Status Reproduction in Uncertain Environments:
Undergraduate Program Differentiation by U.S. Colleges and Universities, 1970-1990†

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Abstract
This article proposes that organizations shield their status positions from environmental uncertainty by symbolically differentiating profiles of key activities in ways that reinforce reputations – that is, important audiences’ quality assessments. It outlines and tests a relational dynamic that reproduces status orders: uncertainty increases symbolic competition within prestige strata, so that higher status increases distancing from lower status organizations who compete by hedging their profiles through rapid change within less legitimated areas that may confer advantage. This is used to explain the puzzle of undergraduate program differentiation in the U.S. during a period of increasing uncertainty. Patterns of organizational change and results from longitudinal models are consistent with the framework: altering programs in apparent response to demand diminishes reputation for higher-status institutions, but lessens the likelihood of downgrades for those lower in standing; consequently, higher status predicts slower change trajectories with relatively greater levels of institutionalization and fewer links to changing demand. This offers new insights into the relational and reciprocally causal connections among an organization’s status, reputation, and the legitimacy of its key activities.

{174 words}
INTRODUCTION

Predicting how organizations will respond to dramatic shifts in their environments is a cornerstone of organizational theory (Perrow 1986; Pfeffer and Salancik 1978; Scott 2001; Thompson 2003[1967]). Altering key activities – especially adopting more or less legitimate practices – and the consequences for doing so reveals the extent to which resource dependencies and institutional pressures shape organizational change (Haveman 1992; Kraatz and Zajac 1996; for partial review, see Strang and Soule 1998). Rather than asserting that organizations neatly – let alone efficiently – adapt to changing resources, or blindly seek cover through institutional conformity, sociologists have developed more strategic, boundedly rational accounts that gauge multiple influences and combined environmental factors (Kraatz 1998; Kraatz and Zajac 2001; Oliver 1991; Reuf and Scott 1998; Suchman 1995; Tolbert 1985). And yet, the key characteristic of organizational status has only begun to be integrated into this more strategic view of organization-environment linkages (Park and Podolny 2001).

An organization’s status – its relative standing within a prestige hierarchy (Turner 1988: 5) – has been examined as a key asset that confers non-performance based privileges and thereby market advantages (Podolny 1993, 2005; Washington and Zajac 2005). Status has therefore been seen as a largely stable characteristic once an order is established (see Gould 2002; Stewart 2005). An important symbolic element in this approach is that higher-status organizations convey prestige through a variety of status signals – networks and affiliations that align with higher standing members of the field – thereby enhancing perceptions of product quality. In a related line of work, Bourdieu’s more conflict-driven perspective on field-level struggles for social distinction asserts that within more institutionalized fields, such as art markets and educational systems, status is the main product being consumed. Moreover, the product’s value – as cultural capital – is inherently tied to the producer’s status, because in the absence of objective quality indicators perceptions of value become strongly tied to one’s relative standing in the field (Bourdieu 1984, 1993; see also Aspers 2010; Giuffre 1999; Velthuis 2007; Yogev 2010). Under such conditions, status is more than a material resource that buffers organizations in competitive markets – it is a symbolic asset that needs to be buffered.
While the various privileges – the “Matthew Effects” – of status have been examined in a number of functioning markets, what reproduces and stabilizes status in the face of uncertain and even turbulent environments is less understood. How are symbolic boundaries and status orders maintained as part of strategic responses to uncertainty? Why don’t all organizations simply converge upon the same high-status signals if formal barriers don’t prevent them from doing so? To begin answering these questions this article posits that an organization’s status is buffered in part by its key activities, which become status signals as more or less institutionalized market categories. This inverts, but doesn’t contradict, the more established view of organizational “technical cores” as consisting of productive activities that are buffered from environments by various structures and resources (Thompson 1967). It examines a corollary process in which certain practices take on symbolic qualities that manage audiences’ perceptions of an organization’s underlying position in the field.

Status is therefore buffered by the intermediary layer of an organization’s reputation – that is, perceived product quality (Washington and Zajac 2005). Status is a diffuse characteristic that can persist even as reputation changes (at least in the short term), because audiences don’t see status – they infer it through various symbols tied directly or indirectly to perceptions of quality. In Bourdieu’s terms, status spills over into reputation through symbolic capital – that is, audiences systematically equating greater privilege with greater competence. Status thereby provides a halo in terms of perceptions of overall and intrinsic product quality, and therefore a freedom from needing to demonstrate more specific competencies and the extrinsic value of key activities. This gives rise to a relational set of audience expectations in which being higher status is conveyed by not being lower status, and vice versa. In realms of distinction, this plays out along a continuum characterized from “ease” (higher status) to “necessity” (lower status). Higher status activities convey a lack a sense of necessity – in many cases, through a rejection of changing demand (Bourdieu 1993). To the extent that they lack symbolic capital, organizations seek out more specific competencies that compensate for a lack of “who one is” with clearer value in “what one does,” which generally translates into more rapid venturing into new niches or “mass market” dependencies that connote lower quality.
This points to an inherent but underspecified relationship between organizational status and the legitimacy of key activities. One view is that status affords greater freedom from quality judgments stemming from legitimacy. In fact, status may at times be demonstrated by transgressing norms – for example, a Michelin-starred chef might conceivably put the pedestrian “hotdish” on the menu in order to show her status and capacity to create legitimacy. However, a second view of status suggests such transgressions are likely rare displays, especially where product quality is ambiguous, because status increases monitoring by competitors and evaluators of product quality (Rhee and Haunschild 2006). This leads to more tempered change as status increases. Refusing to respond to shifting demand by staying rooted in “the canon” of the most legitimated activities is a strategy often pursued by older institutions founded by an earlier manifestation of the elite as part of legitimation processes (DiMaggio 1992). In general, higher status organizations will be especially attentive to changes in the activities of other higher status members of the field, as well as societal-level factors that affect the legitimacy and status of a given activity (Rao, Monin, and Durand 2003). From a field-level perspective, a key activity conveys prestige to the extent that prestigious organizations do it and lower status organizations don’t. Status may even be connected to activities being akin to ornamentation – that is, non-essential if not costly to an organization’s bottom line. Like extravagant plumage on some birds, these activities signal an underlying fitness by conspicuously “wasting” resources. From a societal conflict perspective, the value of cultural capital is its exclusivity – that is, in its consumption being restricted to the societal elite. For example, if lower status groups attain high status institutional titles they lose their value as symbolic boundaries.

The symbolic spaces in which status competitions unfold are therefore ones in which organizations carve out and defend niches linked to other members in the field as well as with broader institutions and more or less valued social identities (Mohr and Guerra-Pearson 2010; Rawlings and Bourgeois 2004). This leads to the article’s main proposition: organizations buffer their statuses through profiles of key activities that signal higher and lower status positions through various symbolic connections with technical and institutional environments – even without formal barriers to the adoption of status signals, and net of an organization’s actual underlying resources and productivity assets.\(^1\) This leads to novel predictions concerning the consequences of status-atypical change. First, it suggests that
some higher status organizations may sacrifice some reputation for stability by moving “down market” into a broader niche where their higher status provides a competitive advantage (for the time being); while lower status organizations are unlikely to advance simply by mimicking very high status members of the field – thereby preventing a straightforward legitimacy-based isomorphism predicted by neoinstitutional accounts (DiMaggio and Powell 1983). Instead, status localizes competition within prestige strata, so that organizations will tend to respond to uncertainty by imitating *somewhat* higher status competitors, but also by ratcheting up symbolic competitions with similarly positioned organizations in order to maintain audiences’ perceptions that they legitimately belong at a certain strata (if not higher).

This framework is examined in the context of undergraduate program change during a period of increasing uncertainty. Although the expansion of American higher education fueled by the Baby Boom generation had been projected to continue, enrollments leveled off or decreased for many institutions in the 1970s. In the wake of Title IX legislation passed in 1972, which outlawed gender discrimination in federally-funded institutions, a dramatic shift in student demographics led women to become the majority of undergraduates by the mid-1980s (Astin, Green, & Korn 1987; Gumport 2002). A severe economic downturn, shifts in public funding, and a sustained shift in the student demand toward more practical areas each added to this environmental uncertainty. The importation of strategic management theories from the for-profit sector into American higher education (Keller 1983), and the institutionalization of various prestige rankings, led to an increased awareness of status (Elsbach & Kramer 1996; Espeland and Sauder 2007; Gioia & Thomas 1996; Sauder & Espeland 2009). Due in large part to these dramatic shifts, research on academic program change increased in the 1990s. These studies provided crucial insights into the factors behind specific program changes, but so far there has been no systematic attempt to develop an account of overall trajectories of program change during this period (Ashar & Shapiro 1990; Bastedo & Gumport 2003; Eckel 2002; Elsbach & Kramer 1996; Gates 1997; Gioia & Thomas 1996; Gumport 1993, 2000, 2002; Morphew 2000; Slaughter 1993). In doing so, this article not only pursues a salient test for the overall theoretical framework, it offers insights into the causes and consequences of program change during this important turning point in U.S. higher education.
THEORETICAL FRAMEWORK

Organizational Responses to Uncertain Environments

In the U.S., one can find bachelor’s degree programs in areas as rarified as “the history of mathematics” and “symbolic systems” to those in areas as practical-sounding as “beverage management” and “construction science.” Why is the field so differentiated? This question is of considerable interest as a grounded sociology of knowledge in which academic programs form a field of legitimate intellectual activity (Gumport & Snydman 2002; Stevens, Armstrong & Arum 2008; Swidler & Arditi 1994; see also, Olzak & Kangas 2008; Rojas 2007); and because the proliferation of academic areas is connected to social stratification (Arum, Gamoran & Shavit 2007; Bills 2003; Davies & Guppy 1997; Lucas 2001). Leaving aside these substantive issues for a later discussion, program differentiation has been conceptually important to organizational scholars as a site for understanding the adoption and termination of more or less legitimate practices. In this regard, the literature on program change is emblematic of an existing gap between research on more or less strategic responses to environmental uncertainty and status-based perspectives on market competition.

Patterns of program differentiation defy straightforward organization-environment linkages. Program change doesn’t appear to reflect tidy adaptations – especially efficient adaptations – to changing technical environments. This seems clear despite some approaches positing that colleges and universities respond to changing preferences for human capital – that is, a tight coupling of academic programs with student preferences and increasingly skill-specific labor market demand (Becker 1964) – and a more sociological explanation following Weber’s account of the rationalization of academic credentials suggesting program differentiation as bureaucratization that manages internal issues of increased size and task complexity (Blau 1970; Clark 1983). These accounts fall short because a tight coupling of activities to technical environments requires rewards for “effective and efficient control of the work process” (Scott & Meyer 1983: 140) and some market mechanism by which inefficient producers fail and their resources are redistributed. It is hard to posit such a mechanism where failure rates are vanishingly low.

Neoinstitutional accounts have used program change to challenge the notion of adaptation. In higher education, institutional interests and outright miscalculations of environmental linkages are
especially likely, because of inherent ambiguities and uncertainties in the quality of educational “products” (i.e. graduates) (Brint & Karabel 1991; Cohen & March 1974; Gumport 2002; Meyer & Rowan 1977). The causal ordering invoked in some adaptive accounts may have it backward: rather than efficiently coordinating work and responding to labor market demands, areas of study may expand as higher education seeks to link new occupational niches to formalized competencies and credentials (Brint et al. 2009). Neoinstitutional theory predicts that rather than adapting to exogenous technical environments, organizations – especially those in education – draw their structures from cultural scripts within institutional environments (Meyer, Scott, & Deal 1981; Strang & Meyer 1993). Neoinstitutional research has often focused on such processes at high levels of aggregation, examining diffusion over historical periods and across national contexts, arguing that large-scale changes in academic areas of study reflect global-level cultural shifts in our understandings of personhood (Frank & Gabler 2006). Other research on the institutional foundations of academic knowledge has focused somewhat more on contestation in such processes, seeing higher education as an arena in which various institutional interests collide and compete for legitimacy in part through the institutionalization of knowledge categories (Brint & Karabel 1991; Gates 1997; Gumport 1993; Olzak & Kangas 2008; Rojas 2007; for review, see Stevens, Armstrong & Arum 2008).

Although institutional research calls into question the causal direction of influence and tight coupling of organizations and technical environments through key activities in mature fields, it fails to adequately explain important patterns of program change. Sometimes colleges adopt apparently illegitimate programs, and – as with the critique of efficiency explanations – they don’t suffer in terms of increased mortality. From a more strategic adaptation perspective, managers may not get it right in attempting to respond to perceived shifts in technical environments by adopting less legitimate but beneficial activities, so that program change, for example is linked to internal dependencies such as reliance on student tuition and external opportunities to differentiate in advantageous ways (Kraatz 1998; Kraatz & Zajac 1996, 2001). A special interest in this regard concerns organizational sensitivity to changing student preferences, which have become increasingly practical and tied to labor market outcomes since the 1970s (Astin, Green & Korn 1987). However, an even bigger puzzle for institutional
theory is the very existence of an organizational field that is so highly differentiated – a fact that is
difficult to reconcile with a perspective predicting homogeneity through isomorphic change. What can
account for organizational change that could appear driven by either legitimacy concerns or resource
dependencies, perhaps even within the same organization? Why would a mature institutional field move
toward even greater differentiation in key activities?

The literature on program change therefore exemplifies three main limitations to understanding
organization-environments linkages through responses to uncertainty. First, there is a lack of clarity as to
what would inspire or prevent organizations from legitimate or illegitimate change without resource-
based consequences for conformity or non-conformity. Second, there is a focus on the spread of one or a
few practices, and a lack of work at the level of organizational differentiation – that is, changes to the
total number and types of structural divisions that categorize individuals and activities within
organizations (Sørenson 1970; Scott 2001). Examining differentiation provides a window onto
organization-environment linkages that is otherwise obscured when examining the adoption or
termination of one or a few selected structures or practices, and therefore affords a more generalizable
understanding of field-level strategies (Fligstein 2001; Galaskiewicz & Wasserman 1989; Martin 2003;
Sallaz 2012; White 1981). Finally, the field-level and societal conflict-based symbolic aspects of
organizational activities have not been put at the center of analyses of organizational change.

*Status and Symbolic Boundaries*

Incorporating status-based insights into this work begins to overcome these limitations. Status-based
approaches can be seen as extensions of structural accounts in which competition is coordinated by
mutual monitoring of inputs and outputs and producers seeking market niches (areas in supply and
demand) where they will not strongly compete with one another (White 1981). Status-based models
extend this to markets as pecking orders, so that in addition to categorical role-based differences among
organizations (e.g. organizational forms) audiences’ expectations are shaped by hierarchical positions.
Bourdieu’s field-level approach is particularly instructive in filling out this perspective, because it begins
from the premise that status competitions are characterized by a struggle for vertical positions arrayed
between two ideal-typical poles: a base that is more dominated by external market forces and vertical positions to the extent one has garnered symbolic capital. Competition occurs through symbolic struggles that signal one’s status as either responding to or rejecting market forces, so that the autonomy and status of the most highly legitimate end of the field is reproduced through a logic of disinterestedness in product appeal to demand. Avant-garde artists are cutting-edge precisely because they reject more commodified types of art, producing work without a clear market value that constantly revitalizes the fine arts professions. Old guard institutions likewise reject new demand in favor of the most legitimated and fully institutionalized categories and genres.

This posits a basis for academic program change rooted in a status order of producers competing for stable niches in an institutional space linked with broader beliefs in product quality as evaluated by important audiences (alumni, recruiters, accreditors, and external media). Organizational change isn’t tightly connected with shifting resources *per se*, nor is it based upon rote conformity to broad institutional environments, so much as a simultaneously internalized and externally impinging set of expectations concerning one’s status position in the field that enables and constrains strategies (Martin 2003). This is consistent with Tolbert’s (1985) view that resource dependencies become institutionalized for certain types of organizations, and this guides differentiation strategies. Tolbert finds that universities differentiate their administrative offices in response to the uncertainty of having non-institutionalized resource dependencies. Public institutions are expected to draw from public sources of support, so that having separate administrative offices is unnecessary to manage audience expectations and resource flows. It is only when public institutions tap into private resource flows, or *vice versa* when private institutions draw more from public resources, that offices emerge to manage and signal commitments to these unexpected dependencies.

Increasing levels of organizational differentiation in mature fields is not at odds with neoinstitutional predictions of conformity when activities are important symbols within a two-stage signaling process involved in various market categories (Zuckerman 1999). Zuckerman proposes that “candidates” for various market rewards at first compete with a broader set of actors to be recognized as legitimate players in the field. However, in a second stage, these candidates compete with *one another* to
distinguish their “offers” in order to gain favor with audiences – that is, to create distinctions that set them apart from nearby competitors. For instance, actors auditioning for a specific part will each simultaneously conform to the general role, while attempting to distinguish from one another in strategic ways to gain an edge. While all colleges and universities experience some pressure to conform to a core set of programs that signal institutional legitimacy, strategic change around this core is further subject to pressures to distinguish from similar institutions in ways that manage audience expectations regarding both horizontal and vertical organizational characteristics.

**Status Reproduction**

As with various status imitation models of cultural change, the approach suggests a certain “running in place” in that colleges and universities will tend to imitate those somewhat higher in the status order, while those at the head of the pack will invent new forms of distinction (Bourdieu 1984; Kaufman & Patterson 2005; for review, see Kaufman 2004). Morgan (1998) found precisely this type of imitative dynamic among all but the lowest status liberal arts colleges in the U.S. Monitoring and expanding programs to include some of those offered by these institutions aligns one’s organization symbolically with a (reasonably) more prestigious position – that is, an aspirational orientation that is least likely to confuse audiences or devalue one’s position.

However, an understudied dynamic of the symbolic reproduction of status has less to do with upward emulation and imitation, and more to do with horizontal competition – that is, in seeking to differentiate from similarly positioned competitors, one changes in ways that reinforce perceptions of where one stands in the pecking order. This is primarily accomplished through differences in the rates and directions of differentiation are also important – a dynamic that is most likely to manifest under conditions of increased uncertainty. As Miller and Shamsie (1999) demonstrate with the Hollywood film industry, environmental uncertainty in terms of demand tends to lead to greater product variation. The status-based perspective makes the more specific proposition that differentiation rates and trajectories reinforce audiences’ perceptions of product quality. If credentials are akin to a type of currency, they are imprinted with three categorical features – an organizational identity, an area of study, and a level of
mastery. This is similar to Collins’ (1979) argument that the expansion of higher education enrollments creates credential inflation that devalues the level of academic achievement (e.g. the Bachelor’s degree). The status-based approach suggests a corollary in the other two symbolic aspects of credentials.

Increased competition leads organizations (and presumably individuals) to reinforce perceptions of “who one is” or to compensate for a lack of such a standing by emphasizing “what one does.” The approach suggests that the rate and direction of organizational differentiation come together to form at least two distinct strategies that vary according to organizational status.

The differentiation strategy characteristic of lower standing can be called hedging, because rapidly adding categories to “what one does” is in many ways like hedging a bet. But why would colleges and universities not simply adopt a high status profile when there are so few formal barriers to doing so? Here, field theory suggests that the status order is widely recognized by those in the field as well as by various external audiences. Certainly, the proliferation of various rankings and external media has helped to clarify and recreate such market orders (Elsbach & Kramer 1996; Espeland & Sauder 2007; Lounsbury & Rao 2004; Sauder & Espeland 2009). Students, faculty and especially administrators have a keen awareness of their overall organizational status positions. Although many lower-status colleges could in strictly economic terms sustain a greater proportion of more rarified or general programs, their lack of standing trumps such “offers.” Programs cannot be divorced from status, so that bluffing audiences by offering programs that go well beyond a school’s recognized status could backfire by encouraging students to attend competing institutions that offer more practical/vocational areas of study. In short, lower status organizations compete for less institutionalized program niches that can give them an edge in the competition for “what one does.” Hedging is therefore consistent with a strategic view of adapting to resource dependencies; however, it is likely contingent upon status expectations, rather than strictly underlying differences in resources. It is also consistent with more institutional models that see program expansion as paving the way for credentialing new areas of the labor market.

The second strategic response to uncertainty can be called distancing, because higher status is connected with the general prestige of “who one is” accomplished by retaining a sense of distance from lower-standing institutions. Distancing can occur in two general ways. First, one can show a distance
from lower-standing organizations by refusing to change (see Oliver 1991), because a non-response during periods of uncertainty shows an organization’s capacity to ignore such shifts. This, along with the view that higher status organizations are more monitored in terms of quality signals, suggests a general tendency for slower paces of change among higher status organizations. However, it doesn’t suggest a slowing of change in response to uncertainty. Instead the second manner of distancing is likely to increase the rate of differentiation, but in trajectories that signal institutional legitimacy over links with technical environments. This is accomplished by some or all of the following: expanding core activities, contracting in less legitimated areas, and innovating or adopting areas that are disconnected from technical environments, and areas linked with professional interests. Organizational changes such as these indicate one’s more established position and/or one’s cutting-edge position and commitments to professional interests rather than student or labor market demand.

To illustrate distancing, consider the following response, taken from an online forum in which a prospective undergraduate asks a currently enrolled student, “Does Columbia have an undergraduate business program like NYU?”

The reason most of the Ivy League does not create an undergraduate business degree is because THEY DON’T NEED ONE. Prospective undergraduates at Ivy Leagues usually get an Economics degree. Even liberal arts degrees at the Ivies trump NYU Stern recruitment on Wall Street…If it's investment banking you are looking at, go to [website name] …and… you will find that [Ivy League schools] are all more heavily recruited than NYU Stern. At the end of the day, Columbia will offer you just as many, if not more opportunity than NYU simply because it is recognized that Columbia is more prestigious and that it is an Ivy League school. (College Confidential 2006)

The response is perplexing when one considers that many high status schools did in fact offer undergraduate business programs, but abandoned them in the post-World War II period just as such programs were becoming increasingly popular. However, from a status signaling perspective it makes sense – offering an undergraduate business degree does precisely what the online forum member indicated: it signals “we need one.” In addition, differentiating one’s profile with obscure or highly technical areas of scholarship signals to important judges of reputation various underlying organizational strengths: exclusive student characteristics, as well as the capacity to support the human and technical capital needed to sustain program types that have little immediate market value (Rindova et al. 2005).
These strategies – of which program differentiation is but one manifestation – thereby reinforce perceptions of product quality in ways that feed back into material inequalities. Administrators in higher status institutions, in being less attentive to technical environments and more attentive to institutional ones (see Milliken 1990), reinforce perceptions of their organization’s legitimate position in the broader stratification system – in part, through being are able to place prospective students in the role of “candidates” seeking the reward of college admissions; while lower status organizations must make more concrete labor market “offers” to prospective students. Capturing a student niche in terms of characteristics often linked to societal advantages may be the most important mechanisms that reproduces status – namely, through social connections, alumni giving, and status spillovers from various high profile individuals (D’Aveni 1996). In a clear case of reciprocal causality, many evaluations of an institution’s quality are based upon their rejection rates.

This dynamic of status reproduction is also consistent with research on the precarious position of middle-status organizations (Phillips and Zuckerman 2001), which has found that middle-status organizations are the most likely to be conformist in terms of actions that pose risks to their status. Viewed in terms of entire profiles of activities, rather than one or a few practices, the approach outlined here suggests that middle-status organizations occupy the most precarious position in that they can neither purely hedge uncertainty as low-status organizations do, nor simply distance from lower status organizations. Rather, maintaining a middle-status position requires a balancing act of distancing and hedging – that is, middle-status organizations must shift in two directions in order to simply stay in place.  

Reputational Consequences of Status Atypical Change

The primary mechanism for strategies reproducing symbolic boundaries is the more immediate threat to organizational reputation. While the middle-status conformity argument suggests that reputation will be most fluid in the middle of the status order, because perceptions of status are strongest among the more socially marked positions at the extremes, the argument presented here suggests that, net of the overall increased tendency for status movement in the middle of pecking orders, perceptions of product quality
are impacted differently depending upon one’s actions and one’s status position. The framework helps explain why adopting more vocational programs or abandoning programs like those in the humanities is controversial – not so much because this threatens a college or university’s immediate survival chances, but because it threatens audiences’ perceptions of quality. Perceived downward shifts are especially likely to infuriate alumni concerned with the downgrading of their generalized status value. Ultimately, administrators understand where their institutions stand in the pecking order, and are likely to orient change efforts toward maintaining this position through activities appropriate to their standing.

It is therefore possible to investigate the causes of reputation reproduction in the breach by asking, what happens when organizations differentiate in these status atypical ways – that is, when they don’t buffer their status position? Key audiences are likely to perceive the same shift in key activities quite differently based upon an organization’s status: while a somewhat lower-status college might demonstrate its commitments to aggressively pursuing changing demand by adopting an accounting program, a higher-status college doing so would signal a shift toward less exclusivity and greater demand dependencies. While beyond the scope of the current work, it seems likely based upon previous research (see especially Kraatz and Zajac 1996, 2001) that such gambits exchange some degree of reputation for short term enrollment gains. However, in terms of reputational outcomes, this suggests that higher status organizations that differentiate too rapidly or in a direction that signals resource dependencies will be penalized, while lower-status organizations will not. In fact, because higher status organizations are more monitored in general, higher status organizations may be particularly penalized for changing in status-atypical ways (Rhee and Haunschild 2006). This suggests the following:

**H1a:** The likelihood that rapid organizational differentiation leads to status decline increases as organizational status increases.

**H1b:** The likelihood that organizational differentiation in less institutionally legitimate directions leads to status decline increases as organizational status increases.
H1c: The likelihood that organizational differentiation in apparent response to changing demand leads to status decline increases as organizational status increases.

Status as a Moderator of Organizational Change Trajectories

Ultimately, a status buffering approach posits differentiation trajectories that are more or less strategic, but boundedly rational and contingent upon one’s status position. While it is already abundantly clear that in general lower-status colleges and universities at any given point in time tend to offer more vocational-type programs, the novel proposition here is that, net of stable differences between organizational forms (e.g. liberal arts vs. regional state colleges) and broad role differences (e.g. public vs. private), as well as time-varying resource-based differences linked with changing economic fortunes, organizational status affects rates of differentiation and whether or not such organizational change appears more adaptive to changing student demand or more institutionally legitimate. This suggests the following:

H2a: Higher status leads to relatively lower rates of differentiation.

H2b: Higher status leads to organizational differentiation in relatively more institutionally legitimate directions.

H2c: Higher status leads to organizational differentiation that is relatively less linked with changing demand.

METHODS

Data and Sample

Analyses draw upon multiple secondary data sources. The sample of colleges and universities is taken from the “Colleges and Universities 2000” project and the Institutional Data Archive (IDA) (Brint et al. 2003). This dataset is based upon a stratified random sample of 361 presidents and chancellors in the
academic year 2000 who were asked to list up to eight organizations they considered similar to their own, and eight they hoped to emulate over the next ten years. Of the 301 surveyed presidents in the IDA, 275 provided information, listing on average five similar and three emulated institutions. The total sample thus contains 829 colleges and universities listed by these top administrators. Deriving a sample in this manner is consistent with the notion that field boundaries (who are legitimate players) should be determined in part by producers’ awareness of one another (DiMaggio & Powell 1983; Martin 2003), and facilitates the inclusion of one relational factor used here, and others that are important in related research using these data.6 The primary source of data on structural change among these organizations comes from graduation statistics provided by the National Center for Educational Statistics (NCES) (U.S. Dept. of Education 1970a-1986a, 1987a-1999a), and other important institutional characteristics are taken from additional NCES surveys (U.S. Dept. of Education 1970-1999). Supplemental data were taken from well-known college and university rankings, as well as U.S. Census statistics on local area population demographics.

To examine patterns of academic program change, I matched these 829 colleges and universities with corresponding data on earned degrees conferred over the period of 1970 to 1999. For each institution, I assembled an annual profile of their undergraduate program “menus” as inferred from NCES graduation statistics. Because the NCES Classification of Instructional Program (CIP) codes were revised at two points during this period, I recoded programs into stable categories using taxonomy cross-walks provided by the NCES. I collapsed program labels into the earliest (1970-1982) taxonomy when possible, while new academic program areas – those that were not connected to any earlier classifications in NCES cross-walks – are collapsed into “other” categories within the closest 4-digit CIP code of the earlier taxonomy. In the few cases where earlier CIP codes are merged in later taxonomies, I retroactively merged these in the earlier period. All of these steps are conservative, because granting a degree in any program within a more refined category will trigger the larger grouping – a technique that can only serve to underestimate the true level of program differentiation and change, producing regression coefficients that are more likely lower-bounds rather than precise point estimates for the magnitudes of hypothesized
effects (see England and Li 2006; Jacobs 1995). This strategy yielded 277 undergraduate program types, of which sampled institutions tended to offer around 44 in an average year.

I pooled these data into a single longitudinal dataset in which each college or university has multiple observations, one for each undergraduate program offered in a given year, so that the fully expanded dataset has more than 350,000 organization-program-years. The number and types of programs for each college or university expands and contracts over time as academic offerings shift, and programs are removed from the dataset when they are determined to have been abandoned, which is inferred when an institution ceases to grant degrees in that area. I minimized the influence of random reporting error and sparse enrollments by only considering abandonment to have occurred when a program has graduated zero students for seven years in a row. Otherwise a program is assumed to exist, but to have not graduated students in a given year.

**Model Estimation**

*Reputation Change as an Outcome.* To test Hypotheses 1a through 1c, models predict reputation upgrades and downgrades subsequent to short-term changes in rates and directions of organizational differentiation. For example, if increasing the proportion of programs in popular areas over a given five-year period is associated with negative evaluations for higher status institutions then this would be seen in status-based differences in the likelihood of downgrades subsequent to increasing one’s profile toward more popular programs. Hence, the dependent variable becomes the log-odds of a downward or upward shift in reputation for organization j, so the model can be written as:

\[
\text{log-odds} = \beta_0 + \beta_1 \text{status} + \beta_2 \text{program change},
\]

(1)

where \( \beta_0 \) is the fixed effect for college or university j during this period; \( \beta_1 \) is the lagged status measure and is included to control for known ceiling effects in longitudinal models (see Halaby 2004); \( \beta_2 \) is a measure of program change in organization j – that is, rolling five-year changes in a college or university’s program profile with respect to the number or proportion of programs of a given type; the
term is the interaction between lagged organizational prestige and program change; while controls variables for time-varying organizational characteristics and are contained in . These models necessarily omit colleges and universities whose status scores don’t change during the entire period, and those not at risk of experiencing the predicted outcome in a given year – i.e. those with the lowest selectivity score for downgrade models (or the highest score in models predicting status upgrades).

Status as a Cause of Organizational Change. For models testing Hypotheses 2a through 2c, I begin by predicting status-based differences in the differentiation rates and trajectories of program change during this period. Organizational fixed effects control for omitted variable biases coming from all stable differences between colleges and universities (region, organizational form, etc.). The model can be written as:

\[ y_{jt} = \alpha_j + \beta_{jt} + \epsilon_{jt} \]

where is total number or proportion of programs of a given type offered in college or university \( j \) in year \( t \); each institution \( j \) has a fixed effect for the entire period; \( S_j \) is the time-invariant measure of prestige; \( t \) is an annual measure of time, so that predicts the annual change in \( y \) for a college or university of average status (\( S_j = 0 \)) and tests hypotheses concerning status-contingent rates and trajectories during the period. Time-varying organizational controls for economic factors and resource dependencies are contained in matrix . To test Hypothesis 2a, the dependent variable is a count of the total number of programs offered in a given year, so the model is estimated as a fixed effects Poisson regression. For models with proportions as dependent variables, which test Hypotheses 2b and 2c, I transform these proportions into logits and use fixed effects linear regression models.8

Dependent Variables

Reputation Change. Hypotheses 1a-c predict impacts of program differentiation on perceptions of organizational quality. As a time-varying measure of prestige I use the selectivity score from the Barron’s
Guides to colleges for the years 1972 to 1992. This widely-known measure rates colleges and universities on a seven-point scale from “least selective” to “most selective,” and is displayed prominently in various publications. It therefore has face validity among higher education researchers examining perceptions of prestige, although it may lack construct validity in that the precise factors used to gauge selectivity remain unclear. An arguably more valid measure of prestige might take into account multiple status measures from various guides, and indeed I develop such a measure below for overall organizational status in order to be used as a predictor of program differentiation. However, many of the most common quality ranking measures of U.S. colleges and universities were being developed precisely during this period, and so don’t provide a consistent or comprehensive way to gauge reputation change, let alone a broader change in overall status. The average *Barron’s* selectivity score for the entire period correlates highly with these later measures, suggesting that it is an appropriate way to gauge shifts in reputation.

Specifically, I use this to assess five-year changes in status—a time-varying binary measure of status *upgrades* and *downgrades* used to test hypotheses concerning status-based outcomes of program differentiation and change trajectories. I distinguish empirically between upgrades and downgrades because it seems likely that status evaluation processes are asymmetrical—that is, that factors responsible for status improvements are different from those that cause institutional status to decline.9

**Program Differentiation.** The most general measure of differentiation is simply the *number* of programs a college or university offers in a given year. I gauge more or less legitimate and demand-driven change using four measures. To measure the overall legitimacy of an organization’s program profile, I construct a measure of the proportion of *core* programs in a given year. Core programs are those that were offered in 50% or more of the sampled colleges and universities in 1970 or 1971. For example, a college offering 20 programs in 1980 in which 15 were core programs would have a score of .75 on this measure. Student demand for programs is measured with three variables concerning aggregate changes in program popularity. Overall program popularity is determined by taking rolling five-year changes in the proportion of all graduates across the field in program area *k*, and then averaging these across the entire
time period. This results in binary indicators in which programs with average aggregate increases in their proportions of all graduates are considered popular; while those that tended to lose students relative to other programs are considered unpopular. As with core programs, I examine college and university profiles in terms of their changing proportions of popular and unpopular programs. I also examine the potential impacts of gender-based preferences on academic profiles.

Because of the dramatic rise in female enrollments during this period, an adaptive model of program change would predict a shift toward programs that are in demand among women in particular. However, from a status-based model, feminized programs are likely devalued for a number of reasons – if not directly due to broader gender devaluation processes then indirectly through connections between women entering academic areas connected to less prestigious areas of the labor market. While identifying such mechanisms goes beyond the scope of this article, feminized areas present an additional test of status-based contingencies in organizational change arising from more societal conflict based dynamics. I measure program feminization as the average five-year shift in the proportion female in each area $k$. Programs that had greater than one standard deviation above the mean level of feminization for the average five-year window were given a binary indicator as rapidly feminizing. Once again, I examine a college or university’s program profile in terms of the proportion of rapidly feminizing programs in a given year.

Independent Variables

Status as Overall Prestige. In models predicting program differentiation and change, I employ a time-invariant measure of organizational status using a factor scale that combines multiple prestige-related characteristics: the years since a degree was first granted (centered on 1970), the academic reputation score from the 1985 US News survey of college presidents, the average Barron’s selectivity score for the period 1970-1995 taken at five-year intervals, and a network-based measure of deference constructed from presidents’ responses in the IDA survey. This fourth item is a measure constructed by creating an $829 \times 829$ matrix of the colleges and universities listed by presidents, and then considering an institution $i$
to be higher in status than institution \( j \) if more presidents who responded that their own institution resembled \( i \) sought to resemble the institution in column \( j \) than vice versa. Taking this as an implicit sorting of institutions along prestige lines, I calculate an eigenvector centrality score that captures each institutions centrality in this cognitive hierarchy. Together, these status measures showed a high level of correlation (alpha = .84) and a single factor solution.\(^{11}\)

As discussed in greater detail below, the organizational fixed effects models I employ account for all stable factors, rendering this variable unsuitable for direct use in some models. In order to test hypothesis concerning the status-contingent nature of differentiation and change processes, I therefore interact this status measure with time as a way to gauge the relative difference that status makes in predicting differentiation rates and directions of change during the period.

*Period Year.* I gauge the overall effect of increased uncertainty with an annual measure of time, coded from zero to twenty. Based upon prior research of the period, I assume environmental changes combine to create a largely linear effect of increasing uncertainty. I tested for various nonlinearities, but found that in all but the initial model concerning overall differentiation rates that these didn’t significantly improve model fit.

*Program Change.* For models predicting changes in reputation as a consequence of differentiation rates and program trajectories, organization-level changes in program profiles become the focal predictors. These change scores are taken as five-year differences in the overall number of programs, as well as the proportions of *core*, *popular*, *unpopular*, and *rapidly feminizing* programs in a college or university’s profile. Hypotheses of status-based contingencies in the outcomes associated with rates and trajectories of program change are tested using interactions between these program changes and the lagged *Barron’s* measure.
Controls. I include controls for time-varying material and resource-based factors not accounted for in the fixed effects specification. To gauge overall economic resources, I used factor analysis of three annual measures of organizational finances: total revenues per student, total expenditures per student, total endowment dollars per student. These items are highly correlated and yielded a single factor, which I term economic dominance, which is correlated with, but distinct from, the factor for an organization’s status ($r = .39$). Following other strategic approaches to program change (Kraatz 1998; Kraatz & Zajac 1996), I include an annual measure of organizational slack, calculated as total revenues divided by total expenditures. To gauge resource dependencies, I include a measure of tuition dependence calculated as the total proportion of annual revenue derived from student tuition. In addition, I gauge resources in local geographical areas using U.S. Bureau of Labor Statistics data (Current Population Survey). From these data, I created annual measures for the proportion of the local county population between the ages 18 and 22 as a measure of the local area proportion college age, as well as the strength of the local area professional labor market, which I derived from a factor analysis based upon the proportion of individuals between 18 and 65 employed in five professional areas. For program level abandonment models, I include additional controls for the program size, measured as the total number of graduates in a given year, as well as the program proportion female. For abandonment models, I include the total number of programs in the college or university (the same as the dependent variable above) as an additional control. See Table 1 for descriptions of variables used in these models.

--Insert Table 1 Here--

RESULTS
I begin by describing some findings that support the overall approach. To begin, Figure 1 shows average levels of organizational differentiation during this period. Trends indicate that undergraduate offerings became more differentiated in terms of both the average number of programs and the variety of academic fields represented (gauged by a diversity index across eight types of programs commonly used in program classification). On average, colleges and universities became 26% more differentiated in terms of the
number of programs offered and 8% more differentiated in terms of the variety of programs. Although
these are conservative estimates based upon stable categories derived mainly from program categories in
existence at the beginning of the study period, they point to a somewhat curvilinear increase in
differentiation for this period.

The overall pattern of program change in the field suggests a combination of hedging and
distancing strategies. As with various studies of how status influences cultural diffusion, academic
program change tends to flow from more- to less-prestigious institutions. Inferring program adoptions
when programs graduate zero students for at least seven years in a row followed by at least one graduate
in a focal institutions, reveals that lower status institutions often follow the lead of relatively higher status
institutions. If we take the difference between the prestige score for a focal institution and the average
prestige scores for those colleges and universities offering each program type adopted by that focal
institution in a given year, and then average these differences across the 24,156 adopted programs, the
tendency is to adopt programs previously adopted by somewhat higher status institutions (the mean
difference score is +.13 standard deviation units of prestige).

These general patterns of program change are also consistent with the responses of head
administrators in terms of their organizational aspirations. Figure 1 shows a prestige hierarchy based
upon colleges and university presidents’ responses to questions of organizational similarity and emulation
in the IDA survey (see also Brint, Riddle, & Hanneman 2006; Labianca et al. 2001). The plot takes a
subset of the sample of the 829 listed colleges and universities – those mentioned by four or more
presidents (N=215) – and then arrays theses as rows and columns ordered from highest to lowest in the
prestige measure. Cells are shaded darker to the extent that college presidents listed the row college or
university i as similar to their own, while also responding that they hoped to resemble the column college
or university j. Shaded diagonal vector cells therefore represented self-emulations – that is, presidents
hoping to continue resembling the institutions that they claim to already resemble. The figure reveals two
relevant tendencies for a status-based explanation of differentiation. First, in general presidents seek to
resemble institutions that are somewhat higher in prestige, rather than aspiring too far beyond their own
status position in the field. If we take the difference between the prestige scores of emulated institutions and those colleges and universities deemed similar to one’s own, we see a similar tendency to monitor somewhat higher standing institutions (mean difference is + .43 standard deviation units). Second, as one moves higher in the status order, the deference structure becomes more clearly defined. The lower triangle (i.e. upward status aspiration) becomes more pronounced, and the diagonal vector (the tendency to self-emulate) becomes clearer.

--Insert Figure 1 & Table 2 Here--

The content of program shifts during this period is given more detail in Table 2, which shows programs with the most net gains and losses in institutions between the first and second decades of observation, as well as their relative shifts in the average prestige scores of institutions offering these programs. This offers more detail to the top-down status-diffusion model in the overall downward shift in the average prestige scores of colleges and universities offering these degrees. In some program areas, mainly in liberal arts fields (classics, languages, and literature), we see that abandoned programs move upward in average prestige, suggesting that these programs are being preserved or even adopted within more prestigious institutions. Patterns also reveal the rise of more specialized areas of study demonstrated by the growth of “other” fields of study and decline of more general fields. However, because many of the highly abandoned general areas of study also move up in average organizational prestige, this suggests that lower status institutions were more likely to make shift from general to specific. These broad patterns are consistent with studies of aggregate program change during this period, which have shown colleges and universities trending away from fields associated with the “old economy” (e.g. home economics), “old media” (e.g. speech), and “old culture” (e.g. French) (see Brint et al. 2009).

Status as an Outcome of Organizational Differentiation

The approach argues that shifts in academic program menus are status signals that not only reflect, but also reinforce, status-based assessments of quality. Shifts in prestige, although relatively infrequent and incremental, will be connected with shifts in a college or university’s academic program menu, because
these shifts signal changes in educational quality and changing commitments. Consistent with this argument, there is relatively little net change in organizational status during the period based upon the Barron’s measure: more than half of all institutions show no net shift in status, while around 40 percent either increase or decrease by only one point in the seven-point scale. As would be predicted by status-based models in general, most of the institutions showing some movement are middle-status organizations; while high- and low-status organizations are more anchored in their positions.

Table 3 shows results from conditional logit models examining the likelihood of downgrades and upgrades in prestige as a function of five-year changes in program profiles. The coefficients for program change are predicted log-odds of prestige change when the lagged prestige measure is at a hypothetical zero point; while the interaction effect therefore shows the predicted change in that main effect of a one-unit increase in program change for a one-unit increase in the seven-point selectivity scale. Consistent with known ceiling effects, the lagged selectivity measure is highly significant across models. Results from the first two models support Hypothesis 1a by showing that the outcomes of increasing program differentiation rates are contingent upon status: for lower status colleges and universities program differentiation decreases the likelihood of subsequent downgrades, but the effect becomes positive for those colleges and universities above middle-status score of 4.3 \((-0.278+4.3\times0.065) = \hat{y}>0\)). Differentiation also somewhat decreases the likelihood of upgrades for all but the very lowest prestige institutions.

Remaining models control for five-year program differentiation rates in order to better examine how specific trajectories of program change may be associated with subsequent shifts in prestige. In support of Hypothesis 1b, when a college or university moves away from core academic programs it accelerates status decline – but only for higher than middle-status colleges and universities. Coefficients indicate that colleges and universities with selectivity scores below 4.1 have a relatively lower likelihood than higher status institutions for being downgraded when moving away from core programs. In addition, lower status colleges and universities are relatively more likely to have an upward re-evaluation when shifting away from core programs, while those above 2.9 on the status measure are less likely to be
upgraded when shifting away from these institutionally legitimate areas of study. Hypothesis 1c is only weakly supported. Shifting toward popular program profiles alone doesn’t significantly increase the likelihood of downgrades for higher status institutions; however, shifting one’s program menu toward areas that are rapidly feminizing does operate in the predicted manner by accelerating decline for higher status institutions. Control variables are largely non-significant, further suggesting that status change may be linked to status signaling rather than fundamental shifts in resources.

--Insert Table 3 Here--

These findings also show that in general it is much more likely that differentiating and shifting one’s menu is a sign of decreasing status – that is, it is easier to go “down market” than it is to move ahead in the status order. This suggests that changing in an aspirational fashion may be more likely to confirm one’s existing status than to signal improvements in educational quality. Moreover, if making the wrong move is more likely to bring down one’s status than making the right move is to increase one’s position, this provides further insights into hedging as a strategy. College and university administrators’ tendency to aspire and imitate those institutions somewhat higher in status poses the least risk of sending the wrong signal.

Status as a Cause of Organizational Differentiation

Hypotheses 2a-2c predict that higher status colleges and universities are less inclined to academic program differentiation in general, as well as to shifting profiles away from institutionalized areas toward meeting new student demand. Table 4 presents results testing these predictions. Model 1 estimates a fixed-effects Poisson regression predicting annual changes in the number of programs over the period. The coefficients for year and year squared indicate that the overall trend for the average status institution (where prestige = 0) is toward greater differentiation, but at a declining rate that levels off by 1990. Rather than pairing down programs during this period of fiscal constraint and market uncertainty, the tendency is toward elaborating program menus.12

--Insert Table 4 Here--
In support of Hypothesis 1a, findings show that higher status colleges and universities differentiate at a lower rate. For both the year and year squared terms, interactions with organizational status are significant, so that higher status institutions show a slower and steadier differentiation. Models 2-5 offer support for Hypotheses 1b and 1c. In Model 2, the slightly negative effect of time (when prestige is at its mean) suggests a minimal shift away from more institutionalized core programs during this period. However, the more strongly positive interaction effect with organizational prestige suggests that the program menus for higher status institutions become more core-centered during this period. If the proportion of core programs in base year is around 22 percent (exp[-1.506]), coefficients indicate on average a decrease of about one-half a percent in middle status colleges and universities over the period (-1.506 + [-.001*20]), and an average increase of around 3 percent in high status institutions (-1.506 + [.005*20]). Rather than responding to changing technical environments by moving away from core areas, higher status colleges and universities moved toward them, much as would be predicted by institutionally isomorphic accounts. Higher status institutions are also slower in moving toward profiles with more popular and rapidly feminizing areas of study, and shifting away from fields with decreasing popularity.

This is not to say that colleges and universities are disconnected from changes in resource dependencies. Consistent with resource dependency models, control variables suggest that local increases in the college age population facilitates the movement away from institutionalized areas of study into more popular ones, as do decreases in organizational resources. This suggests a more or less strategic response to resource decline by shifting toward more student resource-rich areas. Likewise, decreases in organizational slack lead to expansion of program menus, perhaps as part of strategies to broaden the base of potential students.

DISCUSSION
This article has jointly pursued two main objectives. The first advanced a contingency approach to organizational change that further reconciled resource dependency and institutional approaches by
clarifying conditions under which technical and/or institutional environments matter in shaping strategy. It specified a status-based contingency in which an organization’s status position gives rise to a set of beliefs and expectations concerning resource dependencies and product quality that enable and constrain strategic responses to uncertainty. While acknowledging the importance of markets as role structures, it extended this principle to include the more hierarchical dimension of status as a central factor in a number of markets. I argued that increased uncertainty leads to organizational differentiation strategies that are contingent upon one’s status position: higher status leads to differentiation that is more connected with institutional pressures, while lower status leads to differentiation that is more mimetic of somewhat higher status organizations and seeks to anticipate future demand. Rather than positing that organizational failure is a direct consequence of not meeting expectations, the approach supports the view that avoiding status loss is the more proximate motivation for change.

This framework led into the article’s second main objective – namely, helping make sense of the puzzle of why the field of U.S. colleges and universities has so many different types of undergraduate degree-granting programs, considering neoinstitutional theory would predict the contrary, and a theoretically inconsistent set of findings from studies of program change. Prior research has rightly pointed to instances where academic program change appears strategically linked to shifting technical environments, and times where changes appear de-coupled if not altogether disconnected from student preferences. The argument presented here moves beyond examining separately individual cases of program change in order to understand the differentiation of entire program profiles as shaped by institutionalized expectations within the field. When examining profiles of programs rather than individual cases of program change, it becomes possible to better specify when an institution will on average appear to respond more or less to technical and/or institutional environments. Consistent with a two-stage model of status signaling, findings suggest that institutional expectations are differentiated along a status continuum so that organizations expand menus around a core set of categories in ways that conform to their positions in the pecking order.

For status-based research, the approach provides further insights into the mechanisms reproducing organizational status hierarchies and point to the importance of examining interrelated
changes at the level of profiles of organizational categories, in addition to specific category shifts. While structural position was found to be sticky, it was not completely buffered from organizational action – in this case, behaviors that signal lower-status led to a downgrade in one’s structural position, net of an organization’s role and changing resource dependencies. This gives greater insight into the relationship between the strategic use of status signals and resource dependencies. While Park and Podolny (2000) begin to link organizational status and resource dependencies in the differentiation of market positions, the approach here outlines more specific strategies in the product differentiation among organizations where status orders have become highly institutionalized. Organizational action was shown to largely confirm one’s structural position, so that strategic behaviors are largely constrained to meet rather than to exceed audience expectations. Organizations that are in the middle of the pecking order are under particular pressures to balance strategies – to refrain from actions that signal lower standing, and yet to engage in hedging that gives some edge over similarly positioned competitors and distancing that demonstrates a degree of freedom from lower-standing resource dependencies. This extends studies of middle-class conformity in terms of single actions to a broader view of a set of actions that attempt to meet audience expectations through a balanced product profile.

For organizational studies of higher education, findings offer a more generalizable account of academic program change during the rise of managerialism in American higher education, and evidence that program change during this period shifted away from preserving core areas toward those with greater demand-based appeal. Net of numerous organizational differences, the average academic program menu increased in its proportions of popular and rapidly feminizing areas; although this shift appears to have largely been accomplished through expanding menus rather than abandoning core areas. Results point to a more status-contingent view of the rising influence of student demand during this period than has been proposed. Programs are part of a two-stage signaling process – colleges and universities continue to signal overall institutional conformity through a legitimate core of common areas of study, while differentiating along status lines in terms of the number and types of areas of specialization. As lower-status institutions expand these specializations during this period, especially into areas that have student appeal, higher status institutions are relatively more likely to emphasize the core, de-emphasizing profiles
specifically in those areas with greater demand, while preserving programs in areas of study with shrinking popularity.

Academic program differentiation is therefore clearly connected to changing opportunity structures within colleges and universities and the sorting of students into areas of study and consequently post-graduation life course trajectories. As a large body of research on choice of college major has shown, students are likely to choose majors based in part on calculations of future payoffs. This article suggests that an awareness of organizational status may increasingly moderate student choice, because it affects such calculations (see Buchmann & Park 2009). Both institutions and individuals are engaged in a struggle in which credentials show both “who you are” (generalized status) and “what you do” (specific academic areas of study) – qualitative distinctions that become increasingly important as higher education expands. Students in lower-standing institutions lack of a general umbrella of status provided by their institution; so that, due to individual calculations or random chance alone, a more differentiated field increases the likelihood of sorting students in ways that have long-term consequences for mobility and social reproduction.

In closing, this work supports the view that an organizational status order initially arises from strategic responses to the overall uncertainty within a market – that is, from the active manipulation of institutional environments in order to shape expectations and evaluative criteria that are part of broader professionalization projects and societal-level status struggles (Bourdieu 1998; DiMaggio 1992). In Bourdieu’s terms, status orders are the products of strategically deployed “symbolic capital” that converts societal privilege into greater belief in one’s competence. However, as shown here, once institutionalized, these orders create their own constraints. While not “iron cages” per se, status orders are coercive fields that dictate the direction and pace at which competitors must “run in place.”
References


## Appendix: Tables and Figures

### Table 1. Descriptions of Variables Used in Models

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Mean</th>
<th>Std. Dev.</th>
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<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
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<td></td>
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</tr>
<tr>
<td>Status Upgrade</td>
<td>Gain of one or more in <em>Barron’s</em> Selectivity ((t)-(t-5))</td>
<td>.16</td>
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<td>Status Downgrade</td>
<td>Loss of one or more in <em>Barron’s</em> Selectivity ((t)-(t-5))</td>
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<td>Number of Programs</td>
<td>Total Undergraduate Programs</td>
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<td>Core Prop.</td>
<td>Proportion Highly Institutionalized</td>
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<td>Popular Prop.</td>
<td>Proportion Popular</td>
<td>.63</td>
<td>.09</td>
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<tr>
<td>Unpopular Prop.</td>
<td>Proportion Unpopular</td>
<td>.37</td>
<td>.09</td>
</tr>
<tr>
<td>Feminizing Prop.</td>
<td>Proportion Rapidly Feminizing</td>
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<td>.08</td>
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<td><strong>Independent Variables</strong></td>
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<td>Year</td>
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<td>Prestige</td>
<td>Factor Scale of Four Measures</td>
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<td>Selectivity</td>
<td>Lagged <em>Barron’s</em> Selectivity Measure</td>
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<td>Total Programs ((t)-(t-5))</td>
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<td>7.3</td>
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<td>Core Prop. Change</td>
<td>Proportion Core ((t)-(t))</td>
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<td>.08</td>
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<tr>
<td>Popular Prop. Change</td>
<td>Proportion Popular ((t)-(t-5))</td>
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<td>Factor Scale of Three Measures</td>
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<td>Proportion Revenues from Tuition</td>
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<td>.20</td>
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<td>Total Revenues/Total Expenditures</td>
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<td>Total Graduates/1000</td>
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<td>Proportion of Graduates Female</td>
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<td>Employed in Professional Occupations</td>
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<td>Proportion of County Population Between Ages 18-22</td>
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<td>Org. Proportion Female Change</td>
<td>Above Measure ((t)-(t-5))</td>
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<td>.04</td>
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<td>Local Area Professional Labor Market Change</td>
<td>Above Measure ((t)-(t-5))</td>
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<td>.43</td>
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<td>Local Area Prop. College Age Change</td>
<td>Above Measure ((t)-(t-5))</td>
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<td>.02</td>
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Table 2. Undergraduate Programs with the Most Relative Organizational Change (Gains and Losses), 1970-1990

<table>
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<td>567</td>
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<td>-.15</td>
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<td>Business Management Other</td>
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<td>277</td>
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<td>H1c</td>
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<td>Upgrade</td>
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<td>-0.055*</td>
<td>0.019</td>
<td>0.018</td>
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<td>8.394</td>
<td>(6.576)</td>
<td>(5.126)</td>
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<tr>
<td>× Selectivity</td>
<td>6.914***</td>
<td>-2.873*</td>
<td>(1.487)</td>
<td>(1.274)</td>
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<td>5.777</td>
<td>(8.004)</td>
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<td>-1.539</td>
<td>-0.039</td>
<td>(2.379)</td>
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<td>-3.812</td>
<td>(1.002)</td>
<td>(7.010)</td>
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<td>× Selectivity</td>
<td>5.270*</td>
<td>-0.039</td>
<td>(2.379)</td>
<td>(1.795)</td>
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<td>Time-Varying Controls</td>
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<tr>
<td>Economic Dominance Change</td>
<td>-1.198</td>
<td>-1.198</td>
<td>-1.038</td>
<td>-1.241</td>
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<td>Tuition Dependence Change</td>
<td>2.563</td>
<td>3.153</td>
<td>2.667</td>
<td>3.204</td>
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<tr>
<td>Org. Size Change</td>
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<td>-1.51</td>
<td>-2.17</td>
<td>-2.14</td>
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<tr>
<td>Local Area Professional Labor Market Change</td>
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<td>-0.187</td>
<td>-0.187</td>
<td>-0.187</td>
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<td>565.591</td>
<td>531.219</td>
<td>569.023</td>
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<td>Degrees of freedom</td>
<td>10</td>
<td>10</td>
<td>11</td>
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</tbody>
</table>

* p<.05, ** p<.01, *** p<.001

Note: Model estimation controls for all stable characteristic of colleges and universities during the period. Standard errors in parentheses.
Table 4. Organizational Fixed Effects Models Showing Status (as Overall Prestige) as a Moderator of Undergraduate Program Differentiation Trajectories: U.S. Colleges and Universities, 1970-1990

<table>
<thead>
<tr>
<th>Hypothesis:</th>
<th>H2a</th>
<th>H2b</th>
<th>H2c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>.034*** (.003)</td>
<td>-.001 (.001)</td>
<td>.010*** (.000)</td>
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<tr>
<td>Prestige × Year</td>
<td>-.005** (.002)</td>
<td>.003*** (.000)</td>
<td>-.002*** (.000)</td>
</tr>
<tr>
<td>Year Squared</td>
<td>-.002*** (.000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prestige × Year Squared</td>
<td>.0001* (.000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number, Core Popular, unpopular, rapid fem

*Time-Varying Controls*

<table>
<thead>
<tr>
<th>Variable</th>
<th>H2a</th>
<th>H2b</th>
<th>H2c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Dominance</td>
<td>-.014* (.007)</td>
<td>-.001 (.006)</td>
<td>-.001 (.002)</td>
</tr>
<tr>
<td>Tuition Dependence</td>
<td>-.084 (.056)</td>
<td>.194*** (.053)</td>
<td>-.092*** (.029)</td>
</tr>
<tr>
<td>Org. Slack</td>
<td>-.120*** (.026)</td>
<td>.163*** (.027)</td>
<td>-.050*** (.011)</td>
</tr>
<tr>
<td>Org. Size</td>
<td>.026*** (.008)</td>
<td>-0.037*** (.008)</td>
<td>.005 (.004)</td>
</tr>
<tr>
<td>Org. Proportion Female</td>
<td>-.137 (.081)</td>
<td>-.078 (.064)</td>
<td>-.141*** (.036)</td>
</tr>
<tr>
<td>Local Area Professional Labor Market</td>
<td>-.003 (.006)</td>
<td>0 (.005)</td>
<td>-.003 (.002)</td>
</tr>
<tr>
<td>Local Area Prop. College Age</td>
<td>-.067 (.231)</td>
<td>-1.220*** (.127)</td>
<td>.541*** (.063)</td>
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<tr>
<td>Constant</td>
<td>-1.506*** (.045)</td>
<td>-.907*** (.022)</td>
<td>-1.226*** (.050)</td>
</tr>
</tbody>
</table>

Log likelihood | -22663.4 10415.23 | 16386.76 | 8848.035 9640.959 |

Number of observations | 8772 8619 | 8636 8636 | 8636 8636 |

Degrees of freedom | 11 8 | 8 8 | 8 8 |

* p<.05, ** p<.01, *** p<.001

Note: Model estimation controls for all stable characteristics of colleges and universities. Standard errors in parentheses.
Figure 1. The Organizational Differentiation of Undergraduate Programs, 1970-1990
Figure 2. Organizational Prestige Hierarchy of College and University Derived from Presidents’ Similarity-Emulation Choices (IDA Survey)

Note: The 215x215 matrix represents a subset of the total sample of 829 universities and colleges – those that were mentioned by four or more surveyed presidents. Cells indicate the number of presidents who responded that their college or university resembled the one listed in row i while hoping to resemble the one listed in column j (darker cells represent higher counts of presidents making an ij emulation). Organizations are ordered from highest to lowest in the reputational prestige measure.
Notes

1 Higher status organizations are likely to seek closure through various institutions in order to prevent competitors from using the status signals that greater privilege and assets afford.

2 Zuckerman’s model intentionally leaves open who are the audiences and candidates in specific markets – presumably, audiences are often multiple and candidate interfaces with these audiences can be complex.

3 Some state systems of higher education have institutionalized status differences through explicit mission differentiation – so that flagship institutions are oriented toward research, while secondary institutions have more clearly professional/vocational foci (see Bastedo & Gumport 2003).

4 While the reasons for this particular example are complex and go beyond the scope of this article, they are consistent with the status-based framework. In general terms, historical evidence suggests that these eliminations were linked with pressures from the main business program accrediting association and at least two foundations who together sought to enhance business as a profession by focusing on the MBA.

5 Depending upon the field, status may not be linear so much as divided into elite and non-elite segments. Under such conditions, middle-status may be less of a distinct position. For the sake of simplicity, I present a model tailored to more continuously status-ordered fields.

6 I tested for systematic differences between the sample and all American colleges and universities during this period as reported in NCES surveys. Key characteristics of age, size, institutional control, and tuition showed no significant differences, suggesting that the sample is representative of four-year institutions.

7 I thank Paula England and Su Li for sharing their detailed crosswalk for these data.

8 Fixed effects models necessarily omit colleges and universities that don’t change during the period in terms of the number or types of programs offered, and the number of omitted institutions therefore varies according to the model. Models with transformed proportions sacrifice a few additional observations where proportions were zero or one; however, this loss was not substantial as these proportions were normally distributed. I estimated models using random effects, and others with fractional logit models, and these produced similar results. However, fixed effects offer a more rigorous test and have not at present been clearly extended to fractional logit models.

9 I thank John Levi Martin for making this suggestion.

10 I tested a number of models using known taxonomies, such as the Biglin classifications to determine “applied” and “high paradigm” programs, which produced results consistent with those presented here. While for parsimony’s sake I have omitted these from the final models, supplemental tables are available upon request. I also tested more complex models in which there were different thresholds for being considered core, popular, unpopular, and especially rapidly feminizing, because prior research suggests that “tipping points” may be involved in such processes (England et al. 2007; England & Li 2006). These produced similar results to those presented here.
I performed similar factor analyses on smaller sets of colleges and universities (generally numbering between 100 and 350), using additional status measures such as the 1967 Gourman Report, the 1970 Coleman study, and an average departmental quality ranking from the 1995 National Research Council, none of which are available for the full sample. These produced very similar reputational prestige factors that were highly correlated with those used here. Due to the limited availability of these data, and the difficulty in collecting time-varying status measures, rather than using a reduced sample or period, I employed these additional measures only as checks on the current measure’s validity.

However, it is possible that at the level of departments and schools that such downsizing did occur, and wouldn’t be detected at the level of programs, because these can be re-attached to different academic units.