ATDP scores of subjects were classified and compared according to their levels of professional education, namely second, third, and fourth year. A retrospective pretest-posttest design was used to verify the second hypothesis. The subjects were requested to complete two sets of the ATDP scale—Form A. The first set required the subjects to recall their perceived attitude responses before attending the occupational therapy program (retrospective pretest score), and the second set was used to tap their present responses (posttest score). The students’ pretest and posttest ATDP scores were then compared.

The retrospective pretest-posttest design was used because the effect of social desirability was less for the retrospective than for a traditional pretest-posttest design (i.e., subjects using the retrospective design were less likely to adjust answers to make themselves look better) (Howard, Millham, Slater, & O’Donnell, 1981). Furthermore, retrospective pretest-posttest design was more sensitive to measure and reflect the perceived attitudinal change (Perry, Apostal, & Scott, 1988). Additionally, Howard and associates (1979) reported that a retrospective pretest-posttest design works to counteract the tendency of type II error resulting from response-shift bias (Perry et al., 1988) pertinent to self-report measures.
Subjects

A convenience sampling method (Smith & Glass, 1987) was used to recruit volunteer subjects from the second-, third-, and fourth-year occupational therapy students at the University of Alberta (see Table 1).

Instrument

The instrument used in the study was a six-page questionnaire that included a definition of disability from the World Health Organization (1980), a demographic section, and two ATOP scales—Form A. The two sets of ATOP scales were used to obtain students’ retrospective pretest scores and posttest scores.

The ATOP scale—Form A consists of 30 Likert-type attitude statements suggesting that persons with disabilities are either similar to or different from persons without disabilities. When a difference is perceived, it is deemed negative. Scores on the ATOP scale can range from 0 to 180; higher scores represent more positive attitudes toward persons with disabilities (Antonak & Livneh, 1988). Psychometric properties of the ATOP scale were discussed by Antonak and Livneh (1988) and Yuker and Block (1986). Various studies showed that the ATOP scale is susceptible to faking (Vargo & Semple, 1984; Vargo, Vargo, & Semple, 1981) and that its scores are influenced by social desirability (Feinberg, 1967). To counter these criticisms, Yuker (1986) suggested that the scale could be used in research as long as it was not employed under conditions in which the subjects have a high motivation to fake their answers, such as in screening situations for admission to a program or for obtaining a promotion.

Procedures

The questionnaire was administered in groups at the end of the first semester of the academic year. All procedures and instructions were standardized. Definitions of words or terms used in the questionnaire were not elaborated so as to allow for subject’s personal interpretation of the meaning of each question on the ATOP scale.

Results

Questionnaires were scored, and the data obtained were analyzed by the Statistical Package for the Social Sciences—Revised (SPSS-X) (SPSS, 1990); an alpha level of 0.05 was chosen. Internal consistency of the ATOP scale reported with Cronbach’s alpha was 0.90, indicating that the instrument used in this study was highly reliable (Crocker & Algina, 1986). The mean retrospective pretest and posttest scores on the ATOP scale of second-year, third-year, and fourth-year students were computed and presented in Table 2.

To verify the first hypothesis that there are significant differences among the ATOP scores of occupational therapy students at different levels of education, the posttest scores of the subjects in the 3 years of study were analyzed by one-way analysis of variance (ANOVA) and Scheffe procedures. No significant difference in the posttest scores among the second-year, third-year, and fourth-year groups or between any two of the groups was found ($F$ ratio = 1.00, $p = 0.37$). The null hypothesis of no difference was not rejected.

The hypothesis that there are significant differences between the retrospective pretest and the posttest ATOP scores of occupational therapy students at each level of education was evaluated through the use of paired t-test procedures. The results (see Table 3) showed that the students' posttest scores were significantly higher than their retrospective pretest counterparts at each level of education. Therefore, the null hypothesis of no difference was rejected. The attitudes of occupational therapy students were significantly more positive after attending the program; however, a significant attitude change among the students was not observed while they progressed through the occupational therapy program.

Discussion

The findings showed that the ATOP scores of the occupational therapy students in the fourth year were not significantly higher than that of the students in the third or second year of education; however, students at each level

Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Students</th>
<th>Participants</th>
<th>Response Rate (%)</th>
</tr>
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<tbody>
<tr>
<td>Second</td>
<td>77</td>
<td>66</td>
<td>85.7</td>
</tr>
<tr>
<td>Third</td>
<td>62</td>
<td>43</td>
<td>69.4</td>
</tr>
<tr>
<td>Fourth</td>
<td>40</td>
<td>35</td>
<td>87.5</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>144</td>
<td>80.5</td>
</tr>
</tbody>
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Table 2

<table>
<thead>
<tr>
<th>Year</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>Second</td>
<td>122.8</td>
<td>23.4</td>
<td>131.8</td>
<td>21.3</td>
</tr>
<tr>
<td>Third</td>
<td>107.6</td>
<td>25.0</td>
<td>137.5</td>
<td>17.3</td>
</tr>
<tr>
<td>Fourth</td>
<td>105.7</td>
<td>26.7</td>
<td>136.2</td>
<td>27.0</td>
</tr>
</tbody>
</table>

Table 3

<table>
<thead>
<tr>
<th>Year</th>
<th>Difference in Means</th>
<th>p (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second</td>
<td>8.9</td>
<td>0.00*</td>
</tr>
<tr>
<td>Third</td>
<td>29.7</td>
<td>0.00*</td>
</tr>
<tr>
<td>Fourth</td>
<td>30.5</td>
<td>0.00*</td>
</tr>
</tbody>
</table>

*Significance at the 0.05 level.
of education showed posttest scores that were significantly higher than their retrospective pretest scores. These observations suggest positive but nonlinear relationships between the levels of occupational therapy education and students' attitudes toward persons with disabilities. That the posttest scores were significantly higher than their retrospective pretest scores at each level of education suggests that the attitudes of occupational therapy students toward persons with disabilities became more positive after their formal professional education had commenced. The lack of significant differences among the posttest scores of the occupational therapy students in the second, third, and fourth years suggests a leveling off of the acquired positive attitudes shortly after the education program commenced, and these positive attitudes remained stable as students progressed through the program.

The heavy demand on the subjects' memories of their retrospective pretest responses was recognized by the authors. Nevertheless, the similar trend of attitude change observed in the subjects in the second year (for whom the demand on memory was much lighter), third year, and fourth year indicates that there were positive relationships between the independent and the dependent variables.

Having identified that professional education brought about an attitude change, the curriculum of the occupational therapy program issued by the Department of Occupational Therapy at the University of Alberta (1991) was carefully reviewed to decipher the operating mechanism underlying the attitude change. According to the curriculum, formal occupational therapy education begins in the second year, after the students have completed their preprofessional year. The timetable of the first semester of the second year indicates that students are required to attend core courses relating to medical and professional knowledge about disabilities. The first clinical placement is not scheduled until the intersession between 2 successive academic years; thus information delivered during the first semester of the second year appeared to be powerful enough to reinforce positive attitudes of occupational therapy students' toward persons with disabilities (Hayden, 1992; Schelly, Sample, & Spencer, 1992). This observation is consistent with Wise and Page's (1980) contention that curriculum content can greatly affect attitude change. Because clinical placement was not scheduled during the time when attitude change took place, contact with persons with disabilities did not seem to be a significant initiator of attitude change. The present findings are consistent with those of Lyons (1991) and Lyons and Hayes (1993) that contact with persons with disabilities may not always engender positive attitudes in students. They suggested that positive effects were likely to occur when contacts were "voluntary, enjoyable, and between persons of equal status...[and] in the context of a valued social role (e.g., co-worker, friend)" (Lyons & Hayes, p. 546).

How were the initially acquired positive attitudes maintained when the students progressed through the occupational therapy program? Wetstein-Kroft and Vargo (1984) proposed that single experiences were not sufficient to produce long-term changes. Therefore, it is postulated that the subsequent dynamic interaction between further exposure to information about persons with disabilities and increased contact with persons who have disabilities maintains students' positive attitudes acquired in the first semester of the second year. On the basis of the present model that clinical experience maintains the positive attitudes acquired, but does not initiate an attitude change, the absence of significant difference in occupational therapy students' attitudes toward persons with disabilities before and after their first clinical experience, as identified by Greenstein (1975), could easily be explained.

Horne (1988) suggested that an attitude change is more likely if information acquisition is followed by interactions with persons with disabilities. According to the observations in the present study, Horne's suggestion may be modified to say that an attitude change resulting from information acquisition is more likely to be maintained if it is followed by interactions with and further information about persons with disabilities. Nonetheless, this postulation needs to be verified in future research.

Those therapists participating in Benham's (1988) study believed that the expression of a favorable attitude should be one of the criteria in the selection of occupational therapy students. The term favorable depends on subjective evaluation. However, the findings of the present study did show that occupational therapy students' attitudes toward persons with disabilities became significantly more positive shortly after they attended formal professional education. This finding implies that attitude should not be necessary as a criterion of student selection, provided that the curriculum of the occupational therapy program is somewhat similar to the one examined in this study.

If the occupational therapy curriculum remained constant, the time of measurement would be critical in determining whether a significant difference in students' attitudes at different levels of occupational therapy education would be observed. In this study, if the baseline had been ascertained before the beginning of the formal program, a significant positive attitude shift would likely have been envisaged. However, if the baseline had been obtained after the first semester of the program, an attitude change in students probably would not have been observed. To verify this postulation, the posttest scores of the fourth-year occupational therapy students were compared to the retrospective pretest scores of the second-year occupational therapy students. A significant difference was observed, with the former significantly higher than the latter ($t = -2.57; p < 0.05$, two-tailed).
Some researchers have studied attitude change of occupational therapy students during the period of professional education. Estes, Deyer, Hansen, and Russell (1991) reported that fourth-semester occupational therapy students demonstrated attitudes that were significantly more positive toward persons with disabilities than first-semester occupational therapy students. Kirchman (1987) and Westbrook and Adamson (1989) concluded that attitudes of occupational therapy students toward persons with disabilities were significantly more positive after formal instruction. In contrast, studies by Lyons (1991), and Lyons and Hayes (1993) of occupational therapy students’ attitudes toward persons with disabilities showed that senior occupational therapy students did not score significantly higher than freshman occupational therapy students on the ATDP. The differences in curriculum design used in their studies may be some of the confounding variables. Also, the lack of pretest and posttest measures and the difference in time of data collection may explain these conflicting findings.

Conclusion
The findings of the present study suggest that exposure to accurate information about disabilities initiates a positive change of occupational therapy students’ attitudes toward persons with disabilities. The maintenance of their positive attitudes is postulated to be achieved by subsequent opportunities to interact with persons with disabilities and further exposure to accurate information about disabilities.

The atmosphere of the Department of Occupational Therapy at the University of Alberta and the motivation to learn may be some of the confounding factors that contribute to the observed attitude change. Weststein-Kroft and Vargo (1984) suggested that programs for changing attitudes had to consider the motivational aspect of change. More research effort is required to delineate the effects of these confounding factors so as to refine the understanding of the mechanism of attitude modification.

Gender differences must be considered in attitude modification. The number of male subjects in this study was too small to yield valid and reliable estimates of the pattern of interaction between gender differences and attitudes toward persons with disabilities. Future research to identify such a pattern is crucial to determine the effectiveness of different attitude modification strategies.

The research design of this study presents a few weaknesses that could have been eliminated or controlled if more resources had been available during data collection. The nonequivalent groups of occupational therapy students among second-year, third-year, and fourth-year students and unavoidable historical and testing factors acting on the occupational therapy students between the retrospective pretest and the posttest are some of the threats to the internal validity of the findings (Cook & Campbell, 1979; Crocker & Algina, 1986). Alternative research designs, including the use of equivalent groups of subjects and longitudinal pretest and posttest methods, could probably yield results of higher generalizability. Despite these methodological weaknesses, the present findings should enhance understanding of the mechanism of modification of attitudes toward persons with disabilities and encourage further research on attitudinal modification of occupational therapists and other professionals working in the field of rehabilitation.

References


