for their assistance in the original design. Persons who are interested in obtaining data files from Add Health or AHAA should contact Add Health, Carolina Population Center, 123 West Franklin Street, Chapel Hill, NC 27516-2524. We thank Paula England, Shannon Cavanagh, Sarah Crissey, Robert Crosnoe, and AHAA project members for their suggestions on earlier drafts of this article. The opinions are ours and do not necessarily reflect those of the granting agencies. Address correspondence to Catherine Riegle-Crumb, Population Research Center, University of Texas at Austin, 1 University Station G1800, Austin, TX 78712-1088; e-mail: riegle@mail.utexas.edu.

This article is based on school transcript data for participants in the Add Health study that was produced by investigators on the Adolescent Health and Academic Achievement (AHAA) project and linked to original Add Health data. Add Health policy stipulates that project investigators have no rights to proprietary use of data. The study requires that data be made available to outside scientists before articles using the data can be submitted for publication. The AHAA principal investigator allowed submission of this article before the release of the data. Because this was discovered when the article was already copyedited, Add Health has agreed to accommodate Sociology of Education's publication schedule by making unreleased variables used in the article available to investigators upon request. Requests should be directed to Joyce Tabor at tabor@unc.edu. Selected constructed variables based on the AHAA project are already available from Add Health, and future releases will include additional variables, including final versions of four preliminary variables used in this article. Prospective data users may obtain information on accessing the Add Health data at http://www.cpc.unc.edu/projects/addhealth/data.

Reference Sets, Identities, and Aspirations in a Complex Organizational Field: The Case of American Four-Year Colleges and Universities

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This article introduces cluster analysis and reference set analysis as tools for understanding structure, identity, and aspiration in complex organizational fields. Cluster analysis is used to identify the structure of the organizational field in American four-year colleges and universities. The article shows that presidential choices of reference institutions closely parallel the major locations in this structure. By contrast, several widely used classifications of higher education institutions fail to correspond either to the “objective” or to the “perceived” structure of the field. The article also identifies the major locations of presidential discontent within the field, measured as differences between presidents’ current and aspiration reference sets. This analysis shows that only presidents in research universities and highly selective liberal arts colleges are content with their current locations. Finally, the article shows that aspirations for change are conditioned by location in the field and that presidents of the stronger institutions within each major category are more likely to indicate mobility aspirations.

The concept of the organizational field implies an equivalent interest in both structure and dynamics: organizations are seen as existing in structured interaction with one another and, at the same time, as having opportunities for mobility within the field-level structure. Two schools in organizational analysis have made particularly good use of this concept. Population ecologists, such as Hannan and Freeman (1977) and Carroll (1983), have focused on the efforts of new entrants to find secure niche spaces either by replicating successful forms in underserved areas or by defining and monopolizing previously undiscovered niches. Neo-institutionalists, such as Meyer and Rowan (1977) and DiMaggio and Powell (1983), have focused on the most highly legitimated identities within organizational fields as models, which encourage isomorphic responses from organizational actors lacking similarly high levels of legitimacy. In a variant of this
latter approach, network analysts, such as Laumann, Galaskiewicz, and Marsden (1978) and Laumann and Knop (1987), have described the ties in American public policy fields, focusing on the relationships of subordinate actors to central actors within fields that are defined by access to economic and political decision makers.

Ideas about the structure and dynamics of organizational fields would seem to be particularly relevant to studies of American higher education institutions. The organizational field of American higher education is composed of a complex mix of private, for-profit, independent, nonprofit, and state-supported institutions with overlapping missions and multiple goals. Moreover, the field is in constant flux, as indicated by such changes over the past 50 years as the transformation of teachers' colleges into comprehensive regional universities (Dunham 1969), the decline of the liberal arts college model in baccalaureate-granting institutions (Breneman 1994), and the growth of the for-profit sector (Ruch 2001).

At the same time, the dominant frameworks in organizational studies are less well designed for analyzing structure and dynamics within the organizational field of American higher education than for analyzing many other organizational fields. Population ecology can certainly contribute to the analysis of the recent growth of for-profit and on-line higher education, but births and deaths in the dominant, well-established locations in the field are comparatively rare, while institutional transformations are common and aspirations for higher-status identities are, if anything, even more common (Gumpert 2002). These characteristics are not easily addressed by population ecologists. Because the field is highly differentiated, emulation of dominant models, the process emphasized by neo-institutionalists, is not as evident as it may have been in earlier generations (Kerr 2002; cf. Riesman 1956). Indeed, many scholars of higher education have remarked on an increasingly "market-oriented" field (see, e.g., Kirp 2003), in which high-status models, such as selective liberal arts colleges, no longer exercise fieldwide influence, even within the spheres that they once dominated (Kraatz and Zajac 1996). Such findings undermine one of the principal assumptions of the neo-institutional school.

The major contribution of this article is to link two previously disconnected literatures: one on the structure and dynamics of organizational fields and the other on the influence of reference groups on identities and aspirations. Specifically, the contribution of the article lies in its use of cluster analysis to understand the structure of the organizational field and organizational reference sets (as identified by college and university presidents) to understand the dynamics of identity and aspiration in the organizational field. We introduce methodological techniques both for the depiction of the "objective" field structure and for the use of presidential reference choices as tools in organizational analysis. Because reference sets are designed to reveal culturally meaningful divisions within organizational fields, we argue that they may have a broader application in organizational studies, both for research on the relationship between "objective" and "perceived" structures and to generate hypotheses about trajectories of field-level change.

One advantage of reference-set analysis is that it does not impose an a priori scheme on the field, but rather allows key informants to represent the field as they experience it. For this reason, the analysis of reference sets can provide a useful check on existing classification schemes. We show that several of the most popular existing classifications of higher education institutions focus on only one or two of the three key dimensions of structure. They fail, therefore, to describe either the objective structure of the field or the perceived structure of the field as interpreted by organizational leaders.

Through a comparison of current and aspiration reference sets, we can also describe more and less satisfying identity locations within the organizational field as experienced by presidents. High levels of within-category selection of reference choices for the future suggest greater contentment, while low levels suggest greater discontent. Our analysis indicates that presidents represent themselves as satisfied with their current situation only if they are located in the most elite segments of the organizational field. We show further that presidents of institutions that are located in less satisfactory segments of the organizational field often aspire to move to more satisfactory identities, either by expanding their institutions' research role or by increasing their institutions' selectivity in admissions.

This article consists of three related analyses. The first analysis develops a conception of the "objective structure" of the organizational field of American four-year colleges and universities on the basis of a cluster analysis of structural covariates. The second analysis compares presidential choices of reference institutions to this map of the objective structure of the organizational field and to four other commonly used higher education classification schemes. This analysis allows us to describe the extent to which "perceived structure," as defined by the aggregation of presidential reference sets, corresponds to objective structure. The third analysis compares current and aspiration reference sets to reveal locations of greater and lesser identity satisfaction within the organizational field of American higher education, as expressed by organizational leaders. It also reveals desired trajectories of change among presidents in less satisfactory identity categories and the kinds of institutions whose presidents are most likely to express mobility aspirations.

DATA AND METHODS

In this section, we discuss the institutional sample, the survey questions that we used to collect the names of reference institutions, the classification schemes that we used in our analyses, and the methods that we used to compare classifications for their fit to presidential reference choices and to analyze commonalities and differences between presidents' current and aspiration reference sets.

The Institutional Data Archive Sample

The study was based on a sample of institutions that was drawn from the Institutional Data Archive on American Higher Education (IDA) (Brin et al. 2003). The sampling frame for this study was limited to presidents of four-year colleges and universities. Two-year colleges, which educate more than one-third of all students in the United States, are clearly an important part of the American system of postsecondary education. However, we excluded them from the sample on the grounds that they constitute a self-conscious ly distinct tier in the system of American postsecondary education—one with only relatively tenuous ties to four-year institutions (Brin and Karabel 1989; Dougherty 1994). We also excluded specialized institutions (arts, business, engineering, medical, and theological schools) and for-profit institutions because these institutions, at least for the time being, represent niche organizations that are outside the main structure of degree-granting colleges and universities. Together, they educate fewer than 10 percent of all students and concentrate on a narrow range of curricular offerings (National Center for Education Statistics, NCES, 2002; Ruch 2001).

As part of the data collection process for IDA, we conducted our own survey of presidents and provosts. Following the IDA sampling design, the survey was sent to a stratified random sample of presidents that was drawn from four tiers of American four-year colleges and universities. The study included a good representation of all types of four-year colleges and universities and an oversampling of larger and more prestigious institutions. The presidents were assured that their responses would be treated with strict confidentiality. Of the 375 surveys that were sent to presidents, 304 were returned, for a response rate of 81 percent. Twenty-nine presidents chose not to complete the questions about current reference sets or named characteristics, rather than schools. An additional 22 presidents failed to answer questions related to the institutions they would like their institutions to resemble in the future. The sample used in this article, therefore, consists of responses from 275 presidents of four-year colleges or universities regarding current reference institutions and responses from the 253 presidents who named institutions they would like their institutions to resemble in 10 years.
Deriving an Objective Structure from Cluster Analysis

In the first analysis, we develop a purely structural classification of institutions through a cluster analysis of seven structural covariates, each of which was measured across all the colleges and universities in our sample, including both the sample institutions and the institutions that the presidents named. These structural covariates include (1) the Carnegie 1994 classification, (2) source of control (religiously affiliated, independent, nonprofit, and public), (3) 1999 size (as measured by head-count enrollment), (4) 1999 selectivity (as measured by average SAT/ACT scores), (5) 1999 tuition, (6) the log of the 1999 operating budget, and (7) the percentage of degrees that were awarded in 1999 in the arts and sciences (compared to the percentage of occupational-professional degrees). We consider these variables to be both central components of structural location and plausible bases for the formation of clusters at an acceptably high level of aggregation.

Cluster analysis allows for the aggregation of individual patterns of linkage into larger entities on the basis of measures of similarity. We used an agglomerative method that produces clusters whose centroids are constrained to be far apart from one another.3 No definitive statistical criteria exist to determine the “correct” clustering solution. Clustering algorithms provide solutions ranging from the most disaggregated—each institution in its own “cluster”—to the most aggregated—the unity of all reference sets.7 Judgments about where to stop in this process—that is, judgments about the “correct” clustering solution—are based on the interpretation of standard diagnostic tests and, at least equally, on the analysts’ sense of a meaningful solution.8 The choice of the number of clusters was guided by Akaike’s Information Criterion (AIC), a measure of residual error in the assignment of cases to clusters (Long 1997:109–10).9 A meaningful solution can be defined as a solution that satisfies diagnostic criteria, makes substantive sense, and culminates at a sufficiently high level of aggregation to be of interest.

Conceptualizing and Measuring Reference Sets

In the second analysis, we compare the fit between presidential reference-set choices (perceived structure) and the objective structure of the organizational field, as described by our Institutional Clusters (ICs) scheme and four other widely used classification schemes. This analysis requires a conceptualization of reference sets and adequate means for measuring reference-set choices.

The concept of organizational reference sets is an extension of the reference group concept into organizational life.8 In reference set analysis, the researcher looks into the minds of key informants to see how they think about the environment in which their organizations are located. We propose that organizational reference sets exist in two particularly important forms. Current reference sets are identifications by organizational leaders of other organizations that they consider similar to their own. Aspiration reference sets are identifications by organizational leaders of organizations that they would like their organizations to resemble in the future.

When aggregated, current reference sets provide a picture of the cultural divisions within a complex organizational field from the point of view of key informants in the field. When current reference sets are compared to aspiration reference sets, locations of greater and lesser identity satisfaction can be found within the organizational field. More satisfactory (and thus perhaps more stable) locations are those in which high levels of within-category choice persist in aspiration reference sets; less satisfactory locations are those in which the opposite pattern exists: low levels of within-category choice as informants look into the future. These comparisons locate the kinds of organizations whose leaders desire to change identities, compared to those whose leaders are content to retain their current identities.

The use of the concept of reference group in organizational studies is complicated by the fact that different actors within an organization are likely to choose different reference institutions as being similar to their own. The choice of informants is, therefore, important.

We selected presidents because we consider presidents to be the most knowledgeable informants about the location of their institutions within the large structure of higher education. Presidents are the primary organizational actors who are responsible for interaction with other organizational leaders. Indeed, the career prospects of presidents depend, to a large degree, on the presidents’ proper understanding of the organizational field and on their ability to negotiate interactions in that field effectively. No other actors are likely to have the same level of field-level awareness.

Our choice of presidents as informants in no way assumes that presidents have the capacity to steer their institutions in the direction they desire. Indeed, a considerable body of evidence (Birnbaum 1989; Clark 1987; Cohen and March 1974) suggests that this capacity is distinctly limited. However, for our purposes, the weak capacity of presidents to steer their institutions is not an important limitation. We chose presidents as informants solely because their positions require them, more than other plausible informants, to be aware of and knowledgeable about patterns of differentiation and affinity in the organizational field, particularly as they bear on their own institutions.

The reference set analysis is based on responses to two questions that were sent to a sample of college and university presidents during the academic year 2000–01. The first question asked the presidents to name “up to eight” institutions that they considered to be “similar to” their own. The second question asked the presidents to name “up to eight” institutions that they would “like (their institution) to resemble” in 10 years. These two questions were part of a longer survey instrument.9

Presidents may select other institutions as similar to their own for a variety of reasons. They may consider other institutions to be similar in mission, in level of selectivity, in financial circumstances, or in other ways. Individual choices are therefore less important than the aggregate patterns of choices. The process of seeing the larger organizational picture is analogous to the interpretation of a pointillist painting. The individual points of color may appear idiosyncratic, but the ensemble of these points of color produces the effect of identifiable shapes. Individual presidential choices may be idiosyncratic, but the aggregate of presidential choices will nevertheless define zones of perceived similarity and dissimilarity within the field.10 For this reason, we do not expect 100 percent of the reference choices to occur within the major identity categories in the presidents’ perceptions of the field. But we do expect that the presidents will choose other institutions that share the same identity category in a large number of cases and certainly in no less than the majority of cases.11

Reference sets are lists of institutions that are provided by presidents of colleges and universities. The characteristics of these institutions are known, and they can therefore be classified to determine whether they are like or unlike sample institutions on any number of criteria. Through the assignment of institutions to different categories, presidential reference choices can be examined for the extent to which they reproduce “objective” mappings of field structure and for the extent to which they reproduce popular institutional schemes that are used by scholars, policy makers, and consumers of higher education. Aspiration reference sets can be evaluated to show zones of greater satisfaction and discontent, as represented by the frequency of within-category choices for institutions that the presidents would like their own institutions to resemble in the future.

Comparing Classification Schemes

In the second analysis, we compare the fit of presidential reference-set choices to our structural classification, the Institutional Clusters, and four widely used classification schemes in higher education studies: Astin (1993);12 Carnegie (1994);13 Carnegie 2000 (McCormick 2000); and Zbbey, Sharan, and Lannozi (1997; hereafter called the ZSB classification).15 Astin divided institutions by the level of degree awarded and control. Both Carnegie classifications are based on differentiating institutions by the highest degree awarded; by broad “quality” segments within categories; and, in the case of baccalaureate-granting
institutions, also by the proportion of degrees awarded in the liberal arts. The ZSI scheme divided institutions by six-year graduation rates and, in the case of institutions with low graduation rates, also by the proportion of part-time students.

The comparison between our structural classification and these four popular classification schemes is a necessary and significant part of the study. Without such a comparison, we are left in a position of ambiguity: Is the fit for the ICS better than would be possible using other classification schemes? Because the four contrasting comparison schemes are well known among higher education scholars, the comparison has ramifications for discussions of the ways in which existing classifications are and are not useful mirrors of structure.

In this second analysis, we use the proportion of within-category choices—that is, choices on the diagonal of a matrix defined by all categories—as a measure of fit. Thus, if a high proportion of presidents from Carnegie 2000 doctoral-research intensive institutions chose other doctoral-research intensive institutions as similar to their own, we consider this category to show a good fit to the reference-set data. If few of these presidents chose other doctoral-research intensive institutions as similar to their own, we consider this category to be a poor fit to the data.

The interpretation of the raw data required correcting for the propensity of some presidents to choose many reference institutions (as many as 8) and others to choose only a few reference institutions (in some cases as few as 2). The use of raw numbers will consequently overweight the choices of presidents who mentioned many and underweight the choices of presidents who mentioned only a few schools. To correct for this problem, we standardized the distribution of choices in the following way: We expressed the choices of each president as proportions of that president's choices, so that the choices added to 1.0 for each president, whether she or he chose 2 or 10 other schools. We then summed the choices across the choosers to give the pooled counts.

The proportion of within-category choices can theoretically range from 0 to 100. In our data, however, proportions were typically in the range of 35 percent and higher. Because no absolute standard exists for evaluating what a qualitatively high proportion of within-category choices would be, any criterion of fit is necessarily arbitrary. In discussing our results, we use the following conventions: When at least half the presidential choices of reference institutions are made within category, we consider this to represent a minimal acceptable fit to the data. When two-thirds or more of the choices are within category, we consider this to represent a good fit to the data. When four-fifths or more of the choices are within category, we consider this to represent a very good fit to the data. Categories in each typology are evaluated separately for the degree of correspondence that they show to presidential choices.

Comparing Identities and Aspirations

In the third analysis, we compare current to aspiration reference sets for our sample of presidents. We use the best-performing classification, the Institutional Clusters, as the base for this third analysis. The tables used in the analysis of aspiration reference sets were standardized, as in the first analysis, to correct for differences among presidents in the number of choices made.

To determine zones of greater identity satisfaction and dissatisfaction among the presidents, we generated an aspirations table from the cross-tabulation of current reference institutions and anticipated future reference institutions. This table resembles tables that are used in analyses of intergenerational mobility. In our judgment, the best measure of identity satisfaction is the difference between the proportion of current within-category choices and future within-category choices. This measure corrects for the various levels of initial cohesiveness suggested by current within-category proportions. The measure is generated simply by subtracting the proportion of current within-category choices from the proportion of future within-category choices. For example, if presidents of private master's-granting institutions often choose other private master's-granting institutions as institutions that are similar to their own, but much less often as institutions that they would like their institutions to resemble in 10 years, we interpret this as an indicator of identity dissatisfaction within the category of private master's-granting institutions.

In this analysis, we also describe the most popular aspirations for the presidents of institutions in the less satisfactory identity categories. For example, if the presidents of most private master's-granting institutions choose selective baccalaureate-granting colleges as institutions that they would like theirs to resemble in 10 years, we interpret this as the desired trajectory of change for private master's-granting institutions. Within each category, we also analyze differences in the characteristics of institutions whose presidents aspire to move up the ranks, compared to those institutions that are content to remain in their current location. We do so by comparing the characteristics of institutions with a preponderance (measured as a simple majority) of upper reference reference sets to those with a preponderance (again a simple majority) of within-category choices for future reference sets. When differences in means are one standard deviation or more, we consider the institutional characteristic in question to have a large influence on the propensity of presidents to want to move or to want to stay in its current category.

RESULTS

Our results are reported in three sections, corresponding to the three analyses just described. The first section describes the objective structure of the organizational field as derived from a cluster analysis of structural covariates. The second section compares the fit of presidential reference-set choices and five classification schemes, including our own ICS. The third section examines the aspirations of college and university presidents as they look into the future and, by extension, the locations of identity satisfaction and discontent in the field.

The Structure of the Higher Education Field

The outcome of the cluster analysis indicates a field shaped by three major axes of differentiation: (1) elite status (as indexed by selectivity and, therefore, indirectly by wealth), (2) institutionalized role in the academic hierarchy (as indexed by the highest degree awarded and a research versus a teaching emphasis), and (3) resource dependence (state, private, or religious). The cluster analysis does not require differentiation on each of these axes. Thus, baccalaureate-granting colleges offer the same highest degree and are not differentiated by an institutionalized role in the academic hierarchy, but the more selective colleges are highly differentiated from the nonselective colleges by tuition charges, selectivity, curriculum emphasis, and religious affiliation; they consequently fall into separate clusters.

Beginning with elite institutions, the seven clusters can be characterized as follows: (1) elite private colleges and universities: highly selective, independent nonprofit baccalaureate-granting institutions, drawn from among the Carnegie BA I colleges, and highly selective, private research universities, drawn from the Carnegie Research I universities; (2) large research universities: large, mainly public, Carnegie Research I universities; (3) other doctoral-granting universities: other, typically smaller, doctoral-granting institutions, including Carnegie Doctoral I and II and Research II universities; (4) public master's-granting universities: public master's-granting institutions, including both Carnegie Master's I and II universities; (5) private master's-granting universities: religiously affiliated and independent nonprofit master's-granting institutions, including both Carnegie Master's I and II universities; (6) selective baccalaureate-granting colleges: selective, primarily religiously affiliated, baccalaureate-granting institutions, drawn from among the Carnegie BA I colleges; and (7) nonselective, religiously affiliated baccalaureate-granting colleges: unselective, mainly religiously affiliated, baccalaureate-granting institutions, drawn from among the Carnegie BA II colleges. We refer to these clusters as the Institutional Clusters, or ICS.
Table 1 presents descriptive information on the ICs and the four other classifications. For the ICs, the table includes information on the covariates for each of the seven categories that were generated by the cluster analysis.

**Objective and Perceived Field Structure**

Table 2 presents a summary of the results for the five classification schemes that we compared for their fit to presidential reference-set choices. The table provides the proportion of within-category choices—choices on the diagonal—for each classification scheme and a summary measure of the average proportion of within-category choices.

The most important conclusion from this analysis is that the purely structural classification, the ICs, corresponds relatively well to patterns of presidential reference choices. It indicates a relatively tight alignment between the objective structure of the organizational field and subjective understandings of the field among key informants. Using the criteria for judging fit discussed earlier, one of the IC categories—large research universities—showed a very good fit to presidential choices. Two others—elite private colleges and universities and public master's-granting universities—showed a good fit to presidential choices. The other four categories all met the 50 percent threshold for a minimally acceptable fit.

As Table 2 indicates, the fit is not as good for the four other classifications. A comparison between the ICs and the other classifications shows why these latter classification schemes failed to correspond well to presidential reference choices. Divisions between research-intensive and less research-intensive institutions mattered for the presidents, but are not salient in the Astin (1993), Carnegie 2000 (McCormick 2000), or ZSI (1997) classifications. Divisions between public and private institutions also mattered for the presidents, but are not included in the Carnegie 1994, Carnegie 2000, or ZSI classifications. For four-year colleges, divisions by resource dependence among private, nonprofit, and religiously affiliated colleges were meaningful for the presidents, but are not salient in the Carnegie or ZSI classifications. These misalignments suggest weaknesses in the field-level conceptualizations of these popular classifications of institutions of higher education.

The failure of these four well-known classifications to correspond closely to patterns of presidential reference choice does not lead us to conclude that these classifications should be abandoned. Classifications have a variety of uses other than mirroring structural and cultural divisions within an organizational field. The Carnegie classifications, for example, played a significant organizing role within the field of higher education by minimizing invidious distinctions among institutions by wealth or selectivity and by emphasizing instead functional divisions by the highest degree awarded. Similarly, the ZSI market segments have provided useful information to students about the likelihood of completing their education if they enroll at a particular institution. Difficulties arise only when popular classification schemes are interpreted as reflecting the underlying structure of the organizational field.

**Zones of Identity Stability and Instability**

By comparing current and aspiration reference sets, we were able to identify locations of greater and lesser identity satisfaction within the organizational field. We were also able to describe the desired trajectories of change and the kinds of institutions whose presidents have aspirations for upward mobility within the existing structure of the field.

The data in Table 3 show clear patterns of identity satisfaction and discontent among presidents within the field of American four-year colleges and universities. The most satisfactory identity locations for presidents are those within the clusters of large research universities and selective liberal arts colleges. It is not surprising that these are also the highest prestige locations within the dual structure of higher education, corresponding closely to patterns of research capacity, on the one hand, and undergraduate selectivity, on the other.

Locations of identity discontent for presidents are equally evident. Sharp declines in within-category choices for aspiration refer-
<table>
<thead>
<tr>
<th>Cluster</th>
<th>Tuition SAT/ACT</th>
<th>Enrollment Mean</th>
<th>LogOpB. Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elite private colleges and universities</td>
<td>$23,015</td>
<td>$23,015</td>
<td>$23,015</td>
</tr>
<tr>
<td>2. Large research universities</td>
<td>$18,355</td>
<td>$18,355</td>
<td>$18,355</td>
</tr>
<tr>
<td>3. Other doctoral universities</td>
<td>$12,79</td>
<td>$12,79</td>
<td>$12,79</td>
</tr>
<tr>
<td>4. Private masters'-granting universities</td>
<td>$5,98</td>
<td>$5,98</td>
<td>$5,98</td>
</tr>
<tr>
<td>5. Public masters'-granting universities</td>
<td>$3,558</td>
<td>$3,558</td>
<td>$3,558</td>
</tr>
<tr>
<td>6. Selective baccalaureate-granting colleges</td>
<td>$1,25</td>
<td>$1,25</td>
<td>$1,25</td>
</tr>
<tr>
<td>7. Nonselective baccalaureate-granting colleges</td>
<td>$1,25</td>
<td>$1,25</td>
<td>$1,25</td>
</tr>
</tbody>
</table>

**Table 1. Continued**

*The categories were combined in the analysis because of small sample size.*

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Greater than 50 percent in at least 10 doctoral degree programs per year across three or more disciplines.</td>
</tr>
<tr>
<td>2.</td>
<td>Universities producing at least 20 master's degrees per year.</td>
</tr>
<tr>
<td>3.</td>
<td>Institutions授予 at least half their bachelor's degrees in Liberal Arts fields.</td>
</tr>
<tr>
<td>4.</td>
<td>Universities where the baccalaureate degrees awarded are fewer than in Liberal Arts fields.</td>
</tr>
<tr>
<td>5.</td>
<td>Five-year graduation rate (graduate and undergraduate) is less than 55 percent for public universities.</td>
</tr>
<tr>
<td>6.</td>
<td>Five-year graduation rate less than 65 percent for private universities.</td>
</tr>
<tr>
<td>7.</td>
<td>Five-year graduation rate less than 75 percent for public universities.</td>
</tr>
<tr>
<td>8.</td>
<td>Five-year graduation rate less than 85 percent for private universities.</td>
</tr>
</tbody>
</table>

| Source | Carnegie Foundation (2004); Higher Education Directory (1999); Institutional Data Archive (2005); McCannl (2000). |
ence sets are characteristic of four types of institutions: (1) other doctoral universities; (2) private and (3) public master's-granting universities; and (4) nonselective, religiously affiliated colleges. These institutions show declines of 19 percent to 27 percent in within-category choices when presidents move from current to aspiration reference choices. Particularly steep declines in within-category choices were found among the other doctoral and nonselective, religiously affiliated colleges.

Sites of Identity Discontent Among Presidents. It is safe to assume that the causes of presidential aspirations for upward mobility are different in these two locations of greatest discontent among presidents. Nonselective, baccalaureate-granting colleges are economically precarious. They are small (average enrollment of 1,500 students) and typically rely significantly on members of an affiliated religious congregation to fill their classes. Because they are less attractive to many students than are more selective institutions, they must scramble to fill their admissions quotas. They must also charge lower tuitions than the more distinguished selective colleges do. Consequently, many of the leaders of these colleges are concerned about meeting their payrolls, and some fail every decade. In recent years, these colleges have faced increasing competition from less expensive community colleges and from more highly focused for-profit colleges. It is therefore not surprising that presidents of nonselective colleges aspire to join the ranks of selective colleges; indeed, more presidents choose institutions in this cluster as future reference institutions than choose institutions in their own cluster.

The situation of the other doctoral universities is different. Few are in danger of going out of business, but many suffer significantly from status inconsistency. They have made investments in research infrastructure, research faculties, and graduate education, but they are not full-scale research universities. None is a member of the prestigious Association of American Universities, for example. Although these institutions employ many excellent teachers and researchers and may have particular areas of strength, their overall level of research eminence is not as high as that of the research universities. Their graduate students are generally less qualified than are students who attend research universities, and their faculties may feel restless in the face of relative deprivation in facilities, students' qualifications, and research support. The desire that the presidents of these institutions feel to have their institutions move up the ranks to become full-scale research universities is indicated by the strikingly high number of future choices their presidents make of institutions in the large research university category. Nearly twice as many future choices (43 percent) are in the category of large research universities as are within category.

Both private and public master's-granting institutions also emerge as institutions whose presidents desire to move up the status hierarchy. In absolute terms, the public master's-granting category is a more stable identity location for presidents than is the private master's-granting category. Nearly half (48 percent) the presidents of master's-granting universities make within-category choices for the future, compared to just 36 percent of the presidents of the private master's-granting universities. Yet the presidents of these two types of institutions are comparable to one another in the extent to which they hope to abandon current identities in the future; each has a difference score of 19 percent.

The presidents' aspirations are quite distinct, however. The leaders of private master's-granting institutions most often seek to move up by reducing their commitment to graduate education and by becoming more selective at the undergraduate level. Nearly half the future choices among presidents of the private master's-granting universities are either in the elite private institutions cluster (16 percent) or in the selective baccalaureate-granting colleges cluster (29 percent). By contrast, the presidents of public master's-granting institutions most often seek to move up by increasing research intensity while maintaining access. Thirty-six percent of the future choices of presidents of public master's-granting universities are in the other

<table>
<thead>
<tr>
<th>Classification Scheme</th>
<th>Institutional Clusters</th>
<th>% (N of presidents in parentheses)</th>
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<tr>
<td></td>
<td>Elite private colleges and universities</td>
<td>.67 (27)</td>
</tr>
<tr>
<td></td>
<td>Large research universities</td>
<td>.55 (27)</td>
</tr>
<tr>
<td></td>
<td>Other doctoral universities</td>
<td>.51 (25)</td>
</tr>
<tr>
<td></td>
<td>Private master's-granting universities</td>
<td>.55 (33)</td>
</tr>
<tr>
<td></td>
<td>Public master's-granting universities</td>
<td>.57 (31)</td>
</tr>
<tr>
<td></td>
<td>Selective baccalaureate-granting colleges</td>
<td>.55 (35)</td>
</tr>
<tr>
<td></td>
<td>Nonselective baccalaureate-granting colleges</td>
<td>.56 (40)</td>
</tr>
<tr>
<td>Average</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Number of categories below 50%</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

| Asim 1993          | Private university | .76 (53) |
|                   | Public university  | .92 (104) |
|                   | Independent college | .67 (40) |
|                   | Protestant college | .52 (50) |
|                   | Catholic college   | .31 (6) |
|                   | Public college     | .47 (19) |
| Average            | .61                     |
| Number of categories below 50% | 2                        |

| Carnegie 1994     | Research I          | .91 (39) |
|                   | Research II         | .18 (9)  |
|                   | Doctoral I and IIa | .51 (25) |
|                   | Master's I          | .63 (70) |
|                   | Master's II         | .11 (12) |
|                   | BA                  | .87 (56) |
|                   | BA II               | .54 (36) |
| Average            | .53                     |
| Number of categories below 50% | 2                        |

| Carnegie 2000     | Doctoral/research extensive | .93 (52) |
|                   | Doctoral/research intensive | .75 (29) |
|                   | MA I                   | .62 (68) |
|                   | MA II                  | .08 (18) |
|                   | BA liberal arts        | .82 (61) |
|                   | BA general             | .41 (42) |
| Average            | .54                     |
| Number of categories below 50% | 3                        |

| ZSI 1997          | Very high graduation rate | .85 (32) |
|                   | High graduation rate     | .40 (43) |
|                   | Medium graduation rate   | .36 (76) |
|                   | Low graduation rate      | .11 (19) |
|                   | Very low graduation rate | .48 (48) |
| Average            | .44                     |
| Number of categories below 50% | 4                        |

* Carnegie Doctoral I and II were collapsed because of the small sample N.
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Table 3. Current and Aspiration Reference Sets, Institutional Clusters

<table>
<thead>
<tr>
<th>Reference Set</th>
<th>Elite Privates</th>
<th>Large Research</th>
<th>Other Doctoral</th>
<th>Public MAs</th>
<th>Private MAs</th>
<th>Nonselective BAs</th>
<th>Selective BAs</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Reference Sets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elite privates</td>
<td>.67</td>
<td>.10</td>
<td>.01</td>
<td>.00</td>
<td>.01</td>
<td>.21</td>
<td>.01</td>
<td>27</td>
</tr>
<tr>
<td>Large research universities</td>
<td>.09</td>
<td>.85</td>
<td>.07</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>25</td>
</tr>
<tr>
<td>Other doctoral</td>
<td>.02</td>
<td>.20</td>
<td>.51</td>
<td>.20</td>
<td>.06</td>
<td>.11</td>
<td>.13</td>
<td>27</td>
</tr>
<tr>
<td>Public MAs</td>
<td>.03</td>
<td>.06</td>
<td>.18</td>
<td>.67</td>
<td>.02</td>
<td>.55</td>
<td>.00</td>
<td>33</td>
</tr>
<tr>
<td>Private MAs</td>
<td>.09</td>
<td>.05</td>
<td>.05</td>
<td>.02</td>
<td>.55</td>
<td>.11</td>
<td>.13</td>
<td>27</td>
</tr>
<tr>
<td>Selective BAs</td>
<td>.28</td>
<td>.01</td>
<td>.01</td>
<td>.00</td>
<td>.08</td>
<td>.55</td>
<td>.06</td>
<td>35</td>
</tr>
<tr>
<td>Nonselective BAs</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.00</td>
<td>.29</td>
<td>.11</td>
<td>.56</td>
<td>40</td>
</tr>
</tbody>
</table>

Aspiration Reference Sets

| Elite privates              | .67            | .05            | .00           | .03        | .03         | .21              | .01           | 26 |
| Large research universities | .14            | .86            | .00           | .00        | .00         | .00              | .00           | 20 |
| Other doctoral              | .08            | .43            | .24           | .18        | .05         | .01              | .00           | 30 |
| Public MAs                  | .09            | .12            | .24           | .48        | .01         | .36              | .29           | 25 |
| Private MAs                 | .16            | .12            | .00           | .01        | .36         | .29              | .06           | 25 |
| Selective BAs               | .48            | .01            | .02           | .01        | .03         | .44              | .01           | 31 |
| Nonselective BAs            | .06            | .00            | .00           | .01        | .27         | .36              | .36           | 41 |
Table 4. Mean Differences Between Presidential “Strivers” and “Nonstrivers” Within Institutional Cluster Categories, in Absolute and Standard Deviation Units

<table>
<thead>
<tr>
<th>Institutional Characteristics</th>
<th>Institutional Cluster</th>
<th>Enrollment</th>
<th>Log Operating Budget</th>
<th>Average SAT/ACT</th>
<th>Tuition</th>
<th>% Occupational/Professional Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elite private colleges and universities</td>
<td>-366 (.1)</td>
<td>.395 (.2)</td>
<td>-58 (.5)</td>
<td>-1,748 (.4)</td>
<td>10 (.8)</td>
</tr>
<tr>
<td></td>
<td>Large research universities</td>
<td>-7,869 (.8)</td>
<td>.991 (2.0)**</td>
<td>166 (2.3)**</td>
<td>12,250 (3.7)**</td>
<td>-36 (-2.1)**</td>
</tr>
<tr>
<td></td>
<td>Other doctoral universities</td>
<td>3,090 (1.0)</td>
<td>.241 (1.0)</td>
<td>-22 (.3)</td>
<td>1,500 (1.6)</td>
<td>13 (1.2)</td>
</tr>
<tr>
<td></td>
<td>Public master’s-granting universities</td>
<td>3,197 (.9)</td>
<td>.460 (.8)*</td>
<td>55 (.9)*</td>
<td>-393 (.6)</td>
<td>2 (2)</td>
</tr>
<tr>
<td></td>
<td>Private master’s-granting universities</td>
<td>2,834 (1.8)</td>
<td>.653 (1.2)</td>
<td>42 (.6)</td>
<td>807 (.3)</td>
<td>-7 (-.5)</td>
</tr>
<tr>
<td></td>
<td>Selective baccalaureate-granting colleges</td>
<td>265 (.4)</td>
<td>.345 (.7)</td>
<td>31 (.5)</td>
<td>212 (.1)</td>
<td>-7 (-.5)</td>
</tr>
<tr>
<td></td>
<td>Nonselective baccalaureate-granting colleges</td>
<td>629 (1.7)</td>
<td>.470 (1.2)</td>
<td>51 (.7)</td>
<td>338 (.4)</td>
<td>-7 (-.4)</td>
</tr>
</tbody>
</table>

Note: Numbers in bold face indicate that the mean difference/standard deviation of stayers is 1 standard deviation or more.
* p < .05. ** p = .01.
tortant for two centuries, have been a gradually declining influence on field-level organization. Baccalaureate-granting colleges, other than those of the most conservative Protestant denominations, have been deemphasizing their religious identities for some time in favor of greater selectivity and higher academic standards (Keller 2004; Marsden 1994).

The article has contributed to organizational analysis in several ways. In the first place, it has provided an approach to mapping organizational fields. In the case of higher education organizations, it has not been clear how to map the major locations within the organizational field. We have provided an approach to this problem by using cluster analysis of structural covariates. Whether the mapping approach we have pursued in this article is necessary for understanding other complex organizational fields, it is clearly helpful in revealing the underlying structure in this notoriously difficult-to-conceptualize field—with its mix of religious, secular, for-profit, nonprofit, research-based, and teaching-based institutions.

Our analysis has also introduced reference sets as a tool for understanding zones of perceived similarity within complex organizational fields. The article has shown how studies of reference groups can be expanded from the traditional focus on individuals and small groups to articulate with issues in organizational and institutional analysis. When laid over competing conceptions of structure, presidential reference sets show whether the identifications of leaders do or do not reflect popular conceptions of the structure of the organizational field. Such an analysis naturally leads to assessments of the accuracy of competing conceptions of structure. But it can also lead to assessments of the forces in the environment, apart from the structure of the organizational field, that contribute to shaping the identities and aspirations of organizational leaders and whether these identities and aspirations influence action.

Reference sets are clearly subjective phenomena and therefore bear primarily on issues of perceived structure, identity, and aspiration. Even when perceived structure fails to correspond closely to objective structure, reference sets should not be dismissed as an influence on organizational behavior. Cultural sociologists have long appreciated that actors make sense of the world through the images in their heads and therefore do not simply act as agents of social structures (P. Berger and Luckmann 1966; Swidler and Arditì 1994). The analysis of reference sets can provide researchers with a valuable tool for understanding patterns of cultural division, identity, and aspiration, not only in the organizational field of higher education, but in other complex organizational fields as well. It seems likely that our analytical tools can be fruitfully extended to the study of symbolic boundaries. Symbolic boundaries develop where identity intersects with exclusion (see, e.g., Lamont 2001). We can hypothesize that exclusionary impulses are the strongest in organizational locations in which current and aspiration reference sets are the most similar. This is a measure of identity satisfaction—the desire to remain in the same location in the future—not simply a measure of current status. Where organizational leaders are most satisfied with their current identity locations, we would expect that they will also be most likely to resist shifting the perceived advantages of these identity locations with others.

In our study, these high identity-satisfaction zones were located at the two peaks of the field structure: among leaders of highly selective private institutions and among leaders of large research universities. We would expect symbolic boundaries to be the strongest in these zones. In support of this hypothesis, we found considerable secrecy and/or high standards for admission surrounding associations, such as the Consortium on Funding Higher Education and the Association of American Universities, whose members include only institutions that are located in these zones of the organizational field.

Field-Level Change in American Higher Education

Our data open a window on the possible trajectories of change in American colleges and universities by describing patterns of presidential aspirations. If external conditions allow presidents to act on their aspirations, the future landscape of American higher education will show a stronger connection between public institutions and advanced training and research. It will also show a strong connection between private institutions and selective admissions. We can infer this outcome from the tendency of leaders of public master’s-granting and other doctoral universities to desire more research-oriented identities and from the tendency of leaders of private master’s-granting universities to desire identities that are more like selective, baccalaureate-granting colleges.

These trajectories are consistent with the long-standing emphasis of public universities on size, affordability, and a broad scope of research activity. They contrast the prioritization of private universities on selective admissions and selective investments that are attuned to leadership opportunities (Brink 2005). Given the continuing demographic push for higher-level credentials (Collins 2002) and the continued demand for affordable higher education, the prospects for the public sector are not as dim under this scenario as some recent prognostications (cf. American Association of State Colleges and Universities 2004; Breneman and Finney 1997) would suggest. Public universities can compete by continuing to emphasize research and by maintaining their size advantages and affordability.

Well-known cases of institutional repositioning are largely consistent with these findings. Some research universities, such as the University of California–San Diego (Kerr 2002) and the University of Texas at Austin (Florida 2002), have succeeded in gaining prestige by building on strong science-based research faculties and contributions to regional economic development. Ambitious regional universities often strive to become true research universities, as in the cases of Arizona State University and the University of North Carolina–Charlotte (Brink 2005). Institutions that are located in populous, wealthy regions can succeed in these efforts. State legislation can serve as a barrier to ambitions among public institutions by specifying institutional roles and missions within a tiered system (Richardson et al. 1998), but otherwise the structure of American higher education generates ambitions among the stronger institutions, and, as we have shown, these ambitions take predictable directions.

By contrast, to the extent that environmental forces do not support presidential aspirations, the current structure should remain largely intact with some continuing failures among nonselective, baccalaureate-granting colleges; some de-emphasis of graduate training and research among private master’s-granting institutions; and a modest expansion of the number of public-sector doctoral-granting and research universities, the latter mainly in areas of high population density and increasing wealth.

Policy Implications

Our analysis suggests that policy makers should be wary of pigeonholing institutions too narrowly. Within the major strata and segments of the organizational field, our data indicate a wide variation in strength and a considerable divergence in the aspirations of presidents. The presidents of the strongest institutions in each of the major categories often express their ambition to move up. In the public sector, these ambitious presidents are typically held in check by legislative fiat. Rather than encourage differentiation along a predetermined scheme, as the California Master Plan prescribed and the Carnegie Commission hoped to do through its classification scheme, a more productive and sociologically realistic approach may be to find effective ways to encourage institutions that are ready for change to achieve their aspirations. It would be possible to identify institutions that are ready for change by examining both their underlying structural characteristics and the aspiration reference sets of their leaders. An institution that is ready for change would show clear evidence of structural strength in enrollments, finances, and students’ academic qualifications relative to others in its category and would have leaders with strongly vertical visions of the future.

The other policy recommendation that flows from our analysis concerns stresses on the unity of research and teaching. Research and teaching are the core missions of American colleges and universities and the
basis for continuing public support. In the Humboldtian tradition, the two missions are thought to be closely linked and mutually supporting. Teachers are expected to stay abreast of research in their fields and do so through involvement in the research community. Researchers are expected to be able to communicate the findings of their research and to train the next generation of students and scholars and do so through involvement in instruction. Our data suggest that policy makers should be aware of the tendency of leaders of public institutions to focus on research as a means of advancement and the tendency of leaders of less selective private institutions to focus on teaching to a highly selected student body as a means of advancement. To counteract these tendencies, policy makers may want to consider mechanisms for creating teaching incentives for faculty in public institutions and, perhaps, research incentives for faculty in less selective private institutions.

NOTES

1. DiMaggio and Powell (1983:148-49) defined organizational fields as "those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products." This usage is broader than the one adopted in this article; our usage is a definition based solely on the interaction of competing organizations. The terminology and usage of the concept show an affinity to Bourdieu's (1971) work on the structure and dynamics of "intellectual fields."

2. The tiers for stratified random sampling included (1) leading liberal arts colleges and research universities, (2) other doctorate-granting universities and selective liberal arts colleges, (3) master's-granting institutions, and (4) all other baccalaureate-granting institutions.

3. Responses from Tier 1 institutions were slightly underrepresented compared to responses from the other three tiers. However, the response rate, 75 percent, is adequate for purposes of the analysis.

4. The value of the endowment is another plausible covariate. During the period of our study, NCES financial data were in transition between two methods for determining the market value of endowments. The values of endowments for public and private institutions could not be compared because new accounting standards, adopted in 1996, had been applied to only private institutions. Fortunately for our analysis, the value of an endowment is highly correlated with selectivity and adds relatively little unique variation.

5. The SPSS "two-step" cluster program was used in this analysis. The routine employs a hierarchical, agglomerative clustering method that is based on a distance measure developed by Banfield and Raftery (1993), but modified to use categorical, in addition to continuous, data. The clusters defined by the second step are based on centroids, the central tendencies in each cluster. Our choice to use centroids (rather than "nearest neighbor," "farthest neighbor," or other possible criteria) was based on our theoretical interest in identifying the "average quality" of each cluster of institutions.

6. As a practical matter, solutions involving more than 12 clusters are conceptually difficult to use because they are too detailed. Here, the level of aggregation is too low to provide a conceptually meaningful solution. In addition, in solutions that are based on low levels of aggregation, some clusters are likely to be based on only a small number of clusters, leading to doubts about the integrity of the cluster. Conversely, solutions involving fewer than 5 clusters are likely to fail as representations of complex organizational fields because they are aggregated at too high a level.

7. To choose a stopping place, we looked at the change in AIC over a range of solutions. Typically, fit improves at a decreasing rate with the addition of each cluster up to some point at which improvement in fit reaches a minimum. After this point, the addition of clusters makes for a poorer fit. The results of a seven-cluster solution in an AIC is at the same time substantially smaller than the AIC produced for a six-cluster solution and sufficiently close to the AIC for an eight-cluster solution to suggest that little is to be gained by the addition of another cluster.

8. The idea of reference groups has a lengthy history in sociology and social psychology (see, e.g., Merton 1949). It has proved to be a powerful concept for understanding the pressures on individuals for conformity to group standards (see, e.g., Asch 1956; Garfinkel 1967; Stouffer 1949) and indeed has been incorporated into the fabric of several important contemporary theories in social psychology, such as expectations states theory (J. Berger and Zelditch 1984) and identity theory (Burke 1991).

9. A detailed description of the survey instrument is available on request.

10. One alternative possibility is that the reference choices of presidents vary either by the presidents' experience in the office or by their demographic characteristics. The literature tends to support a structural model of leadership with some important qualifications. Clearly, the cognitions, values, and interests of leaders influence their actions. (Jepperson 1991; Zurcher 1977). Chief executive officers' specializations are also related to the specific environmental challenges that their firms are facing at the time of their appointments (Kistler 1990). The personal and demographic characteristics of leaders appear to be less important influence on executive behavior than are the institutionalized schemas, structural location, and strategic interests of the organizations they represent (see, e.g., Finkelstein and Hambrick 1996; Oliver 1991; Suchman 1995; Uzzi 1996). Women's socialization for power, for example, creates a predisposition for women to think of their organizations' interest in a stereotypically "male" fashion, and women in power act similarly to their male peers (Epstein 1988). These results are consistent with studies of elites that have shown that the associational behavior of the relatively few minorities and women within the American corporate elite do not differ markedly from those of traditional male power holders (Zweigenhaft and Domhoff 1998).

11. Presidential reference choices could simply correspond to memberships in national higher education associations. Traces of this influence can be detected in the data. However, reference institutions cannot be inferred from institutional memberships because of the large number of overlapping memberships. Thus, for example, the University of Michigan is a member of the Association of American Universities, the National Association of State University and Land Grant Colleges, the "Big 10" conference and many other associations.

12. Astin's (1993:33-34) institutional classification combined the degree level and sources of control to form a sixfold scheme consisting of public universities, private universities, public four-year colleges, Catholic colleges, Protestant colleges, and nonsectarian colleges.

13. As in earlier versions, the 1994 Carnegie classification was based on the highest degree awarded by institutions: whether the two-year associate's degree, the baccalaureate degree, the master's degree, or the doctorate. The ranks of doctorate-granting institutions were further subdivided by level of research intensity. Institutions granting many doctorates and conducting high levels of sponsored research were designated research universities and were differentiated from other doctorate-granting institutions. The main degree categories (except the associate's-granting and baccalaureate-granting institutions) were further differentiated by "quality." Distinctions in quality were defined differently at each degree level. Quality meant the level of selectivity for baccalaureate-granting institutions and the level of research intensity for research universities. It meant the range and strength of degree programs for master's-granting and doctorate-granting institutions.

14. The Carnegie 2000 classification (McCormick, 2000) distinguishes between "doctoral-extensive," "doctoral-intensive," "masters," "baccalaureate," "associates," and "specialized" institutions (the latter offering degrees only in a small number of related professional areas). The category of research universities was thus eliminated from the classification. The new distinction between "research/doc- toral-extensive" and "research/doc-toral-intensive" institutions was based not on measures of research intensity, but on the number of doctorates awarded per year and the number of fields in which doctorates were awarded.
ed. Master’s-granting institutions were subdivided into two levels by the number of mas-
ter’s degrees awarded, while baccalaureate-
granting institutions were subdivided between “liberal arts colleges” (awarding at
least 50 percent of their degrees in the arts
and sciences) and “other baccalaureate-
granting institutions.”

15. Zemsky et al. classified institutions into
one of five levels on the basis of five-year
graduation rates and, at the bottom of the
hierarchy, on the basis of the proportions of
part-time students. Institutions ranked high
on this hierarchy are those that have higher
graduation rates and lower proportions of
part-time students. These rates correspond
to a hierarchy of five-year graduation rates,
vis-à-vis proportions of five-year graduation rates,
from very high (75 percent and above) to very low (25 percent and below).

16. The raw number of choices per cluster ranged from a low of 67 to a high of 168.
Standardization makes the number of choices
equal to the sample N.

17. Studies of public and private two-year
colleges reinforce this generalization (Brint

18. The organizational field of higher edu-
cation is particularly complex, and it may
be that simpler approaches to mapping structural-
izational locations are equally or more effective in
other spheres. For example, the structure of
the organizational field in many industries
may be largely a function of size and market
share. Similarly, the organizational field
in government may be largely a function of
mission and jurisdiction. Even in other national
higher education contexts, field structure
may be far simpler to represent, owing to the
dominant principle of equality in prestige and
reliance on governmental funding.

19. Leaders of dominant political parties
who see increasingly effective challenges
to their rule are examples of leaders whose iden-
tity satisfaction may be low, as measured by
the congruence between current and future
reference sets, even though their current sta-
tus is high.

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Schooling for Newcomers: Variation in Educational Persistence in the Northern United States in 1920

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Early in the 20th century, high rates of international migration from Europe and an increasing number of migrants from the South were rapidly changing the composition of cities in the northern United States. Within this dynamic environment, families faced a more complex set of decisions for the preferred economic roles of their members. For adolescents, families chose between the immediate economic rewards of sending them into the workforce and deferring benefits by extending their educational careers. This article uses the 1920 Public Use Microdata Sample to examine racial and ethnic variation in school enrollment for adolescents aged 14 to 18. It proposes a conceptual model that uses a variety of social, economic, and cultural forces to anticipate differences in schooling between international immigrants and domestic migrants, as well as across generations of both groups. The statistical analyses reveal large racial and ethnic differences in schooling for both boys and girls. The most surprising finding is for second-generation black female migrants from the South, who were significantly more likely than were all other groups of female adolescents to be enrolled in school. The authors speculate that this result is due to a combination of “immigrant optimism” and restricted employment opportunities for second-generation black female migrants in the North.

American society at the beginning of the 21st century is recognized for its racial and ethnic diversity, as well as for its increasingly multicultural character (see, e.g., Bean and Stevens 2003; Denton and Tolnay 2002; Lieberson and Waters 1988). Rising immigration during the last third of the 20th century was primarily responsible for this increasing diversity. A similar situation existed near the outset of the 20th century, especially in the larger urban areas of the Northeast and Midwest. At that time, immigration, primarily from southern, central, and eastern Europe, combined with the internal migration of African Americans from the South to create an amalgam of different racial and ethnic groups that coexisted within the same northern towns and cities (see, e.g., Lieberson 1953, 1980; White, Dymowski, and Wang 1994). Although the European immigrants and African American southern migrants shared the status of “newcomers” in their host communities, prior research has demonstrated that there were significant differences in their adjustment processes, as well as in their longer-term social and economic prospects in the North (Lieberson 1980; Massey and Denton 1993; Perlmann 1988; Thernstrom and Thernstrom 1997; Tolnay 2003b). The adjustment experiences of the