

# Publishing Patterns at State Comprehensive Universities: The Changing Nature of Faculty Work and the Quest for Status

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***Abstract:** Anecdotes and results from self-report surveys suggest that in recent decades colleges and universities outside the research university sector, especially state comprehensive universities (SCUs), have increasingly pressured faculty members to publish as a means of enhancing institutional status. Two questions related to this trend are examined in this study. First, have publishing rates at SCUs increased significantly, indicating a change in the nature of faculty work from an emphasis on teaching and service to an emphasis on research? Second, have the publishing patterns at SCUs made them increasingly like the higher status colleges and universities? This study used a large database to examine how much the publishing patterns of faculty members at 80 comprehensive universities have changed and become like those of faculty members at 20 research and 20 liberal arts institutions. The results indicate that while faculty members at SCUs have been publishing more over time, the changes have been small increases on a small base. Moreover, the gap between publishing rates at research universities and comprehensive universities has been large since the 1970s and has grown increasingly larger. In terms of publishing rates, it appears that state comprehensive universities are becoming less like the research universities.*

“Publish or perish” is more than an academic cliché. Since Wilson (1942) used it more than 60 years ago, it has aptly captured the threat to

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new scholars of the consequences of not getting their thinking and writing into print. Some observers have suggested that an emphasis on research and publication in the activities of college professors is a post-World War II phenomenon. Yet as early as the 1930s even professors at the lowly normal schools were admonished to demonstrate their scholarly abilities through publication (Sangren, 1931). Over the past four decades faculty members at all kinds of four-year colleges and universities have felt increased pressure to publish in order to be tenured, promoted, and financially rewarded. Patterns of publication are important sources of information about individual professors and their institutions. Trends in publishing rate over time can indicate changes in the nature of faculty work, how institutions are trying to become more like institutions higher in the status hierarchy and modifications in what “counts” in an institution’s model of faculty scholarship.

The purpose of this study is to examine changing faculty publication patterns in a particular sector of higher education, the state comprehensive university. The state comprehensive universities (SCUs) provide a particularly sensitive test of the influences of pressures to publish because they have struggled over the past half century to discover an identity that distinguishes them from the large research universities and the private liberal arts colleges (Clark, 1987; Finnegan & Gamson, 1996; Henderson, 2007; Youn & Price, 2009). Increasing rates of faculty publishing at SCUs over time could reveal important changes in the nature of what faculty members do, the degree to which SCUs are becoming more like research universities, and how the SCUs are altering their balance of teaching, research and service missions.

## **The Nature of State Comprehensive Universities**

The SCUs (known in the current Carnegie classification system as public master’s universities) have received little attention in the literature of higher education (Grubb & Lazerson, 2005; Wolf-Wendel & Ward, 2006a). Dunham (1969) once called the regional comprehensives the colleges of forgotten Americans but he might well have called them the forgotten colleges of America (Henderson & Kane, 1991). In some histories of higher education they are virtually ignored (e.g., Thelin, 2004). Even in fictional accounts of life in colleges and universities the SCUs are largely overlooked (Kramer, 2003). The relative neglect of faculty life at SCUs reflects their lack of institutional status and prestige

(Clark, 1987). SCUs have been called “poor boy schools,” “academic Siberia,” “universities in a permanent state of adolescence,” and “the undistinguished middle child of higher education” among other things (Bogue & Aper, 2000; Selingo, 2000; Van den Berghe, 1970). Clark (1987) called them “confused.”

Despite their low status and the neglect from higher education researchers, SCUs continue to have a major role in American higher education. More than a third of the students enrolled in public four-year institutions of higher education in 2007 were enrolled in master’s institutions (National Center for Education Statistics, 2007). Almost a third of full time faculty employed in public four-year institutions in 2003 worked at comprehensive universities (National Center for Educational Statistics, 2003). Historically, it is the SCUs that have democratized higher education, providing access to underserved populations (Bardo, 1990; Geiger, 2005) and providing service to their regions, leading some to argue that they more deserve to be known as the People’s Universities than do the land grant universities (Henderson, 2007; Herbst, 1989). The SCUs’ students have tended to be first-generation college students seeking vocationally-oriented degrees in a wide range of areas from education to construction management (Grubb & Lazerson, 2005). The missions of the SCUs, adapted from their roots in normal schools and teacher’s colleges, branch campuses, historically black colleges, and technical schools (Altenbaugh & Underwood, 1990; Henderson, 2007), have traditionally been centered on teaching and service, not research. However, if faculty members at SCUs change the nature of their work, focusing more of their energies on doing research that leads to publication, they may abandon their usual emphasis on teaching and community service and become more like faculty members at the research universities (Dey, Milem, & Berger, 1997; Morphew, 2002).

### **Faculty Work at SCUs**

Most of the research on faculty life has focused on the research universities (Wolf-Wendel & Ward, 2006a). That research supports the contention that the press for research dominates the thinking of the untenured and that frequent publication (or generation of their equivalents in the form of works of art, musical compositions, patents and various forms of external funding) holds the greatest opportunity for acquiring rewards (Fairweather, 2002) by the untenured and tenured.

Although some faculty members at major research universities lament the emphasis on publishing at the expense of attention to teaching (see Bok, 2005; Fairweather, 2002; Young, 2006), it is the emphasis on the generation and dissemination of knowledge that is the distinctive feature of the doctoral universities. However, there also are indications in the higher education literature from the 1970s on (Aitkin, 1991; Bentley & Blackburn, 1990; Blackburn & Lawrence, 1995; Boyer, 1990; Buell, 1990; Buzza, 1990; Dey et al., 1997; Lofthouse, 1974; Milem, Berger, & Dey, 2000; Wilson, 2001; Woolston, 2003; Youn & Price, 2009) that pressures to publish have been increasingly extended to faculty members at lower levels of the academic hierarchy. Dey and colleagues (Dey et al., 1997; Milem et al., 2000), using faculty surveys from 1972 and 1989 or 1992, reported an increase in publishing activity in all kinds of institutions, with faculty members at comprehensive universities showing the largest proportional jump. They suggested that if the trend they found continued, the publishing rate at comprehensive universities could eventually overtake that at the research universities. Dey et al. (1997) argued that their data reflected an increasing isomorphism in the publication arena among all kinds of four-year institutions.

With disciplinary training from the research university, a culture that does not facilitate research activity and pressures to publish like faculty members at higher status institutions, faculty members at SCUs may find themselves caught between two worlds. Finnegan (1993, 1997) described how when the job market for PhDs in many disciplines declined during the 1960s, growing institutions, among them the SCUs (especially those outside the northeast and rust belt regions), were able to hire more faculty members who brought the research university values with them, often from prestigious graduate schools. Finnegan argued that the first cohorts of these faculty members (she called them the Brahmins) were disappointed to be at the comprehensive universities. They often felt that they should be doing research but were at institutions where doing so was difficult. A later cohort from the major research universities (the Proteans) came to the SCUs with a more adaptable and adaptive attitude and were more ready to find ways to address some kind of scholarly agenda. To the extent publishing was emphasized at SCUs in the 1980s and 1990s, much of the impetus came from the presence of more research-oriented faculty members, although many faculty members chose to work at the SCUs because they were disenchanting with the research university culture or wanted to emphasize teaching, a preference

of many faculty, even those at the prestigious universities as far back as the 1920s and 1930s (Ward, 1937). Some administrators at SCUs undoubtedly also saw research and publications as a means for gaining visibility and prestige for their institutions.

For untenured faculty members, confusion about mission at the institutional level can lead to a perception of mixed messages from administrators and from senior colleagues about how they should be spending their time. This confusion can be magnified in states where legislative bodies see the SCUs as a mechanism for democratizing higher education and want faculty members to pay more attention to teaching and regional economic needs (Allen & Allen, 2003; Lyall & Sell, 2006). Wright et al. (2004) analyzed different types of colleges and universities in terms of the degree to which they fit the concept of a “greedy institution” (Coser, 1974), an institution that tends to make multiple, even unreasonable, demands on a worker’s time and effort. Their analyses led them to label comprehensive universities as the greediest of institutions because of their mixed messages and demands for productivity in research, teaching, and institutional and regional service. Using interview data, Wolf-Wendel and Ward (2006a, 2006b) documented the confusion felt by new faculty women at SCUs. One of their respondents said “I left the publish or perish rat race of graduate school” [only to find myself at a campus] “just like my graduate institution minus the resources” (Wolf-Wendell & Ward, 2006a, p. 13).

Although the evidence that faculty members at SCUs have been feeling more pressure to publish in recent decades is substantial, there is still reason to believe that the nature of their work has not changed dramatically. Although faculty members at SCUs, like their counterparts throughout the institutional hierarchy, receive their graduate education at major research universities, their academic lives are different once they are hired at a SCU (Henderson, 2007). Compared to faculty members at research universities they have higher teaching loads, are more likely to be expected to be engaged in service to their universities and regions, and are less likely to have access to research-related resources, including physical facilities and graduate assistants. More broadly, faculty members at SCUs are less likely to work in a setting with a rich research culture where the values and norms of research are apparent (Clark, 1987; Wolf-Wendel & Ward, 2006a).

Cardozier (1991) pointed out that many faculty members outside the research university sector are frustrated by the dissonance between believing the conventional wisdom that all faculty members are supposed to be publishing scholars and the realization that they are not. Across institutional types, few faculty members are high in both teaching and research outputs at any kind of college or university (Fairweather, 2002). Because of the heavier teaching loads at most SCUs, Fairweather's data would suggest high levels of publishing at SCUs would be surprising. An examination of publishing patterns by SCU faculty members can help indirectly demonstrate the extent to which life at SCUs has actually changed over time with more attention to research.

### **Response to Low Status: Publishing as Emulation and Status Seeking**

Two theories have dominated views of institutional change in higher education. One, the emulation and isomorphism model, argues that institutions lower in status and prestige will try to become more like those that have been most successful. In American higher education, the most successful are perceived to be the research universities. O'Meara (2007) and Wolf-Wendel and Ward (2006b) have, respectively, called the colleges and universities engaged in emulation "striving institutions" or "striving comprehensives" (as opposed to "regional comprehensives" that have maintained a mission focus on teaching and regional service). Many of the SCUs have responded to their lack of recognition in recent decades by attempting to find ways to improve their status (Morphew, 2002; O'Meara, 2007; Wolf-Wendel & Ward, 2006a, 2006b). This tendency has been called "mission drift" or "mission creep." Many years ago Riesman (1965) characterized American higher education as a snakelike procession in which the less prestigious institutions at the tail followed the more prestigious at the head. Morphew (2002) and others (e.g., Finnegan & Gamson, 1996; Wolf-Wendel & Ward, 2006a) have used the theoretical concept of isomorphism to describe this tendency for all kinds of colleges and universities to become more like the research universities.

At the institutional level, Morphew (2002) and O'Meara (2007) describe the drift toward the research university ideal as a drift of institutional mission. The common characteristics of the striving institutions that directly influence faculty members include the tendency to hire faculty stars at the entry and advanced levels, decreasing teaching loads,

reducing stress on loyalty to local institutions and students, increasing research standards for tenure and promotion, and encouraging faculty members' connections to their disciplines rather than to their universities. All of these characteristics are closely tied to generating more research and publications. At striving institutions the ideal faculty member becomes one who is a disciplinary cosmopolitan with a visible and productive program of research. Model faculty members are those who are publishing scholars in their disciplines. Youn and Price (2009) described how the tenure and promotion standards at two public comprehensive universities had changed from the 1970s to the 2000s and argued the changes could be characterized in terms of practices that increased demands for research and publication, or "sustained scholarship." For example, those comprehensive universities imitated a typical practice from research universities of employing external reviewers to evaluate candidates' scholarship despite the fact that the reviews were rarely, if ever, used to make decisions.

An alternative view to the isomorphism perspective on institutional change is the accumulative advantage model, also known as the Matthew Effect (Dey et al., 1997; Merton, 1968). Rather than positing that institutions are getting more and more alike, the accumulative advantage model suggests that those institutions that have the most resources have an initial advantage they use to build on. They get stronger and stronger and less and less like the other institutions with fewer resources. Institutions may be striving to increase their status, but are not likely to have substantial success because of their initial lack of advantages. In terms of faculty publishing activity, the accumulative advantage model predicts that professors at research universities will, over time, use their advantages in grant funds, talented graduate students, editorial positions, light teaching loads, and reputations in their disciplines to increase their advantages in publishing and other research-related activities and to publish at increasingly greater rates compared to professors without such resources. Dey and colleagues (Dey et al., 1997), while arguing their data generally supported the isomorphism model, did report some support for the Matthew Effect. Controlling for publishing rates in 1972, they found that the publication rates at research universities increased more than rates at comprehensive universities. Even some studies employing self reports indicate that faculty members at comprehensive universities are losing ground in terms of publishing rates (Bentley & Blackburn, 1990). Furthermore, there is evidence using more objective metrics than self

reports that as late as 1996 faculty members at research universities were greatly out-publishing those at other kinds of institutions (Toutkoushian, Porter, Danielson & Hollis, 2003) with faculty members at master's universities publishing at a rate of roughly one-fourteenth the rate of faculty members at doctorate-granting universities.

### **Models of Scholarship**

In addition to indicating changes in the nature of faculty work and in institutional changes in striving for status, trends in publication patterns can be informative about the model of scholarship a university is using. Boyer (1990) argued that universities needed to broaden the definition of scholarship to include scholarly work involving the integration of research, teaching, and community service as well as traditional discovery research. He thought a broader view of scholarship would be particularly advantageous for the comprehensive universities. O'Meara (2005) reported on a tendency for master's universities to adopt a broader view of scholarship based on Boyer's scheme although the degree to which this has led to a de-emphasis on traditional publishing is unclear in her data for any kind of college or university. Adoption of the Boyer model could lead to increases in integration-, teaching-, and service-related forms of publications.

Such detailed trends are not the focus of the present study, but previous research indicates that teaching-related publications may be a particular specialty of faculty members at comprehensive universities. Henderson and Buchanan (2007) found that while comprehensive university (public and private) faculty from four disciplines rarely published in top discovery research and integration journals, they were well-represented in journals reflecting the scholarship of teaching and learning. Moreover, they found that over time the relative participation of comprehensive university faculty members had increased compared to participation by faculty members from research universities.

### **Assessing Publication Trends**

Publication trends at SCUs should help reveal whether faculty work has changed over recent decades and whether SCUs are becoming more like research universities. However, a major weakness of the literature on publication patterns is that it is largely based on anecdote or self-reports obtained from faculty surveys. The problems with self report of

publication activities in faculty surveys include: (a) ambiguities among responders about what counts as a publication; (b) inflated estimates based on the voluntary nature of the surveys. According to Bonzi (1992), it seems likely that non-publishers may be hesitant to respond to surveys, which generally have response rates of about 50-60%); and (c) difficulties with the scales used to survey publication. The latter problem is illustrated in the reports by Dey and colleagues (Dey et al., 1997; Milem et al., 2000). Their claim that comprehensive university publishers might eventually overtake the research university publishers was based on data that represented very different publishing rates at different parts of their scale. For example, a mean change in reported career article scores from 2.00 to 2.67 for comprehensive university faculty was seen as proportionally larger than the corresponding change from 4.30 to 4.84 for research university faculty. However, the scale for reporting career articles was 1 (none); 2 (1-2); 3 (3-4), 4 (5-10), 6 (21-50); and 7 (over 50). Comprehensive university respondents moved from a low 1 to 2 career publications to a high 1 to 2 career publications while research university respondents moved from a low 5-10 publications to a high 5-10 publications. Thus the "average" research university professor could have been out-publishing comprehensive university colleagues dramatically at both times and could have been publishing significantly more over time, but the scale used would hide those changes.

Self-reports of publishing activities tend to overestimate publishing behavior (Bonzi, 1992). Acquiring resumes from individual faculty members over time is not a practical approach for assessing publication patterns. Modern databases document publishing activity, but no single database covers all disciplines or every type of publishing outlet faculty members use. Toutkoushian et al. (2003) used an extensive database, the *ISI Web of Knowledge's* science, social science and arts and humanities citation indexes, to look at research productivity by institutional type for one year. The advantages of using a database listing actual publications include: (a) the database includes a very broad range of publications that provides a common base for all institutions; (b) what is defined as a published document is the same for all contributors; and (c) the report of data does not depend on faculty member memory or willingness to participate in a survey. The disadvantages of using the ISI database include: (a) the under-representation of some kinds of publications, especially books and chapters; (b) the absence of regional and highly specialized publications; and (c) fewer source documents in earlier years

of the indexes. Despite these limitations, the *Web of Knowledge* indexes appear to provide the best available source of information on publication patterns for different types of institutions.

## **The Present Study**

Like in Toutkoushian et al. (2003), actual publications are counted in this study to examine publication patterns by institutional type, with the main focus on state comprehensive universities. In the present study, a smaller sample of institutions was used than the large sample used by Toutkoushian et al., but patterns were examined over time. Publication patterns in SCUs were examined from the 1960s to the current decade and compared to those at major public research universities and liberal arts colleges. Two chief questions were addressed. First, have publication rates at SCUs increased significantly over the past five decades? Self-reports from faculty members have suggested increased pressure to be productive in terms of generating publications. Are increases in publications per faculty member consistent with those reports? Second, are faculty members at SCUs publishing at a rate that would indicate that, as the isomorphism theory of institutional change predicts, they are becoming more like the higher status research universities? Have the indications from self reports in earlier studies in the 1990s (Dey et al., 1997; Milem et al., 2000) been realized? Or, do the trends support the alternative accumulative advantage theory prediction of a continuing, increasing divergence between SCU and research university productivity?

To further explore the relationship between institutional status and prestige and publication patterns, publication rates were also related to selected characteristics of the institutions from the *US News and World Report* (*USN&WR*) assessments of institutional size, reputation, selectivity and student commitment. Prestige, as indicated by an admittedly narrow measure, *USN&WR* peer ratings, should be correlated with publication rates within institutional type. Because institutional size and selectivity have been shown to be related to peer ratings in sets of research and liberal arts universities, the correlation of prestige with publication rates was examined while statistically controlling for size and selectivity.

## Method

### Institutions

The SCUs included in the study were randomly selected by state from a list of public master's universities on the Carnegie Foundation for the Advancement of Teaching website. One to three universities were selected until 80 were chosen (three each from the states with the most SCUs, including New York, California and Pennsylvania and one or two from states with few or moderate numbers of SCUs). Several universities from the original list were replaced at random when it was determined that they were founded or became four-year institutions after 1960. The resulting set of universities included ones with fewer than 3,000 students and more than 30,000 students. About half had been normal schools and teachers colleges at one time. The data summarized in Table 1 indicate that the SCUs are much less selective and have much lower retention and graduation rates than the comparison schools.

Table 1  
*Descriptive Data for Institutional Characteristics*

Variable	SCUs		Doctoral		Liberal Arts	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
No. Faculty	467	256	1355	728	182	69
Small Classes	40.1	8.7	39.8	9.6	63.1	8.2
Large Classes	5.5	3.5	12.5	4.7	2.0	1.8
Peer Rating	2.7	0.3	3.0	0.7	3.2	0.7
Tier	2.7	1.0	2.5	1.1	1.9	1.0
Fresh. at top <sup>1</sup>	37.1	13.1	31.3	22.3	45.6	21.4
Acceptance Rate	74.3	13.1	67.5	16.9	56.9	19.8
Fresh. Retention	71.8	7.5	83.0	8.4	85.8	9.2
Graduation Rate	41.4	13.5	60.3	16.5	73.6	13.4
Giving Up	10.8	6.3	15.3	7.3	35.3	11.6

<sup>1</sup> Top of 25% of high school class for SCUs, top 10% for doctoral and liberal arts institutions.

The 20 research universities and 20 liberal arts colleges that were used for comparison were chosen from the lists in *USN&WR*'s 2003 *America's Best Colleges* issue. Half of each group was chosen from the first tier and the other half equally from the other tiers. The resulting set of research universities included very large universities that had reported more numerous larger classes than those in the other two groups (see Table 1). The liberal arts colleges are clearly much smaller and have more committed students and graduates (as indicated by retention and alumni giving rates). Both the research universities and the liberal arts colleges are more selective than the SCUs. The data in Table 1 for the 20 selected research universities is very close to that reported by Volkwein and Sweitzer (2006) for the full set of 242 doctoral institutions in the 2004 *USN&WR* 2004 database. The data in Table 1 for the 20 comparison liberal arts colleges indicates that the current sample is slightly more prestigious and selective than the full set of 205 liberal arts institutions studied by Volkwein and Sweitzer.

### **Publishing Data**

ISI's *Web of Knowledge* science, social science and arts and humanities citation indexes cover over 13,000 journals with over 250 subject categories. The *Web of Knowledge* does not comprehensively cover books and chapters (so does not represent book-oriented disciplines well) and is not strong in its coverage of some areas prior to the 1970s, but it probably provides the best searchable database for addressing the central questions of this study (Toutkoushian et al., 2003).

The *Web of Knowledge* allows searches by institution or address and by decade. Searches can include all kinds of documents (journal articles, published meeting abstracts, book reviews, editorials, etc.) or articles only. For each of the 80 SCUs and 40 comparison institutions, searches by decade were made by institution or institution and address (when institution alone was ambiguous) for all documents and for articles only. Searches for research universities and liberal arts institutions were straightforward. Searches for the SCUs, however, were frequently complicated by name changes. When the institution's name had changed after 1960, multiple searches were conducted and combined. Searches were done for each decade starting with the 1960s, but data from the first decade need to be considered cautiously because of the possible incompleteness of the database for materials in that era. For the 2000s, searches were conducted through 2007 and extrapolated for decade-long

equivalence. These data may be slightly undervalued to the extent that changing trends continue through the decade. The number of publications across the decade was divided by the number of faculty members at the institution at mid-decade to produce an estimated rate of publication for each institution for each decade. The numbers of faculty members at an institution were obtained for each mid-decade year from the *World Almanac and Book of Facts*, which used its own questionnaires and Office of Education sources in the 1960s and 1970s and *Peterson's Guides* since then.

### Other Data

Other data obtained from the *USN&WR's Best Colleges, 2003 edition* (see Table 1) included: (a) small classes: percentage of an institution's classes in 2001 that enrolled fewer than 20 students; (b) large classes: percentage of classes in 2001 enrolling 50 or more students; (c) peer rating: institutional rankings based on a survey sent to administrators (presidents, provosts, deans of admission) who were asked to rate peer schools' academic programs on a scale of 1 (marginal) to 5 (distinguished). The return rate was 64% from 4,095 requests. (See Ehrenberg, 2002 and Volkwein & Grunig, 2005 for discussions of concerns about this index.); (d) tier: the relative overall ranking of the institution within type of institution based on the *USN&WR* formula combining peer assessment (25%), graduation and retention rates (20% for research universities, 25% for other institutions), faculty resources (20%), student selectivity (15%), financial resources (10%), alumni giving (5%), and, for research universities only, a rating of graduation rates based on the difference between actual and predicted graduation rates (5%; the predicted rate was based on a combination of entering test scores and resources expended on entering students); (e) freshmen at top: percentage of enrolled freshmen who graduated in the top 10% of their high school graduating classes for research universities and liberal arts colleges and top 25% for comprehensive universities; (f) acceptance rate: percentage of students who applied who were accepted; (g) freshman retention: percentage of freshmen entering between 1997 and 2000 who returned the following year; (h) graduation rate: six-year graduation rates for students who entered as freshmen between 1992 and 1995; and (i) giving rate: percentage of alumni who made contributions in the 1999-2000 and 2000-2001 school years. Most of these data were reported by the institutions themselves, but *USN&WR* used an opinion-research firm

to obtain the peer assessment ratings and developed their own formulas for tier rankings. These data provide descriptive information on the institutions and also tap potentially important correlates of publishing activity. Size provides a rough indicator of the availability of resources. Reputation, selectivity and student commitment are all components of institutional status.

### Results

The two major questions addressed in this study were: (a) has the rate of faculty publishing at SCUs increased significantly over the past five decades, indicating a change in the nature of faculty work? and (b) are the publishing patterns at SCUs making them look more (isomorphism) or less (accumulative advantage) like the research universities?

The mean rates of publication by decade for the 80 SCUs, the 20 doctoral-level universities and the 20 liberal arts colleges are presented in Table 2 for all documents and articles only. The mean rates for all documents are graphed in Figure 1.

**Documents per Faculty**

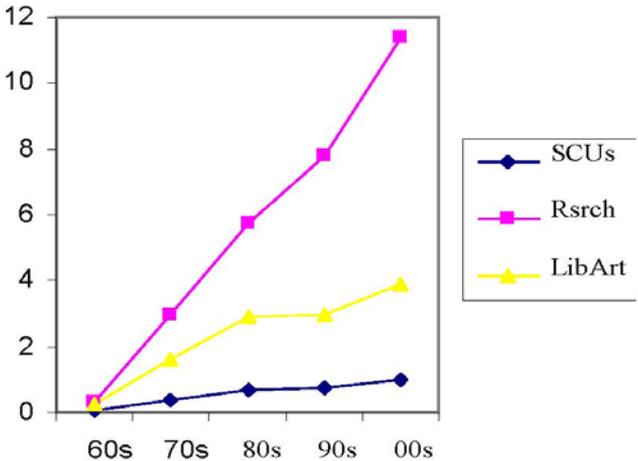


Figure 1. Documents per Faculty Member by Decade and Institution Type

Table 2

*Mean Publications Rates per Faculty Member by Decade and Institution Type*

		<b>All Documents</b>				
		60s	70s	80s	90s	00s
SCUs						
	M	.08	.39	.65	.75	.99
	SD	.08	.29	.42	.45	.56
Research						
	M	.31	2.97	5.77	7.78	11.37
	SD	.23	2.06	4.37	5.96	9.39
Liberal Arts						
	M	.23	1.59	2.88 <sub>a</sub>	2.98 <sub>a</sub>	3.87
	SD	.24	1.77	3.16	2.68	3.35
		<b>Articles Only</b>				
		60s	70s	80s	90s	00s
SCUs						
	M	.03	.20	.33	.41	.60
	SD	.03	.15	.22	.26	.38
Research						
	M	.14	1.78	3.62	5.45	8.11
	SD	.10	1.25	2.72	4.18	6.32
Liberal Arts						
	M	.08	.87	1.50 <sub>a</sub>	1.58 <sub>a</sub>	2.29
	SD	.09	1.14	2.02	1.85	2.50

*Note.* For each decade for all documents and for article only, institutional type means are significantly different,  $p < .01$  in the order Research > Liberal Arts > SCUs. Within institutional type, adjacent means that do not share a subscript differ at  $p < .05$ .

The data provided in Table 2 indicate that faculty members at all three types of institutions have been publishing in increasing amounts in the outlets covered by the ISI database. Two 3 (institution type) X 5 (decade) ANOVAs, one for all documents and one for articles only, showed significant effects of institution type,  $F(2, 117) = 175.72, p < .01, \eta^2 = .60$ , and  $F(2, 117) = 159.48, p < .01$ , respectively, and decade,  $F(4, 114) = 42.68, p < .01, \eta^2 = .29$ , and  $F(4, 114) = 38.05, p < .01, \eta^2 = .57$ , and institution X decade interactions  $F(8, 230) = 11.86, p < .01, \eta^2 = .29$ , and  $F(8, 230) = 12.52, p < .01, \eta^2 = .30$ . Simple main effects analyses, post

hoc comparisons (using Bonferroni adjustments and  $p < .01$ ) and linear trend analyses showed that: (a) faculty members at doctoral universities had the highest publication rates and those at SCUs the lowest in each decade (each difference,  $p < .01$ ); (b) within each type of institution there was a strong linear trend in publication rate over time (with  $\eta^2$ s for all documents/articles only of .61/.63 for research universities, .72/.68 for master's universities, and .60/.46 for liberal arts institutions); and (c) with the exception of the 1980s to 1990s rates for the liberal arts colleges, all the adjacent rate means were different from each other within institutional type ( $p < .05$ ). Clearly, over the past five decades, publishing has become a more important component of faculty work at SCUs and at other four-year institutions.

The absolute rates of publication are not very meaningful because it cannot be assumed that the ISI database provides a comprehensive or random sample of an institution's publication activity. However the relative comparisons between institutional types are more directly interpretable. Faculty members at doctoral universities out-published SCU faculty members in the outlets covered by the ISI database at a ratio that increased from 5 to 1 in the 1960s to 13 to 1 by the 1990s and 2000s. Faculty members at liberal arts colleges also out-published the SCU faculty, but at much more modest ratios of 2 to 1 in the 1960s to 4 to 1 in the most recent periods. The large gap between the SCUs and the other institutions is further indicated by the limited overlap in the distributions of average document rates. The ranges of mean document rates for the different institutions in the 2000s were: 1.78 to 34.33 for doctoral institutions (6.78 to 34.33 for the ten in the *USN&WR* top tier), 0.51 to 13.30 for the liberal arts institutions (2.50 to 13.30 for the top tier), and 0.18 to 2.91 for the SCUs. Only four individual SCUs had higher mean document rates than the lowest doctoral institution.

Correlations between publishing rates and the *USN&WR* data were used to explore the degree to which publishing rates are related to indicators of institutional size and status. The correlations between article publication rates and selected *USN&WR* and other variables are presented in Table 3 by institutional type. Larger size (number of faculty, percent of classes over 50 and below 20) was related to publication rate for SCUs. Publication rate was associated with faculty size, but not class size for doctoral universities, and unrelated to size variables for liberal arts colleges. For the SCUs, prestige (peer rating and *USN&WR* tier) was

associated with publication rate as was one measure of selectivity (percent of freshman from the top 25% of high school classes). Similar results were apparent for both the doctoral and liberal arts schools. In the SCU sample freshman retention was related to publication rate but graduation rate and alumni giving were not. All three measures of student commitment were related to publication rate among the doctoral institutions, but none of them were related in the liberal arts group. Regression analyses predicting peer ratings from current publishing rates when faculty size and admissions selectivity (as indicated by percentage of freshmen at the top of their high school classes) are controlled for resulted in significant  $R^2$  squared changes in both the research university and SCU sets (.079,  $p < .01$  and .121,  $p < .01$ , respectively), but not in the liberal arts set.

Table 3

*Correlation between Article Publication Rates in 1990s and 2000s with Selected Institutional Variables by Institutional Types*

Variable	SCUs		Doctoral		Liberal Arts	
	90s	00s	90s	00s	90s	00s
No. Faculty	46**	38**	46*	46*	40	37
Small Classes	-25*	-26*	37	37	-09	-04
Large Classes	43**	49**	42	31	38	36
Peer Rating	70**	55**	79**	90**	45*	49*
Tier	-48**	-48**	-78**	-84**	-48*	-51*
Fresh. At top <sup>1</sup>	35**	26*	55*	81**	49*	55*
Acceptance Rate	-12	-14	-28	-54*	-49*	-54*
Fresh. Retention	46**	43**	69**	82**	40	43
Graduation Rate	30*	20	63**	76**	35	41
Giving Up	07	-09	45*	61**	25	25

\* $p < .05$  \*\* $p < .01$

Note: Decimals omitted.

## Discussion

### Changes in Faculty Work

As others have reported using anecdotes or self-reports (Bentley & Blackburn, 1990; Blackburn & Lawrence, 1995; Boyer, 1990; Buzza, 1990; Dey et al., 1997; Lofthouse, 1974; Wilson, 2001; Woolston, 2003), the publishing data reported here show that faculty members at all kinds of four-year institutions are publishing more than they did decades ago. To an increasing extent faculty members in different kinds of settings all have been expected to demonstrate their scholarly qualifications through publishing. However the small change in the absolute size of the publishing rate should be noted. In the most recent data, the average SCU faculty member is publishing less than one article per decade that appears in any of the citation indexes. Taken at face value, this change is unlikely to have led to a major change in the average faculty member's work life. Across institutional type, the increases in publishing should be kept within the perspective that most faculty members publish at modest rates throughout their careers (e.g., Douglas, 1992; Fox, 1985; Joy, 2006; Lewis, 1998). As Greenberg (1993) said, "except for faculty members at a thin slice of elite institutions, the amount of research and publication is exaggerated" (p. A68).

Why are faculty members at SCUs publishing more? A full explanation for the modest increases in publishing rates at SCUs and larger increases elsewhere would require extensive historical analyses. However, some possibilities are clear. First, some administrative leaders, often in response to accreditation pressures, urge faculty members to publish more (Brewer, Gates, & Goldman, 2002). They may do so as a means of increasing prestige or may see publishing as a proxy for faculty quality. Their efforts are usually expressed in some version of "taking the university (or school or department) to the next level."

A second force behind increases in publication rates arises from the simple fact that nearly all faculty members at SCUs are products of the research university. They are socialized early into a single model of a "real" faculty member is: someone who publishes extensively in the scholarly literature of the discipline (Austin, 2002). This socialization, combined with faculty members' intrinsic interests in their disciplines and an oversupply of potential faculty members with doctorates in many disciplines, has surely contributed to the increase in publishing rates

(Weidman & Stein, 2003). The impact of the disciplines and their increasing specialization can be seen most clearly in the rapid growth in the number of journals in most disciplines (and, increasingly, sub-disciplines).

A third possible force behind increasing publication rates is that faculty members at all kinds of institutions have more resources. Volkwein and Sweitzer (2006) found that within sets of doctoral and liberal arts institutions, a major predictor of prestige (based on peer ratings) was the size of the faculty. They argued that faculty size is a proxy for the resources available for faculty members to do research. As SCUs have grown, perhaps they have had more flexibility to provide faculty members with the resources (e.g., release time, library resources, studio and laboratory space) that facilitate research and publishing. Indeed many SCUs have many more resources than they had decades ago (although not all SCUs have grown). However, faculty members at many SCUs would likely argue that their relatively high teaching loads, lack of graduate assistants, and research facilities designed more for undergraduate instruction than for basic research helps account for the divergence of publication rates in Figure 1. The correlation data obtained in this study indicate that it is the faculty members at the larger SCUs who are publishing more.

Finally, one additional factor in increasing publishing rates is a change in what is considered publishable (Braxton & Del Favero, 2002). Over the past two decades, an increasingly broad range of publication outlets has come to represent the different kinds of scholarship described by Boyer (1990). For example, Henderson and Buchanan (2007) showed that the scholarship of teaching and learning is an area in which SCU faculty members are taking a significant and growing role. They are publishing regularly in the teaching-oriented journals of those same disciplines and are doing so to an increasing degree. Perhaps even more important for future trends, SCUs faculty members are also increasingly involved in leadership roles in the scholarship of teaching and learning as indicated by representation on journal editorial boards.

### **Isomorphism or Accumulative Advantage?**

Faculty members at all types of four-year colleges and universities are publishing more than they used to. However, faculty life is different at different types of institutions. As the accumulative advantage model

predicts, faculty members at the institutions with the most resources, highest expectations for research, and highest initial rates of publishing are those who are publishing at increasingly high rates. In contrast to previous reports supporting the isomorphism model of institutional change (e.g., Bentley & Blackburn, 1990), in terms of publishing rates, SCUs faculty members' rates are falling farther and farther behind that of their colleagues at research universities in their rates of publishing, and to a much lesser degree, are falling behind their colleagues at liberal arts colleges.

It is possible that there is a degree of isomorphism not detected by the data provided here. The SCUs studied were selected on the basis of their current categorization as comprehensive universities or master's institutions. Perhaps universities that were SCUs in the 1960s and 1970s became doctoral universities as they successfully emulated the research emphasis (not only changing their names from colleges to universities but actually changing Carnegie classifications). Indeed, Aldersley (1995) identified individual cases of such transformations. However, of the members of the Carnegie "comprehensive" classification in 1976 (public or private), 75% were still in that category in the 2002 classification (Henderson & Buchanan, 2007). Moreover, the three doctoral universities with the lowest publishing rates in the current sample (the only ones with mean rates below any of the individual SCUs) had become doctoral institutions only in the 1960s and 1970s. In terms of publishing rates they looked more like the SCUs they had been than like the other doctoral universities.

There is evidence that faculty members at comprehensive universities (public and private) perceive increasing pressure to publish and that formal rules for tenure and promotion have changed to require more research (Youn & Price, 2009). The actual publishing patterns reported here suggest, however, that there is a substantial gap between expectations (and perhaps rhetoric) and reality. For both individual faculty members and for institutions, a belief that more publishing is going on than is in fact occurring may serve a protective function in maintaining individual and institutional self-esteem (Henderson, 2007).

## Limitations

The most important limitations of this study are the limitations of the database. Because of changing coverage, comparisons over time can be difficult to interpret (Ehrenberg, 2002; Toutkoushian et al., 2003). However, because the research universities are the ones that are likely to have the greatest number of programs in esoteric subspecialties not represented in the *Web of Knowledge* that are generating new journals (Mabe & Amin, 2001), the relative comparisons of the SCUs to the research universities central to this study are likely to be conservative. Moreover, while the absolute values of the publication rates and year-to-year comparisons should be interpreted cautiously, the diverging trends are clear. However, it is possible that over time, faculty members at research universities increasingly published in major outlets covered by the ISI databases whereas SCU faculty members were more likely to publish in more obscure outlets. The data are also limited by the fact that the documents and articles are not differentiated by any dimension of quality. Peer-reviewed and non-peer reviewed journals are not distinguished, nor are highly prestigious and less prestigious outlets. Finally, there is no way to judge from the database what the relative contribution of a faculty member was to the document or article.

## Future Research

The present findings suggest the need for several lines of research. First, there are questions about what is going on at SCUs. How are faculty members spending their time? Why do they perceive that there is pressure to publish like they were at research universities, yet publish relatively little? If SCUs are “teaching institutions,” just what does that mean beyond spending relatively more time in the classroom? The high correlations between graduation and retention rates and publication rates within the doctoral institutions suggests that attention to research is not detrimental to student success, at least among the strong students who attend research universities. Are faculty members at SCUs engaged in pedagogical research (published or not) to help them deal with the underpreparedness of their students and the need to increase the SCUs’ historically low graduation and retention rates? There is a need for more qualitative descriptive data updating and extending Finnegan’s (1993, 1997) work on generations of faculty members at SCUs. Are there still

differences in the attitudes and behaviors of faculty members from different cohorts?

Second, there are many questions about institutional differences and institutional change. Publication rates of faculty members at SCUs and doctoral universities are different and widening. The accumulative advantage model fits the data better than the isomorphism model, but what is the nature of the advantage? There is no longer a difference between SCUs and doctoral universities in percentage of doctoral-trained faculty (National Center for Education Statistics, 2003). Are the differences in publishing behavior documented here merely a function of available fiscal and physical resources or teaching loads and staffing (including the availability of graduate research assistants) and general institutional greediness (Wright et al., 2004) or do they reflect differences in the carrying out of distinctive missions? Clues may be found in research comparing publishing behavior at SCUs that are striving to move up the prestige hierarchy and those that are not (O'Meara, 2007; Wolf-Wendel & Ward, 2006a) and comparing the publishing rates at institutions before and after they have moved up the hierarchy (Aldersley, 1995). Clues about distinctive missions may also be found in comparisons of institutional types in terms of what kinds of publications they are producing. Are the publications at SCUs indicative of shifts toward the broader view of scholarship that Boyer (1990) thought would be so advantageous to comprehensive universities?

### **Implications for SCUs and Their Faculties**

The results reported here have implications for institutions and for individuals. Although publication rates of SCU faculty have been increasing, in absolute terms they are very low; too low to generate very much visibility or prestige. Because even publications in prestigious journals generally get little attention (Hamilton, 1990, 1991; Schwartz, 1997) and because in any discipline only a relatively few contributors and a few journals make an important impact (Allen & Allen, 2003; Bensman, 2001; Ioannidis, 2006; Price, 1986), the effects of the work of SCU faculty members are unlikely to be major in any discipline. There is very little room at the top (Bensman, 2001).

Yet, publishing clearly has become a part of faculty life at SCUs. The modest increases suggested here may function to tie SCUs faculty members more closely to their disciplines. Publishing rates are correlated

with indicators of institutional reputation, although it is impossible to know from the current data whether higher status results from the fame gained from publishing faculty or if higher status institutions have more of the kinds of fiscal and physical resources that facilitate research and publication.

However, stressing research at the SCUs may have important negative consequences for faculty members and their institutions. SCUs emphasizing research activity risk losing a distinctive mission and identity around teaching and community service. If an emphasis on research is also accompanied by an emphasis on selectivity, access, another distinctive feature of SCUs, will also be lost. Higher education has received much criticism in recent decades from the general public and state-level lawmakers for abandoning teaching and access (Anderson, 1992; Hersh & Merrow, 2005; Lewis, 1997; Schaefer, 1990; Sperber, 2000). The SCUs have not been as guilty of losing those missions as have been many of the major universities, but an overemphasis on research could subject them to those same concerns. Diversity is a major advantage of the American higher education system (Morphew, 2009; Zemsky, Wegner, & Massy, 2005). Isomorphic behavior by the SCUs threatens that diversity. Given the difficulties of making an impression in the research realm, it seems unwise for SCUs to make traditional scholarship a central aspect of their missions or to hold non-normative expectations for high rates of publication from their faculty members.

While making a mark in basic research may be difficult, SCUs faculties are more likely to make an impact in their states and regions by pursuing the scholarships of teaching and engagement. While an expectation of producing numerous publications for all faculty members at SCUs (and other primarily undergraduate institutions) may be unreasonable, frustrating and ultimately counterproductive, there are many interesting scholarly things for faculty at SCUs to do, traditional research and publication being only one of them (Henderson, 2007). The one area in which a publishing advantage for faculty members at comprehensive universities has been documented is publishing on teaching (Henderson & Buchanan, 2007). New faculty members at SCUs would be wise to learn about the expectations for publishing, rumored and real, in their own units. It is possible that new faculty members at SCUs will find a broad range of publication activities are acceptable to their peers. While

basic research is likely to maintain the highest status, many faculty members can find useful niches in publishing in the areas of pedagogy and public service.

Higher education futurists (e.g., Altbach, 1995; Austin, 2002; O'Meara, Kaufman, & Kuntz, 2003; Ruben 2004; Zusman, 2005) have predicted difficult times for higher education in the early twenty-first century, especially at state-supported universities. Lyall and Sell (2006) have argued that the comprehensive universities may be the most vulnerable. The challenges include dealing with an increasingly diverse population with an increasingly complex set of delivery systems, the provision of applied expertise to aid regional economic and cultural development, greater university involvement in the public schools, and innovation in teaching undergraduates. Each of these challenges is tied to historic strengths of the SCUs (Henderson, 2007). Writing about responses to each of these challenges could provide a useful publication program for many faculty members at SCUs.

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