

# Football as a Status System in U.S. Higher Education

Arik Lifschitz<sup>1</sup>, Michael Sauder<sup>2</sup>, and Mitchell L. Stevens<sup>1</sup>

## Abstract

Sociologists have focused almost exclusively on academic aspects of status in higher education, despite the prominence of nonacademic activities, specifically athletics, in U.S. colleges and universities. We use the case of football to investigate whether intercollegiate sports influence the distribution of status in U.S. higher education. Analyzing data on conference affiliations and other organizational characteristics of 287 schools over time, we find evidence of an athletic status system. Our work expands understanding of status in U.S. higher education, enriches prior explanations for the prominence of football, and generates tractable insights about the ongoing evolution of the intercollegiate conference system.

## Keywords

higher education, intercollegiate sports, status, social closure, college rankings

The production and distribution of status are central tasks of higher education. Colleges and universities confer status through academic credentials and by the distinctive identities associated with the names of particular schools. In higher education as elsewhere, status is a positional good. Colleges and universities have status in relation to one another, and their relative positions influence administrators' most consequential tasks: recruiting accomplished students and faculty, supporting the career opportunities of graduates, and raising money from research agencies, alumni, and other contributors (Brewer, Gates, and Goldman 2002; Hoxby 2009; Karabel 2005; Stevens 2007; Winston 1999).

Ever since Max Weber's (1946) classic statements on the role of education in the conferral of status honor, scholars have devoted considerable attention to the dynamics of status production and distribution in higher education. Yet with few exceptions, past analyses have focused on academic aspects of status. Prior work demonstrates that status is driven by a variety of metrics, including admissions selectivity (Karabel 2005; Stevens 2007; Wechsler 1977), third-party

measures of academic reputation such as those produced by *U.S. News and World Report* (Sauder and Espeland 2009), and faculty research productivity (Aghion et al. 2009). A focus on academic dimensions of status may seem obvious, particularly among researchers who participate themselves in the academic status game. Yet in the United States especially, academics are only part of the enterprise of higher education. Vast amounts of time, money, and organizational attention are devoted to activities that seem far afield from teaching and scholarly research. Many U.S. schools invest a great deal in maintaining the physical appearance of their campuses, supporting elaborate programs in "residential life" and social programming, and, perhaps most prominently,

---

<sup>1</sup>Stanford University, Stanford, CA, USA

<sup>2</sup>University of Iowa, Iowa City, IA, USA

## Corresponding Author:

Arik Lifschitz, Department of Management Science and Engineering, School of Engineering, 341 Huang, Stanford University, Stanford, CA 94305, USA.

Email: [arikl@stanford.edu](mailto:arikl@stanford.edu)

maintaining intercollegiate sports programs. Organizational investments in these so-called extracurriculars are matched by how U.S. residential college students spend their time. What students often call the “social” side of college, with its Greek letter societies, parties, and spectator sports, occupies a large portion of many student calendars (Armstrong and Hamilton 2013). U.S. higher education may officially be an academic endeavor, but it is hardly exclusively so.

The purpose of this article is to provide theory and initial evidence that intercollegiate sports influence the distribution of status in U.S. higher education. Sociologists of organizations make clear that organizations operate in multiple institutional domains simultaneously (Kraatz and Block 2008) and that status can leak between these domains (Podolony 2005). If, as others have suggested, colleges and universities are hubs located at the intersection of multiple institutional systems (Stevens, Armstrong, and Arum 2008), they should be nested in multiple status systems.

A careful reading of the secondary literature on college sports suggests that the development of the conference system for the coordination of intercollegiate football has played a key role in structuring the status system within which U.S. colleges and universities operate. In the language of organization theory, the conference system has provided a cognitive map of the organizational field, shaping how schools see themselves and each other and how the general public perceives the entire sector (Kraatz 1998; Porac et al. 1995). We propose that in the course of this historical development, athletic and academic status systems have become linked. We provide empirical evidence for this theory by analyzing a unique data set comprising organizational characteristics, athletic league affiliation, and measures of academic prestige in U.S. higher education from 1896 through 2013.

Status systems do not stand still. Readers who follow intercollegiate football know there has been notable fluidity in league affiliation from 2010 through the present (Bostoc, Carter, and Quealy 2013). While data limitations prevent us from fully assessing the reputational implications of these recent changes, our analysis of the relationship between academic and athletic status systems usefully illuminates the ongoing evolution of the intercollegiate conference system.

## PRIOR APPROACHES TO STATUS AND SPORTS IN U.S. HIGHER EDUCATION

Status is the amount and kind of prestige particular parties enjoy in comparison to others. The mechanisms people develop to accrue and maintain status tend to be crucial to the overall machinery of modern societies. An obdurate fact about status for any party wishing to have it is that some other party has to confer it (Goode 1978; Mills 1963). No party can legitimately award the prize of status to itself directly. Instead, status seekers develop collective mechanisms for adjudicating and conferring status among one another or they defer to mechanisms developed by third parties. We call these mechanisms status systems (Goode 1978; Sauder 2006).

How colleges compete with one another for relative status advantage has always been a central problem of the study of higher education. Social scientists have theorized it in several different ways, but virtually all focus on academic factors: the rise of officially meritocratic academic criteria as the basis for selectivity in admissions (Karabel 2005; Stevens 2007; Wechsler 1977), faculty research productivity (Aghion et al. 2009), and categorical differentiation on the basis of organizational type (Brint, Riddle, and Hanneman 2006). Third-party college rankings have become extremely influential representations of status (Sauder and Espeland 2009), but—special rankings for top “party schools” notwithstanding—these also claim to represent organizational characteristics related to academic quality.

Yet academics are only part of what colleges and universities do. Academic leaders juggle a wide range of organizational priorities: raising money, doing diplomacy with legislators and other regulatory officials, managing the expectations of students and their families, building and beautifying campus facilities, and maintaining extraordinarily elaborate sports programs (Clotfelter 2011). The extensive literature on college sports, however, refers to its potential status aspect only obliquely. This scholarship may be summarized into three major themes.

*Character-and-spirit* analyses posit that sports build skills related to teamwork and personal discipline and encourage fealty to particular schools. Researchers in this vein argue that athletic

participation fosters strong affective ties between teammates and between athletes and schools, while honing interpersonal and cooperation skills (Bowen and Levin 2003). They point to the disproportionately high number of football players who become members of boards of trustees as alumni as evidence that football encourages productive devotion to alma mater (Shulman and Bowen 2001). Yet these analyses are insufficient by themselves. The enthusiasm football generates comes at high social and physical cost. It is hard to avoid the often drunken and occasionally violent atmosphere that surrounds college football or the long list of special privileges extended to top varsity athletes (Sperber 2000). Even ardent champions of college sports advocate for "reclaiming the game" (Bowen and Levin 2003) from such excesses. A satisfactory analysis of college football needs to accommodate both the pleasures and the problems that accompany the sport.

*Financial* analyses posit that football yields big revenues from television contracts, ticket and paraphernalia sales, and contributions from alumni fans. These are perhaps the most prominent popular explanations for the investments universities make in the sport. However, financial analyses also are insufficient by themselves. Revenue potential is an important factor driving support of football for some established conference powerhouses and a growing number of entrepreneurial programs. But for the majority of colleges and universities, football costs much more money than it brings in. Research is consistent and clear on this fact (Clotfelter 2011; Fulks 2009).<sup>1</sup> A satisfactory analysis of college football needs to provide a rationale for both the financially profitable and unprofitable investments schools make in the sport.

*Visibility* analyses posit that sports enable schools to distinguish themselves from competitors. Researchers in this vein point out that colleges and universities compete fiercely for students, faculty, government subsidies, and grant monies and that football enables some schools to seek and maintain national profiles and the good graces of state legislatures (Brewer et al. 2002; Clotfelter 2011). In this work, sports are understood to be one of several mechanisms through which schools struggle for prominence in a crowded and competitive organizational sector. While these insights are important, to our knowledge visibility analyses have not been systematically specified. Our effort moves toward this specification.

## FOOTBALL AS A STATUS SYSTEM

The creation of status groups organized through intercollegiate sports, earliest and especially football, has had powerful effects on the identities and prestige of schools relative to each other. Football, through its role in dividing schools into leagues or conferences (we use the terms interchangeably), has been a factor in determining how status is allocated among schools and thus how the U.S. higher education field is structured overall. Football provides a widely used cognitive map of higher education. It influences how schools see themselves and each other and how the general public perceives the field of higher education and the place of particular schools within it (Kraatz 1998; Porac et al. 1995). We argue that this link between football and organizational prestige and identity provides a fuller explanation for why the game enjoys so much enthusiasm from alumni and fans, why it is able to generate substantial revenue from media and ticket sales, and why colleges and universities support even losing programs' costs year after year. Our approach does not replace prior analyses of college football, but rather complements and enriches them.

### *Historical Narrative*

As many other scholars have explained, colleges and universities became prominent players in American society only once they were recognized as an influential means of status distribution and reproduction for the Anglo-Protestant upper classes in the decades between 1870 and 1910 (Wechsler 1977). During these years, attendance at a handful of mostly private, Eastern institutions came to be regarded as an important rite of passage for young men (and to a lesser extent, women) destined for positions of social prominence.

Not every school, however, could assume the job of certifying elites. The higher education sector had grown almost entirely without state regulation in early America, and by 1900 there were already hundreds of colleges. There was no national consensus about which were the best schools or even about the central purposes of higher education (Jencks and Riesman 1968). We call this condition *status anarchy*: a competitive organizational sector without a coherent or widely agreed upon status hierarchy.

Instead, throughout the nineteenth century, status systems were largely local. Schools competed with other institutions in their own cities and regions for the patronage of local elites. The degree to which any one school was able to corner the market on the patronage of nearby upper-class families defined the limits of that school's prestige. In New York, Columbia competed not only with nearby Princeton and Yale, but also, and to greater success, with New York University and City College for the children of the local WASP establishment (Wechsler 1977). Harvard's elaborate and carefully woven ties with Boston's prominent Brahmin families proved to be one of the tightest local status systems in turn-of-the-century America (Story 1980). But as the U.S. population grew and the economy began to nationalize, ambitious schools sought to develop national identities. National-level status distinctions gradually came to define the entire sector of higher education (Hoxby 2009).

One status system that developed through intercollegiate cooperation in this period was meritocratic admissions selection. With the rise of formal protocols for evaluating applicants, especially standardized testing, the prestige of schools gradually came to be viewed as a function of selectivity in admissions. This system had the advantages of being universal and metrical. Statistical measures of student and cohort quality had an aura of neutrality and rationality that appealed to progressive leaders (Schudson 1972). The same period witnessed the development of another status system that has received much less attention from social scientists: intercollegiate football.

Until the late nineteenth century, athletics were peripheral to organizational life in U.S. higher education. Intercollegiate baseball, rowing, and track and field competitions, often organized by students, were common but largely informal. Historians agree that football profoundly changed the character and organization of U.S. higher education. The first recorded intercollegiate football match occurred between Rutgers and Princeton in 1869 (a Rutgers win), and within the space of a generation the primacy of the sport in college athletics was definitive.

Football drew avid fans from its beginning. Within less than 20 years of the first Rutgers-Princeton game, schools from every region of the country were fielding teams and sending them on competitive expeditions to other schools. The matches provided novel opportunities for

student, alumni, and community revelry that seemed immune to class distinctions. Football was widely embraced by ruling families of the Eastern establishment. In 1893, for example, New York City hotels were jammed for a Thanksgiving game between Yale and Princeton. Banners bearing the colors of the two schools competed for attention as they fluttered before the Fifth Avenue homes of the city's upper crust (Lucas 1994). The game also quickly developed eager followings far afield from Eastern elites. One reason William Rainey Harper heavily supported a winning football team at the brand new University of Chicago was to capture the attention of the Eastern schools it sought as peers (Rudolph 1962). Even at this early point, fielding a football team symbolized legitimacy. By the 1930s, an important mark of a university's stature was the size of its football stadium (Thelin 2004).

Football is a physically dangerous sport, and the numerous deaths and countless serious injuries inflicted on the field during the game's early years were an important impetus for intercollegiate coordination and regulation. Testament to both the dangers of football and its social prominence, Theodore Roosevelt summoned the coaches and athletic directors of Harvard, Yale, and Princeton to the White House in 1905, where he admonished them to get "the game played on a thoroughly clean basis" (quoted in Rudolph 1962:376). That same year saw the founding of the Intercollegiate Athletic Association (IAA), the organization that would evolve into the National Collegiate Athletic Association (NCAA), the primary regulatory mechanism of intercollegiate sports today.

Ultimately, football played a role in coalescing America's myriad colleges into distinct groups in the form of athletics conferences. Efforts to regulate and coordinate sports first enabled schools to conceive of themselves as more or less similar and provided practical mechanisms for creating intercollegiate linkages. As the historian Frederick Rudolph (1962:374) pointed out many years ago:

[Football] became so widely adopted that for the first time since the founding of Harvard College in 1636 colleges began to recognize the existence of intercollegiate relations. Institutions that had never found it advisable to consult on matters of curriculum now sought means of regulating their athletic relations.

### Theoretical Specification

Much like the Balinese cockfights described by Geertz (1973), college football cannot be fully understood without considering the peculiar fit between the game and its social context. Part of the popularity of football is that the honor of players, students, and fans is ceremonially at stake each game. People win bragging rights when they are identified with the winning side. While the victory or loss of any single game is minor—one game does not definitively change the status of the parties involved—each game is nonetheless meaningful, as demonstrated by the fact that so many invest attention and emotion in each one.

Geertz argues that because cockfights have a status component, there is an implicit but identifiable structure to how the matches are organized. For example, one rarely sees two cocks owned by members of the same family fighting, and gambling typically reflects kinship allegiances rather than economic calculations. The most interesting matches (the ones that attract the finest cocks and highest bets and generate the most intense emotions) are between near status equals and high-status owners. The Balinese expend considerable effort ensuring that only appropriate matches are made—an indication of the social importance attributed to the fights and their outcomes. Geertz emphasizes that the driving force behind this effort is the status of the owners, not the quality or performance of the cocks they own.

Similarly, colleges and universities have created elaborate formal systems for determining which schools will compete at football with which others. As with the Balinese cockfights, the determination of appropriate competitors is not based solely on athletic performance. Rather, it is simultaneously a technical and a status endeavor. Football games are markers of status: a school's rivals publicly indicate its peers or worthy adversaries and symbolize its claims to a certain national prominence. Just as an organization's market status is determined partly by the relative standing of those with whom it transacts (Podolny 2005), a school's status is indicated by the opponents it meets on the football field. In this way, football games entail "transfers of status" (Blau 1964; Goode 1978) as well as ritual affirmation of each school's standing relative to others.

These exchanges are not recreated from scratch each season—such a "spot market" of status would likely be unstable and inefficient

(Williamson 1981). Instead, schools have created status groups—conferences or leagues—that ensure relatively stable patterns of transactions (Benjamin and Podolny 1999).<sup>2</sup> On a practical level, the conference structure allows schools to fill the majority of their schedules with the same sets of opponents each year, ensuring some degree of comparability in team resources, quality, and preparation. In terms of status, this consistent set of exchanges enables schools to publicly entrench their identities as a certain kind, with certain peers.

Not all intercollegiate football conferences are created equal. Membership in some conferences is considered a mark of high status, while membership in others indicates lower status.<sup>3</sup> The hierarchy is maintained through social closure, whereby league distinctions establish advantageous positions by excluding some parties from opportunities for prestige, profit, or power (Weber 1978). If we consider conference affiliation in terms of social closure, we would expect to see processes of monopolistic and usurpatory closure (Parkin 1979). Monopolistic closure would entail schools with relatively high status joining together to collectively protect their status advantages by creating symbolic boundaries that exclude others from these valued resources (Lamont and Molnár 2002). Usurpatory closure would involve lower-status schools joining together; these schools, however, would not do so to protect what they already have, but to wrest away some of the status advantages enjoyed by others through organizational redefinition.

The membership histories of many intercollegiate football conferences seem to reflect closure processes. Table 1 includes data on the evolution of each of the 32 conferences ever included in the NCAA's two top subdivisions, the "Football Bowl Subdivision" (FBS) and "Football Championship Subdivision" (FCS) (previously known as divisions I-A and I-AA) from 1896 through 2013. In particular, for each conference, we average the values of three annual measures throughout its lifetime: annual stability index, annual entry rate, and annual exit rate. The annual stability index of a conference is defined as the number of schools preserved from the prior year divided by the average number of members in the conference over that two-year period (Toyoda and Kit- suregawa 2003). This index takes a value from 0 to 1, where 1 indicates no change in membership. Annual entry rate is defined as the number of schools joining a conference in a given year



**Table 1.** Stability, Entries, and Exits, FBS and FCS Conferences, 1896–2013

Conference Name	Formation	Dissolution	Average Stability Index	Average Entry Rate (percentage)	Average Exit Rate (percentage)	Total Entries	Total Exits	Ever Members
Ivy Group	1956		1.000	.0	.0	0	0	8
Southeastern Conference	1933		.996	.5	.3	4	3	17
Big Ten Conference	1896		.996	.7	.2	7	2	13
Pacific-12 Conference	1959		.993	1.8	.0	7	0	12
Atlantic Coast Conference	1953		.993	1.5	.2	8	1	15
Southwest Conference	1915	1995	.992	.8	.8	5	5	13
Big Eight Conference	1907	1995	.992	1.5	.5	8	4	11
Yankee Conference	1947	1996	.988	2.2	.6	8	2	14
Southwestern Athletic Conference	1920		.988	1.8	.9	12	7	16
Missouri Valley Football Conference	1986		.986	2.2	1.0	4	2	11
Mid-Eastern Athletic Conference	1971		.984	2.2	1.1	6	3	10
Patriot League	1986		.983	2.6	1.1	4	2	9
Big 12 Conference	1996		.983	1.2	2.2	2	4	14
Big Sky Conference	1963		.982	3.1	1.2	12	5	18
Mid-American Conference	1947		.982	2.9	1.3	15	8	19
Atlantic 10 Conference	1997	2006	.981	2.0	1.1	2	2	14
Southern Conference	1922		.978	2.3	2.9	21	35	41
Pioneer Football League	1993		.977	5.2	1.4	6	2	12
Ohio Valley Conference	1948		.974	3.2	2.1	15	12	19
Northeast Conference	1996		.970	4.7	2.1	5	3	10
Southland Conference	1964		.967	4.7	2.9	15	11	19
Colonial Athletic Association	2007		.966	4.3	2.8	3	2	15
Western Athletic Conference	1962	2012	.964	4.6	3.4	20	19	26
Mountain West Conference	1999		.963	5.8	2.5	7	3	15
Metro Atlantic Athletic Conference	1993	2007	.962	4.1	4.6	4	5	10
Missouri Valley Conference	1928	1985	.956	5.6	4.4	16	15	20
American Athletic Conference	1991		.956	5.4	5.0	9	9	16
Big South Conference	2002		.951	8.2	1.3	4	2	8
Big West Conference	1969	2000	.946	5.9	5.4	13	14	19
Conference USA	1996		.933	9.9	5.9	17	12	23
Great West Football Conference	2004	2011	.931	5.7	9.4	2	3	8
Sun Belt Conference	2001		.930	7.7	7.2	8	8	15

Note: Sample consists of all 32 conferences ever included in the NCAA's two top subdivisions, the FBS and FCS (previously known as divisions I-A and I-AA), from 1896 through 2013.

divided by the number of members in that conference in the prior year. Annual exit rate is the number of schools leaving a conference at the end of a given year divided by the number of members in that conference in that year. The table also presents, for each conference, the total number of schools that have ever entered, exited, or been members of that conference.

Table 1 captures the variation in the level of exclusivity demonstrated by different conferences, ranking them by their average stability index. Some conferences are remarkably stable. For example, the Ivy Group saw neither entries nor exits in its almost six decades of existence. The Big Ten Conference, the oldest football conference in operation, experienced only seven entries and two exits over more than a century. These two conferences include some of the most prestigious schools in the country in terms of academic

quality. At the other extreme are such conferences as the Southland Conference and the Western Athletic Conference, with average entry rates of 4.7 and 4.6 percent, respectively, as well as some of the highest exit rates in our sample. These two conferences comprised schools that were, for the most part, neither academically nor athletically distinguished, as shown in Table 3.<sup>4</sup>

Evidence of closure processes may suggest an athletic status system, but this offers little information about this system's relation to others. An athletic status system may exist but be completely independent of the academic status system. There is evidence, though, that these status systems mutually influence one another: they may be separate but not independent. We can think about this in terms of status leakage. As Podolny (2005:7) writes, "One of the distinctive features of status is that it 'leaks'; an actor's status is affected by

the status of those with whom the actor associates. Similarly, status leaks across different domains in which the same actors may interact.”

We are interested in how the athletic and academic status systems might be linked. One indication of linkage would be the existence of academic homophily among schools in the same athletic conference. Because status concerns contribute to market segmentation generally, we would expect to find a high degree of academic homophily among schools in the same conferences. Academically distinguished schools will prefer to compete against similar others for fear of losing status if they interact with academic inferiors. Likewise, schools with lower academic reputations will have fewer opportunities to interact with academically prestigious schools, leading them to also associate with others of comparable academic characteristics.

If the football conference structure were only about athletics, we would expect considerations such as football performance or geographic proximity to drive conference association, with little to no clustering of schools on academic characteristics. But if academic status leaks into the athletic domain, we should expect homophily among schools in the same conference in terms of football performance, geographic proximity, *and* academic characteristics. This leads to our first hypothesis:

**Hypothesis 1:** Status leakage from the academic to the athletic: The grouping of schools within the same football conference will reflect not only similarity in football performance and geographic proximity, but also similarity in academic characteristics.

Next we explore whether athletic status might also leak into the realm of academic status, indicating mutual influence between the two systems. Athletic status might affect perceptions of academic status by enhancing a school’s visibility, which in turn may increase the school’s pool of applicants and ultimately its academic quality (Pope and Pope 2014). However, we suspect the two status systems often interact independent of any substantive change in a school’s academic quality. This may be the case if observers, lacking information about a school’s academic quality, use information they have about that school’s conference peers. In this way, conference membership may serve as a cognitive shortcut when estimating academic quality (Kraatz 1998; Porac et al. 1995).

We thus hypothesize that conference affiliation influences status systems based on academic characteristics and that changes in athletic status (i.e., changes in conference affiliation) are followed by changes in perceived academic status.

**Hypothesis 2:** Status leakage from the athletic to the academic: Over time, schools that enter an athletic conference will start to resemble the other schools in that conference on measures of academic status.

Evidence in support of these hypotheses would suggest that athletic and academic status systems are not completely independent of one another.

## DATA AND METHODS

We constructed a data set comprising information on conference affiliation, football prowess, academic status, and other organizational characteristics of 287 universities in the United States. These schools are, or have been, members of all the conferences ever included in the NCAA’s two top subdivisions, the “Football Bowl Subdivision” (FBS) and the “Football Championship Subdivision” (FCS) (previously known as divisions I-A and I-AA). We collected membership data going back to the formation of each conference (or the formation of a conference it continues, following a name change or other minor reorganization) through 2013. Overall, we have data for 32 conferences from 1896 to 2013, with a total of 287 schools and 503 observations, or “spells” (indicating that some schools participated in more than one conference over the years). Each spell includes information such as school name, conference, and years in conference. We transformed each spell into multiple annual observations corresponding with the number of years a school had been a member of a conference. The final panel data set has 12,272 school-year observations.

We merged this data set with information on organizational characteristics taken from the Integrated Postsecondary Education Data System (IPEDS), a definitive source of school-level information maintained by the U.S. Department of Education. This information was first published in 1980 and then annually from 1984 onward. The IPEDS variables we retained include year established, total enrollment, average SAT/ACT scores of entering classes, and geographic coordinates.

As a measure of the athletic quality of football programs, we added Jeff Sagarin's annual college football ratings. Sagarin's ratings are based on teams' win/loss records relative to the strength of the teams they compete against in each year's schedule, with stronger football programs represented by higher ratings. The ratings are published regularly in the newspaper *USA Today* and are available from 1997 onward.

Finally, we included the peer assessment scores computed and reported annually by *U.S. News and World Report* (USN) in its college rankings issue. While the USN rankings are notoriously controversial measures of quality, the USN peer assessment score—derived from an opinion survey of higher education leaders—is one of few systematic indices of perceived academic status available for the U.S. higher education system. USN peer assessment scores are available for the years 1997 through 2009. Beginning in the 2011 rankings (based on 2010 data), USN replaced the peer assessment scores with a composite measure of peer assessment scores and ratings collected from high school counselors. Because the production of the metrics differs before and after 2010, they are not analytically comparable, so we do not include them in our analyses.

We included scores only for schools defined by USN as "National Universities" and "National Liberal Arts Colleges" (following the Carnegie Foundation's classification). We chose not to use USN's peer assessment scores for "Regional" schools because these schools were rated by staff from other regional schools, whereas national schools were rated by staff from other national schools. This results in separate ranking systems that are not comparable.

We also derived several conference-level variables by calculating the arithmetic average of member schools' characteristics. Some conference-level variables were in turn used to calculate distance measures (academic, athletic, and geographic) between a focal school and the different conferences. Data availability varied by data source and variable and is discussed in detail in the context of each analysis below. Table 2 presents descriptive statistics of the variables included in our analyses.

## RESULTS

Table 3 provides preliminary insights into the question of academic-to-athletic status leakage raised by

Hypothesis 1. It shows the distribution of the USN national peer assessment scores (our measure of academic status), the Sagarin ratings (our measure of football performance), and the geographic locations of the 237 member schools in the 25 FBS and FCS conferences that operated in 2009. We chose the year 2009 because this is the last year for which we have complete data on all measures. We expect to find similar schools—in terms of football performance, geographic location, but also, importantly, academic characteristics—grouped in the same conferences, so that the variability within each conference will be lower than the variability across conferences.

Table 3 organizes the FBS and FCS conferences operating in 2009 by the average peer assessment scores of their USN nationally ranked member schools. The first thing to note is that the various conferences differ markedly in the proportion of member schools that appear in the USN national rankings (there were 164 such schools that year). In eight conferences (Ivy, Big Ten, Pacific-10, Atlantic Coast, Patriot, Big 12, Southeastern, and Big East), all members are included in the national rankings, whereas three other conferences (Southland, Southwestern, and Ohio Valley) have either one or no USN nationally ranked schools.

Other statistics in Table 3 provide additional evidence for homophily by academic status. The average peer assessment scores seem to vary significantly across conferences. The low standard deviations associated with this measure indicate that conferences tend to consist of schools that are quite homogeneous in terms of academic status. To more systematically examine this observation, we calculated the intraclass correlation (ICC), a statistic derived from a ratio of within-group to between-group variance. High ICC levels point to homophily, or the tendency for values from the same group (i.e., schools in the same conference) to be similar. This analysis found strong evidence for homophily by academic status,  $ICC = .65$ ,  $F(23, 140) = 13.35$ ,  $p < .001$ . Not surprisingly, similar models of conference affiliation identified high levels of homophily by football performance and geographic location as well (see Table 3).

While illustrative, this analysis at the conference level is not dynamic enough to allow us to separate the different mechanisms that may link conference affiliation and academic status. Specifically, it conflates situations in which observed academic status homophily reflects similarity in status at conference entry with situations in which



**Table 2.** Descriptive Statistics of Main Variables, FBS and FCS Conferences and Schools, 1896–2013

Variable	Mean	Standard Deviation	Minimum	Maximum	Number of Observations
School age	121.66	45.49	23.00	373.00	11,281
School size (=enrolled/1,000)	2.54	1.68	.00	9.71	2,029
School tenure in conference	24.29	23.02	.00	117.00	12,272
School Sagarin rating	56.50	20.68	-34.81	106.93	3,150
School latitude	37.47	4.48	21.30	47.92	11,281
School longitude	-90.18	13.13	-157.82	-68.67	11,281
School peer assessment score	3.17	.73	1.70	5.00	2,054
School ACT composite 75 percentile	26.17	3.54	16.00	35.00	1,703
Conference average Sagarin rating	56.46	18.22	-12.47	84.70	3,169
Conference average latitude	37.45	3.56	30.64	45.17	11,319
Conference average longitude	-90.19	12.39	-120.86	-71.17	11,319
Conference average peer assessment score	2.99	.62	1.75	4.77	3,004
Conference average ACT composite 75 percentile	26.23	2.90	18.70	34.00	2,085
Sagarin ratings distance	7.72	5.91	.00	35.05	3,150
Geographical distance (in miles)	219.01	216.22	1.98	3004.75	11,281
Peer assessment score distance	.31	.26	.00	1.50	2,054
ACT composite score distance	1.57	1.33	.00	8.38	1,703

Note: Sample consists of all 32 conferences and 287 schools ever included in the NCAA's two top subdivisions, the FBS and FCS (previously known as divisions I-A and I-AA), from 1896 through 2013.

homophily is a function of convergence in academic status over time. These two distinct dynamics correspond with our two hypotheses, so distinguishing between them will help us assess whether there is evidence for one or both of the hypotheses.

The next analysis addresses these limitations by shifting to the school level and focusing on the 106 school entries into FBS and FCS conferences that occurred between 1998 and 2009. We limit our analysis to this period due to data availability (in particular, the lack of data on peer assessment scores before 1997, allowing for a one-year lag, and after 2009). We use an alternative-specific conditional logit model (McFadden's choice model) to predict school entries into conferences (Powell et al. 2004). This model helps us examine whether similarity at conference entry accounts for the pattern of school entries in our data (or, put differently, for why a school entered a particular conference rather than any other). We organized these data so that each case of school entry has multiple observations, with each observation representing a possible alternative. The resulting data set had 2,652 observations, representing all possible school-

conference matches. Our dependent variable, *school entry*, is an indicator variable taking the value 1 for observations representing actual entries and 0 otherwise (for all other alternatives, which did not materialize).

We examine Hypothesis 1, predicting academic-to-athletic status leakage, by entering the variables *Sagarin ratings distance*, *geographic distance*, and *peer assessment score distance* into the analysis. The Sagarin and peer assessment distance variables are defined as the absolute difference between a new entrant and each conference's average football rating and peer assessment score, respectively. The geographic distance variable was operationalized using the *vincenty* procedure in Stata, which calculates geodesic distances in miles between a pair of points based on their geographic coordinates. We also include the variables *conference average Sagarin ranking*, *conference average latitude*, *conference average longitude*, and *conference average peer assessment score* to control for the possibility that certain conference characteristics are associated with more entries. All independent variables were lagged one year,

**Table 3.** Schools' Peer Assessment Scores, Sagarin Ratings, and Geographic Coordinates, FBS and FCS Conferences, 2009

Conference	Size	Percentage Ranked Nationally Schools	Peer Assessment Scores				Sagarin Ratings				Geographic Coordinates			
			Average		Standard Deviation		Average		Standard Deviation		Longitude		Latitude	
			Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation		
Ivy Group	8	100.0	4.61	.23	45.18	7.86	-73.50	1.90	41.60	1.24				
Big Ten Conference	11	100.0	3.82	.33	74.49	9.08	-86.60	4.27	41.57	1.68				
Pacific-10 Conference	10	100.0	3.73	.70	75.45	7.66	-118.97	4.54	39.21	5.96				
Atlantic Coast Conference	12	100.0	3.58	.50	75.90	7.46	-79.63	3.54	35.43	4.16				
Patriot League	7	100.0	3.57	.37	44.05	10.14	-75.11	1.81	41.01	1.26				
Big 12 Conference	12	100.0	3.17	.36	75.54	7.98	-97.28	3.42	36.44	4.14				
Pioneer Football League	10	30.0	3.10	.95	35.07	10.34	-86.68	11.93	37.66	3.98				
Colonial Athletic Association	12	75.0	3.06	.44	59.16	12.38	-74.10	3.16	40.61	2.32				
Southeastern Conference	12	100.0	3.03	.44	81.07	9.70	-86.55	3.86	33.98	2.40				
Big East Conference	8	100.0	2.96	.37	76.97	7.22	-79.43	4.82	38.86	4.62				
Great West Football Conference	5	60.0	2.90	.78	52.60	1.25	-109.89	12.24	40.44	4.98				
Big South Conference	7	57.1	2.80	.45	43.64	8.27	-79.20	2.92	36.08	2.77				
Mountain West Conference	9	88.9	2.73	.25	71.48	12.01	-108.36	6.12	37.62	3.49				
Southern Conference	9	44.4	2.73	.64	54.45	8.12	-82.51	2.34	34.58	1.39				
Northeast Conference	8	25.0	2.70	.14	38.81	6.73	-75.85	3.18	41.00	0.83				
Conference USA	12	91.7	2.65	.56	64.50	7.36	-90.60	8.05	32.73	3.08				
Mid-American Conference	13	92.3	2.58	.34	59.88	8.58	-83.01	3.39	41.33	1.31				
Western Athletic Conference	9	66.7	2.48	.18	66.03	10.87	-118.19	17.39	36.88	7.55				
Big Sky Conference	9	66.7	2.42	.13	54.56	9.90	-114.16	5.59	42.64	4.15				
Missouri Valley Football Conference	9	55.6	2.38	.08	52.11	10.54	-90.70	5.01	41.13	3.08				
Mid-Eastern Athletic Conference	9	55.6	2.26	.36	41.50	8.98	-78.63	2.98	35.61	3.77				
Sun Belt Conference	9	44.4	2.20	.14	58.29	8.52	-87.91	5.63	32.06	4.03				
Ohio Valley Conference	9	11.1	2.00	N/A	42.47	7.98	-87.18	1.73	36.69	1.51				
Southwestern Athletic Conference	10	10.0	1.90	N/A	37.87	8.12	-91.18	3.17	32.20	1.71				
Southland Conference	8	.0	N/A	N/A	46.79	8.65	-93.52	2.48	31.19	1.73				
Observations			164		237		237		237					
Intraclass correlation (ICC)			ICC = .65		ICC = .72		ICC = .83		ICC = .47					
			F(23, 140) = 13.35		F(24, 212) = 24.88		F(24, 212) = 46.92		F(24, 212) = 9.55					
			p < .001		p < .001		p < .001		p < .001					

Note: Sample consists of all 25 conferences and 237 schools that were included in the NCAA's two top subdivisions, the FBS and FCS (previously known as divisions I-A and I-AA), in 2009. Significance tests in this table are based on one-way analysis of variance (ANOVA) models with the null hypothesis that within-group variance is equal to between-group variance.

with some missing values interpolated to keep as many cases as possible of school entries in the analysis.<sup>5</sup>

Model 1 in Table 4 presents a baseline model, featuring conference-level variables of football performance, geography, and academic status. Models 2, 3, and 4 enter each of the distance measures, one at a time. All three models find that a school's distance from a conference average (in terms of football performance, geography, and academic status) is a strong predictor of school entry. Model 5 enters all the distance measures simultaneously and again finds they are all significantly related to school entries. Model 6

standardizes the coefficients in Model 5 to ease interpretation. The negative coefficients on all the distance variables in this model suggest that similarity by football performance, geographic location, and academic status all played a role in school entries: the smaller the distance between a focal school and a conference average along these dimensions, the more likely the school will enter that conference. For example, a one standard deviation increase in the distance between a focal school and a given conference in terms of peer assessment scores produces, on average, a .731 decrease in the log odds of the school entering that conference. With  $e^{-.731} = .481$ , this translates

**Table 4.** Alternative-specific Conditional Logit Model (McFadden's Choice Model) to Predict School Entries into FBS and FCS Conferences, 1998–2009

	Model 1 Baseline Model	Model 2	Model 3	Model 4	Model 5 Full Model	Model 6 Standardized Coefficients
Sagarin ratings distance		-.087*** (.013)			-.079*** (.014)	-1.310*** (.229)
Geographic distance			-.004*** (.001)		-.004*** (.001)	-2.509*** (.345)
Peer assessment score distance				-2.480*** (.567)	-1.428* (.668)	-.731* (.342)
Conference average Sagarin rating	-.043 (.027)	-.058* (.029)	-.044 (.028)	-.035 (.026)	-.044 (.029)	-.821 (.544)
Conference average latitude	-.106 (.183)	-.077 (.181)	.110 (.197)	-.117 (.177)	.095 (.205)	.314 (.682)
Conference average longitude	-.122 (.077)	-.120 (.077)	-.195* (.082)	-.132 (.075)	-.205* (.085)	-2.765* (1.146)
Conference average peer assessment score	1.001 (2.212)	.230 (2.330)	1.871 (2.437)	1.668 (2.270)	.718 (2.577)	.395 (1.416)
Observations	2,652	2,652	2,652	2,652	2,652	2,652
Cases	106	106	106	106	106	106
Log likelihood	-261.25	-225.74	-184.43	-250.30	-156.96	-156.96
Wald $\chi^2$	7.22	52.40***	68.09***	25.81***	88.86***	88.86***

Note: Sample consists of all 106 school entries into any of the NCAA's two top subdivisions, the FBS and FCS (previously known as divisions I-A and I-AA), between 1998 and 2009. Standard errors are in parentheses.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  for two-tailed tests of the null hypothesis that a particular predictor's regression coefficient (or the whole model) is equal to zero.

into a 51.9 percent decrease in the likelihood of the school entering that conference. This decrease in the likelihood of entrance based on academic status distance serves as an indication of academic-to-athletic status leakage. Similarly, a one standard deviation increase in the distance between a focal school and a given conference in terms of geographic distance and Sagarin ratings leads, on average, to decreases of 91.9 and 73.0 percent in the likelihood of the school entering that conference, respectively. All these effects are substantively important (they are also all statistically significant at the  $p < .05$  level).

To test for Hypothesis 2, predicting athletic-to-academic status leakage, we examine whether similarity in academic status between a school and its conference average increases with a school's tenure in the conference. For this analysis we focus on the same school entries examined in Table 4, but this time continue to follow these schools throughout their tenure in a conference or until 2009, our last year of data. We exclude three school entries with no corresponding school size data, to ultimately

analyze 103 entries and 523 observations. We ran random effects generalized least squares (GLS) regressions with *peer assessment score distance* as our dependent variable. Using GLS eliminates the serial correlation (expected in a panel data set such as ours) in order to fulfill the assumptions underlying the classical linear regression model. Table 5 presents results of these regressions.

Note the negative relationship between *tenure in conference* (measured in years) and *peer assessment score distance*. This suggests that over time schools become more similar to the conferences they enter in terms of academic status, an indication of the athletic-to-academic status leakage argument presented in Hypothesis 2. This effect is statistically significant ( $p < .001$ ) and represents a convergence rate of 3 percent per year ( $b = -.007$  in Model 1, with an average peer assessment score distance of .23 for the school entries modeled here). Among the school-level control variables included in the analysis, *school age*, *school size*, and *school Sagarin rating* are all positively related to *peer assessment score distance*, suggesting that older, larger, and more

**Table 5.** Generalized Least Squares Regressions of Peer Assessment Distance for New Entrants into FBS and FCS Conferences, 1998–2009

	Model 1 Peer Assessment Score Distance	Model 2 ACT Composite Score Distance	Model 3 Peer Assessment Score Distance	Model 4 Peer Assessment Score Distance
Tenure in conference	-.007*** (.002)	-.002 (.015)	-.007*** (.002)	-.004* (.002)
School age	.001* (.001)	.005 (.003)	.001* (.001)	.001* (.001)
School size (enrolled/1,000)	.027** (.010)	-.014 (.073)	.023* (.010)	.027** (.009)
School Sagarin rating	.001*** (.000)	-.004 (.004)	.001** (.000)	.001*** (.000)
School longitude	.001 (.002)	-.001 (.009)	.001 (.002)	.001 (.002)
School latitude	-.006 (.005)	-.043 (.027)	-.005 (.005)	-.005 (.005)
School peer assessment score	.024 (.033)	.190 (.243)	.042 (.034)	-.001 (.034)
ACT composite score distance			.010 (.006)	
Top school				.143** (.047)
Top school × tenure				-.006 (.003)
Constant	.178 (.224)	2.436 (1.387)	.127 (.225)	.252 (.225)
Observations	523	470	470	523
Cases	103	98	98	103
Wald $\chi^2$	33.77***	7.01	35.19***	45.27***

Note: Sample of main analysis (Models 1 and 4) consists of 103 school entries into the NCAA's two top subdivisions, the FBS and FCS (previously known as divisions I-A and I-AA), between 1998 and 2009. Sample of mediation analysis (Models 2 and 3) consists of 98 school entries for which data on ACT composite score distance were available. Standard errors are in parentheses.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  for two-tailed tests of the null hypothesis that a particular predictor's regression coefficient (or the whole model) is equal to zero.

athletically successful schools may have more discretion about which conference they join.

Models 2 and 3 examine the possibility that the convergence in academic status found in Model 1 is mediated by a more substantive change in a school's academic quality. We test for this by entering the variable *ACT composite score distance*—which captures the distance between a focal school and its conference average in terms of ACT composite scores—as a dependent variable in Model 2 and as an independent variable in Model 3 (following Baron and Kenny 1986). We find that *ACT composite score distance* does not correlate with *peer assessment score distance* and is not affected by

a school's tenure in a conference. This suggests that the convergence in academic status identified in Model 1 does not follow a similar convergence in academic quality (which, according to Model 2, does not occur), but rather reflects a change in the perception of status.<sup>6</sup>

Finally, Model 4 examines whether this convergence effect is different depending on a school's initial academic standing relative to the conference it enters. To answer this question, we add the indicator variable *top school* (which equals 1 when the entering school had a higher peer assessment score than its new conference's average, and 0 otherwise) and the interaction of

this variable with *tenure* into Model 4. The coefficient on the interaction term is not significant, suggesting the status convergence in our data consisted of both upward and downward movements for entering schools.

## DISCUSSION

The intent of this article has been to provide theory and evidence that intercollegiate sports influence the distribution of status in U.S. higher education. Drawing on a range of quantitative data describing organizational characteristics and league affiliation over time, we found consistent evidence in support of our hypotheses that patterns of football conference affiliation and other measures of organizational status are linked. Conferences comprising academically reputable schools have especially stable memberships. Conferences tend to group schools with similar academic characteristics. Conference affiliation is related to member schools' perceived academic status. While our data do not enable us to make definitive claims about causal relationships between athletic and academic status, they provide solid evidence in support of our theoretical approach.

Our analysis sharpens and extends prior accounts of intercollegiate football. To characterize and spirit explanations, we provide a rich theoretical foundation. Part of the reason football is so thrilling is because it embodies the status rivalries endemic to a competitive organizational sector. Like the Balinese cockfight, football is both a game and a status competition. Schools that view one another as longtime opponents on the athletic field usually are close competitors in academic prestige as well. Enduring athletic rivalries—Berkeley and Stanford, Harvard and Yale, Williams and Amherst, Army and Navy—all vivify on the playing field the enduring status competition between the opposing schools. These status dynamics help explain why football games, like Geertz's cockfights, capture so much public interest. For a wide range of constituents, something is ceremonially on the line in every match.

Our work also offers new insight into the status culture of higher education. Research shows that prominent cultural portrayals of schools, like formal rankings, can change perceptions of organizational prestige (see Sauder 2006), but we know little about the effects that so-called extracurriculars have on the reputations and relative standing of colleges and universities. Our evidence of the

reciprocal influence of athletic and academic status begins to shed light on how extracurricular activities constitute organizational status. We believe our approach better reflects the organizational complexity of U.S. higher education than do those that consider only academics. More generally, our work encourages consideration of multiple bases of status distinction in sectors—for example, science, health care, culture industries, and environmental regulation—with diverse stakeholders and constituents (Sauder, Lynn, and Podolny 2012).

The analysis presented here substantially complements financial explanations for football, in two ways. First, it provides a theory for how the conference system has enabled a relatively small number of schools to accumulate most of the financial value of intercollegiate football as a spectator sport. As the recent expansion of two high-profile conferences, the Big Ten and Pacific-12 (known until 2011 as the Pacific-10), and the resulting reshuffling of several non-elite conferences clearly demonstrate, financial matters—television rights, Bowl Championship Series (BCS) contracts, revenue sharing, and merchandising—permeate college football at its highest levels. However, these financial benefits are not independent from conferences' historical prominence and schools' long-standing rivalries in the academic sphere: the Big Ten and Pac-12 are so visible and prominent partly due to their enduring academic as well as athletic prestige.

This analysis also enables us to understand why so many schools spend money on football programs even when they lose money. If a school's overall reputation is implicated in whom it meets on the football field, then supporting intercollegiate play can have important status benefits beyond any direct financial rewards. This is true even when one's team is losing. Sitting out the game of intercollegiate football altogether means forfeiting serial opportunities to ritually define one's status peers and rivals, thereby diminishing organizational identity.

An important limitation of this analysis is that our data enable us to depict the interplay of athletic and academic status only through 2009. There has been substantial realignment in conference membership in the past few years. While data limitations prevent us from statistically describing the implications of this recent turbulence for academic reputation as measured by USN, we note that decisions and discussions by university leaders during this period betray the



status dynamics we describe here. For example, Bob Kustra, president of Boise State University (a school with a very highly rated football team), explained to reporters when asked why the school was not considered a serious candidate for the Pac-10 when that conference recently expanded: “When you are going into the Pac-10, it’s not just the stadium or competition. It’s about what kind of university are you. . . . It’s part of the reason why we are building our research programs and our graduate programs.” Kustra acknowledged that Boise State was attempting to tie improvements to academics to its athletics advancement because conferences like the Pac-10 “look at schools that look the most like them” (Day 2010).

Similarly, former University of Michigan President James Duderstadt has publicly lamented the recent expansion of the Big Ten: “The danger is that the [university] presidents have not challenged that it decouples from the longstanding academic relationships and could destroy something of great value” (Strauss 2013). To generalize this point, if elite conferences allow entrance to new schools that do not live up to their leagues’ athletic *or* academic standards, they risk diluting league status and compromising their relative advantage. Decisions that provide clear financial benefits in the short term—such as the Big Ten’s recent decision to incorporate Maryland and Rutgers in hopes of accessing East Coast television markets—might be detrimental in the long term if the status of the conference is undermined (Silver 2012). Much like country clubs, Manhattan apartment cooperatives, and other exclusive social organizations, conferences need to choose members carefully to maintain or improve their prestige. In these ways, status dynamics play a role in the ongoing evolution of intercollegiate football.

Another potential limitation of our work is that it overstates the importance of football relative to other forms of intercollegiate play. We concentrated on football because of its historical importance. Football provided the organizational and cognitive templates through which intercollegiate sports subsequently developed. However, we would not expect later history to merely replicate the story of football. For example, the formalization of the imperative of gender equity, with the passage of Title IX in 1972, might be investigated as an exogenous shock to an athletic status system that had been imprinted in a prior era as an essentially masculine social formation, setting in

motion a gradual reorganization of the entire sector (Stinchcombe 1965; Suggs 2005).

Future research might also consider the status dynamics of other games, specifically basketball—a sport that generates huge enthusiasm and in which ambitious universities with varied characteristics (e.g., UCLA, Duke, UNC, Georgetown, and Kansas) excel. Just as schools consider how to allocate resources to academic and athletic endeavors, they may also make more fine-grained predictions about which sports programs will provide them with the greatest reputational gain for investment. We may find status systems within status systems, each with its own dynamics but linked with the others.

## AUTHORS’ NOTE

Each author contributed equally to the research and writing of this article. Earlier versions were presented at the University of Chicago, University of Iowa, MIT-Harvard Economic Sociology Seminar, University of Pennsylvania, Stanford University, and Yale University.

## ACKNOWLEDGMENTS

Thanks to Brandy Aven, Freda Lynn, Patricia Maloney, Paolo Parigi, Brian Powell, Elizabeth Roberto, Sarah Soule, P.K. Toh, Catherine Turco, Daniel Wang, and multiple anonymous referees for comments on earlier versions and to Daniel Klasik and Vernon Woodley for research assistance.

## FUNDING

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Sauder acknowledges the Robert Wood Johnson Foundation and the Obermann Center for Advanced Studies at the University of Iowa for support during the writing process.

## NOTES

1. Among the NCAA Football Bowl Subdivision (FBS, formerly Division I-A) football programs, 57 percent reported positive net generated revenues in 2008, but less than 2 percent of the NCAA Football Championship Subdivision (FCS, formerly Division I-AA) football programs reported positive net revenues in 2008, with an average loss of approximately \$1.5 million (Fulks 2009).
2. The NCAA provides an essential regulatory architecture for most intercollegiate play, as Stern (1979) and Washington and Zajac (2005) have analyzed in detail. We build on this work, arguing that within the NCAA architecture, conference affiliation is

- a primary mechanism through which appropriate competitors and competitions are determined.
3. We consider high-status conferences as those whose members rank highly in either of the academic or athletic distributions. As we show, there is a great deal of overlap among conferences at the top of the athletic and academic hierarchies, but a few conferences are at the top of one distribution but not the other (e.g., the SEC in athletics and the Ivy Group in academics).
  4. Figure 1 in the online supplement at [soe.sagepub.com](http://soe.sagepub.com) provides a visual membership timeline for each of these four conferences.
  5. In particular, we assigned peer assessment scores to regional schools equal to the lowest quartile of the nationally ranked schools included in our sample in a given year. Similarly, we assigned lagged Sagarin ratings to schools that lacked such ratings (i.e., schools that moved from Division II or fielded a football team for the first time) equal to the lowest quartile of the Sagarin rated schools included in our sample in a given year. Finally, for newly formed conferences, conference-level variables could not be lagged in the first year. Instead, we used the initial values of these variables so as not to miss the many school entries that are part of any conference formation.
  6. This analysis excludes five school entries with no corresponding ACT data; we repeated this mediation analysis with additional academic quality indicators (e.g., number of applicants, SAT math and verbal scores) with qualitatively similar results.

## REFERENCES

- Aghion, Philippe, Mathias Dewatripont, Caroline M. Hoxby, Andreu Mas-Colell, and André Sapir. 2009. "The Governance and Performance of Research Universities: Evidence from Europe and the U.S." NBER Working Paper No. 14851.
- Armstrong, Elizabeth A. and Laura T. Hamilton. 2013. *Paying for the Party: How College Maintains Inequality*. Cambridge, MA: Harvard University Press.
- Baron, Reuben. M. and David A. Kenny. 1986. "The Moderator-mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic and Statistical Considerations." *Journal of Personality and Social Psychology* 51(6):1173-82.
- Benjamin, Beth A. and Joel M. Podolny. 1999. "Status, Quality, and Social Order in the California Wine Industry." *Administrative Science Quarterly* 44(3):563-89.
- Blau, Peter M. 1964. *Exchange and Power in Social Life*. New Brunswick, NJ: Transaction.
- Bostoc, Mike, Shan Carter, and Kevin Quealy. 2013. "Tracing the History of NCAA Conferences." *New York Times*, November 30.
- Bowen, William G. and Sarah A. Levin. 2003. *Reclaiming the Game: College Sports and Educational Values*. Princeton, NJ: Princeton University Press.
- Brewer, Dominic J., Susan M. Gates, and Charles A. Goldman. 2002. *In Pursuit of Prestige: Strategy and Competition in U.S. Higher Education*. New Brunswick, NJ: Transaction Publishers/RAND.
- Brint, Steven, Mark Riddle, and Robert A. Hanneman. 2006. "Reference Sets, Identities, and Aspirations in a Complex Organizational Field: The Case of American Four-year Colleges and Universities." *Sociology of Education* 79(3):229-52.
- Clotfelter, Charles T. 2011. *Big-time Sports in American Universities*. Cambridge, MA: Cambridge University Press.
- Day, Don. 2010. "Kustra: Pac 10 Bid Possible Someday for Boise State." Accessed January 12, 2012 (<http://www.nwcn.com/sports/Kustra-Pac-10-bid-possible-someday-for-Boise-State-102256559.html>).
- Fulks, Daniel L. 2009. *Revenues/Expenses: 2004-08 NCAA Revenues and Expenses of Division I Intercollegiate Athletics Programs Report*. Indianapolis, IN: The National Collegiate Athletic Association.
- Geertz, Clifford. 1973. *The Interpretation of Cultures: Selected Essays*. New York: Basic Books.
- Goode, William J. 1978. *The Celebration of Heroes: Prestige as a Control System*. Berkeley, CA: University of California Press.
- Hoxby, Caroline M. 2009. "The Changing Selectivity of American Colleges." *Journal of Economic Perspectives* 23(4):95-118.
- Jencks, Christopher and David Riesman. 1968. *The Academic Revolution*. New York: Doubleday.
- Karabel, Jerome. 2005. *The Chosen: The Hidden History of Admission and Exclusion at Harvard, Yale, and Princeton*. New York: Houghton Mifflin.
- Kraatz, Matthew S. 1998. "Learning by Association? Interorganizational Networks and Adaption to Environmental Change." *Academy of Management Journal* 41:621-23.
- Kraatz, Matthew S. and Emily S. Block. 2008. "Organizational Implications of Institutional Pluralism." Pp. 243-75 in *Handbook of Organizational Institutionalism*, edited by R. Greenwood, C. Oliver, R. Suddaby, and K. Sahlin-Andersson. London: Sage.
- Lamont, Michèle and Virág Molnár. 2002. "The Study of Boundaries across the Social Sciences." *Annual Review of Sociology* 28:167-95.
- Lucas, Christopher J. 1994. *American Higher Education: A History*. New York: St. Martin's Griffin.
- Mills, C. Wright. 1963. "The Sociology of Stratification." Pp. 305-24 in *Power, Politics, and People: The Collected Essays of C. Wright Mills*, edited by I. L. Horowitz. New York: Oxford.
- Parkin, Frank. 1979. *Marxism and Class Theory: A Bourgeois Critique*. New York: Praeger.
- Podolny, Joel M. 2005. *Status Signals*. Princeton NJ: Princeton University Press.
- Pope, Devin G. and Jaren C Pope. 2014. "Understanding College Application Decisions: Why College Sports

- Success Matters." *Journal of Sports Economics* 15(2):107-31.
- Porac, Joseph F., Howard Thomas, Fiona Wilson, Douglas Paton, and Alaina Kanfer. 1995. "Rivalry and the Industry of Scottish Knitwear Producers." *Administrative Science Quarterly* 40(2):203-27.
- Powell, Walter W., Douglas R. White, Kenneth W. Koput, and Jason Owen-Smith. 2004. "Network Dynamics and Field Evolution: The Growth of Inter-organizational Collaboration in the Life Sciences." *American Journal of Sociology* 110(4):1132-205.
- Rudolph, Frederick. 1962. *The American College and University: A History*. Athens, GA: University of Georgia Press.
- Sauder, Michael. 2006. "Third Parties and Status Position: How the Characteristics of Status Systems Matter." *Theory and Society* 35(3):299-321.
- Sauder, Michael and Wendy Nelson Espeland. 2009. "The Discipline of Rankings: Tight Coupling and Organizational Change." *American Sociological Review* 74(1):63-82.
- Sauder, Michael, Freda Lynn, and Joel Podolny. 2012. "Status: Insights from Organizational Sociology." *Annual Review of Sociology* 37:267-83.
- Schudson, Michael S. 1972. "Organizing the 'Meritocracy': A History of the College Entrance Examination Board." *Harvard Educational Review* 42:34-69.
- Shulman, James L. and William G. Bowen. 2001. *The Game of Life: College Sports and Educational Values*. Princeton: Princeton University Press.
- Silver, Nate. 2012. "Small Payoff in Expansion by Big Ten." *New York Times*, November 21, p. B3.
- Sperber, Murray A. 2000. *Beer and Circus: How Big-time College Sports Is Crippling Undergraduate Education*. New York: Henry Holt.
- Stern, Robert N. 1979. "The Development of an Interorganizational Control Network: The Case of Intercollegiate Athletics." *Administrative Science Quarterly* 24:242-66.
- Stevens, Mitchell L. 2007. *Creating a Class: College Admissions and the Education of Elites*. Cambridge, MA: Harvard University Press.
- Stevens, Mitchell L., Elizabeth A. Armstrong, and Richard Arum. 2008. "Sieve, Incubator, Temple, Hub: Recent Empirical and Theoretical Advances in the Sociology of Higher Education." *Annual Review of Sociology* 34:127-51.
- Stinchcombe, Arthur L. 1965. "Social Structure and Organizations." Pp. 142-93 in *Handbook of Organizations*, edited by J. G. March. Chicago, IL: Rand McNally.
- Story, Ronald. 1980. *Harvard and the Boston Upper Class: The Forging of an Aristocracy, 1800-1870*. Middletown, CT: Wesleyan University Press.
- Strauss, Ben. 2013. "The Big Ten's Bigger Footprint." *New York Times*, December 1, p. BU1.
- Suggs, Welch. 2005. *A Place on the Team: The Triumph and Tragedy of Title IX*. Princeton, NJ: Princeton University Press.
- Thelin, John R. 2004. *A History of American Higher Education*. Baltimore, MD: The Johns Hopkins University Press.
- Toyoda, Masashi and Masaru Kitsuregawa. 2003. "Web Community Chart: A Tool for Navigating the Web and Observing its Evolution." *IEICE Transactions on Information and Systems* E86-D:1024-1031.
- USA Today. Various years. Jeff Sagarin computer ratings. Accessed August 25, 2011 (<http://www.usatoday.com/sports/sagarin-archive.htm>).
- U.S. Department of Education, National Center for Education Statistics. Various years. Integrated Postsecondary Education Data System (IPEDS). Accessed August 25, 2011 (<http://nces.ed.gov/ipeds/datacenter/>)
- U.S. News and World Report. Various years. "America's Best Colleges."
- Washington, Marvin and Ed J. Zajac. 2005. "Status Evolution and Competition: Theory and Evidence." *The Academy of Management Journal* 48(2):282-96.
- Weber, Max. 1946. "The 'Rationalization' of Education and Training." Pp. 240-44 in *From Max Weber: Essays in Sociology*, edited by H. H. Gerth and C. Wright Mills. New York: Oxford University Press.
- Weber, Max. 1978. *Economy and Society*. Editors G. Roth and C. Wittich. Berkeley, CA: University of California Press.
- Wechsler, Harold S. 1977. *The Qualified Student: A History of Selective College Admission in America*. New York: John Wiley and Sons.
- Williamson, Oliver E. 1981. "The Economics of Organization: The Transaction Cost Approach." *American Journal of Sociology* 87(3):548-77.
- Winston, Gordon C. 1999. "The Awkward Economics of Higher Education." *Journal of Economic Perspectives* 13:13-36.

## Author Biographies

**Arik Lifschitz** is Consulting Assistant Professor of Management Science and Engineering at Stanford, where he also serves as an Academic Director in the Office of Undergraduate Advising and Research. He studies organizations, social networks, and markets.

**Michael Sauder** is Associate Professor of Sociology at the University of Iowa and the incoming editor of *Contemporary Sociology*. His current research examines the effects of quantification on organizations in the fields of education and healthcare.

**Mitchell L. Stevens** is Associate Professor of Education and (by courtesy) Business and Sociology at Stanford, where he also serves as Director of Digital Research and Planning. He studies the political economy of higher education.