

# The Incidence of Publishing Among Business Disciplines: An Examination of Nontraditional and Traditional Doctoral Programs

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**ABSTRACT.** The authors investigated publications from dissertation research at nontraditional institutions. Results revealed that 7.1% of dissertations written at nontraditional institutions were published, whereas 18.4% of dissertations written at traditional institutions were published. In total, 11.2% of graduates of nontraditional doctoral programs and 43.9% of graduates of traditional doctoral programs eventually published at least once. There was no significant difference between the publication output of nontraditional graduates and that of two thirds of graduates from traditional and Association to Advance Collegiate Schools of Business–International accredited programs. The authors discuss implications of their results.

Keywords: college professors, dissertation research, faculty publication

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There is a shortage of business doctoral graduates who are qualified to teach at U.S. colleges and universities. The Association to Advance Collegiate Schools of Business–International (AACSB; 2002) reported that 8% of available 2001–2002 doctoral degree positions at member schools were unfilled and that the prospect of an ongoing doctoral shortage was the primary concern of academic leaders because “such shortages negatively affect the research productivity and intellectual vibrancy of existing faculty” (p. 14). The AACSB expects the demand for business doctoral faculty to exceed supply over the next 10 years. Among its proposed strategies for sourcing doctoral faculty, the AACSB suggested the consideration of graduates from executive or professional doctoral programs that are outside the traditional research-based model followed by AACSB-accredited schools.

A potential source of qualified, research-capable faculty includes graduates from programs that use a program-delivery model that does not require a lengthy student residency. These programs are often called *nontraditional doctoral programs*. In recent years, senior executives from business, nonprofit, and governmental organizations have increasingly populated nontraditional doctoral programs. Although these programs have grown more than

74% since 1994, nontraditional business doctoral graduates have experienced difficulty obtaining faculty positions at traditional, research-oriented institutions because of a perception that they lack research and publication skills. Although such a perception exists, empirical evidence does not support it.

Researchers have investigated publication patterns in traditional programs such as accounting (Fogarty & Ruhl, 1997), finance (Zivney & Bertin, 1992), management (Long, Allison, & McGinnis, 1979), public administration (Adams & White, 1994; White, Adams, & Forrester, 1996), and strategic management (Park & Gordon, 1996). However, a review of the literature did not uncover any studies that investigated research contributions of graduates of nontraditional programs. In this study, *traditional doctoral programs* are defined as those that are research based and require a substantial residency. *Nontraditional doctoral programs* are defined as those that require a dissertation but do not require a long-term residency. Throughout the text, we use the terms *traditional* and *nontraditional* to describe institutions, doctoral programs, and publication records.

Our purpose is to fill the void in the literature by examining the publication history of graduates from nontraditional doctoral programs and to compare nontraditional publication records with

traditional publication records. Using techniques of White, Adams, and Forrester (1996) in their investigation of traditional programs, we examined publication histories of doctor of philosophy (PhD) and doctor of business administration (DBA) candidates who completed dissertations in business disciplines during 1997 and subsequently published the results in academic journals between 1998 and 2005.

## Literature Review

A major objective of doctoral education is to ensure that recipients develop the ability to conduct publishable research (Bolton & Stolcis, 2003; Coff, 1997; Isaac, Quinlan, & Walker, 1992). According to the Council of Graduate Schools (2005), a doctoral recipient should have the ability “to discover, integrate, and apply knowledge, as well as to communicate and disseminate it” (p. 1) and to make “significant original contributions to knowledge” (p. 1). Isaac et al. pointed out that a dissertation reflects the capability of both the author and the advisor, noting that “a successfully crafted dissertation that is subsequently published in a prestigious outlet can enhance the reputation of the adviser among peers in the field, in addition to identifying the student as a potential future contributor to the field” (p. 242).

Often, dissertation research is the first step in a productive research career, and according to behavioral consistency theory, a past action is the best predictor of success in performing a similar future action (Wernimont & Campbell, 1968). Hence, for business doctoral graduates, the publication of dissertation research can be an important predictor of future research and publication success.

### *Growth of Distance Education and Nontraditional Doctoral Programs*

The General Accounting Office (GAO) estimates that the number of students involved in distance education tripled between 1997 and 2002 and that 84% of colleges and universities provided distance education opportunities to students in 2002 (Ashby, 2002). Ashby further indicated that students in distance programs tend to be older and married, to work full-time, to have higher average incomes, and to participate in educational programs on a part-time basis. Within the distance education market, the GAO estimates that “about 21 percent of students who took their entire program through distance education studied business” (Ashby, p. 9). Further, Howell, Williams, and Lindsay (2003) suggested that revenue—a proxy for student growth—in the distance-learning market is expected to grow at above-average rates through 2010.

The distance-education discussion has included nontraditional business doctoral programs. As Table 1 shows, regionally accredited, nontraditional, non-AACSB doctoral programs that Bear and Bear (2003) identified contribute to this rapid growth, as doctoral dissertations that students completed in 2004 at nontraditional institutions totaled 818, which grew 74.4% over the 10-year period beginning in 1994. We used Bear and Bear’s identified institutions to estimate growth of nontraditional doctoral programs because business professionals consider them leaders in identifying nontraditional educational alternatives.

### *Postdissertation Publishing*

Past researchers on postdissertation publishing have investigated the publication patterns of individuals receiving a PhD or a DBA degree from traditional programs (Fogarty & Ruhl, 1997; Long, Bowers, Barnett, & White, 1998; Park & Gordon, 1996; White et al., 1996; Zivney & Bertin, 1992). Although there is consistency in the general findings, publication rates vary by discipline. For example, White et al. found that 25% of public administration doctoral graduates published in a refereed journal within 6 years of obtaining their degree. Similarly, Long et al. (1998) found that 32% of management doctoral graduates published at least one article in a

**TABLE 1. Nontraditional Doctoral Programs in the United States**

Institution	Year founded	No. of dissertations		Comment
		1994	2004	
Antioch University	1852	—	—	No business degree offered
Capella University	1993	0	209	First dissertations appeared in 1998
Central Michigan University	1892	—	—	Also offers traditional PhD
Colorado State University	1870	—	—	Also offers traditional PhD
Fielding Institute	1974	57	82	
Nova Southeastern University	1964	30	91	
Regent University	1977	4	102	
Touro University International	1988	0	19	First dissertations appeared in 2002
Union Institute	1964	232	154	
University of Phoenix	1976	0	42	First dissertations appeared in 2001
University of Sarasota	1969	0	18	First dissertations appeared in 1997
Walden University	1970	146	101	
Total	—	469	818	74.4% increase

*Note.* The data in columns one and two are from *Bear’s Guide to Earning Degrees by Distance Learning* (pp. 103–183), by J. B. Bear and M. P. Bear, 2003, Berkeley, CA: Ten Speed Press. Copyright 2003 by Ten Speed Press. Adapted with permission. The numbers of dissertations shown in columns three and four were compiled from the *ProQuest Direct* (2005) dissertation database.

refereed journal after graduation. Park and Gordon found that 70% of strategic management doctoral graduates published at least once. However, Park and Gordon's data is not fully comparable to that of other studies because they excluded graduates who did not immediately assume a position in academia. On the basis of this literature, we proposed the following research questions (RQs):

RQ<sub>1</sub>: Will doctoral graduates from traditional business programs have higher total publication rates of their dissertations in academic journals than doctoral graduates from nontraditional business programs?

RQ<sub>2</sub>: Will doctoral graduates from traditional business programs have higher total publication rates in academic journals than doctoral graduates from nontraditional business programs?

In addition to overall publication rates, researchers have found (a) higher publication percentages for prestigious institutions when the researchers divide the graduates by institution quality (Long et al., 1998) and (b) lower publication percentages when the researchers count only high-quality journals in the discipline as meeting the postgraduation publication requirement (Park & Gordon, 1996; Zivney & Bertin, 1992). Researchers in this area also have indicated that academic publishing takes the form of a Pareto distribution. Long et al. and White et al. (1996) suggested that approximately one third of doctoral graduates were published in a substantial proportion of all refereed publications.

Researchers have provided insights into possible reasons for this publication dichotomy. Williamson and Cable (2003) found that the research and publication record of a dissertation advisor is an important predictor of whether a graduate student publishes, and Green and Bauer (1995) found that the published work of an advisor is a predictor of whether a student publishes in peer-reviewed journals or does not publish at all after completing a doctoral degree. Park and Gordon (1996) investigated the postgraduation publication records of academics who were affiliated with a doctoral program in management after graduation and such records of academics who were not so affiliated. Park and

Gordon found that in the first year after graduation, doctoral graduates working for an institution that awarded doctoral degrees averaged 0.75 publications per year, whereas doctoral graduates working for an institution that did not award doctoral degrees averaged 0.11 publications per year. This publishing gap widened by Year 9 after graduation, likely because of the availability of graduate research assistants and doctoral committee assignments at doctoral degree-granting institutions. On the basis of research findings, we set forth the following research question:

RQ<sub>3</sub>: Will doctoral graduates from outside the upper third of traditional business programs have higher total publication rates in academic journals than doctoral graduates from nontraditional business programs?

Park and Gordon (1996) found that graduates who published prior to completing doctoral studies published more frequently than those without prior publications. This is consistent with behavioral consistency theory. Other researchers found support for this proposition and concluded that identification of students who published before receiving their doctorate provided an excellent basis for predicting who would publish after receiving a doctorate (Chubin, Porter, & Boeckmann, 1981; Long, Allison, & McGinnis, 1979; Rodgers & Maranto, 1989; Williamson & Cable, 2003). In strategic management, Park and Gordon found that graduates with prior publications published more frequently after completion of their dissertations than did those without prior publications. Considering the above literature, we asked the following research question:

RQ<sub>4</sub>: Will doctoral graduates who publish at least once in academic journals after completion of a dissertation realize multiple postdissertation publications?

## METHOD

Institutions had to be AACSB accredited or classified as "Doctoral/Research Universities—Extensive" (Carnegie Foundation for the Advancement of Teaching, 2000, p. 1) to be included in the traditional sample. For us to include an institution in our nontraditional sample, the *Bears' Guide to*

*Earning Degrees by Distance Learning*—which is considered to provide the most comprehensive assessment of alternative education programs and regionally accredited distance-learning programs (Bear and Bear, 2003)—must have approved the institution.

This review identified 12 U.S. institutions offering regionally accredited doctoral degrees in 2005 (see Table 1). Of these, only Fielding Graduate University, Nova Southeastern University, Regent University, University of Sarasota, and Walden University offer doctoral degrees exclusively in a nontraditional format. The review did not include Antioch University because it did not award business degrees. The review also did not include Colorado State University and Eastern Michigan University because they grant degrees in both traditional and nontraditional formats; differentiating between degree delivery methods at these institutions is outside the scope of our study. Tauro University International, the University of Phoenix, and the University of Sarasota were not considered because doctoral dissertations from these institutions did not appear in the *ProQuest Direct* (2005) dissertation database prior to 1998.

All nontraditional programs in this study issue business doctoral degrees. In this group, Nova Southeastern University appears to have the most traditional approach, requiring 12 hr of class time plus 56 credit hours of core, specialty, and research courses. Students take several courses on the Fort Lauderdale campus, including the capstone course. The dissertation track of 12 credit hours uses a format of study in which the candidate works with a committee in the development of a doctoral dissertation. Overall, 68 semester hours are necessary (Nova Southeastern University, 2006).

Walden University offers a 134-credit-hour program with some traditional and seminar classes. Students accomplish 84 hr of coursework through Knowledge Area Modules (KAMs), which have an independent-study research format. Of the 134 hr, 20 research hours form a seminar, and 30 hours of dissertation form 22% of the program. In addition, there is a short residency requirement (Walden

University, 2006). Union Institute & University (2006) conducts its program through (a) three 5-day seminars, (b) 10 peer days, which are sessions that several doctoral candidates conduct, (c) 500 hr of applied internship, (d) a dissertation, and (e) a 35-day residency. Argosy University's program has 60 credit hours, with four research classes, seven subject-concentration classes, and elective classes. Students must take 51% of classes in a classroom or seminar setting, and 49% may be taken online (Argosy University, 2006). Regent University (2006) delivers its program primarily through online learning, requiring a 9-day summer residency for three consecutive summers, each of which is equivalent to one 3-credit course. The entire program consists of 60 credit hours in total, with 48 hr for coursework (Regent University).

### Dissertation Selection

For both traditional and nontraditional DBA programs, we used the *ProQuest Direct* (2005) *Interdisciplinary-Dissertations and Theses* database to identify dissertations. We identified dissertations published during 1997 at the five nontraditional institutions that we included in this study by selecting the option of school name in the search engine. We chose 1997 as the data-collection year because prior research indicated that publication rates leveled around the 7th or 8th year after a PhD's or DBA's graduation date (Park & Gordon, 1996; Powers, Swan, Bos, & Patton, 1998; Zivney & Bertin, 1992).

Our selecting 1997 also provided an 8-year timeframe for the graduates to conduct research, go through the referee process, and be published. We are not aware of any factors that would cause dissertations that were published in 1997 to be different from those of prior or subsequent years. We initially identified 152 dissertations. Of these, we used only those in a business discipline that was previously investigated (e.g., accounting, finance, management, or marketing). We excluded Doctor of International Business Administration (DIBA) programs because we were unable to find an analysis of publication history in this discipline. We excluded

Doctor of Public Administration (DPA) degrees because this degree has a public policy orientation and is therefore not a business discipline. We identified 98 dissertations as appropriate for examination in this study (see Table 2).

We selected in the following manner those dissertations published at traditional institutions during 1997. First, we identified the number of dissertations in accounting (206), finance (560), marketing (350), and management (894) in the *ProQuest Direct* (2005) database by using the option of subject name or code. This process identified a total study population of 2,010. Second, for us to populate a sample with a confidence level of 95% and precision of  $\pm 10\%$ , a sample size of 98 dissertations was appropriate. Third, we used a random-number generator to select dissertations within majors, and this method resulted in 10 accounting, 27 finance, 17 marketing, and 44 management dissertations in the sample group.

### Author or Publication Identification

To identify publications by author, we examined traditional and nontraditional dissertations. From these, we obtained dissertation abstracts and other materials useful to tracking publication history. We defined the *scholarly publication* variable in a way that was consistent with *ABI/INFORM Global* database (*ProQuest Direct*, 2005) as "authored by academics for a target audience that is mainly academic, the printed format isn't usually a glossy magazine, and it is published by a recognized society with academic goals and missions . . . and is peer reviewed if articles go through an official editorial process that involves review and approval by the author's peers (people who are experts in the same subject area)" (para. 2-3). Using the author's name, we searched the *ABI/INFORM Global* and the *Science Direct* (Elsevier, 2005) databases for publications from January 1, 1998, to October 31, 2005. For this purpose, we turned on the "scholarly journals, including peer reviewed" option for *ABI/INFORM Global* and the "business, management, and accounting" and "economics, econometrics, and finance" categories for *Science Direct*.

These databases contained over 700 full-text business publications and included all journals that we used to test publication histories in prior research. In addition, the databases included (a) 100% of publications that Long et al. (1998) used to study management faculty publication patterns, (b) 95% that Park and Gordon (1996) used in strategic management, and (c) 77.8% of journals and 93.6% of articles that Zivney and Bertin (1992) used in finance. Overall, the *ABI/INFORM Global* and *Science Direct* databases contained 118 (90%) of 131 journals that appeared in the aforementioned studies. Although 13 journals used in prior studies are not included in the databases we use in this study, our study benefited from the inclusion of several hundred additional publications that previous researchers did not consider.

Using the dissertation abstracts, we reviewed and placed academic publications that we identified for a specific author in one of the two categories. Publication was from dissertation research or from research other than dissertation. To assign items to these classifications, we searched the two databases by using the dissertation author's first and last names. When publications were identified, we used the dissertation abstract to determine whether a publication came from that source. In cases where a clear determination could not be made, we considered the publication to be a non-dissertation publication. In several cases, one published author had the same first and last names as another published author. In such cases, we electronically searched the author's college Web site and curriculum vitae to assign each publication to its author. If a published article could not clearly be identified with a dissertation author, we did not include it as a publication in this study. Each step of this process was conducted by one member of the research team and audited by a second member to ensure publication assignment consistency.

### RESULTS

The database searches resulted in 145 articles from the *ABI/INFORM Global* database and 11 articles from the *Science Direct* database for traditional and nontraditional doctoral programs.

**TABLE 2. Number of Publications By Graduates of Traditional and Nontraditional Doctoral Programs**

Student	University granting traditional doctoral degrees	Articles published from dissertation	Articles published from nondissertation research	Published research prior to completing dissertation	Average publication rate
<b>Accounting</b>					
1	Texas Tech University	1	4	0	
2	University of Michigan	1	4	0	
3	University of Texas, Austin	1	1	0	
4	University of California, Berkeley	0	2	0	
5	University of Arkansas	0	1	0	3.00
6	Cornell University	0	0	0	
7	Mississippi State University	0	0	0	
8	University of Texas, Austin	0	0	0	
9	University of Texas, Austin	0	0	0	
	Virginia Polytechnic Institute	0	0	0	
	Total	3	12	0	1.50
<b>Finance</b>					
1	University of Chicago	1	8	0	
2	University of Illinois, Urbana-Champaign	1	3	0	
3	Ohio State University	1	2	0	
4	Harvard University	0	4	0	
5	Northwestern University	0	4	0	
6	University of Texas, Austin	0	2	0	
7	State University of New York, Binghamton	0	1	1	
8	University of North Carolina, Chapel Hill	0	1	0	
9	University of Virginia	0	1	0	3.22
10	Columbia University	0	0	0	
11	Massachusetts Institute of Technology	0	0	0	
12	New York University Graduate School	0	0	0	
13	Ohio State University	0	0	0	
14	Southern Illinois University, Carbondale	0	0	0	
15	State University of New York, Buffalo	0	0	0	
16	Texas A&M University	0	0	0	
17	University of California, Los Angeles	0	0	0	
18	University of California, Berkeley	0	0	0	
19	University of California, San Diego	0	0	0	
20	University of Connecticut	0	0	0	
21	University of Maryland, Baltimore County	0	0	0	
22	University of Mississippi	0	0	0	
23	University of New Mexico	0	0	0	
24	University of North Carolina, Chapel Hill	0	0	0	
25	University of Pittsburg	0	0	0	
26	University of Pittsburg	0	0	0	
27	University of Wisconsin-Madison	0	0	0	
	Total	3	26	1	1.07
<b>Marketing</b>					
1	Temple University	1	17	1	
2	Georgia State University	1	12	1	
3	Kent State University	1	8	17	
4	Cleveland State University	1	3	2	
5	University of Nebraska	1	2	0	
6	Florida State University	1	1	0	
7	Purdue University	0	7	0	
8	Iowa State University	0	5	0	
9	Georgia State University	0	2	1	
10	Ohio State University	0	1	0	
11	University of Wisconsin Milwaukee	0	1	0	5.91
12	Louisiana State University	0	0	0	
13	Pennsylvania State University	0	0	0	
14	Purdue University	0	0	0	

(table continues)

TABLE 2. (continued)

Student	University granting traditional doctoral degrees	Articles published from dissertation	Articles published from nondissertation research	Published research prior to completing dissertation	Average publication rate
15	University of Arizona	0	0	0	
16	University of California Los Angeles	0	0	0	
17	University of Florida	0	0	0	
	Total	6	59	22	3.82
<b>Management</b>					
1	Kansas State University	1	7	1	
2	Cornell University	1	4	0	
3	Georgia Institute of Technology	1	4	0	
4	University of Texas, Austin	1	2	0	
5	Florida State University	1	0	1	
6	University of Mississippi	1	0	0	
7	Cornell University	0	8	0	
8	Boston University	0	6	0	
9	Claremont Graduate University	0	4	0	
10	University of North Carolina Chapel Hill	0	4	0	
11	Temple University	0	3	0	
12	Brandeis University	0	1	0	
13	Clemson University	0	1	0	
14	Rensselaer Polytechnic Institute	0	1	0	
15	University of Illinois, Chicago	0	1	0	
16	University of Illinois, Urbana-Champaign	0	1	0	
17	University of Maryland College Park	0	1	0	
18	University of Texas, Dallas	0	1	0	3.06
19	Oklahoma State	0	0	0	
20	University of Nebraska, Lincoln	0	0	0	
21	Cornell University	0	0	0	
22	University of Tennessee	0	0	0	
23	Florida International University	0	0	0	
24	George Washington University	0	0	0	
25	Georgia State University	0	0	0	
26	Northern Arizona University	0	0	0	
27	Northwestern University	0	0	0	
28	Pennsylvania State University	0	0	0	
29	University of California Los Angeles	0	0	0	
30	University of Colorado, Boulder	0	0	0	
31	University of Houston	0	0	0	
32	University of Illinois, Urbana-Champaign	0	0	0	
33	University of Illinois, Urbana-Champaign	0	0	0	
34	University of Maryland College Park	0	0	0	
35	University of Pittsburgh	0	0	0	
36	University of San Francisco	0	0	0	
37	University of San Francisco	0	0	0	
38	University of Southern California	0	0	0	
39	University of Texas, Austin	0	0	0	
40	University of Utah	0	0	0	
41	University of Washington	0	0	0	
42	University of Hawaii	0	0	0	
43	Virginia Polytechnic Institute	0	0	0	
44	University of Tennessee	0	0	0	
	Total	6	49	2	1.25
	Total: All disciplines (98 students)	18	146	25	1.67
<b>No. of graduates</b>					
	University granting nontraditional degree				
50	Nova Southeastern University	7	7	2	0.28
24	Union Institute	1	1	0	0.08
18	Walden University	1	2	2	0.17
5	University of Sarasota	0	0	0	0.00
1	Regent University	0	0	0	0.00
	Totals: All disciplines (98 students)	9	10	4	0.19

To test the representativeness of our sample, we calculated the average publication per graduate in a way that was consistent with an approach that Long et al. (1998) used. As Table 2 shows, the mean number of publications for management was 1.25, which is consistent with the 1.20 that Long et al. identified in their study. The mean number of publications for the entire sample was 1.67, with marketing ( $M = 3.82$ ,  $SD = 5.15$ ) clearly the most prolific, followed by accounting ( $M = 1.50$ ,  $SD = 2.01$ ), management ( $M = 1.25$ ,  $SD = 2.18$ ), and finance ( $M = 1.07$ ,  $SD = 2.09$ ). When we developed the average number of publications for only authors who published at least once, the averages were closely aligned for accounting (3.00), finance (3.22), and management (3.06), with marketing (5.91) demonstrating greater achievement. Our study's mean finance publication rate of 3.22 ( $SD = 2.54$ ) is consistent with the 3.41 mean that Zivney and Bertin (1992) identified.

With the exception of Nova Southeastern University, which had an average of 0.28 for the total group and an average of 3.33 for authors who published at least once, the average publication statistics for traditional programs were greater than their nontraditional counterparts. On the basis of the consistency of our means with those of prior studies, we concluded that our sample was representative of the population and therefore suitable for examining our research questions.

To examine our research questions, we converted traditional and nontraditional publication records to binary form (published = 1; not published = 0). Because we drew our data from a population that is not normally distributed, a nonparametric test was appropriate. We used a chi-square goodness-of-fit test that used a  $2 \times 2$  contingency table with traditional publication means as the test-expected value in a manner that Cox and Snell (1989) suggested. The chi-square test assumes randomness of samples. Because the traditional set was randomly selected and the nontraditional set represented the entire population for 1997, we used the nontraditional mean as a basis for directionally testing the traditional sample. Further, to obtain additional evidence, we used binomial tests, and they confirmed the chi-square findings. Because the test results were comparable, we report only the chi-square statistics in our research question-testing discussion.

$RQ_1$  asked whether graduates from traditional business programs would produce higher total publication rates from their dissertation research than those from nontraditional programs. As Table 3 shows, our analysis indicated that 18 authors (18.4%) from traditional programs published at least one article from their dissertation, in comparison with 7 authors (7.1%) from nontraditional programs. Using the nontraditional publication rate of 7.1% to set the test-expected value, we performed a chi-square test, and it revealed a significant publication

advantage for traditional programs,  $\chi^2(1, N = 98) = 200.964, p < .001$ . Thus, we concluded that graduates of traditional programs publish more robustly from their dissertation research than do graduates of nontraditional programs.

$RQ_2$  asked whether graduates from traditional doctoral programs would have higher total publication rates than would their nontraditional counterparts. For this test, we compared the total number of 1997-dissertation authors at traditional programs who eventually published at least one journal article (regardless of whether it was from their dissertation or from other post-doctoral research) with that of nontraditional programs. As Table 3 shows, at traditional schools 43.9% of graduates eventually published, whereas at nontraditional schools 11.2% of graduates eventually published. A chi-square test, using 11.2% as the test-expected value, indicated a significant difference between two publication patterns,  $\chi^2(1, N = 98) = 5.062, p < .024$ , thereby providing support of a conclusion in favor of traditional program graduates.

In addition to showing publication history, Table 2 shows a pattern of skewness in our sample that is consistent with prior studies (Long et al., 1998; White et al., 1996). Considering only authors with a combination of three or more of dissertation and other publications, in accounting, 2 authors (20%) accounted for 66.7% of the total publications; in finance, 5 authors (18.5%) accounted for 82.8%

**TABLE 3. Authors Published, by Institution or Discipline**

Publication pattern	No. of 1997 dissertations	No. of authors published	% of authors published	No. of authors published from dissertations	% of authors published from dissertations
Nontraditional institution					
Nova Southeastern	50	7	14.0	5	10.0
Union Institute	24	2	8.3	1	4.2
Walden University	18	2	11.1	1	5.6
University of Sarasota	5	0	0.0	0	0.0
Regent University	1	0	0.0	0	0.0
Total	98	11	11.2	7	7.1
Traditional institution by academic degree					
Accounting	10	5	50.0	3	30.0
Finance	27	9	33.3	3	11.1
Management	44	18	40.9	6	13.6
Marketing	17	11	64.7	6	35.3
Total	98	43	43.9	18	18.4

of publications; and in management, 9 authors (20.5%) contributed 83.6% of publications. Marketing was slightly less skewed, with 7 authors (41.2%) accounting for 90.8% of all publications. The publishing disparity was more pronounced at the nontraditional institutions, where 11 authors (11.3%) produced 100% of the contributions to the academic literature.

*RQ<sub>3</sub>* asked whether graduates outside the upper third of traditional programs would have higher publication records than would graduates of nontraditional programs. To test this research question, we divided the traditional sample at the 33.3% publication level shown in Table 4 on the basis of research by Long et al. (1998) and White et al. (1996). When we tested the publication rate of the bottom 66.7% of the traditional group against that of the nontraditional group by using the nontraditional publication rate of 11.2% as the test-expected value, a chi-square test indicated that there was not a difference in publication patterns between nontraditional programs and the bottom 66.7% of traditional programs,  $\chi^2(1, N = 65) = 1.144, p < .285$ . As a result of these tests, we concluded that the publication accomplishments of these two groups were similar.

In addition, when we tested the bottom 66.7% of traditional publishers by using each individual nontraditional program's publishing proportion as the expected value, a chi-square test found no significance for either Nova Southeastern University,  $\chi^2(1, N = 65) = .104, p < .748$ , or Walden University,  $\chi^2(1, N = 65) = 1.209, p < .271$ . There was a significant publication difference for Union Institute & University,  $\chi^2(1, N = 65) = 4.286, p < .038$ . We could not test Sarasota University or Regent University because of data limitations. However, as Table 2 shows, neither of those programs resulted in publications during the timeframe of this study. Among nontraditional programs, Nova Southeastern University generated a greater percentage of graduates who published after graduation in 1997 (51.0% of total publications) than did other institutions in this study. As a result, Nova Southeastern University graduates generated 73.4% of total publications and 63.6% of total published authors.

*RQ<sub>4</sub>* asked whether doctoral graduates who publish at least once in academic journals after completion of a dissertation would realize multiple postdissertation publications. To examine this question, we converted data for both

traditional and nontraditional authors to binary form and conducted a chi-square test by using a 50% expected value. Results indicated that graduates of traditional programs generated multiple publications,  $\chi^2(1, N = 43) = 3.930, p < .047$ , and that graduates of nontraditional programs did not achieve the same publication consistency,  $\chi^2(1, N = 98) = .818, p < .366$ . These findings were consistent with behavioral consistency theory for traditional program graduates, because 65.1% published at least once after completing their dissertation. For nontraditional programs, the relationship was tenuous, because only 36.4% published more than once, and the statistical finding was nonsignificant.

An additional finding was that the publication pattern associated with traditional programs varied significantly by discipline. The data in Table 4 indicate that greater proportions of marketing graduates published than did their finance and management counterparts. This difference was significant on the basis of a chi-square test when we used a marketing publication rate of 64.7% as an expected value and compared with finance,  $\chi^2(1, N = 27) = 11.631, p < .001$ , and management,  $\chi^2(1, N = 44) = 10.905, p < .001$ . However, that difference was

**TABLE 4. Traditional Program Publications, by Discipline**

Discipline	No. of graduates	No. of graduates who published	Total no. of publications	Average publications per graduate	% of graduates who published
<i>Top 33.3% of traditional sample ranked by total number of publications per graduate</i>					
Accounting	3	3	12	4.00	
Finance	9	9	29	3.22	
Marketing	6	6	49	8.17	
Management	15	15	52	3.47	
Total	33	33	142	4.30	100.0
<i>Bottom 66.7% of traditional sample ranked by total number of publications per graduate</i>					
Accounting	7	2	3	1.50	
Finance	18	0	0	0.00	
Marketing	11	5	16	3.20	
Management	29	3	3	1.00	
Total	65	10	22	2.20	15.4
<i>Total graduates in traditional sample</i>					
Accounting	10	5	15	3.00	50.0
Finance	27	9	29	3.22	33.3
Marketing	17	11	65	5.91	64.7
Management	44	18	55	3.06	40.9
Total	98	43	164	3.81	43.8



not significant when we compared with accounting,  $\chi^2(1, N = 10) = .946, p < .331$ . Chi-square tests did not reveal significant differences between publication rates when we compared accounting, finance, and management disciplines by using a chi-square test,  $p > .05$  for all.

## DISCUSSION

We found that 7.1% of students who graduated from nontraditional business doctoral programs published at least one refereed article from their dissertation within 7 years of its completion, in comparison with 18.4% of those from traditional programs. Similarly, 11.2% of graduates from nontraditional programs published at least once, either from their dissertation or other research efforts, after the completion of a dissertation, in comparison with 43.9% of graduates from traditional programs.

We found no difference between (a) the publication rates of graduates of nontraditional programs and (b) those of graduates of traditional programs in the lower 66.7% of institutions in this study. Among the nontraditional institutions, Nova Southeastern University accounted for 63.6% of the published authors and 73.4% of total publications. Last, consistent with behavioral consistency theory, 65.1% of traditional authors and 42.9% of nontraditional authors who published at least once after the completion of a dissertation contributed additional articles to the literature.

Researchers have established factors contributing to the conclusions about publication achievement that we drew in our study. The prior research identified as publication motivators (a) the prestige of degree-granting institution, (b) a graduate's moving directly into academia immediately after graduation, and (c) a graduate's teaching at a doctoral degree-granting institution. These criteria obviously favor traditional institutions because their nontraditional counterparts tend to be populated by students with extensive workplace experience who are pursuing a doctorate for one of three reasons: (a) to obtain a credential necessary for tenure or academic job maintenance purposes, (b) to gain a workplace promotion or a credential useful for consulting purposes, or (c) to

obtain a credential that will facilitate an eventual move from the workplace into academia. Also, PhDs and DBAs from traditional programs who enter positions at institutions with doctoral programs publish at higher rates than those who either work outside academia or teach at nonresearch institutions (Park & Gordon, 1996).

## Conclusion

This study is the first to examine the publication history of graduates of nontraditional business doctoral programs and to investigate differences between publication patterns of students who complete a dissertation at a traditional program and at a nontraditional program. The results indicate that graduates of traditional programs publish more extensively than do their nontraditional counterparts, in terms of both the number of authors and the number of publications. Within traditional programs, those in marketing publish more robustly than do their accounting, finance, and management counterparts.

Although graduates of traditional institutions conduct the preponderance of academic research, the skewness of the publication data suggests that graduates drive their own publication capacity individually. In our sample, 56.1% of graduates from traditional institutions have not yet published in academic journals. Thus, regardless of whether PhDs and DBAs earn their degrees from traditional or nontraditional programs, the key to their individual successful publication history appears to be a combination of institutional resources and individual motivation.

Given the shortfall of business doctoral graduates flowing from traditional academic institutions, this study suggests that those who are responsible for recruiting faculty capable of establishing fruitful publication records should be discerning in considering graduates from traditional programs and should not automatically reject those who earned their degrees in a nontraditional manner.

One of the limitations of this study is that we used the *ABI/INFORM Global* and *Science Direct* databases to identify publication history. These sources do not include conference proceedings and

other publications types, and we made no attempt to separate publications by perceived quality. Future researchers might try to do so.

Another limitation of our study is that our approach did not lend itself to gathering data that might influence publication activity, such as academic setting, teaching in a doctoral program, advisor involvement, and prestige of degree-granting institution. Future researchers should consider surveying graduates to capture this data. Finally, we were not able to separate our sample's participants into those who were actively engaged in academia and those who were not.

## NOTES

**Dr. William Hahn's** research interests are accounting information usefulness, organizational sustainability, and higher education issues.

**Dr. Lyle Bowlin's** research interests are market efficiency, asset pricing, and higher education leadership issues.

**Dr. Margaret Britt's** research interests are higher education, strategic marketing, and human resources.

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