This is a follow-up study of the 20 junior students admitted into an occupational therapy educational program under a selection process described in a previous article in AJOT in 1974. It reports the outcome resulting from the use of the selection process and t test findings between the upper ten ranked students and the remaining lower ranked students. Academic achievements and employment patterns of the 19 students completing the program are presented.

Johnson, Arbers and Thompson (1) reported in 1974 on a survey they conducted of 40 occupational therapy academic programs "to ascertain the need for selection procedures to determine what procedures are used and to identify those basic professional occupational therapy programs that are conducting research on student selection procedures" (p 598). Although this study disclosed that a variety of selection methods were in use, no documentation of their effectiveness was available. That same year, Lucci (2) described a selection process to admit applicants into an occupational therapy curriculum. The present study was undertaken to determine the outcome of the selection process described.

The popularity of careers in the health care field and the overwh-

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Student Selection Process: A Follow-Up Study
(admission process, career follow-up, outcome measures)

Jennie A. Lucci
Jo Ann Brockway
ing number of applicants for limited openings in such educational programs has spurred the concern for selection of applicants. Gordon and Davis' report of the 1975-76 Study of U.S. Medical School Applicants (3) indicated that, although the size of the applicant pool had declined since 1966, there was still a considerable imbalance between the number of available spaces in medical school and the number of qualified applicants. A similar trend was reported again the following year (4). To make the admission process as efficient and equitable as possible, it was recommended that major revisions be made in some sections of the medical school admission requirements such as the area of selection factors.

Concern with admission procedures is not confined to the United States. Dr. Sheldrake of the Center for Research in the Educational Sciences at the University of Edinburgh looked at the recurring issue of selection for entry into medical schools (5). He quoted from a paper presented to a group organized by the World Health Organization working on selection of students for medical education that briefly indicated that "... virtually no satisfactory current selection procedures have been found ..." Sheldrake concluded that the research accomplished gave little support to the belief that there is an "ideal" selection framework, but further stated that his paper was based on a relatively small amount of research and that additional research was needed.

Dental schools have rebelled against traditional selection methods but have had little success in their efforts to develop more accurate systems. Barkley (6) described a system whereby a number of outstanding practitioners cooperated with a selection research corporation to gather identifiable traits that could be used to establish a profile of the successful dentist. The profile became the nucleus toward the development of an abbreviated, scorable interview for large numbers of applicants, a 30-minute screening process with potential to eliminate the below average applicant, and a training program to introduce admission personnel to these new meth-
discussed a Career Inventory the admission procedures for student
apy, as early as 1951, Thompson (8) ods used or advocated was reponed ..
American Occupational Association (AOTA) had carefully de­
selection in medical technology. A
author discussed the method used evaluate any of the procedures.
occupational therapy. The AOT A
a practical situation. However, no
questionnaire was sent to 86 ran­
domly selected educational institu­
environments used in selecting students that
were no indications that the
students admitted into the occupa­
tional therapy literature that the
inventory to be in close agree­
ment with the evidence already avail­
ple correlation of .56 between the five-part
scores of the Career Inventory and the
composite criterion of 16 variables including ratings of professional
behavior and dependability. These
authors, then, found the validity of the selection process to be in close agree­
ment with the evidence already avail­
able as a result of the original AOTA study. Subsequent to this study there has been no indication in the occupa­
tional therapy literature that the
Career Inventory had been evalu­
ated as an effective device in the
selection process.

In 1962, Crane (10) instigated a search for screening devices for the selection of occupational therapy majors. A series of 12 tests was explored with the result that 6 were recommended as a battery. Again there were no indications that the tests had been used or studied on their effectiveness in the selection of students. Thereafter, no mention of the concern for selection procedures appeared in The American Journal of Occupational Therapy until the Johnson and others (1) and the Lucci (2) studies mentioned previously appeared in print. In 1979, two studies dealing with different aspects of the selection process in occupational therapy were presented (11, 12).
The Blaisdell and Gordon (11) study was an attempt to eliminate subjectivity from an occupational therapy curriculum's selection process by extracting significant factors or characteristics from the process to aid the admission committee. The authors' primary interest was to find the factors that would discrimi­
dine those students remaining in the program from those who would withdraw from the program. The study was accomplished by collect­ing data retrospectively on stu­
dents admitted into the occupa­
tional therapy program from the date of its inception. Conclusions drawn from the study indicated that the results represented only the begin­
inning in streamlining a complex process and that more study was needed to develop a student selec­tion process for predicting the suc­
cessful candidate. In addition, the authors presented a mathematical model for selection of students but indicated that it required further testing and revision for future use.

Mann (12) presented a three-year study on the use of a structured rat­
ing for interviewing applicants to an occupational therapy program. He found that each interviewer using the interview form scored applicants differently and that these differ­
ces had an effect on decisions to admit or reject an applicant. Once again the problem of the effective­
ness of the interview in selecting students for the program had not been studied.

In summary, the literature re­
viewed revealed that there continue to be more applicants than enroll­
ement positions available, that a number of selection procedures are in use, and that there is a definite lack of systematic studies to evalu­
ate the effectiveness of those selec­tion processes currently in use.
The present study was instituted to determine the effectiveness of the selection process described by Lucci (2). Of secondary importance was the question of whether or not there
were significant differences between the students ranked in the upper half of the class at admission and those ranked in the lower half of the class with respect to entering grades, field experience II scores, grades at completion of the program, and certification examination results.

The scope of the study was limited since the subjects consisted of the first 20 students admitted to the program, using the selection process identified above.

**Subjects**

For the 1973-1974 academic year, the University of Washington Occupational Therapy Program established 20 positions as its admission quota. Using the selection procedures described by Lucci (2), 52 applicants who met the required academic criteria were individually ranked by 5 faculty members for the established positions. The Kendall's Coefficient of Concordance measure showed a significantly high correlation of agreement ($W = .70, p < .001$) among the faculty on the rank order of the applicants. The 20 highest ranking applicants were offered the positions with 16 acceptances. Individuals ranked in order from 21 to 24 were then offered admission, and, with their acceptance, the quota of 20 positions was filled.

The admitted class consisted of 17 female and 3 male students ranging in age from 19 to 26, with a modal age of 20 years. Class cumulative grade point average at entry was 3.50, with the highest grade being 3.86 and the lowest, 2.70. Three students had grades below 3.0 but well above the 2.50 minimum grade requirements.

During the first quarter of the academic year, the student ranked number one withdrew from the program, stating she was not interested in taking the required anatomy and neurophysiology courses and was not included as part of the study. The remaining 19 students continued with the program to completion. For the purpose of this study the students originally ranked 2-10 will be referred to as Group I, and the remaining 10 students who were admitted will be referred to as Group II.

**Method**

Inasmuch as this was the first class admitted under the selection process established, academic progress was closely monitored. Data for the current study were collected for a period of five years. These data consisted of recorded cumulative grade averages at entry into the program, grade averages over the junior year, grade averages over the senior year, and grade averages over the two-year program. Since students receive academic credit for field experience II but no numerical grades, the grade average at the completion of the program reflects only academic achievements.

Field experience II scores collected included scores for 15 students who elected the minimum six-month requirement and for 4 students, 2 in each group, who requested 9 months of field experience. The national certification examination was taken in three different sittings by the graduating class. The data accumulated included each subject's score on the examination, the national range of raw scores, and the comparison of scores between the two groups.

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Total Class (n = 19)</th>
<th>Group I (n = 9)</th>
<th>Group II (n = 10)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative GPA at Entry</td>
<td>Mean GPA 3.30 .30</td>
<td>Mean GPA 3.37 .36</td>
<td>Mean GPA 3.24 .23</td>
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<td>GPA for Junior Year</td>
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<td>GPA for Senior Year</td>
<td>3.49 .30</td>
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<td>GPA across Program</td>
<td>3.41 .33</td>
<td>3.50 .38</td>
<td>3.32 .26</td>
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*Based on 4.0 scale.

### Table 2

<table>
<thead>
<tr>
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<th>Group I (n = 9)</th>
<th>Group II (n = 10)</th>
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<td>Mean S.D.</td>
<td>202.96 5.71</td>
<td>187.82 5.50</td>
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*p < .001.
Table 3
Scores of National Occupational Therapy Certification Examination

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<th>National Range of Scores*</th>
<th>National Mean</th>
<th>National Standard Deviation</th>
<th>Group I</th>
<th>z Score</th>
<th>Raw Score</th>
<th>Group II</th>
<th>z Score</th>
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<td>198</td>
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<td></td>
<td></td>
<td>+1.00</td>
<td>+1.15</td>
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<td>Second Sitting</td>
<td>157-198</td>
<td>177.3</td>
<td>20.56</td>
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<td></td>
<td>+0.08</td>
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<tr>
<td>Third Sitting</td>
<td>161-203</td>
<td>181.9</td>
<td>20.66</td>
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<td>196</td>
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<td>+0.51</td>
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<td></td>
<td>+0.44</td>
<td>+0.58</td>
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</table>

*Indicates range in which two-thirds of the scores fell.

and the national mean and standard deviation for each sitting.

In 1978, a survey of this class was conducted by questionnaire to which all responded. Questions dealt with information regarding employment since graduation, client population, salary ranges, and participation in continuing education. Subjects were also asked to make comments on the program if they wished.

Results and Discussion

Table 1 indicates the mean cumulative grade average for the entire class and for Group I and Group II at entry into the program and at several points throughout the program. The t test for independent groups was used to determine whether or not there were significant group differences in the cumulative grade average at admission to the program and the cumulative grade average during the two-year program. As noted in Table 1, these differences were not significant. No statistical tests were conducted on the grade averages for the junior and senior years, but the grades were included in the table to show the academic progression of the students. The junior or first year of the program is heavily weighted with science courses and generally, any attrition rate occurs during the early portion of this academic year. From the standpoint of grades, the selection process appears to prove effective with students maintaining or improving their grades during the course of the program.

The mean scores attained in field experience by both groups and the results of the t test appear in Table 2. The mean score for Group I was significantly higher than the mean score for Group II (p < .001). A number of factors may have influenced the field experience scores. For example, a number of the students had entered the program with three years of college work as opposed to the required two years and hence may have had a more mature approach. A number of the students had had previous experience in working with illness or disabilities. Also, a number of students had had field experience I in centers to which they returned for field experience II. However, these factors did not appear to apply exclusively to one group; rather, they were spread throughout both groups. It is unlikely, then, that any of these factors accounted for the difference between Group I and Group II in field experience scores. It may be that this difference reflects a subjective factor in the selection process, such as the general impression made in the interview situation, which may also influence field experience ratings.

Students' scores on the occupational therapy national certification examination, as well as the national range of scores, mean, and standard deviation, are shown in Table 3. It should be noted that the national range and national mean and standard deviation were not significant.
ard deviation were different for each of the three sittings for the examination. In order to compare the certification examination scores of the two groups across sittings, raw scores on the examination were transformed into z scores. This reflects the extent to which a raw score deviates from the mean (13, pp 80-82). The t test for independent groups, conducted on the z scores, showed no significant difference between the two groups on the certification examination scores (t = .07).

One student in Group I failed the examination in the first sitting (score 144). The student repeated the examination at the second sitting and passed, although only the original score was used in the data analysis. Despite the failure, the total class mean was higher than the national mean. This tendency for higher scores has been prevalent throughout the program’s existence and suggests that the program more than adequately prepares its students as competent therapists.

Employment
In June of 1978, approximately 3 years after graduation, a survey of this class was conducted with all 19 former students responding. Seventeen graduates, or 85 percent of the admitted class, were employed as occupational therapists. Nine of the graduates were in their second position and six were with the first employer, although their status had advanced. One graduate had joined the Peace Corps and was in South America working with handicapped children. Another obtained sporadic work, electing to travel with her husband. A third graduate whose husband was pursuing a military career had been located in a variety of areas that offered no opportunities to put her skills to use. A male graduate chose to leave the field for more lucrative employment after one year of practice, but stated he was using his medical knowledge to advantage as an insurance agent. Employment preference covered a wide range of interests. The graduates were employed predominantly in pediatrics, although others worked in geriatrics or mental health, or with blind, mentally retarded, or physically disabled adults. Sites of employment were in the states of Arizona, Colorado, Illinois, New York, Tennessee, Washington, and Wisconsin. Salary scales ranged from $9,500 to $17,500, with the majority ranging in the $11,000 to $15,000 scale.

Summary
This study was conducted to evaluate a method for selecting students for an occupational therapy curriculum (2). Data were collected on student performance through the academic, field experience II, and certification phases of their program. Of the 20 students admitted, one left the program in the early stages and 19 graduated. Three years after graduation 17, or 85 percent of the class, continued in employment as registered occupational therapists.

Statistical data were compiled to compare the students ranked in the top half of the admitted class with the remainder of the class. The data indicated there were no significant differences between the two groups with respect to grades in the program and scores on the certification examination. Field experience results, however, showed a significant difference between the two groups at the .001 level. It was hypothesized that this might be related to some subjective factor such as a good personal impression that influenced both interviewer ratings and field experience ratings. Because of the limited sample, this can only be a suggestion that merits further study.

In spite of the limitation of this study, the selection method in question generally appeared to have been successful in selecting candidates who would do well in the program and in the profession.

Acknowledgment
This study was supported in part by the Rehabilitation Services Grant #16-P-56818.

REFERENCES