



## Ranking of Doctoral Programs of Health Education: Methodological Revisions and Results

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### ABSTRACT

*The purpose of this study was to replicate the Notaro, O'Rourke, and Eddy study to rank doctoral programs in health education, incorporating comments from professionals in health education to enhance the ranking study methods. This study used a multiple set of variables weighted by scholars and leaders in the field of health education. These variables included articles published; journal editorships; external funding of research; student activity; student/faculty ratio; mentoring and placement of doctoral students; and student support. Twenty-four of the 39 doctoral programs in health education participated in this study. Seventeen programs had at least 1 variable ranked in the top 10, and all but 1 program had at least 2 variables ranked in the top 20. Correlation analysis of the 7 variables provided additional insights. As in the Notaro, O'Rourke, and Eddy study, the faculty variables were not statistically significantly related to the student variables. Consistent with the literature, programs with a larger number of faculty tended to have a higher ranking than programs with a smaller number of faculty. Implications of the ranking for administrators, faculty, students, and the health education profession are discussed.*

Ranking of institutions and degree programs in higher education is commonplace, and rankings exist for a number of disciplines or fields of academic study (Beilock & Polopolus, 1988; Medoff, 1996; Notaro, O'Rourke, & Eddy, 2000; Richards & Taylor, 1995; Tauer & Tauer, 1984; Watson, Edwards, & Barker, 1989; West & Rhee, 1995). The abundance of ranking studies in the literature from various fields of study as well as the growing popularity of newsstand publications ranking universities validates the demand and importance for ranking studies of academic institutions and programs. Academic programs and universities have used ranking studies for numerous reasons including but not limited to

program progress toward stated goals (Scott & Mitias, 1996), enhancing funding opportunities (Miller, Tien, & Peebler, 1996), and student recruitment (Argetsinger, 2002). This study replicates and builds on the Notaro and colleagues (2000) study to rank doctoral programs in health education, incorporating comments from ranking literature and the health education field to enhance the ranking study methods.

### BACKGROUND OF THE FIRST RANKING STUDY IN HEALTH EDUCATION

The Notaro and colleagues (2000) study used the following eight variables to rank programs: publications and citations appearing in journals of health education;

editorships of journals of health education; external funding for research and contracts; scholarly activity of doctoral students; student/faculty ratio; faculty mentoring and placement of doctoral students after

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graduation; and student support including assistantships for teaching and research. Scholars and leaders in the field of health education, along with the department heads of doctoral programs of health education, weighted the set of variables in the study. Refer to this study for methodological details.

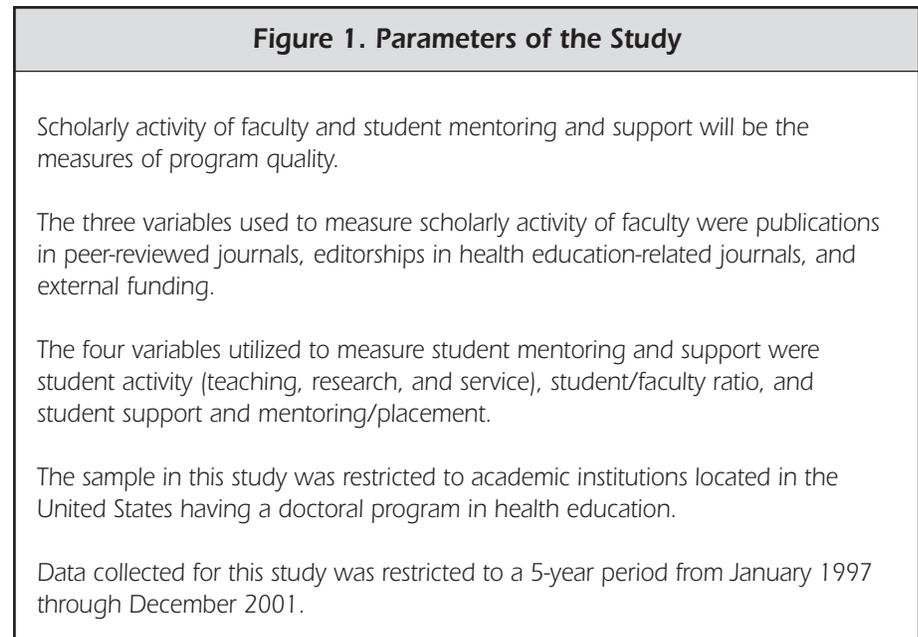
After the publication of the first ranking study (Notaro et al., 2000), comments were offered by leading health educators in the field to improve the ranking study methods (Donahue, Eddy, & O'Rourke, 2001; Dorman, 2000). This study used a systematic approach to refine the methods to address these valid concerns. The discussion that follows describes how the researchers used comments from the field to improve the study methods and the subsequent results of the second ranking study. Figure 1 provides the parameters of the study based on the systematic process of this ranking study. These parameters were determined by leaders and scholars in health education. The methods section that follows describes how these parameters were determined.

## METHODS

### *Step 1—Protocol to Revise Notaro and Colleagues' Methods*

An adaptation in the methods from that of the Notaro and colleagues (2000) study was the addition of the Step 1 survey. Step 1 was designed based on feedback from the field related to protocol to improve the previous health education doctoral program ranking study. Insight and feedback from the field was obtained through primary outlets: (1) a commentary on the study written by Dorman (2000) and published in the *American Journal of Health Education*; (2) a roundtable discussion session conducted on the study at the 2001 American Alliance for Health, Physical Education, Recreation, and Dance Annual Conference in Cincinnati, OH (Donahue et al., 2001); and (3) written and verbal feedback provided to the authors. Based on feedback from health educators in the field, questions were formulated (Figure 2).

Next, an advisory panel was established to complete Survey 1. Members of the ad-



visory panel were current department chairs in doctoral programs of health education and met one or more of the criteria to be a member of the advisory panel (Figure 3). The criteria for advisory panel members were determined before any data collection and were based solely on comments from the field. It should also be noted that advisory panel members were selected from organizations that focused on health education.

Six health educators from across the United States met these criteria. Each advisory panel member was sent a copy of the survey as an e-mail attachment for review. Advisory panel members were contacted by telephone for data collection. All six members completed Survey I. The results of Survey 1 are found in Figure 2.

### *Step 2—Survey 2 Design*

Using the consensus data gathered from the advisory panel, the second survey was revised for use in this study. Two important components of a doctoral program were established for this study: (1) faculty productivity, such as the number of articles published, the number of editorships in journals, and the amount of external funding secured; and (2) preparation of program doctoral students, such as students' teaching and research opportunities, publications, and financial support of students

by the programs. The Step 2 survey established a weighting scale for the seven variables and collected other pertinent data that could be used to rank doctoral programs of health education. The survey instrument was reviewed and pretested by five department chairs of health education doctoral programs.

### *Step 3—Establishment of Scholars and Leaders in the Field*

A team of scholars and leaders in the field was established to complete the survey designed in Step 2 to weight the variables used to rank programs. To accomplish this weighting, scholars and leaders in the field of health education during the 10-year period (1992–2001) were selected because they were expected to be knowledgeable persons within the field who could determine the appropriate weights for individual variables that would be used to rank the programs. In addition to current chairs or heads of doctoral programs of health education, the team of scholars and leaders in the field participants, as identified in Figure 3, were surveyed.

A questionnaire was made accessible online to the team of scholars and leaders in the field. Initially, e-mail notices were sent to those who met the criteria ( $n=142$ ). Follow-up e-mails were sent at 2 and 4



Figure 2. Questions and Results from the Telephone Survey of the Advisory Panel

| Question   | Results   |
|--|---|
| Should the ASHA health educator chairpersons, the ACHA health education chairpersons, the AAHB presidents, and the AAHB laureates be included in the listing of scholars and leaders in the field who will be surveyed to assess the weighting of the variables that were used to rank the programs?                       | All suggested groups should be surveyed to assess the weighting of the variables that were used to rank the programs.   |
| How should publications be identified for faculty and students?  | Department chairs will be asked to submit a listing of publications and grant awards for five FTE (with .50 time spent working with doctoral students) faculty. If a department chair fails to submit the vitae of the faculty members, indices will be used. |
| It has been suggested that publications and citations should be combined to form one variable. Please state your opinion on this recommendation.   | Include publications/citations as one category, but only look at publications based on the correlation in the past study.   |
| For consistency, should the total yearly value of health education grants and contracts be calculated for the five faculty? If you answer no, then how should they be calculated?  | The same five FTEs will be used in publications and grant dollars.  |
| Which journals should be analyzed to count for faculty publications? Should greater weight be placed on publishing in traditional health education journals (e.g., <i>Health Education and Behavior</i> , the <i>American Journal of Health Education</i> , <i>Journal of School Health</i> )?                             | Count every health education-related publication as long as it appeared in a refereed journal.  |
| Should a minimum critical mass be placed on the number of faculty and doctoral students in a university program? If yes, what should the minimum requirement be for each? If you indicated that there should be a minimum requirement set, how should a program that does not meet the requirement that you set be ranked? | A critical mass of three faculty and five students must be met. If not, the program will not be ranked in the student/faculty ratio category, but still will be ranked overall.   |
| Should the ranking results for schools of public health be reported separately, or should the ranking results be all inclusive of non-schools and schools of public health?  | Programs will be ranked inclusively and separately with regard to non-schools and schools of public health  |
| Should postdoctoral fellowships be included as a criteria to assess mentoring?   | Postdoctoral fellowships should be included as a criteria to assess mentoring.  |
| Note: N=6.   |   |

weeks after the initial contact. At the sixth week, surveys were mailed to each of the nonrespondents. The survey yielded a response rate of 79%. The following information was collected.

- Respondents were asked to place themselves in one or more of the 13 categories stated earlier that were applicable to their personal academic or professional status (Figure 3).
- To establish a weighting system, respon-

dents were asked to review seven proposed variables to rank doctoral programs of health education. Respondents provided a number (percentage) for each of the seven variables, so that the total equaled 100 percent. Respondents were allowed to give any variable a rating of 0 percent and could also give one selected variable a rating of 100 percent, if they so deemed appropriate. The variables and results of the weighting process are found

in Table 1.

- Respondents were asked to state the critical mass of faculty with health education degrees and total faculty needed to offer a quality doctoral program in health education.
- Respondents were asked for other information including (1) the number of years of past data that should be used to rank doctoral programs and, (2) for possible use in future studies, should the recent AAHE/



SOPHE graduate standards be used to rank the quality of programs. Finally, the respondents were asked whether they would use a ranking, if one existed, for hiring faculty and staff consultants or for other purposes.

**Step 4—Development of Weighted Variables**

The data from the Step 2 survey were analyzed utilizing the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were employed to establish the weighting of variables to be used in this study. Correlation analysis was used to assess the degree of relationship among the weighted variables.

**Step 5—Survey 3 Design and Implementation**

The Survey 3 design operationalized the weighted variables, so that the survey would collect the data needed to establish a ranking of doctoral programs of health education. Survey 3 was administered to current chairs/heads or coordinators of all 48 doctoral programs of health education, identified by the AAHE *Directory of Institutions Offering Undergraduate and Graduate Degree Programs in Health Education* (2001). Follow-up of nonrespondents was conducted over the following 5-month period and consisted of telephone contact, mailing of additional copies of the survey, and e-mail correspondence. The chairs or program coordinators were asked to supply the following information.

- Verify whether their department currently had a doctoral program in health education. Those departments without a doctoral program in health education were not included in the ranking.

- Describe their current position in the department or unit. Respondents were asked to select one of the following categories: (a) department head for chair, (b) department coordinator/curriculum coordinator, (c) health education program coordinator, and (d) other (please specify).

- List names and submit vitae for the five most academically productive full-time equivalent (FTE) (with .50 time spent working with doctoral students) health education

| Figure 3. Qualifications for Advisory Panel Members and the Team of Scholars and Leaders in Health Education  |  |
|---|--|
| Advisory Panel Member Qualifications  | Scholars and Leaders in Health Education Team Member Qualifications <sup>A,B</sup> |
| Must ...  | Current department chairs in doctoral programs of health education                 |
| Currently be serving as a chair in a department granting health education doctoral degrees  | AAHE scholar recipients <sup>C</sup>   |
| ... And Meet at Least One of the Following:   | AAHE presidents <sup>C</sup>   |
| AAHE scholar recipient <sup>C</sup>   | SOPHE distinguished fellows <sup>C</sup>   |
| AAHE president <sup>C</sup>   | SOPHE presidents <sup>C</sup>  |
| SOPHE distinguished fellow <sup>C</sup><br>Distinguished Career Award <sup>C</sup>  | APHA Public Health Education Section Chairpersons <sup>C</sup>                     |
| SOPHE president <sup>C</sup>  | APHA Public Health Education/Health Promotion Section chairpersons <sup>C</sup>    |
| APHA Public Health Education Distinguished Career Award recipient <sup>C</sup>  | APHA School Health Education Section chairpersons <sup>C</sup>                     |
| APHA Public Health Education/ Health Promotion Section chairperson <sup>C</sup>   | AAHE/SOPHE committee members who drafted graduate standards of health education    |
| APHA School Health Education Section chairperson <sup>C</sup>   | ASHA Health Education Section chairpersons <sup>C</sup>                            |
| AAHE/SOPHE committee member who drafted graduate standards of health education  | ACHA Health Education Section chairpersons <sup>C</sup>                            |
|   | AAHB presidents <sup>C</sup>   |
|   | AAHB laureates <sup>C</sup>  |
| <sup>A</sup> American School Health Association is not solely a health education organization, and thus, neither fellow status nor being president of this organization were automatic qualifications for membership on the panel.<br><sup>B</sup> Scholars and leaders in the field team members only had to meet at least one of the mentioned criteria.<br><sup>C</sup> Served in the capacity between 1992 and 2001 |  |

faculty currently on staff.

- Provide average data, for the 5-year period January 1997 through December 2001, on what was the approximate annual num-

ber of FTE faculty in the administrative unit who were dedicated to the doctoral program of health education. For example, six faculty with two full-time at 100 percent, four



**Table 1. Weighted Values of Ranking Variables**

| Variable   | Weight |
|--|--------|
| Articles in health education-related journals      | 22.5   |
| Editorships in health education-related journals   | 9.8    |
| External funding                                   | 19.1   |
| Student activity (teaching, research, and service) | 13.1   |
| Student/faculty ratio                              | 8.9    |
| Mentoring and placement                            | 12.9   |
| Student support (assistantships and research)      | 13.7   |
| Total  | 100.0  |

**Table 2. Institutions that Declined to Participate, Claimed They Did Not Have Doctoral Programs, or Did Not Respond**

|  |
|--|
| <p>A. Survey Participants Who Declined to Participate<sup>A</sup></p> <ul style="list-style-type: none"> <li>▪ Columbia University</li> <li>▪ University of Houston</li> <li>▪ University of Massachusetts Amherst</li> <li>▪ University of Nebraska</li> <li>▪ University of New Mexico</li> <li>▪ University of New Orleans</li> <li>▪ New York University</li> <li>▪ Ohio State University</li> <li>▪ Oregon State University</li> <li>▪ University of Tennessee</li> <li>▪ Texas Woman's University</li> <li>▪ UCLA</li> <li>▪ University of Medicine and Dentistry of New Jersey (UMDNJ)</li> </ul> <p>B. Institutions Indicating They Did Not Offer a Doctoral Program in Health Education at the Time of the Study<sup>B</sup></p> <ul style="list-style-type: none"> <li>▪ Oklahoma State University</li> <li>▪ Morgan State University</li> <li>▪ San Diego State University</li> <li>▪ Texas A&amp;M University - Commerce</li> <li>▪ Texas A&amp;M University Health Science Center</li> <li>▪ University of Illinois at Urbana-Champaign</li> <li>▪ University of Minnesota</li> <li>▪ University of Oklahoma</li> <li>▪ University of Wisconsin</li> </ul> <p>C. Survey Nonrespondents<sup>C</sup></p> <ul style="list-style-type: none"> <li>▪ University of Illinois at Chicago</li> <li>▪ Tulane University</li> </ul> |
| <p><sup>A</sup>N=13.<br/> <sup>B</sup>N=9.<br/> <sup>C</sup>N=2.</p>   |

tion and (b) part-time doctoral students of health education.

- Provide average data, for the 5-year period January 1997 through December 2001, on what was the approximate annual percentage of full-time doctoral students of health education who received (a) 50 percent of more teaching or research assistantship, (b) 24–49 percent teaching or research assistantship, and (c) internal or external financial dissertation support. Only a and b were mutually exclusive.

- Provide average data, for the 5-year period January 1997 through December 2001, on what was the approximate annual percentage of full-time health education doctoral students who, while graduate students, (a) had sole responsibility for teaching two or more health education classes or sections; (b) had sole responsibility for teaching one health education class; (c) were appointed by the health education department with a paid assistantship to assist health education faculty with teaching a class, research projects, or service projects; and (d) served on a university, college, school, or departmental committee as a representative of the department or program.

- List up to 10 top health education students who received doctorates of health education during the 5-year period January 1997 through December 2001, including the students' (a) names and (b) current employment with place of employment and professional title or rank.

Survey 3 data were collected from department heads or coordinators of doctoral programs of health education. The data were tabulated and analyzed using SPSS. Descriptive statistics and correlation analyses were utilized. The following steps were performed for each of the seven variables to obtain the ranking.

**Determining the Raw Score**

The data for the three variables—health education related-articles published in peer-reviewed journals, faculty editorships in refereed health education-related journals, and external grants and contracts funding—were derived from the analysis of the vitas of the five faculty members

part-time with two at 50 percent time, and two at 25 percent time in the health education program would equal 3.5 full-time equivalent or FTE faculty.

- Provide average data, for the 5-year pe-

riod January 1997 through December 2001, on what was the approximate annual number of doctoral students of health education that, as defined by the institution, were (a) full-time doctoral students of health educa-



provided by each program. Each raw score was the total number of health education-related articles, editorships, and total dollar value of health education grants and contracts with the largest total being the highest raw score.

The student/faculty ratio was self-reported data, and the raw score was determined by dividing the approximate annual number of total doctoral students (not just graduates) by the approximate annual number of total FTE faculty per year. The lowest student/faculty ratio was considered the highest raw score. To determine the total number of doctoral students, full-time students were given a weighted value of 1.0, and part-time students were given a weighted value of 0.5. The two weighted values of doctoral students were combined. To determine the number of FTE faculty, the amount of time dedicated to the health education program of full- and part-time faculty was combined. For example, six full- or part-time faculty with two at 100 percent time, two at 50 percent time, and two at 25 percent time in the health education program would equal 3.5 FTE faculty. Critical masses were established as a result of Survey 2 for both faculty and students. If the critical masses were not met the program was not ranked for this particular variable.

The professional scholarly activity of doctoral students was measured using the criteria identified in the discussion of Survey 3. Students teaching two or more classes received a weight of 0.50, whereas students responsible for one class received a weight 0.25. These two responses were mutually exclusive, with students eligible for only one category. The remaining two items were the percentage of students appointed by the health education department with a paid assistantship to assist health education faculty with teaching a class, research projects, or service projects received a weight of 0.25; and the percentage of students who served on a university, college, school, or departmental committee as representatives of the department or program, which also received a weight of 0.25. The weighted scores were combined, with the greatest total be-

ing considered the highest raw score.

To measure student support for assistantships and research, the percentage with 50 percent or greater assistantships, full-time assistantships (weighted 0.50), and the percentage receiving a 24–49 percent assistantship, part-time assistantships (weighted 0.25), were combined with the percentage receiving internal or external financial dissertation support weighted (0.50). The greatest total weighted score was considered the highest raw score.

To measure faculty mentoring of doctoral students and quality placement, the programs reported a list of up to 10 of the top students who received their doctorates during the 5-year period January 1997 through December 2001. The number of articles published was determined by searching the automated indexes (ERIC, MEDLINE, PsycINFO, and Web of Science). In addition, placement was determined by the number of the 10 doctoral students who were employed at Carnegie doctoral/research institutions, at national level health institutions, such as the Centers for Disease Control and Prevention and the National Institutes of Health, or had postdoctoral positions. Articles and citations received a weight of 0.50 in the same proportion relative to each other as the weights obtained for those variables from Survey 1. The number of doctoral students employed at Carnegie Research I institutions or at national level health institutions also received a weight of 0.50. The weighted scores were combined, with the greatest total being the highest raw score.

#### *Determining Proportional and Weighted Scores*

For each of the seven variables the highest raw score was assigned a value of 1.0 and each of the remaining scores was a proportion of 1.0 or the highest score. The proportion was determined by dividing the raw score by the raw score of the highest value to obtain the proportion. For example, if 20 were the greatest number of articles published, that program would receive a value of 1.0. A second program with 10 articles would receive a proportional score of 0.50,

whereas a third program with 5 articles would receive a proportional score of 0.25.

Each proportion for the seven variables was multiplied by the weighting assigned to that variable from question four of Survey 2 (Table 1). Providing a score for each of the variables makes it possible for programs, administrators, faculty, and students to assess the programs' rankings in specific areas. The weighted scores for each of the seven variables were summed for a total weighted score. The total weighted scores were placed in rank order, with the highest total weighted score being ranked first to the lowest total weighted score being ranked last. The end result is the ranking of doctoral programs of health education. The faculty variables accounted for 51.4% of the total weighting, whereas the student variables accounted for the remaining 48.6% of the total weighted score.

## RESULTS

### *Composite Rankings*

The third survey was administered to current chairs/heads or coordinators of all 48 doctoral programs of health education, identified by the AAHE *Directory of Institutions Offering Undergraduate and Graduate Degree Programs in Health Education* (2001). Of the 48 institutions identified in the AAHE directory, 9 reported that they no longer had doctoral programs of health education. This left 39 universities that currently had doctoral degree granting programs in health education. Thirteen of this group declined to participate, and 2 universities failed to respond to the survey after a minimum of four e-mail and two phone follow-ups (Table 2). Twenty-four of the 39 doctoral programs completed the survey and were ranked in this study. Table 3 presents the results of the overall composite weighted score for each of the 24 doctoral programs in health education, the overall ranking based on that score, and the ranking for the seven variables based on the weighted score for each variable.

In the instrumentation redesign process, the expert panel agreed that schools of public health and programs not in schools of

**Table 3. Ranking of Doctoral Programs of Health Education**

| Program   | Wt Score | Rank | Art  | Edi  | Fnd | S Act | Ratio | Ment | S Spt |
|---|----------|------|------|------|-----|-------|-------|------|-------|
| University of Texas Health Science Center at Houston <sup>A</sup> | 81.1     | 1    | 1    | 3.5  | 2   | 16    | 1     | 2    | 1     |
| Univ. of South Florida <sup>A</sup>                               | 61.8     | 2    | 9    | 10   | 5   | 1     | 2     | 11   | 2     |
| University of Michigan <sup>A</sup>                               | 57.4     | 3    | 8    | 1    | 1   | 21    | 9     | 3    | 20.5  |
| University of North Carolina <sup>A</sup>                         | 55.8     | 4    | 4    | 10   | 6   | 6     | 7     | 4    | 4     |
| Indiana University  | 55.2     | 5    | 13   | 2    | 7   | 3     | 4     | 10   | 3     |
| Univ. of South Carolina <sup>A</sup>                              | 52.8     | 6    | 2    | 14.5 | 4   | 10.5  | 17    | 7.5  | 6     |
| University of Alabama & University of Alabama at Birmingham       | 48.5     | 7    | 10.5 | 14.5 | 9   | 4     | 20    | 1    | 9     |
| Texas A&M University  | 47.0     | 8    | 7    | 14.5 | 13  | 2     | 5     | 14   | 5     |
| University of Maryland  | 43.5     | 9    | 12   | 10   | 13  | 13    | 8     | 7.5  | 14    |
| University of Toledo  | 40.7     | 10   | 6    | 10   | 6   | 7.5   | 16    | 5    | 13    |
| Southern Illinois Univ.   | 40.4     | 11   | 3    | 5    | 11  | 12    | 13    | 17   | 12    |
| University of Florida   | 39.3     | 12   | 16   | 18   | 19  | 5     | 3     | 6    | 8     |
| Purdue University   | 34.5     | 13   | 17   | 3.5  | 8   | 10.5  | 6     | 19.5 | 11    |
| University of Georgia   | 32.1     | 14   | 19   | 6.5  | 10  | 17    | 10    | 9    | 10    |
| The Johns Hopkins Univ. <sup>A</sup>                              | 31.8     | 15   | 5    | 6.5  | 14  | 14    | 18    | -    | 17    |
| Kent State University   | 28.4     | 16   | 20   | 10   | 16  | 7.5   | 11    | 15   | 7     |
| University of Arkansas  | 23.0     | 17   | 10.5 | 14.5 | 20  | 9     | 21    | 18   | 22    |
| Loma Linda University <sup>A</sup>                                | 19.8     | 18   | 15   | 18   | 12  | 19    | 15    | 21   | 16    |
| Temple University   | 19.0     | 19   | 18   | 20   | 17  | 15    | 14    | 13   | 20.5  |
| University of Kentucky  | 14.2     | 20   | 22   | 18   | 22  | 18    | 12    | 16   | 15    |
| University of Utah  | 10.5     | 21   | 21   | 22.5 | 21  | 22    | 19    | 12   | 19    |
| University of Texas   | 9.5      | 22   | 14   | 22.5 | 15  | -     | -     | -    | -     |
| University of Missouri  | 6.9      | 23   | 23   | 22.5 | 24  | 20    | -     | 19.5 | 18    |
| Kansas University   | 3.3      | 24   | 24   | 22.5 | 23  | 23    | -     | -    | 23    |

Abbreviations: Wt Score=weighted score; Ment=mentoring and placement; Fnd=external funding; Art=articles; S Act=student activity; S Spt=student support; Edi=editorships; Ratio=student/faculty ratio.

<sup>A</sup>Doctoral degree granting program in health education is housed within a school of public health.

public health should be examined separately. Those programs housed in schools of public health have a superscript by their names in Table 3, so the reader can make his or her own inferences. The reason for this designation is based on the notion that crucial factors such as departmental budgetary allotments, federal subsidies, expectations for classroom instruction, student-faculty ratios, and opportunities and expectations for grant procurement may differ substantially in schools of public health when compared to non-schools of public health. Institutions that offer comprehensive professional preparation programs that prepare students at the bachelor, master, and doctoral levels may reflect a much different commitment to student

development than institutions that focus only on graduate education. An evaluation of the ranking indicates that programs in schools of public health appear to rank high, having five of the top six programs. Those schools are University of Texas-Houston, University of South Florida, University of Michigan, University of North Carolina, and the University of South Carolina. This holds true although the schools of public health accounted for less than one-third of the total ranked programs.

#### *Faculty-Student Variable Rankings*

As previously mentioned, of the seven ranked variables, three related to faculty and four to students. Table 4 presents the top 20 rankings for each group of variables in order to evaluate whether there was a rela-

tionship between the weighted scores of faculty and student variables. Pearson correlation was run on the rank of all 24 schools for both variables. Results of that correlation were .32, which indicated a modest positive relationship between the faculty and student variables, although the two variables were not statistically significant. There was no evidence that schools high or low on one variable were high or low on the other. The absence of a significant correlation ( $p < .05$ ) indicates that the variables were relatively independent and had little impact on each other. The following 6 programs were in the top 10 on both variables: Indiana University; the University of North Carolina; the University of South Carolina; the University of South Florida; Texas A&M



University; and the University of Texas-Houston. Additionally, the University of Texas-Houston was the only school in the top 5 of both faculty and student variables.

**DISCUSSION**

The results of the second study to rank doctoral programs in health education yielded results similar to the first study. This was not surprising given the relative similarity of the study methods and the relatively short time gap between the original and current study. Some program movement was noted as programs change, expand, and retrench. The authors believe an important observation drawn from the second study was the continued support from the field for the ranking study. Although the exact cause of such support is difficult to pinpoint, suffice it to say that some support can be attributed to the flexible process that was used to modify the ranking study methods without compromising the integrity of the methods or the ability to make comparisons between various iterations of the study.

As the revision process unfolded, it was clear that leaders in the field of health education continue to support periodic administration "best of breed" methods to rank programs. The use of accepted and multiple criteria to rank doctoral programs in health education is seen as useful in establishing the validity of the measurement. It is also seen as a way for programs to highlight program variables of interest. For example, some programs use a mentoring model to prepare doctoral-level health educators. This mentoring approach is reflected in the study criteria and can be teased out of the aggregate data. The researchers incorporated comments from others in the field to refine the methods. Surprisingly, few professionals thought that the ranking of doctoral programs in health education was inappropriate or unnecessary. However, many health educators in the field provided qualitative comments to enhance the study methods. More salient among these were the following.

- Recognize programs with core faculty directly mentoring students on health edu-

cation activities. Many professionals believe that quality doctoral preparation is a function of the dynamic interaction between a mentor and a protégé on appropriate health education activity in a supportive environment. The methods used in this study were refined to reflect this belief.

- Revisit how publications and citations were calculated. In the first ranking study only publications that appeared in a predetermined set of journals were included in the ranking criteria. These publications were identified through search engines. Therefore, numerous quality publications in peer-reviewed journals were not included in the ranking data. To ameliorate this problem, all publications that appeared on the résumé of the five scholars identified by each university were included in the analysis. Similarly, concerns were expressed for the counting of citations. Due to the high correlation (.80) between citations and publications on the first ranking study these two categories were combined into one variable. This change resulted in a slight modification in the weight of the variables related to faculty productivity from 54.5% in the first study to 51.4% in the second.

- Many health educators expressed concern that programs in schools of public health should be analyzed separately from those not in schools of public health. This request was based on the belief that schools of public health have a research and grant activity mission (two factors that are heavily weighted), whereas programs housed in other units (such as colleges of education, schools of health and human performance, etc.) have a more balanced teaching, research, and service mission including undergraduate program administration. To this end, programs housed in schools of public health have a superscript placed by their names in Table 2. This allows the reader to make his or her own inferences.

Several other limitations of the study have been identified by the authors and health educators from the field. For several of these limitations the advisory panel and pool of leaders and scholars in the field did not believe the issue warranted changing the

**Table 4. Rank by Faculty and Student Variables**

| School            | Faculty Rank | Student Rank |
|-------------------|--------------|--------------|
| Alabama/UAB       | 11           | 5            |
| Arkansas          | 14           | 19           |
| Florida           | 19           | 4            |
| Georgia           | 15           | 10           |
| Indiana           | 8            | 3            |
| Johns Hopkins     | 9            | 18           |
| Kansas            | —            | —            |
| Kent State        | 18           | 11           |
| Kentucky          | —            | 16           |
| Loma Linda        | 16           | 20           |
| Maryland          | 6            | 12           |
| Michigan          | 2            | 14           |
| Missouri          | —            | —            |
| North Carolina    | 4            | 6            |
| Purdue            | 13           | 13           |
| South Carolina    | 3            | 8            |
| South Florida     | 7            | 1            |
| Southern Illinois | 5            | 15           |
| Temple            | 20           | 17           |
| Texas             | 17           | —            |
| Texas A&M         | 10           | 7            |
| Texas-Houston     | 1            | 2            |
| Toledo            | 12           | 9            |
| Utah              | —            | —            |

Notes: Top 20 ranks included. (—) indicates a rank not included in the top 20. Faculty variables include articles, editorships, and funding. Student variables include student activity, student/faculty ratio, mentoring and placement, and student support.

survey instrument at this time. Listed below are some of the identified limitations. These issues will be addressed should the ranking study be administered in the future.

- All publications appearing in scholarly peer-reviewed journals were equally weighted. A method to weight publications in higher quality journals should be explored. Journals that are not widely indexed or do not have impact factors exacerbate this problem. However, it should be noted that the existing ranking literature does not utilize a weighting factor for faculty publications.

- Similarly, editorships for various journals in the field have differing levels of prestige and



require varying levels of effort to fulfill the editorial responsibilities. A method of weighting editorships should be explored. Again, the ranking literature does not incorporate this weighting.

• The issue of including teaching and service as faculty variables also needs further examination. The exclusion of teaching as a variable continues through two iterations of the ranking study. Quite simply, teaching did not emerge as a variable from literature reviews of other studies that rank graduate programs. Also, the panel of leaders and scholars in health education did not suggest that teaching should be added as a variable. It is also interesting to note that the work of West and Rhee (1995), which ranked graduate colleges of education, did not include teaching as a variable. The West and Rhee article also serves as the basis for the *U.S. News and World Report* ranking of graduate colleges of education. The authors firmly believe that the value of this ranking study is closely linked to its articulation to the organizational culture within which doctoral programs operate. In essence, most (if not all) doctoral degree-granting institutions place a high value on publications, grant activity, and mentoring. The authors believe that a ranking study should reflect this culture, and that it is not the authors' place to infuse other, more subjective measures that do not emerge from the scientific process, such as teaching effectiveness and service.

The researchers for the second iteration of the study to rank doctoral programs in health education balanced the need to respond to comments from the field with the need to maintain instrumentation and data

collection procedures of quality to yield a "best of breed" ranking study, and a study in which observers could view trend patterns across the first two and subsequent administrations of the study.

Future studies to rank doctoral programs in health education will depend on responses from those involved in professional preparation. To date, responses have been generally positive. Use of the ranking study results have been incorporated into department literature and job posting notices. The authors also have received requests from institutions and individuals concerned with improving their programs. As with the first study, we request and welcome the thoughts of others from the field on how we may enhance the methods. The authors view the ranking process as an evolution.

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