Characteristics of Students in Occupational Therapy Educational Programs

M. Jeanne Madigan

This study used data from self-administered questionnaires to compare technical- and professional-level students from four occupational therapy educational programs in Illinois. Examination of the similarities and differences in biographic characteristics indicate that registered occupational therapy and certified occupational therapy assistant students come from different backgrounds. The reasons why students chose their levels of education, and the amount and character of contact with occupational therapy that they had prior to entering the program provide useful information for counselors, recruiters, and designers of informational materials. The students’ intended roles, desired career goals, and work values furnish suggestions for curriculum developers.

The shortage of staff in the allied health fields is chronic. While the available pool of trained personnel grows, the positions available for trained personnel grow at an even faster pace. In spite of the increased number of educational programs in occupational therapy and the greatly increased number of graduates, there will still be a considerable staffing shortage by 1990 (1). To help relieve this staffing shortage, the American Occupational Therapy Association (AOTA) recently embarked on an extensive recruitment campaign to increase the number of students entering occupational therapy educational programs (2).

In the 1950s, the AOTA developed the concept of a technical level of occupational therapy as a method of relieving the shortage of registered occupational therapists (OTRs) in psychiatry. Occupational therapy assistants (OTAs) were recognized by action of the AOTA Board of Management in 1957, and a plan for training and certifying them was implemented in 1958 (3).

Certified occupational therapy assistants (COTAs) were so successful in assisting the OTR in psychiatry that standards for training of COTAs in general practice were developed in 1960. In 1963, AOTA’s Committee on Occupational Therapy Assistants received authorization to conduct pilot programs that offered comprehensive preparation. At the same time, the locus for OTA educational programs began to shift from hospital-based settings to junior and community colleges, where the technical courses could be combined with broader-based general education courses. As the educational and the employment settings shifted, the functions of the assistant broadened, and the type of student changed; younger students, who could be more mobile and better educated, were attracted to the assistant level (4).

The creation of the assistant represented a structural change in the profession that necessitated behavioral change. New responsibilities, such as supervision, consultation, administration, and inservice training, were thrust on OTRs; how-

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ever, OTR educational programs provided minimal preparation for these responsibilities (5). Attempts to identify the respective roles of the COTA and the OTR (6-8) along with the institution of the career mobility program in 1974 whereby a COTA who met certain criteria could sit for the Certification Examination for Occupational Therapist, Registered, have caused some therapists to be concerned. As a consequence, the profession is examining the respective roles of OTR and COTA, and the multiple educational patterns that exist in the field. Also, many COTAs are matriculating to OTR educational programs, some without having worked or having worked for a short period of time in positions for which they were originally educated. As a result of these conditions, the following questions arise.

1. Are the two levels of students being prepared for the same roles or complementary ones?
2. Are the same kinds of individuals being recruited for both technical and professional levels?
3. Is the field, which has had a high attrition rate, educating COTA only to reeducate them again at the OTR level?

Studies investigating the occupational choice process of occupational therapists have examined only OTR-level students (9, 10). Assessment of characteristics of students in different health care fields have also used only OTR-level students (11-14). Similarly, examination of variables related to successful completion of the educational program and fieldwork performance have been concerned with the OTR student population (15-21). Studies of practicing therapists have also used only OTR-level participants (22, 23). A single study related to COTAs examined relationships between job performance after graduation with academic grades, fieldwork grades, schooling prior to enrollment, and previous experience as an occupational therapy aide (24). The only study that compared COTAs and OTRs found that OTRs were more likely to work in pediatrics compared with COTAs, who worked more frequently in geriatrics (25). Such differing employment patterns raise a question as to whether abilities and values act as a predilection for working with different patient populations or in different work settings.

The purpose of this study was to compare characteristics of baccalaureate degree occupational therapy students and associate degree occupational therapy assistant (OTA) students. The study identified similarities and differences between the two levels of students and determined if the same kinds of individuals are being recruited for both levels.

**Methodology**

**Subjects**

All freshmen and sophomore OTA students (n = 163) and junior and senior occupational therapy students (n = 100) enrolled in four occupational therapy educational programs in Illinois participated in this study.

**Instruments**

The Work Values Inventory (26) and the Student Survey, which I constructed, were the instruments used in this study. The Student Survey is a fixed-alternative, self-administered questionnaire that covers basic information such as the student's age, gender, race, source of educational finances, previous schooling, number of college-bound peers, and mother's and father's education and occupation. Results of this instrument also include how respondents learned about the field, who was influential in their decisions, reasons for selecting the field, what they intended to be doing in five years, and what career goals they hoped to accomplish before leaving the field. The last three questions differed somewhat for occupational therapy and OTA students. Each student was asked if he or she knew that the other level existed (technical or professional, respectively) and why he or she selected that particular level. Only OTAs were asked if and when they intended to go on to become an OTR. No reliability studies were done on this questionnaire; however, it was reviewed by a panel of judges and pilot tested by students who were not included in the study.

The Work Values Inventory is a 45-item self-report form in which respondents rate each work-related statement on a five-point scale, ranging from very important to unimportant. The 15 values measured are altruism, esthetic, creativity, intellectual stimulation, achievement, independence, prestige, management, economic return, security, surroundings, supervisory relations, associates, way of life, and variety. Median reliability for the 15 scales was .83, and various studies show evidence of construct and content validity (26).

**Procedure**

Questionnaires were distributed to class groups at each of the four schools along with consent forms, an explanation of the study, and assurance of anonymity. No time limits were placed on completing the forms, and the investigator was
available for clarification and collection of forms.

Data Analysis

Cross tabulations, using the chi-square statistic, were used to analyze the nominal data from the Student Survey. Work values were compared using t tests and discriminant analyses. Only alpha levels of .01 are reported as significant unless otherwise noted. Variables have been grouped and are reported under the headings of biographical characteristics, occupational choice motives, career aspirations, and work values.

Results

Biographical Characteristics

There was no significant difference between OTA and occupational therapy students in relation to gender and race. Both groups were predominantly female (92% and 96%, respectively) and white (79.8% and 89%, respectively).

Age difference was significant: OTA respondents had the highest proportion, in the 19 years or younger category whereas occupational therapy students had the lowest proportion. The occupational therapy students had the highest proportion in the 20–22 years category, more than twice the percentage of OTAs in this group. There were more occupational therapy students in the 23–25 years category, but there were more OTA students in the 29 years or older category. The difference between the two groups as to the number of previously earned degrees (at the same level in which the student is presently enrolled) was also significant: more occupational therapy students had earned degrees. However, it should be noted that no entry-level masters program existed in Illinois.

One of the questions on the Student Survey asked respondents to indicate whether the five sources listed were a major source, a minor source, or not a source through which they intended to finance their educations. Common financial sources for occupational therapy students were family, loans, and personal savings. Financial sources for most OTAs were grants and scholarships, which do not need to be repaid. Personal employment failed to reach a level of significance.

Differences in estimates by the two groups of how many of their close high school friends went to college reached significance. More than one-half of the occupational therapy students, but only 15% of the OTAs, indicated that more than 75% of their peers went to college.

There was a significant difference between the OTA and occupational therapy students for both parents’ educations. Forty-four percent of the occupational therapy students’ mothers had some college or held college degrees; only eighteen percent of the OTAs’ mothers held the same. Fifty-four percent of the occupational therapy students’ fathers had some college or held degrees; twenty-seven percent of the OTAs’ fathers had the same.

Although more mothers of occupational therapy students held positions in the professional, technical, managerial, clerical, and sales categories than did the mothers of OTA students, the differences between the two groups were not statistically significant. However, the differences between the two groups in relation to fathers’ occupations were significant. Twice as many fathers of occupational therapy students held professional, technical, and managerial positions; whereas almost twice as many OTA fathers held positions in the machine and structural trades.

Occupational Choice Motives

There was a significant difference between OTA and occupational therapy students regarding how they first learned about the field. The most noteworthy difference is that a larger proportion of OTAs learned about occupational therapy from printed literature, whereas more occupational therapy students learned about the field from an occupational therapist or an occupational therapy student. The occupational therapy students also had significantly more previous experience with occupational therapy before entering the educational program. These data are somewhat biased, because one requirement for admission to the OTR program is to spend at least eight hours observing in an occupational therapy department. This requirement may also be met by being a volunteer or paid employee in the department. It is also worth noting that the greater involvement (e.g., volunteering or working), although not required, is a more frequent occurrence in occupational therapy students than the OTA students (64.6% vs. 10.5%, respectively).

Students were presented with 15 reasons commonly given for choosing a career and were asked to rate each as very important, somewhat important, or not important in making the decision to go into occupational therapy. More than 90% of both groups listed the following reasons for entering the field: “interesting and challenging work,” “can be helpful to others,” and “able to work with people.”
The following priority listings show a significant difference between the two groups: "low pressure job" was a more important reason for OTA students, and "leadership possibilities" and "a great deal of independence" were important reasons for the occupational therapy students.

**Career Aspirations**

Two items on the Student Survey provided data regarding the respondent's career aspirations: their intended primary role in five years and goals they hoped to accomplish before they left the field. The difference in responses on primary role was significant: 63.5% of the OTAs intended to be treating patients compared with 49% of the occupational therapy students, and 21.4% of the occupational therapy students compared with 7.5% of the OTAs intended to be managing a department.

Regarding goals that the respondents considered important for themselves, "becoming an expert in a special area of practice" was selected by a majority of both groups. However, there were differences between the two groups on seven of the goals. The goals of "supervising the work of others," "heading an occupational therapy department," "writing books or journal articles," "teaching," "consulting," and having a "private practice" were selected by significantly more occupational therapy students. The goal of "creating artistic works" was selected by significantly more OTA students. Table 1 details the numbers and percentages of subjects and the level of significance for each goal examined.

**Work Values**

Of the 15 values represented in the Work Values Inventory, 9 were statistically different between the two groups. The scores for OTA students were higher for achievement, surroundings, supervisory relationships, security, and esthetics. The scores for occupational therapy students were higher for way of life, independence, variety, and intellectual stimulation. Means, standard deviations, and levels of significance for all work values are given in Table 2.

A discriminant analysis was also performed on work values data. A random sample of 20% of the subjects in each subcategory (a total of 50 cases) was removed from the data base and reserved for later validation.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Frequencies (Percentages) and Test of Significance for OTA and Occupation Therapy Students by Important Goals to Accomplish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>OTA</td>
</tr>
<tr>
<td>Become an expert</td>
<td>119 (73.0)</td>
</tr>
<tr>
<td>Recognition from colleagues</td>
<td>46 (28.2)</td>
</tr>
<tr>
<td>Supervise others</td>
<td>41 (25.2)</td>
</tr>
<tr>
<td>Head an occupational therapy department</td>
<td>44 (27.0)</td>
</tr>
<tr>
<td>Make a theoretical contribution</td>
<td>52 (31.9)</td>
</tr>
<tr>
<td>Create artistic works</td>
<td>61 (37.4)</td>
</tr>
<tr>
<td>Do research</td>
<td>52 (31.9)</td>
</tr>
<tr>
<td>Write books/journal articles</td>
<td>10 (6.1)</td>
</tr>
<tr>
<td>Officer, state professional organization</td>
<td>12 (7.4)</td>
</tr>
<tr>
<td>Active, national professional organization</td>
<td>33 (20.2)</td>
</tr>
<tr>
<td>Peace Corps, etc.</td>
<td>19 (11.7)</td>
</tr>
<tr>
<td>Teach occupational therapy students</td>
<td>30 (18.4)</td>
</tr>
<tr>
<td>Consult</td>
<td>42 (25.8)</td>
</tr>
<tr>
<td>Private practice</td>
<td>29 (23.9)</td>
</tr>
<tr>
<td>Other</td>
<td>12 (7.4)</td>
</tr>
<tr>
<td><strong>n</strong></td>
<td>163</td>
</tr>
</tbody>
</table>

See text for abbreviations. Chi-square statistics are corrected; all degrees of freedom = 1. *, Significant at .01.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Mean, Standard Deviation, and Test of Significance for OTA and Occupational Therapy Students by Work Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>OTA Student</td>
</tr>
<tr>
<td>Creativity</td>
<td>12.21</td>
</tr>
<tr>
<td>Management</td>
<td>9.38</td>
</tr>
<tr>
<td>Achievement</td>
<td>14.01</td>
</tr>
<tr>
<td>Surroundings</td>
<td>12.42</td>
</tr>
<tr>
<td>Supervisory relationships</td>
<td>12.87</td>
</tr>
<tr>
<td>Way of life</td>
<td>13.48</td>
</tr>
<tr>
<td>Security</td>
<td>12.49</td>
</tr>
<tr>
<td>Associates</td>
<td>10.64</td>
</tr>
<tr>
<td>Esthetics</td>
<td>9.66</td>
</tr>
<tr>
<td>Prestige</td>
<td>11.10</td>
</tr>
<tr>
<td>Independence</td>
<td>11.12</td>
</tr>
<tr>
<td>Variety</td>
<td>12.09</td>
</tr>
<tr>
<td>Economic return</td>
<td>12.17</td>
</tr>
<tr>
<td>Altruism</td>
<td>14.50</td>
</tr>
<tr>
<td>Intellectual stimulation</td>
<td>12.09</td>
</tr>
</tbody>
</table>

OTA, occupational therapy assistant.
testing of the classification. The remaining cases were used for the original analysis. The results of the analysis showed that eight values were used in a step-wise fashion to discriminate between the OTA and occupational therapy students, and 76% of the cases were correctly classified. To test the true discriminating ability of these values, the 50 cases that were removed from the original database were then processed, using the coefficients from the original analysis. This procedure correctly classified 82% of the cases.

Discussion

One of the most remarkable differences in biographical characteristics between occupational therapy and OTA students is in the key persons influential in the students' career choices. Many more of the occupational therapy students' close high school friends went on to college, and more of their parents had some college education or held college degrees. Occupational therapy students also had a greater number of parents whose occupations were in professional, technical, or managerial fields. Thus, the role models set by peers and parents would seem to be a powerful influence on the students' choices of level within the occupational therapy field. In addition, it appears that the families of occupational therapy students gave them more frequent financial support for educational expenses. Occupational therapy students also seemed to make more use of repayable loans. It is not known if this loan use is because of the easy availability of a loan, a student's value orientation, or the professional-level student's anticipation of higher earnings from which to repay such loans.

The larger proportion of OTA students in the 19 or younger category and the 29 and older category indicates that greater numbers of younger individuals are entering OTA programs than when formal training programs were first established some 20 years ago; however, there are still many who apparently delay entering educational programs. The large number of occupational therapy students who have already earned degrees at the same or higher level than the degree awarded for the program in which the student is presently enrolled indicates that some of the occupational therapy students are initially enrolled in educational programs other than occupational therapy. This is in keeping with findings that working class individuals explore and test interests and abilities during their early working years, as opposed to the upper middle class individuals, who do their exploring by taking different types of subjects in school (27).

The way in which the two groups first learned about occupational therapy is, in general, similar to earlier findings (9); however, the magnitude of frequencies is different for the two groups. Reading printed literature was cited by more OTAs, whereas speaking with other therapists or occupational therapy students was cited by more occupational therapy students. The study also showed a large difference between the two groups in the amount and character of previous, direct occupational therapy experience. As explained earlier, these results are biased by the occupational therapy preadmission requirements. Also, nine COTAs were enrolled in the OTR program. However, there remains a large percentage of occupational therapy students who worked or volunteered (over and above the requirements) in occupational therapy departments before entering educational programs. This reduced access to OTRs or occupational therapy students and the reduced opportunity to observe occupational therapy firsthand for the OTAs may be because of the inability on their parts to make a time commitment to a nonpaid experience.

The reasons for going into the field seem to be essentially the same whether the student chooses the technical or professional level, and these reasons support findings of previous studies (9, 11). The reasons students most often gave for choosing occupational therapy were to be able to (a) work with people, (b) be helpful to others, and (c) perform interesting and challenging work. When asked why they chose their particular educational level, approximately 20% of both groups of students indicated that they did not know that the other level even existed. This means that each student's choice was not a fully informed decision. Only 6% of the OTAs said they wanted to do assistant-level type work, whereas 31% indicated that they wanted to see what occupational therapy was like first or that they could always go on to become an OTR later. The remaining OTA respondents indicated an outside influence or constraint (e.g., financial) as the reason. This would seem to indicate that for the majority of OTAs, their career decision was either out of their hands or they were employing a preliminary, fact-finding tactic by selecting the assistant-level program. This was borne out in their responses to the question of whether or not they intended to become an OTR.
that they did intend to become one. Ten percent of the occupational therapy students had previously been in COTA programs. The remaining occupational therapy students indicated that they wanted the kind of job or status that the OTR level provides.

In support of earlier findings (10), occupational therapy students are apparently very committed to the field. Less than 5% indicated they did not intend to be working, or intended to be working in another field, in five years. A greater proportion of OTAs were undecided as to what they intended to be doing in five years. This may be because of the greater number who had no direct experience in occupational therapy and thus had less knowledge about role possibilities or less commitment to the field. Of the students who intended to be working in occupational therapy, a greater proportion of OTAs chose treating patients as their primary role. Managing a department was the distant second choice for both levels; however, almost three times as many occupational therapy students selected this option.

Responses to the question regarding career goals were similar to those of previous findings (11); that is, the largest proportion of both groups primarily selected the becoming an expert in a special area of practice category. However, the proportion of other responses were quite different for the two groups. Almost five times as many occupational therapy students as OTAs selected the writing books or journal articles category; approximately twice as many occupational therapy students chose the supervising others, heading an occupational therapy department, teaching, consulting, and having a private practice categories. Twice as many OTAs selected the creating artistic works category.

These results are consistent with the two levels in occupational therapy. Certified occupational therapy assistant courses generally do not devote as much time to teaching the theoretical underpinnings of the techniques used in the field. Also, COTAs generally are expected to work under the supervision of OTRs and are restricted as to the interpretation of evaluative findings and the planning of treatment for clients (8). According to Super, variety reflects a pleasure rather than a task orientation and relates to the opportunity to do different types of jobs. While the occupational therapy field as a whole provides a wide range of jobs and tasks, COTAs are more limited than OTRs in their normal responsibilities and tasks.

Occupational therapy students scored significantly higher than did OTAs on the value of independence, which permits a person to work in his or her own way. Management, which is associated with work that permits a person to plan and lay out work for others, was the category receiving the lowest or second lowest scored value; only the esthetics category was valued less by the occupational therapy students. The remaining four val-
ues (surroundings, security, supervisory relationships, and esthetics) were scored significantly higher by the OTAs than by the occupational therapy students. Concern for these extrinsic values is apparently more important to the OTA students than to the occupational therapy students.

Thus, there are some striking differences between the groups of students (see Table 3 for ranking of the work values by each group of students). Both groups hold the values of altruism, achievement, and way of life the highest. The occupational therapy students gave relatively high value to variety and intellectual stimulation; in contrast, the OTAs gave high values to supervisory relationships and security. Both groups scored low on the prestige, associates, management, and esthetics categories. However, OTAs gave relatively low value to independence, whereas occupational therapy students gave low value to surroundings. Occupational therapy students seem to be similar to Super’s Peace Corps teacher subjects, who seek to serve others in unusual ways and who value variety and intellectual stimulation rather than supervisory relations and associates. Occupational therapy assistants share a number of value characteristics with skilled or semi-skilled workers (e.g., supervisory relationships, security) (26). This would seem to fit with their desire to hold the technical-level position in a helping profession.

Conclusions

Because of the geographic concentration of the study subjects, caution should be exercised in making generalizations to all OTA and occupational therapy students. However, the rather strong findings suggest a number of implications for the field of occupational therapy and for its educators. More expanded information needs to be available to prospective students from all walks of life. The existence and nature of both levels of the profession should be explained in printed literature and audiovisual materials, and during career days and health career courses. The roles and functions of both levels should be emphasized so that prospective students and counselors have a realistic knowledge about appropriate expectations of each level. Improved counseling, which encourages exploration of both levels in the field and self-examination of values and goals, would equip students to make more informed and congruent educational and career decisions. Because there are not many educational programs that are designed to articulate between levels, it is costly in time and money (for students and for the profession) if students explore the field by first becoming a COTA. This does not negate the viability of this route for those students who need to work for a time before going on for a baccalaureate degree.

This study also has implications for curriculum development. One such implication is to include content in OTR programs, which better prepares students for their future supervisory and leadership responsibilities. While technical- and professional-level students have similar reasons for selecting the field of occupational therapy, they are more divergent in what they intend to do once they complete their education and obtain work experience. Because many OTR students hope to move within the profession beyond positions that are exclusively patient treatment elective courses could be made available for those students who show an interest in research, writing, department management, or leadership. These courses would expand the students’ knowledge of available options and provide beginning skills in their special areas of interest, thus facilitating their pursuit of these goals.

Work values deemed important by the two groups tend to be in concert with these goals. This may be an important support for the findings of the AOTA role delineations. There are many similarities in the functions that the two levels perform when the focus is primarily on patient treatment (after all, we are members of the same discipline). Perhaps the greater disagreements are more apparent in non-patient treatment roles (e.g., management, education, research, theory building, and publication). The data from this study indicate that students entering the two different levels have interests and goals congruent with these different roles.
We should recognize this and foster the further development of the various interests; this would support the activities that would help our continued growth toward recognition as a viable and unique profession.

Further study in this area might focus on the question of whether or not COTAs who want to go on to become OTRs differ from COTAs who do not want to become OTRs. The answer may provide some clues to identifying these students earlier and facilitating their enrollment in the appropriate educational programs. Other questions to consider follow. What are the characteristics of those COTAs who actually do go on to become OTRs? Do practicing OTRs and COTAs exhibit differences in career aspirations and work values that are similar to the students in this study? Do those whose goals and values differ from the norm show less job satisfaction? Answers to these questions could provide information that might reduce duplication of educational effort and attrition in the profession.

Summary

Examination of occupational therapy and OTA student characteristics derived from self-administered questionnaires indicates that the two groups come from different socioeconomic backgrounds. While students from both groups choose an occupational therapy career for similar reasons, their work values and career goals differ. Knowledge of these differences could be helpful in response to the current staffing shortage in occupational therapy.

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