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Moving on Up: Changes in Publishing and Prestige at Former SCUs

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State comprehensive universities (SCUs) and their faculty members often suffer from status envy. They desire greater attention from students, the public, and, most of all, from peers or perceived peers at other universities. For some universities, this status envy leads to changes in mission that result in moving up the perceived hierarchy represented in the Carnegie Foundation's categorization of colleges and universities. At the top of that hierarchy are the institutions where disciplinary research is viewed as the most important activity. Over the past three or four decades, several dozen SCUs moved into one of the Carnegie doctoral or research university categories. Presumably the members of those university communities expected a change in their relative status. This paper addresses two questions: (a) are the changes in Carnegie classifications made by these universities associated with changes in faculty behavior, specifically, increases in actual research publications by their faculties?; and (b) is there evidence that the changes in classification are related to subsequent increases in recognition and prestige?

SCUs and Their Status

The low status of the state comprehensive universities reflects several features that distinguish them from the research and doctoral universities. Although many American universities have humble origins, the state comprehensives are especially likely to have started as normal schools, technical schools, or branch campuses (Altenbaugh & Underwood, 1990; Ogren, 2005). They also are likely to be less selective in student admissions, give less attention to faculty research productivity, and have missions that are more oriented to their regions than to their state or the nation. The SCUs may attempt to improve their relative status by increasing selectivity, raising research standards for their faculties, and claiming a broader mission. Or, they may alter their curriculum to focus less on undergraduate and master's programs and more on doctoral preparation. Increasing research activity and adding doctoral programs to the curriculum can lead to a change in Carnegie classification. A change upwards in Carnegie classification does not change an institution's roots, but it can change its identity.

Indeed, not all SCUs have been content with their low status (Aldersley, 1995). Campus leaders often call for an institution to "move to the next level" or "to become one of the top 10 (or 25) universities in area X." O'Meara (2007) has labeled the institutions trying to move up in status "strivers." She defines

striving institutions as those that engage in “the pursuit of prestige within the academic hierarchy” (p. 122). Not surprisingly, striving universities are characterized by several organizational behaviors, including making admissions more selective, adding graduate doctoral programs, allocating more resources to research activities, engaging in marketing designed to enhance image, and changing faculty roles and rewards.

Striving institutions almost always make research the focus of their transformation. That usually requires several related institutional actions: (a) adding doctoral degrees that are demanding of faculty time; (b) reducing teaching loads; and (c) changing standards for tenure, promotion, and merit pay. Faculty members are more likely to become required to demonstrate records of “sustained scholarship” (Youn & Price, 2009). There has been a tendency in recent decades for an increasing emphasis on research and publication at all kinds of universities (Henderson, 2011), but at the striving universities, the rhetoric around an emphasis on research is likely to be particularly apparent.

SCUs are prime candidates for striving for several reasons. First, striving is an integral part of the organizational saga of most SCUs. Often spurred by the economic and political powers in their regions, the move from normal school or junior college to university has required striving of many sorts. Second, the SCUs are caught in the middle in several different ways (Henderson & Kane, 1991; O’Meara, 2005). For example, they are not teaching institutions like the liberal arts colleges, but they also are not national centers for research. Faculty members at SCUs often report that they get mixed messages about what is important (Wolf-Wendel & Ward, 2006a, 2006b). Third, the overproduction of PhDs in recent decades in many disciplines has meant that all types of colleges and universities can hire faculty members trained to do research. Faculty members so prepared may support striving administrators and consider an emphasis on research as a means for enhancing their own status and prestige in their disciplines.

Perhaps most important, SCUs are candidates for striving because for universities looking for a model of high quality, there has been only one standard: the research university. To be a top-flight university is to bring in large amounts of research funding, to have faculty members who are well known in their disciplines, to admit high test scorers, and to have football and basketball teams that win and get on television (Brewer, Gates, & Goldman, 2002). Research shows that measures such as the *US News and World Report* (USNWR) peer ratings are correlated with publication rates and research funds (Henderson, 2011; Volkwein & Sweitzer, 2006), supporting those who wish their universities to be among the strivers.

One obvious way SCUs have tried to mark an increase in their status is by changing their Carnegie classifications. Although the Carnegie Foundation did not intend their system to indicate prestige (McCormick & Zhao, 2005), it has clearly had that effect. The SCUs have found themselves in the middle once again in the Carnegie system. Moving from the comprehensive/master’s category to one of the doctoral categories provides an immediate indication

of status change. The doctoral categories themselves have changed over the years. The most detailed version included two doctoral and two research university categories. The current system has three classes of doctoral-granting universities, varying by levels of research activity. The various levels reflect the extent of commitment to research and doctoral education (McCormick & Zhao, 2005). For the purposes of this study, changes from the master's/comprehensive category to any of the doctoral classes will be treated equally. However, it is important to keep in mind that over the years the Carnegie doctoral levels have included universities with a small number of programs and graduates and large universities that put a moderate to high emphasis on research. Most transitions involve one step at a time.

Isomorphism or Cumulative Advantage?

Two theories have dominated discussions of institutional change in American higher education. The "emulation and isomorphism" perspective sees lower status institutions as engaged in the imitation of those universities that are considered the most successful (and prestigious), the research universities (e.g., Dey, Millem, & Berger, 1997; Finnegan & Gamson, 1996; Morphew, 2002). Over time, universities have become more alike as faculty members at all types of institutions are encouraged to engage in increasing amounts of research and publication. The result has been a drift of institutional missions or "mission creep."

An alternative to the emulation and isomorphism model of change is the "cumulative advantage" model (Merton, 1968). This model suggests that universities with more resources (i.e., more faculty stars, more research funding, more sophisticated buildings, libraries, and equipment) have increasing resources and subsequent success building on their initial advantages. From this perspective, striving comprehensives are unlikely to be able to catch up, because no matter how much they strive, they will never be able to overcome the advantages of those they wish to emulate.

If the isomorphism model applies, striving comprehensives should show evidence of imitating the research universities, trying to become more like them on important measures such as research productivity. They will do so in the hope of enhancing their reputations. If, however, the cumulative advantage model applies, research productivity is unlikely to increase dramatically because faculty members trying to compete in their disciplines will continue to be at a relative disadvantage for obtaining competitive research funds and publishing in prestigious journals. Change in reputation is unlikely.

The Present Study

The focus in the present study is on two aspects of the change from a master's to a doctoral university: (a) changes in the rate of publishing by faculty members at the institutions before and after the change in Carnegie status; and (b) the success the universities have had in increasing their status in terms of two indicators of prestige, *USNWR* tier ranking and peer assessments. Pub-

lishing rates provide a means of measuring striving behavior that emulates normative central faculty behavior at doctorate-granting universities. The ranking and rating are narrow measures of status, but are reasonably objective. Consistent with the predominant isomorphism perspective, I expected to find an increasing trend in publication rates, perhaps most discernible immediately before or after a change in Carnegie classification from master's to doctoral classes and at least some incremental increase in *USNWR* ratings for the striving universities.

Data Collection

Sample of institutions. Since 1976, 53 public universities have moved in the Carnegie classifications from the comprehensive or master's level to one of the doctoral or research categories (about an equal number of private comprehensives universities also made the change). The public universities that changed from a comprehensive or master's Carnegie category to a doctoral category (strivers) were identified in the various published editions of the Carnegie classifications (e.g., Carnegie Council on Policy Studies in Higher Education, 1976; the current classification system is available online at <http://classifications.carnegiefoundation.org/>). While the comprehensive or master's category has stayed relatively stable in its definition, the doctoral levels have changed from time to time (McCormick & Zhao, 2005).

For the data discussed in this paper, three of the 53 universities were omitted. One was in Puerto Rico, another did not have the number of faculty at the institution disaggregated from related campuses so publication rates could not be computed, and regarding the third, it was not possible to disaggregate the publications for the university from related institutions with the same address. The remaining 50 universities moved from the master's to the doctoral categories in one of four cohorts. The four cohorts consisted of changes in Carnegie classification between 1976 and 1987 (14 universities), 1987 and 1994 (15), 1994 and 2000 (14), and 2000 and 2005 (7).

Publication rates. A university's publications were identified in the ISI's Web of Knowledge database. Included there are publications in the sciences, the social sciences, the humanities, and the arts. Coverage includes more than 13,000 journals in over 250 subject categories. The index is weak in coverage of books and chapters, so it better reflects work in the sciences and social sciences than in the arts and humanities. The database is searchable by university name or zip code. To provide reliable estimates of publications, 5-year periods were used, starting 20 years before the year in which the university changed classifications. Five-year periods after the change were assessed up to 20 years after the change or as long as data were available.

USNWR data. Ranking universities and their programs has become a popular activity. The *USNWR* system has been commercially successful but also has fared well in the technical evaluations by higher education researchers (Ehrenberg, 2003; Meredith, 2004). Two indicators of status from *USNWR* ratings were used in the present study. One was the overall ranking of the

universities at three times (1994, 2003, and 2010—these are the dates of the *USNWR* publications used; the data used by *USNWR* are gathered in the two to three years before publication of each edition of *America's Best Colleges*). For the universities considered here, specific rankings are not provided in the system (only the first approximately 130 ranks, depending on the ranking year, are given specific ranks). Instead, for the national universities after the top two tiers, universities are tiered without providing specific ranks. All the striving former comprehensive universities but one were ranked in Tier 3 or Tier 4 throughout the period of the study. *USNWR* peer assessment ratings are based on surveys sent to university presidents, provosts, and directors of admission. Respondents rate peers from 1 (marginal) to 5 (distinguished). Return rates for the surveys have generally been in the 60-70% range.

Findings

Publication activity. The mean rates of 5-year publication activity are presented in Table 1 for each of the cohorts and across the cohorts. Statistical tests were conducted to determine if: (a) the rate of publication showed an increase over time; and (b) if means for adjacent periods were significantly different from each other. Detailed statistical analyses are available from the author, but briefly, there were statistically significant linear trends ($p < .01$) for both articles only and all documents combined, and the adjacent means for both articles only and for all documents were significantly different (at least $p < .05$) for each adjacent period except between Period 3 (when the change in classification was made) and Period 4. Thus, there was been a general upward trend in publication rates at these striving institutions. However, the changes are neither sudden nor dramatic before or after the classification changes. It would even appear that in terms of publishing, faculty members on average took a breather in the 5-year period after the classification change.

To provide some context for the degree to which faculty members at the striving universities are publishing, the data in Table 1 can be compared to data from previous research. Toutkoushian, Porter, Danielson, and Hollis (2003) calculated rates of publication from the Web of Knowledge data base for institutions in various Carnegie classifications. Their one-year rates were 2.04 publications for Research I universities, 0.91 for Research II universities, and .10 for Master's universities. Thus, faculty members in the present group of striving former comprehensives are publishing closer to the Master's university rate than the doctoral rate when Toutkoushian et al.'s data are extrapolated for five years. Similar rates of publication were found by both Volkwein and Sweitzer (2006) and Henderson (2011).

The comparison data suggest that faculty members at the striving former comprehensive universities have been publishing much less on average than those at major research universities and less than those at universities once known as doctoral universities. They are publishing at a slightly higher rate than faculty members at master's universities. However, there are exceptions on both ends of the publication rate distribution. Faculty members are pub-

lishing at high rates at some of the striving universities. They tend to be large urban universities with an affiliated medical school. At the opposite end of the publishing distribution are a handful of smaller institutions with only a few doctoral programs (many in this group are historically minority institutions). Faculty members at the latter universities did not publish at a high rate before the category shift and still do not.

To explore how publishing activity is related to other factors, I also correlated publishing rates with each other over time and with *USNWR* reputation ratings, number of doctorates awarded in 2010, and number of doctoral programs at the university in 2010. Several patterns are clear. First, publication rates tended to be moderately stable from period to period after the first period (when for the earliest strivers the ISI data themselves may have been less reliable). Second, *USNWR* reputation ratings tended to be positively and moderately correlated (correlation coefficients in the .30s and .40s) to publication rates. Finally, while the number of doctorates awarded was not related to publication rates, the number of different doctoral programs at a university was (correlation coefficients in the .30s to .50s). Universities with more extensive doctoral programs had faculty members who published more.

Ranking data. The data from the *USNWR* tiers and peer assessments are presented in Table 2. In the 2010 rating, seven of the 50 universities that changed classifications are not included. Six were classified as regional universities by *USNWR*, not national universities, and one university was missing data because it had refused to cooperate with *USNWR*. It is clear that the striving universities were overwhelmingly in the bottom tiers of the rankings. In regard to whether changes in Carnegie classifications are accompanied by changes in status, by 2003 four universities had moved from Tier 4 to Tier 3 from the 1994 rankings. Three had also moved from Tier 4 to Tier 3 between the 2003 and 2010 rankings, but four had fallen from Tier 3 to Tier 4. Tier 3 begins with the 134th ranked university of the 260 universities in the National University segment in the current rankings.

Peer assessments averaged in the low reaches of the rating scale. From 2003 to 2010 when the same metric was used for peer assessments both times, the average peer rating for the striving universities went down slightly. The 37 universities in the group rated both times included five universities that had gone up and 22 that had gone down with the others unchanged.

Discussion

Patterns. A clear finding of this study is that changes from the master's to doctoral Carnegie level were not accompanied by a change in status as measured here. There are good reasons why universities might be hesitant to make a category change. The Carnegie Foundation indicated as far back as 1971 (Carnegie Commission of Higher Education, 1971) that there was no need for any more universities to offer PhDs. In the public sector, most state systems could be expected to resist adding expensive research universities. Certainly the existing doctoral universities are unlikely to be happy about more compe-

tition. There are no data in the present study to support it, but a reasonable speculation is that the impetus for the changes in most cases was largely local. Ambitious administrators seeking to make their mark, young faculty eager to gain status in their disciplines, and local supporters who want a prestigious flagship-like university (including the requisite athletic program) all may encourage change. Because the perceived need for mission change was largely local in origin, external players are unlikely to accord the new doctoral universities much prestige.

Isomorphism? According to the isomorphism theorists, four-year universities have tended to become more alike over time. The similarity in desired goals of status and prestige leads to similar status-seeking behaviors that include focusing on research. The alternative theory of cumulative advantage suggests that the institutions that already have advantages will build on those advantages and increase their superiority in student selectivity, federal research funding, acquisition of star faculty, and prominence in the disciplines. The present study, like other recent research (e.g., Henderson, 2011; Toutkoushian et al., 2003), suggests that the cumulative advantage model fits the SCUs better than the isomorphism model. Even if a university aspires to be like the research universities, it is unlikely it will be able to break into the elite class. Rankings, and to a lesser extent, peer assessments, are a zero-sum game. There is little room at the top and those at the top are unlikely to yield their positions. The truth is that when it comes to outcomes such as publication rates and overall prestige, the striving universities, like those in the master's category they left, are becoming less like the elite research universities as the latter continue to build on their advantages.

Consequences. The data presented here indicate that the striving universities did not increase their research activity or perceived prestige among peers to an appreciable degree by changing Carnegie classifications. Although they were not assessed here, there are some possible unintended consequences of the striving suggested by O'Meara (2007). Among those are costs to undergraduate students in terms of resources directed toward their education, for faculty members in terms of their workloads, and for universities in terms of their ability to adequately serve the educational and economic needs of their regions.

Limitations. The findings of this study are limited by some important conditions. The sample of public universities that have changed from the comprehensive or master's class to a doctoral class is small. Perhaps more important, it is a heterogeneous sample. Some of the universities, particularly those in urban areas that have added medical schools, have changed in size, mission, and character in fundamental ways. Others have only dipped their toes into the research water. They produce relatively few students with doctorates and/or have focused their growth in doctoral programs to a few programs, usually in applied areas. The data used in the present study are also limited to publicly available information. The *USNWR* rankings have been criticized by many (e.g., Dichev, 2001; Ehrenberg, 2003), often for legitimate reasons. Publication

rates reflect only a narrow component of overall faculty workloads. We need to know much more about what faculty members do when their institutions make a fundamental change in mission (Youn & Price, 2009). It would also be useful to know what happens to the graduates of the new doctoral programs. In an era when PhDs from high status universities often struggle to find positions, what is happening to those from less established programs?

Conclusion

Substantial publication rates neither precede nor follow changes in Carnegie classification for former state comprehensive universities. There has been a steady climb in publication rates over time at these universities, but with a few exceptions, their publication rates remain modest, especially when compared to those of faculty members at major research universities. Publication rates are related to reputation, but the minor increases in publishing over time do not correlate to changes in reputation. Of course, to a large extent, reputational rankings are a zero-sum game. It is extremely difficult for new doctoral/research universities to pass those universities with established resources and reputations. As indicated in other studies, the accumulative advantage model seems to hold. Them what has, gets.

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Table 1

Mean and Standard Deviation of Web of Knowledge Articles and All Documents in 5-year Increments for Former SCUs

5-year Period ^a					
	1	2	3 ^b	4	5
Articles	.38 (.40)	.57 (.43)	.73 (.45)	.75 (.39)	.86 (.48)
All docs	.68 (.75)	.93 (.66)	1.19 (.69)	1.15 (.50)	1.45 (1.01)

^a5-year periods used to increase reliability of data

^bperiod within which the classification change occurred

Table 2

USNWR Tier Status, Tier Change, and Peer Rating for Former SCUs

Rating year	Tier ^a				Tier Change ^a		Peer Rating ^b	
	1	2	3	4	+1	-1	M	Range
1994	0	0	5	20	-	-	1.82	98-220
2003	0	1	12	28	4	0	2.38	1.8-3.0
2010	0	1	11	32	3	4	2.30	1.9-3.0

^acell entries indicate number of universities

^baverage USNWR peer rating for universities that had changed category by rating year