The Scholarly Productivity of Occupational Therapy Faculty Members: Results of a Regional Study

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Key Words: allied health personnel • professional competence • research

A study of the scholarly activities of 66 occupational therapy faculty members at selected academic health centers was conducted through a mailed survey. An analysis of the responses showed that (a) the respondents' primary scholarly activities were reporting research findings in refereed journal articles and presenting papers at professional meetings and (b) only a small percentage of the respondents had directed extramurally funded projects. In addition, the level of scholarly productivity of the occupational therapists was significantly lower than that of their allied health colleagues. The majority of the respondents indicated that their own academic preparation was the primary factor that encouraged their scholarly pursuits and that heavy teaching responsibility was the primary discouraging factor. The respondents indicated also that faculty scholarly activities are, and will continue to be, important considerations in academic promotion decisions.

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4. In what types of research activities are occupational therapy faculty members involved (e.g., laboratory, clinical, educational, survey)?
5. To what extent have occupational therapy faculty members been involved in grant-related activities (e.g., number of grants and sources of grants)?
6. What are occupational therapy faculty members' perceptions regarding the following:
   a. Importance of scholarly pursuits to their academic promotion?
   b. Factors that encourage and assist faculty scholarship?
   c. Factors that discourage or prevent faculty scholarship?
   d. Future importance of occupational therapy faculty scholarship in academic promotion?
7. Are there differences in the scholarly production levels of occupational therapy and other allied health faculty members?

Background

Over the past several years, researchers have documented the importance of scholarly activities to allied health faculty affairs. In 1975, a study was conducted of the promotion policies of the majority of baccalaureate degree-granting institutions in the American Society of Allied Professions. Teaching-related criteria were the first and fourth most important considerations for faculty promotion; publications and research were second and third (Holcomb & Roush, 1977). Almost a decade later, Conine, Shilling, and Pierce (1985) surveyed faculty members in 21 allied health schools regarding their views on the relative importance of selected activities to academic promotion. Of the 48 times on the questionnaire, those receiving the highest ranking of importance were, in order, published articles in refereed publications; papers presented at scientific meetings; evidence of professional development; published books or monographs; published speeches and abstracts; frequency of citation by other authors; amount of research awards or grant support; and membership on departmental, school, or university committees. Other recently published statements by leading allied health educators on the subject of faculty scholarship corroborate Conine and her colleagues' findings (Broski, Olson, & Savage, 1985; Covey & Burke, 1987; Bruhn, 1987).

A generally accepted index of scholarly productivity is the total number of journal articles, books, chapters in books, monographs, book reviews, and other publications authored divided by the total number of years since having earned the last degree or the number of years employed in higher education. This calculation provides an unweighted publication rate per year of academic service and can be used for comparative purposes. However, other measures of scholarly productivity include the number of sole or first authorships in refereed journals, the frequency of being cited by other authors, the number of invited presentations at professional meetings, and the number of approved peer-reviewed grant applications. Because of the variety of measures used, caution must be taken in making meaningful comparisons between the various studies reported here.

Parham (1985a, 1985b) examined the reward structures within occupational therapy departments and compared them with faculty accomplishments. She reported on the productivity and achievement of 275 full-time occupational therapy faculty members, representing 73% of such faculty members nationwide. Typically, the occupational therapy faculty members were female, under age 40, educated at the master's degree level, and at a junior faculty rank. Thirty-six percent were tenured. Parham noted that, in contrast, all faculty members in higher education nationally tend to be male, over age 40, doctorally educated, and at higher faculty ranks. Tenure rates for faculty members nationally are nearly twice (70%) those for occupational therapy faculty members.

Parham found that 30% of the occupational therapy faculty members had published at least one article in a refereed journal. Faculty members from Research I and II universities (based on the Carnegie classification) tended to have published more than those from comprehensive colleges or medical centers (Carnegie Commission on Higher Education, 1973). Only 10% of occupational therapy faculty members had published three or more research articles, but one fifth had published three or more nonresearch articles. Thirty-five percent of the sample reported having published a chapter or book. Fifteen percent had been recognized for outstanding teaching, and 24% had received national awards of professional recognition.

Parham compared these productivity data with those reported by Ladd (1979) and found occupational therapy faculty members produced at a rate approximately 20% lower than all faculty members nationally. Consistent with Ladd's study, occupational therapy faculty members at research institutions had more publications and awards than faculty members at other kinds of institutions.

The most recently published research involving
allied health faculty productivity is a study of 1,969 faculty members representing 10 allied health disciplines, including occupational therapy (Flanigan et al., 1988; Waller et al., 1988). The respondents reported spending only a very limited amount of time on research activities; only 43% had presented a professional paper, and 36% had been the primary author of at least one research article. Consistent with this publishing record, a majority of respondents indicated that they lacked adequate skills in research funding, statistical analysis, publishing papers, developing research designs, and writing protocols and proposals.

Methodology
Subjects for the larger study of which the present study is a part were allied health faculty members employed in 23 of the 24 schools of allied health that belong to the Southern Association of Allied Health Deans at Academic Health Centers. A list of 942 full-time allied health faculty members was developed from faculty rosters provided by each school's dean. The number of full-time occupational therapy faculty members totaled 70.

A survey instrument was developed based on a review of the literature regarding faculty scholarship and on information obtained from interviews with faculty members and administrators. The 27 questions included requests for biographical information and for information on publications, formal presentations made over the past 3 years, and current research activities and grants and contracts received to date. The respondents were asked about their opinions regarding the importance of scholarship in their institutions' academic promotion criteria, their perceptions of the factors that encourage and discourage their research and publishing endeavors, and their prediction as to the future importance of scholarly activities in faculty promotions.

In the fall of 1986, the survey was mailed to the identified faculty members. After a second mailing to nonrespondents, the total number of occupational therapy respondents was 66, for an overall return rate of 94.2%.

Results
Table 1 provides biographical information regarding the respondents as a group and by academic rank. The respondents were primarily female (85%), with an average age of 40.3 years. Their mean number of years of experience in higher education was 7.8. All but 2 of the respondents held academic rank at their institutions, but only 32% were tenured. Ninety-seven percent had at least a master's degree; 26% had doctorates.

Table 2 provides information regarding the respondents' publications in refereed journals. In all, 50% of the respondents reported that they had been the sole or first author on at least 1 article that had been published in a refereed journal. Although the range was from zero to 30 articles, the median was 1. Twenty-four respondents (36%) had been the second, third, or other author of a multiple-authored article. The overall productivity rate of published journal articles for all respondents was approximately 1 article (0.96) every 2 years of employment in higher education. Thirty-six percent of the respondents had not been listed as an author on any journal article.

By rank, full professors were the most productive authors of refereed journal articles. Each full professor had published from 1 to 30 articles, for an overall productivity rate of 0.83 article per year of employment in higher education.

For the associate professors, there was an average of 3.05 sole or first authorships of refereed journal articles per person. The range was from zero to 21. The mean productivity rate for all articles was 0.80 article every 2 years of employment in higher education. Six associate professors (31.5%) reported having no journal authorships.

The assistant professors reported less than one (0.79) sole or first authorship per person, with a range

<p>| Table 1 |
| Demographic Characteristics of Respondents by Academic Rank |</p>
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All Respondents (N = 66)</th>
<th>Professors (n = 9, 14%)</th>
<th>Associate Professors (n = 19, 29%)</th>
<th>Assistant Professors (n = 29, 44%)</th>
<th>Instructors (n = 7, 11%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>40.3</td>
<td>49.7</td>
<td>44.3</td>
<td>36.5</td>
<td>33.4</td>
</tr>
<tr>
<td>Male (%)</td>
<td>15</td>
<td>33</td>
<td>16</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Female (%)</td>
<td>85</td>
<td>67</td>
<td>84</td>
<td>86</td>
<td>100</td>
</tr>
<tr>
<td>Highest degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate (%)</td>
<td>26</td>
<td>78</td>
<td>32</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Master's (%)</td>
<td>71</td>
<td>22</td>
<td>68</td>
<td>90</td>
<td>72</td>
</tr>
<tr>
<td>Baccalaureate (%)</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Tenured (%)</td>
<td>32</td>
<td>87</td>
<td>68</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Mean years in higher education</td>
<td>7.8</td>
<td>15.9</td>
<td>11.0</td>
<td>4.4</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Note: Two respondents reported not having academic rank.
Table 2
Number of Authors and Mean Number of Refereed Journal Articles by Type of Authorship and Academic Rank

<table>
<thead>
<tr>
<th>Type of Authorship</th>
<th>All Respondents</th>
<th>Professors</th>
<th>Associate Professors</th>
<th>Assistant Professors</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. authors</td>
<td>Percentage of group</td>
<td>Mean refereed journal articles per author</td>
<td>SD for authors</td>
<td>Mean refereed journal articles per member of group</td>
</tr>
<tr>
<td>Sole or first</td>
<td>33*</td>
<td>9</td>
<td>8</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Contributing</td>
<td>24</td>
<td>5</td>
<td>10</td>
<td>24</td>
<td>28</td>
</tr>
</tbody>
</table>

*Includes 1 author who did not hold academic rank.

of zero to five. Their average productivity rate was 0.84 article for all articles every 3 years. Fifteen (51.7%) reported having no journal authorships.

Three of the seven responding instructors (43%) reported being listed as the sole or first author on a refereed journal article. Two (28%) of the instructors had not been listed as an author on any journal articles.

Of the published journal articles, 46% reported the results of various types of research studies, 37% disseminated information about programs and projects, and 10% were literature reviews. Small percentages of the articles were editorials (5%) or testimonials (2%). These findings were comparable across the academic ranks.

Twenty percent of the respondents (N = 13) were holding or had held appointments on editorial boards for professional journals. The mean number of editorial board appointments for those who had held at least one appointment was 1.62. Full and associate professors had held the majority (77%) of these appointments.

Only 1 respondent (1%) reported having been the sole author of a book, 1 (1%) had been the primary author of a book with multiple authors, and 7 (11%) had been listed as a secondary author on a book. Less than a majority of the respondents reported that they had written chapters in books (8; 12%), book reviews (29; 44%), monographs (5; 8%), videotapes (8; 12%), workbooks (2; 3%), or newsletter articles (30; 45%). The professors were the most active in publishing book reviews (averaging 6.11 per professor) and newsletter articles (averaging 3.67 per professor).

Eleven respondents (17%) reported that they had not been listed as an author on any journal article, book, chapter in a book, or other publication. The great majority of those who were not authors were assistant professors or instructors.

Almost two thirds of the respondents (62%) reported that they had presented at least one formal paper at a national meeting within the past 3 calendar years, averaging 2.66 presentations each. Among the full professors, 89% had presented an average of 4.13 papers each, and among the associate professors, 58% had presented an average of 2.64 papers each. At state meetings, 53% of the respondents had presented papers, averaging 2.05 papers per person. In addition, 56% of the respondents had made an average of 3.34 formal presentations each at continuing education programs, and 42% had participated in invited workshops.

The respondents participating in research activities reported that they were primarily engaged in clinical research (44%). A higher percentage of associate professors (58%) than of respondents at other ranks were involved in clinical research (professors, 33%; assistant professors, 41%; instructors, 43%). Many of the professors' (63%) and associate professors' (61%) research efforts were extramurally funded. Only a few respondents reported being involved in laboratory (4%), educational (15%), or survey research (27%). A majority of the respondents (52%) reported that they were not involved in collaborative research with faculty members in disciplines other than their own at their own institutions or at other institutions.

With the exception of full professors, only a small percentage of the respondents had ever served as the principal investigator or project director of a federal,
state, or private-source grant. Of the full professors, 67% had directed an average of three federal grants each, 33% had directed an average of three state-supported grants each, and 56% had received an average of one private-source grant each. Twenty-one percent of the associate professors had received an average of two federal grants each, and 42% had directed an average of two private-source grants each. Only a few of the assistant professors and instructors reported having directed grants from any source.

The only factor the majority of respondents cited as encouraging and assisting them in scholarly activities was their own academic preparation (64%). Other factors listed by some of the respondents were funding (44%), disciplinary prestige (42%), and promotion opportunities (39%). The most frequently cited discouraging factors in scholarly activities were heavy teaching loads (76%) and lack of funding (52%). The primary discouraging factor for associate (79%) and assistant (76%) professors and instructors (100%) was heavy teaching loads. Professors (78%) indicated that administrative responsibilities were the most discouraging factor. Lack of interest, lack of writing ability, lack of computer technology, and lack of secretarial or library assistance were not perceived as discouraging factors by many of the respondents.

Thirty-eight percent of the respondents felt that scholarly activities were the major consideration for academic promotion at their institutions. An additional 48% indicated that at their institutions evidence of scholarly activity was necessary, but was only one of several considerations. None of the respondents thought scholarship was an unimportant promotion credential. These perceptions were comparable across the academic ranks.

Eighty-eight percent of the respondents indicated that they believed the need to publish in order to receive an academic promotion would continue to increase in importance over the next decade. Six respondents (9%) thought the emphasis on publishing would remain the same. These results were comparable across all academic ranks. Only 2 respondents (3%) thought that scholarship would decrease in importance.

The 66 occupational therapy faculty members who responded to the study represented 8% of the total sample studied (Holcomb & Roush, 1988). The average age of the occupational therapists was approximately the same as for the total group (40 vs. 41, respectively). However, compared with the total sample, the occupational therapists were more likely to be female (85% vs. 56%), less likely to have doctoral degrees (26% vs. 42%), less likely to be tenured (32% vs. 41%). Additionally, the occupational therapists' mean number of years of experience in higher education (7.8) was less than the average for the total sample (10.3). These differences must be considered when the scholarly activities of the responding occupational therapists are compared with those of the total group of respondents.

Table 3 provides a summary comparison of the occupational therapy and other allied health respondents' refereed journal articles. In primary and secondary authorships, the occupational therapy respondents were significantly less productive than the other respondents. However, among respondents who had at least one sole or first authorship, the difference between the two groups was not statistically significant ($p < .08$). Also, no statistically significant differences were found between the two groups when comparisons were made between the number of books, chapters in books, book reviews and newsletter articles they had published. Neither were the groups different in the number of presentations made at professional meetings.

**Discussion**

The level of scholarly productivity of the occupational therapists in this study was lower than that of the other allied health faculty members surveyed. However, a higher percentage of the respondents (50%) reported being the sole or primary author of at least one refereed journal article than did respondents (30%) in Parham's study (1985a).

The reasons for this weak showing by occupational therapists have been the subject of much speculation in the literature. Parham (1987) recently reported some research on how faculty members' perceptions of rewards influence research. Her work indicated that perceived rewards tended to group into economic and social rewards on the one hand and research, teaching, and service rewards on the other. She called for occupational therapy administrators to create the type of stimulating environment that facilitates research productivity.

**Table 3**

<table>
<thead>
<tr>
<th>Productivity Indices of Occupational Therapy and Other Allied Health Faculty Members</th>
<th>Occupational Therapy ($N=66$)</th>
<th>Other Allied Health ($N=712$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage with at least 1 refereed journal article</td>
<td>$M_{primary}$: 2.61</td>
<td>$M_{primary}$: 4.31</td>
</tr>
<tr>
<td></td>
<td>$M_{secondary}$: 1.12</td>
<td>$M_{secondary}$: 2.61</td>
</tr>
<tr>
<td>Productivity index*</td>
<td>0.48</td>
<td>0.66</td>
</tr>
</tbody>
</table>

*Mean number of authorships (primary plus secondary) divided by mean number of years in higher education.
Labovitz (1986), however, wrote that expectations of faculty involvement in research are unrealistic, given the multiple roles of teaching in a practice profession. She called for a reevaluation of the meaning of research contributions and suggested a continuum of research roles ranging from independent researcher to institutional facilitator, a role characterized by curriculum building, fund-raising, and participation in research-oriented organizations. In a cogent rebuttal to Labovitz’s viewpoint, Rider (1987) acknowledged the multiplicity of roles, but suggested that complacency about the lack of publications and traditional research activity among faculty members must stop if the profession is to remain viable.

Broski (1986) noted that most factors bearing on productivity are within the direct control of administrators. Citing Bland and Schmitz’s (1986) work emphasizing the importance of the workplace environment, he wrote:

If the workplace plays such a central role in faculty productivity, then perhaps any program intended to increase research should begin with administrators. It is the administrator who largely controls expectations, quality standards and productivity. These include, among other things, initiation of academic goal setting; teaching load assignments; appointment, promotion and tenure decisions; salary increases; allocation of space, equipment, laboratories, and seed monies; and workplace tone, including recognition and praise. (p. 215)

Broski contended that the responsibility for increasing the scholarly productivity of occupational therapy faculty members rests with administrators of educational programs. With the present data indicating that some occupational therapists are not competing favorably with even their clinical colleagues in the allied health disciplines, effective faculty development programs must assume a new importance. Such programs should be designed to foster the characteristics of successful researchers (Blackburn, 1979; Bland & Schmitz, 1986; Lightfield, 1971; Pelz & Andrews, 1966). Young faculty members need institutional support and development during their first 5 years in academia if they are to produce thereafter (Lightfield, 1971). Also, productive researchers usually have had specific help from mentors, have associated with distinguished scientists early in their careers, and have maintained frequent contact with colleagues (Pelz & Andrews, 1966; Blackburn, 1979).

Bland and Schmitz (1986) made the following recommendations for administrators who hope to be maximally effective in developing scholarly productivity: (a) clear expectations regarding scholarly activities should be mutually set, (b) research and publishing productivity must be rewarded, (c) junior faculty members should be assisted in finding suitable collaborators, and (d) researchers should be provided tangible evidence of support, such as budgeted research time of at least 20%.

In implementing faculty development programs, administrators must be careful to protect the integrity of instructional programs by adjusting teaching loads to accommodate time for research. Furthermore, the haste to achieve an absolute increase in the number of publications should not be allowed to lead to mediocre research.

As occupational therapy continues in its quest to become a mature, scientific discipline, faculty members must play a pivotal role (Christiansen, 1987; Grady, 1987). To the extent that they are meeting the requirements for scholarship in their institutions, scientific progress within the discipline is more likely to occur.

References


