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Doctoral Degree Prestige and the Academic Marketplace: A Study of Career Mobility Within the Management Discipline

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Using data collected from a national sample of 171 PhD holders, who were awarded terminal degrees in management between 1977 and 1987, we tested four hypotheses concerning career mobility within the management discipline. We found (1) doctoral origin prestige had a direct effect on the prestige of a graduate's initial academic appointment, (2) doctoral origin prestige interacted with perceived quality of publications such that, early in their careers, graduates of more prestigious doctoral programs obtained greater job placement benefits (in terms of more prestigious initial academic appointments) from the perceived quality of their publications than did graduates of less prestigious doctoral programs, (3) later in their careers, individuals who secured more prestigious initial academic appointments held more prestigious academic appointments than individuals with less prestigious initial academic appointments, and (4) at a later career stage, initial appointment prestige interacted with perceived quality of publications, such that individuals with more prestigious initial academic appointments obtained greater job placement benefits from the perceived quality of their publications than did individuals with less prestigious initial academic appointments. Our results suggest that recruitment patterns in the management discipline reflect an inherent academic stratification system and that doctoral origin prestige is an important determinant of early and later career opportunities.

Consider two PhD students pursuing degrees in management. The first is affiliated with a well-established doctoral program that is known for the quality of its faculty members' scholarly output and their leadership in professional organizations. In contrast, the second student is enrolled in a less established program, with fewer research-oriented and professionally involved faculty. Both students, however, have authored papers in top-tier management journals. They have similar teaching portfolios and evaluations, requisite conference presentations, and nearly identical involvement in professional activities, including serving as paper reviewers for conferences and as discussants at regional and national Academy of Management meetings. Given their similar scholarly records, will the students secure initial academic appointments in equally prestigious departments? Or, will the well-established relationship—documented across a wide range of academic fields—between the prestige of the department where one receives a doctorate and the prestige of the department in

which one obtains initial employment also hold true in the management discipline? If so, will this fundamental relationship also influence their later career opportunities?

The purpose our study was to address such questions using data collected from a national sample of management PhDs who received their terminal degrees between 1977 and 1987. Prior research into the careers of management PhDs has often used colleges or universities as units of analysis (e.g., D'Aveni, 1996). In contrast, we focused on the hiring and placement of new and later career PhDs at the department level as the most directly relevant decision-making domain. We view departments as the organizational units at which the two institutional fields of universities and disciplines intersect and, thus, as the essential transacting parties in the academic marketplace (Han, 2003). For ease of exposition, however, departments are identified by university affiliation and we use the designation PhD to include the DBA degree and its equivalents. The conceptual scheme guiding our study hypotheses is presented in Figure 1.

Hypotheses

Prior research has consistently linked departmental prestige with graduate student placement (e.g., Weeber, 2006). This research shows a positive relationship between the prestige of the department where individuals receive their doctorate and the prestige of the department in which they obtain their initial employment (for a review, see Burris, 2004). Typically defining "prestige" to mean esteem among constituencies (i.e., stakeholder groups), stratification is a central research theme in what has been termed the "academic caste system" (Grannis, 2007). In this connection, the cumulative advantage perspective, first introduced by Merton (1942/1973), is one among several stratification explanations that has been offered for why doctoral training in a prestigious department leads to a position in another distinguished department (Creamer & McGuire, 1998). According to this perspective, location in an environment with differential access to resources conducive to scholarly research leads to accumulated advantages that are magnified as a career progresses (Merton, 1977: 89). Cole and Cole described the advantages of such differential access, which, as they explained, enhances prospects for successively enlarged research opportunities and the recognition and the rewards that go with them:

> By virtue of being in top graduate departments and interacting with influential and brilliant scientists, some scientists have a social advantage in the process of stratification. Once position has been established in this initial phase, the probabilities may no longer be the same for two scientists of equal abilities. The one who is strategically located in the stratification system may have a series of accumulating advantages over the one who in not a member of the elite corps (1973: 74–75).

One variation of cumulative advantage has been labeled the "Matthew effect" (Merton, 1968, 1988). This effect refers to the greater recognition afforded well-known scientists as contrasted with their lesser known colleagues, even if their work is similar in quality. Germane to the immediate discussion, Hunt and Blair (1987) have described a "generalized Matthew effect," which holds that scientists

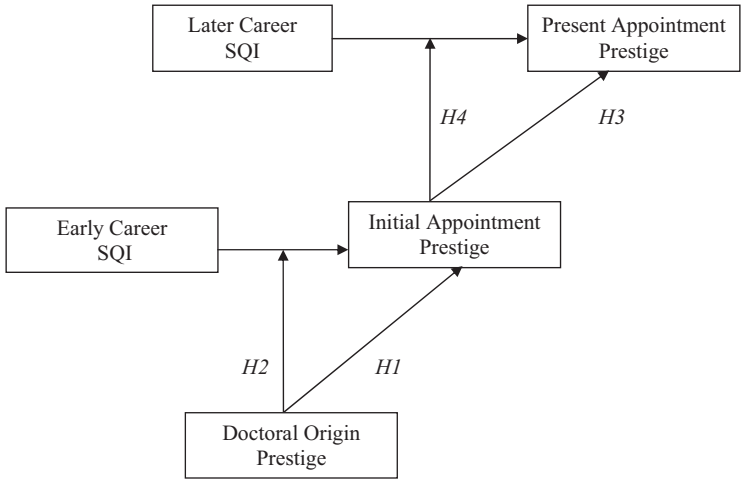

FIGURE 1
Conceptual Scheme. *Note*. *SQI* = Scholarly Quality Index.

affiliated with high-prestige departments are often perceived to be better scholars and, as a result, are more likely to benefit from academic activities such as publications than those from less prestigious departments. In effect, the generalized Matthew effect suggests that affiliation with a prestigious department can cast a "halo" over a scientist's work, providing an edge in the academic marketplace (Crane, 1965).

Building on Hunt and Blair's (1987) speculation that scientists affiliated with high-prestige departments are often perceived to be better scholars and, consequently, more likely to benefit from academic activities than their counterparts in less prestigious departments, we predicted that the same would hold true for emerging graduates of high-prestige departments. That is, the prestige of an emerging graduate's doctoral degree would moderate the interactive effect of the perceived quality of the graduate's scholarly publications on the prestige of the graduate's initial academic appointment. Thus, drawing first on prior research across other disciplines regarding the relationship between prestige of doctoral origin and initial academic appointment, and then on the explanatory power of both the cumulative advantage perspective and the generalized Matthew effect, we derived the following two hypotheses:

Hypothesis 1: Management graduates of more prestigious doctoral programs will obtain more prestigious initial academic appointments than will management graduates of less prestigious doctoral programs.

Hypothesis 2: Early in their careers, management graduates of more prestigious doctoral programs will obtain greater job placement benefits (in terms of more prestigious initial academic appointments) from the perceived quality of their publications than management graduates of less prestigious doctoral programs.

In offering a further explanation for the relationship between departmental prestige and graduate student placement, Carson and Navarro (1988) have suggested that, given the uncertainty of judging the actual quality of job applicants who have done a limited amount of professional work, hiring departments rely on the prestige of a job applicant's training department as a proxy for expected publication performance. At the same time, from an emerging PhD's vantage, accepting a job offer from a prestigious department may be seen as a means for maximizing the probability of achieving career goals. Furthermore, doing so may be viewed as a wise investment in human capital that will yield substantial monetary benefits throughout one's career. Accepting a job offer from a prestigious department may also be ego satisfying, in that the personal prestige of some faculty members is tied to the prestige of their resident departments (Moore, Newman, Raisian, & Thomas, 1983).

An additional factor contributing to the relationship between departmental prestige and graduate student placement is that both hiring departments and emerging PhDs may be influenced in their decision making by the opinions of relevant others. As explained by Fogarty and Saftner (1993: 431) with respect to resident faculty, because "candidates are hired on the basis of how they will appear to outside observers, the prestige of their doctoral school is central, while real credentials and the facts underlying the specific training of the candidate go unexamined." Emerging PhDs may also encounter subtle forms of pressure from their training departments to accept the highest possible prestige job, as the prestige of a department is determined, in part, by the placement of its graduates (West & Newman, 1977).

This said, it has been observed that whereas pedigrees may be helpful for obtaining desirable positions—especially early in one's career—at good universities they are of little value for keeping such positions. In commenting on this observation, Bedeian (1996: 4) argues, "few people are successful in sustaining entire careers on the basis of where they earned their degrees." Thus, whereas Caplow and McGee (1958: 225) noted long ago, "the initial choice of graduate school sets an indelible mark on a student's career," according to this alternative logic, the cachet of a prestigious degree will ultimately wear thin unless bolstered by some degree of performance. Indeed, Crane (1970) provides evidence that at later career stages the use of doctoral origin prestige as a predictor of performance tends to diminish, however, only slightly. It is also reasoned that the handicap of initial identification with a less prestigious department can be surmounted early in one's career by establishing a strong publication record and a professional reputation to match (Bedeian, 1996). This alternative logic also holds that although graduates of prestigious departments may have a cumulative advantage through their greater access to other distinguished departments, postdoctorate achievements should not be discounted as an antecedent to later upward mobility across prestige levels. Such reasoning reflects a belief in advancement by merit rather than by particularistic criteria, such as degree origin or professional connections (Bedeian & Feild, 1980).

The facts, however, paint a different picture in

many academic disciplines. Indeed, the situation as first observed by Caplow and McGee (1958: 225) has changed little over the past 50 years. As they reported, despite subsequent academic achievements, individuals "trained at minor universities have virtually no chance of achieving eminence . . . [T]he handicap of initial identification with a department of low prestige is hardly ever completely overcome. Every discipline can show examples of brilliant men with the wrong credentials whose work somehow fails to obtain normal recognition." Brown (1967: 69) has documented this reality in noting that whereas scholarly achievement may play a role in movement among institutional prestige strata, the effect of productivity is quite small. In reviewing the available evidence, he found that insofar as faculty members do move across prestige strata, the direction is primarily downward. This pattern of downward mobility has seemingly become more pronounced in recent years, with mobility barriers especially strong at the highest prestige levels (Weeber, 2006). Baldi (1994) reports finding that whereas a small number of faculty members holding appointments at low-prestige departments were once able to overcome the prejudicial effect of previous institutional location and secure positions in high-prestige departments based on their postdoctorate achievements, such instances of crossover mobility are now virtually nonexistent. From this literature, and drawing again on the generalized Matthew effect, we thus derived the following two additional hypotheses:

Hypothesis 3: Later in their careers, individuals who obtained more prestigious initial academic appointments will hold more prestigious current academic appointments than will individuals who secured less prestigious initial academic appointments.

Hypothesis 4: Later in their careers, individuals with more prestigious initial academic appointments will obtain greater job placement benefits (in terms of more prestigious academic appointments) from the perceived quality of their publications than will individuals with less prestigious initial academic appointments.

METHOD

Sample

Our analyses are based on a national sample of PhDs who were awarded terminal degrees in management between 1977 and 1987 and were employed at a college or university in the United States in 1997. After first mailing postcards indicating the nature of a forthcoming request to serve as a study participant, a personalized letter was sent to all management professors identified in *The McGraw-Hill Directory of Management Faculty* (Hasselback, 1996) requesting a copy of their full curriculum vitae.

Because data collection began in December, 1998, at least 11 years had passed since members of the focal sample had received their graduate degrees. This spread in time was considered sufficient to have allowed for advancement to a terminal academic rank and for achieving some measure of scholarly recognition. Of the 968 surveys posted, 16 were returned as undeliverable because the addressees were either deceased or had moved to a foreign country. Thirty-five respondents declined to participate because they were either no longer in academia or indicated it would take too long to update their vita. Of the remainder, 333 responded with an accompanying vita; four were later determined to be retired and were dropped from further study. Follow-up contact was required for 50 respondents for data clarification. This produced an effective sample of 329 complete curriculum vitae, representing a 35% response rate. In that our focus was specifically on management PhDs who had received their terminal degrees from universities in the United States, 146 respondents who were graduates of nonmanagement departments or foreign universities were dropped from further analysis. The majority of these respondents held degrees in disciplines such as psychology, sociology, finance, and economics. That such a large percentage of respondents should hold degrees in cognate areas is a reflection of the fact that management is an integrating discipline, drawing on all the social sciences (Bedeian, 2005). An additional 12 respondents were eliminated due to missing data. As a result, the final sample on which we based our analyses was $n = 171$. Separate data records were prepared for each respondent and validated by a single coder.

Measures

Prestige

We sought measures of doctoral origin prestige, initial appointment prestige, and present appointment prestige that were based on previous research and, therefore, independent of our own perceptions. Thus, we computed prestige scores for the aforementioned variables using a ranking of 105 doctoral programs in management developed

by Long, Bowers, Barnett, and White (1998). This ranking was based on factor scores derived from a principal components analysis of 18 prestige rankings published between 1974 and 1993, a time frame roughly coterminous with the period of our data collection. Long et al. classified 21 management departments as high prestige, 31 as middle prestige, and 53 as low prestige.[1] Using this classification, we assigned each respondent separate doctoral origin prestige, initial appointment prestige, and present appointment prestige scores ranging from *highest prestige* = 3, *middle prestige* = 2, to *lowest prestige* = 1. Based on this classification, approximately 31.1% of the respondents held appointments at high-prestige doctoral programs, 26.6% held appointments at middle-prestige doctoral programs, and 42.2% held appointments at low-prestige doctoral programs.

Career Stage

For each respondent, early career values were coded to cover activities occurring between 3 years prior to and 5 years after receipt of degree. An 8-year period was chosen to account for 3 years of doctoral course work and 5 years before and up to evaluation for tenure and position. Later career values were coded to cover activities occurring 6 years after receipt of degree to 1998. Vocational theorists have developed various formats for measuring career dynamics. The present operationalization builds on the belief that individuals undergo a career stage progression as they engage in discernible activities over time (Bedeian, Pizzolatto, Long, & Griffeth, 1991).

Quality of Published Work

The quality of respondents' journal articles was assessed by computing a Scholarship Quality Index (SQI) for each respondent in our sample. The SQI is a composite measure based on journal quality ratings obtained from the final report of the 1997 INFORMS Committee Review of *Organization Science* (Glick, McKelvey, Cooper, Huber, & Zmud, 1997). The report provides journal quality ratings for 46 management and cognate-related journals (e.g., *American Sociological Review*, *Psychological Bulletin*, *American Journal of Sociology*, and *Journal of Personality and Social Psychology*) based on responses from 176 scholars who had published four or more articles in the *Academy of Management Journal*, *Academy of Management Review*, *Organization Science*, *Administrative Science Quarterly*, *Management Science*, *Research in Organizational Behavior*, and *Strategic Management Journal* over the 10-year period from 1987 to 1997. We focused on journal/annual articles only to limit our analysis to material that had been peer reviewed. Articles listed on each respondent's vita were weighted by the quality rating associated with the journal in which they appeared. The resulting values were then summed across articles and divided by career range (to account for length of time available for each respondent to be productive) to yield annualized early and late SQI scores. We did not differentially weight SQI scores based on either order of authorship or number of authors. Articles published in journals not included in the INFORMS committee list of top journals were assigned a score of 0.

Control Variables

Because job placement may be affected by professional activities not covered by the SQI, we controlled for various content- and process-based professional activities as identified by Hunt and Blair (1987). These activities, listed in the Appendix, included serving as a session chair at a professional meeting, authoring a book chapter, publishing an article in an outlet not ranked in the aforementioned INFORMS committee report, and presenting scholarly papers at conferences. As defined by Hunt and Blair (1987: 193), *content activities* are those that make a direct contribution to (the content of) scholarly knowledge, whereas process activities involve facilitating (or providing a process for) the acquisition or generation of new scholarly knowledge. Content- and process-activity scores were calculated by taking the frequencies of each specified activity for the early and later career time periods as defined above and computing an annual average value based on dividing by career range to allow for length of time available to each respondent to be professionally active.

RESULTS

The means, standard deviations, and correlations for all study variables are presented in Table 1. As anticipated, doctoral origin prestige was correlated with both initial and present appointment prestige (both $rs = .22$, $p < .05$, two-tailed), and initial appointment prestige was correlated with

[1] Management department rankings appear to be highly stable over time. Of the 21 doctoral programs in management classified (and listed alphabetically) by Long et al. (1998) as *high prestige*, all but three appear in the prestige ranking of 24 leading doctoral programs in management cited in Bedeian and Feild (1980).

TABLE 1
Means, Standard Deviations, and Intercorrelations Among Study Variables

Variables	*M*	*SD*	*r*							
			1	2	3	4	5	6	7	8
1. Early career content	2.49	1.94								
2. Early career process	.71	1.13	.29							
3. Later career content	4.11	3.37	.54	.05						
4. Later career process	3.03	3.08	.38	.45	.40					
5. Early career SQI	.78	.58	.59	.02	.40	.33				
6. Later career SQI	1.04	.69	.45	−.01	.68	.47	.62			
7. Doctoral origin prestige	2.39	.72	.09	−.03	.01	.08	.15	.08		
8. Initial appointment prestige	1.69	.79	.22	.08	.11	.20	.27	.22	.22	
9. Present appointment prestige	1.62	.75	.31	.02	.23	.28	.39	.40	.22	.52

Note. For $r \geq 0.15$, $p < .05$ (two-tailed); $n = 171$.
SQI = Scholarship Quality Index.

present appointment prestige ($r = .52$, $p < .05$, two-tailed). Whereas early and later career SQI were correlated ($r = .62$, $p < .05$, two-tailed), only early career SQI was uniquely correlated with doctoral origin prestige ($r = .15$, $p < .05$, two-tailed). Both early and later career SQI, however, were correlated with present appointment prestige ($rs = .39$ and .40, $ps < .05$, two-tailed).

To confirm the value of using all five predictor variables in our analyses, we examined the strength of their linear relationships. Variance inflation factors for the various predictors in a complete equation with initial appointment prestige as the outcome variable and early career content and process activities as covariates ranged from 1.03 for doctoral origin prestige to 1.49 for early career SQI. Similarly, variance inflation factors for the various predictors in a complete equation with present appointment prestige as the outcome variable and both early and later career content and process activities as covariates ranged from 1.16 for initial appointment prestige to 1.49 for later career SQI. Neter, Kutner, Nachtsheim, and Wasserman (1990) state that a variance inflation factor greater than 10 indicates that collinearity may be influencing least squares estimates. The observed values, therefore, suggest that multicollinearity among the predictor variables was not a concern.

Hierarchical regression analysis was used to test our four hypotheses. As recommended by Aiken and West (1991: 9), to reduce the correlation between the product terms and their component parts, we centered (i.e., put in deviation form so that their means were zero) the predictor variables when testing for the interaction effects associated with Hypotheses 2 and 4. Hypothesis 1 posited that graduates of more prestigious doctoral programs in management would obtain more prestigious initial academic appointments than graduates of less prestigious doctoral programs in management. The results of the regression testing this hypothesis are represented in Table 2. The standardized regression coefficients (β) in Table 2 represent a rough estimate of the

TABLE 2
Results of Hierarchical Regression Analysis Predicting Initial Appointment Prestige (H1)

Initial Appointment Prestige	Step 1			Step 2				
	β	R^2	*F*	β	R^2	ΔR^2	*F*	ΔF
Step 1: Control variables								
Early career content activities	.15*	.05	5.20**	.13*	.09	.04	6.69**	8.79*
Early career process activities	.07			.10				
Step 2: Doctoral origin prestige				.23**				

Note. n = 171. β is the standardized regression coefficient for each predictor. ΔR^2 is the incremental variance explained by a variable or variable set at each hierarchical step. Step 1 represents the regression of Initial Appointment Prestige on the control variables (i.e., Early Career Content Activities and Early Career Process Activities). Step 2 represents the simultaneous regression of Initial Appointment Prestige on both the control variables and Doctoral Origin Prestige.
* $p < .05$. ** $p < .01$.

relative contribution of each indicator in predicting initial appointment prestige. As a predictor set, early career content ($\beta = .15$, $p < .05$) and process ($\beta = .07$, $p > .05$) activities were entered at the first hierarchical step as covariates, accounting for 5% of the variance across individuals in initial appointment prestige. Doctoral origin prestige was entered at the second hierarchical step, accounting for an additional 4% variance ($\Delta R^2 = .04$, $p < .01$). Hypothesis 1 was, thus, supported.

Hypothesis 2 stated that graduates of more prestigious doctoral programs in management would obtain greater job placement benefits (in terms of more prestigious initial academic appointments) from the quality of their publications than would the graduates of less prestigious doctoral programs in management. Results of the regression testing this hypothesis are represented in Table 3. Entered at the first hierarchical step, early career SQI ($\beta = .32$, $p < .01$) explained 9% of the variance across individuals in initial appointment prestige. Entered simultaneously at Step 2, early career SQI ($\beta = .29$, $p < .01$) and doctoral origin ($\beta = .21$, $p < .01$) prestige explained 12% of the variance in initial appointment prestige. Entry of the Doctoral Origin Prestige × Early Career SQI interaction term at the third hierarchical step explained incremental variance ($\Delta R^2 = .02$, $p < .05$) in initial appointment prestige. Therefore, doctoral origin prestige moderated the relationship between early career SQI and initial appointment prestige, confirming Hypothesis 2. Furthermore, the complete equation that included the main-effect term, the moderator variable, and the 2-way interaction for doctoral origin prestige and early career SQI explained 14% of the variance across individuals in initial appointment prestige. The nature and direction of this interaction were examined graphically (Fig. 2). Separate regression lines were computed and subsequently plotted for respondents at each of the three levels of doctoral origin prestige following Cohen, Cohen, West, and Aiken's (2003: 269) guidelines. Differences in slopes among the three functions illustrate how the impact of early career SQI on initial appointment prestige is greater for graduates of more prestigious doctoral programs than it is for those of less prestigious doctoral programs.

Hypothesis 3 predicted that later in their careers, individuals with more prestigious initial academic appointments would hold more prestigious academic appointments than would individuals with less prestigious initial academic appointments. The same 2-step hierarchical procedure used to test Hypothesis 1 was repeated with present appointment prestige replacing initial appointment prestige. Results of the regression testing this hypothesis are represented in Table 4. As a predictor set, early career content ($\beta = .15$, $p < .05$) and process ($\beta = -.21$, $p < .01$) activities, as well as later career content ($\beta = -.01$, $p > .05$) and process ($\beta = .12$, $p < .01$) activities were entered at the first hierarchical step as covariates, accounting for 14% of the variance in present appointment prestige. Initial appointment prestige was entered at the second hierarchical step, accounting for an additional 20% variance ($\Delta R^2 = .20$, $p < .01$). Hypothesis 3 was, therefore, corroborated.

Hypothesis 4 predicted that later in their careers, individuals with more prestigious initial

TABLE 3
Results Hierarchical Regression Analysis Testing Interaction Effect of Doctoral Origin Prestige on the Relation Between Initial Appointment Prestige and Early Career SQI (H2)

	Step 1			Step 2					Step 3				
Initial Appointment Prestige	β	R^2	F	β	R^2	ΔR^2	F	ΔF	β	R^2	ΔR^2	F	ΔF
Step 1: Main-effect term													
Early career SQI	.32**	.09	6.28**	.29**					−0.16				
Step 2: Moderator variable													
Doctoral origin prestige				.21**	.12	.03	6.91**	5.64*	.04				
Step 3: Interaction term									.21*	.14	.02	6.28**	
Doctoral origin prestige X early career SQI													3.89*

Note. $n = 171$. β is the standardized regression coefficient for each predictor. ΔR^2 is the incremental variance explained by a variable or variable set at each hierarchical step. SQI = Scholarship Quality Index. Step 1 represents the regression of Initial Appointment Prestige on the main-effect term (i.e., Early Career SQI). Step 2 represents the simultaneous regression of Initial Appointment Prestige on both Early Career SQI and Doctoral Origin Prestige (moderator). Step 3 represents the simultaneous regression of Initial Appointment Prestige on Early Career SQI, Doctoral Origin Prestige, and their interaction.

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

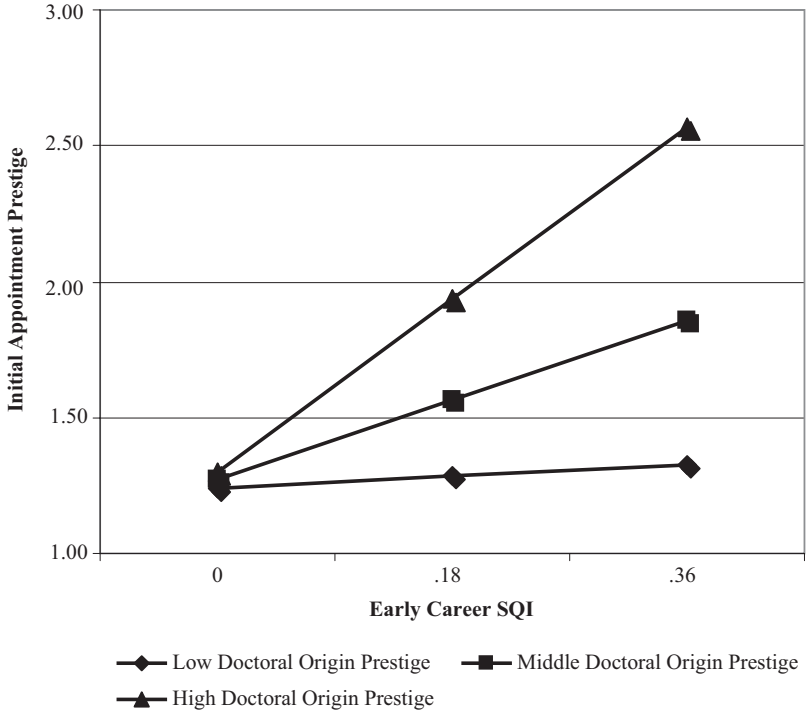

FIGURE 2
Interaction of Early Career SQI and Doctoral Origin Predicting Initial Appointment Prestige. *Note*. *SQI* = Scholarly Quality Index.

academic appointments would obtain greater job placement benefits (in terms of more prestigious academic appointments) from the quality of their publications than would individuals with less prestigious initial academic appointments. The same 3-step hierarchical procedure used to test Hypothesis 2 was repeated with initial appointment prestige replacing doctoral origin prestige. Results of the regression testing this hypothesis are represented in Table 5. Entered at the first hierarchical step, later career SQI (β = .40, $p < .01$) explained 20% of the variance across individuals in present appointment prestige. Entered simultaneously at Step 2, initial appointment prestige (β = .41, $p < .01$) and later career SQI (β = .28, $p < .01$) explained 38% of the variance in present appointment prestige. Entry of the Initial Appointment Prestige X Later Career SQI interaction term at the third hierarchical step explained incremental variance (ΔR^2 = .02,

TABLE 4
Results of Hierarchical Regression Analysis Predicting Present Appointment Prestige (H3)

	Step 1			Step 2				
Present Appointment Prestige	β	R^2	F	β	R^2	ΔR^2	F	ΔF
Step 1: Control variables								
Early career content activities	.15*	.14	8.19**	.09	.34	.20	20.36**	39.76**
Early career process activities	−.21*			−.20				
Later career content activities	−.01			0.1				
Later career process activities	.12**			.09*				
Step 2: Initial appointment prestige				.44**				

Note. n = 171. β is the standardized regression coefficient for each predictor. ΔR^2 is the incremental variance explained by a variable or variable set at each hierarchical step. Step 1 represents the regression of Present Appointment Prestige on the control variables (i.e., Early Career Content Activities, Early Career Process Activities, Later Career Content Activities, and Later Career Process Activities). Step 2 represents the simultaneous regression of Present Appointment Prestige on both the control variables and Initial Appointment Prestige.

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

TABLE 5
Results of Hierarchical Regression Analysis Testing Interaction Effect of Initial Appointment Prestige on the Relation Between Present Appointment Prestige and Later Career SQI (H4)

	Step 1			Step 2					Step 3				
Present Appointment Prestige	β	R^2	F	β	R^2	ΔR^2	F	ΔF	β	R^2	ΔR^2	F	ΔF
Step 1: Main-effect term													
Later career SQI	.40**	.20	10.14**	.28**					.18				
Step 2: Moderator variable													
Initial appointment prestige				.41**	.38	.18	19.4	36.79**	.27**				
Step 3: Interaction term													
Initial appointment prestige X Later career SQI									.15**	.40	.02	18.49**	5.52*

Note. $n = 171$. β is the standardized regression coefficient for each predictor. ΔR^2 is the incremental variance explained by a variable or variable set at each hierarchical step. SQI = Scholarship Quality Index. Step 1 represents the regression of present appointment prestige on the main-effect terms (i.e., initial appointment prestige and later career SQI). Step 2 represents the simultaneous regression of present appointment prestige on the interaction between initial appointment prestige and later career SQI.

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

$p < .05$) in present appointment prestige. Therefore, initial appointment prestige moderated the relationship between later career SQI and present appointment prestige, supporting Hypothesis 4. Furthermore, the complete equation that included the main-effect term, the moderator variable, and the 2-way interaction for initial appointment prestige and later career SQI explained 40% of the variance across individuals in present appointment prestige. The nature and direction of this interaction were examined graphically (Fig. 3). Separate regression lines were computed and subsequently plotted for respondents at each of the three levels of initial appointment prestige following Cohen, Cohen, West, and Aiken's (2003: 269) guidelines. Differ-

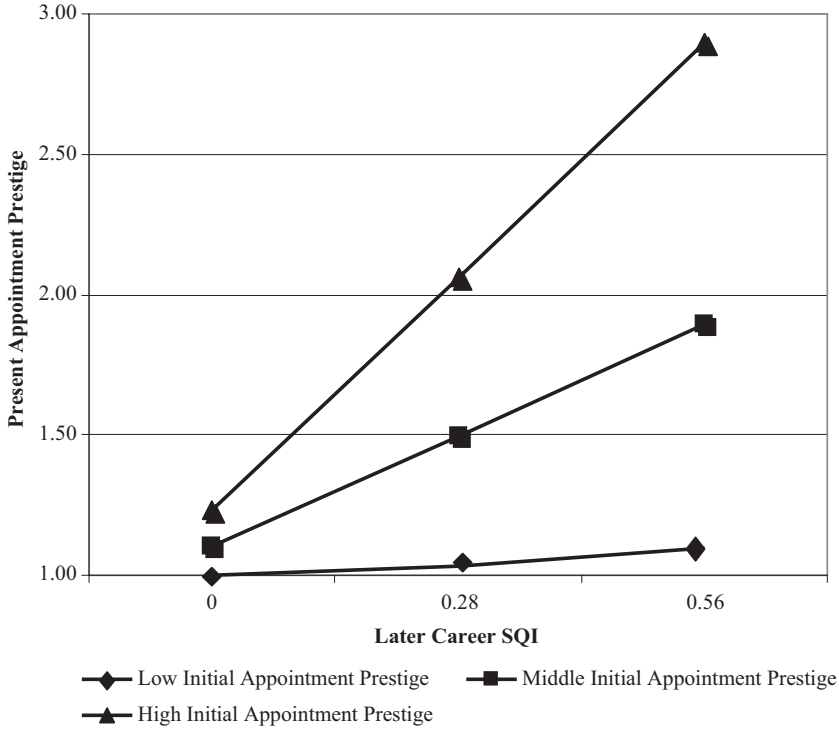

FIGURE 3
Interaction of Later Career SQI and Initial Appointment Prestige Predicting Present Appointment Prestige. *Note. SQI* = Scholarly Quality Index.

ences in slopes among the three functions illustrate how the impact of initial appointment prestige is greater for graduates of more prestigious doctoral programs than it is for those of less prestigious doctoral programs.

DISCUSSION

Our major focus here has been the initial and later career placement of PhD holders who graduated with a doctorate degree in management between 1977 and 1987. Our findings suggest that among individuals who have just received their doctorates, initial placement within the academic stratification system is directly related to the prestige of their doctoral institutions. Moreover, our data indicate that, early in their careers, individuals who are graduates of more prestigious doctoral programs will obtain greater job placement benefits (in terms of more prestigious initial academic appointments) from the perceived quality of their publications than individuals who are graduates of less prestigious doctoral programs. Further, consistent with the cumulative advantage perspective that has informed our theoretical framework, our findings suggest that, later in their careers, individuals who obtained more prestigious initial academic appointments hold more prestigious academic appointments than individuals who secured less prestigious initial academic appointments. This comports with data from the United States gathered by Williamson and Cable (2003) on 152 faculty members affiliated with 95 PhD programs in management. Their data revealed a direct correlation between doctoral origin prestige and prestige of the faculty members' current employing department. Finally, in support of the generalized Matthew effect, our findings indicate that this advantage will persist such that, later in their careers, individuals with more prestigious initial academic appointments will continue to obtain greater job placement benefits (in terms of more prestigious academic appointments) from the perceived quality of their publications than individuals with less prestigious initial academic appointments. In this sense, the prestige of a department is itself a reward or a penalty for its resident faculty (Hargens & Hagstrom, 1967).

The effects of doctoral origin prestige on the interaction between perceived early career SQI and initial appointment prestige and on the relationship between perceived later career SQI and present appointment prestige, shown in Figures 2 and 3, are quite striking in terms of the slope differences between prestige categories. Echoing a similar conclusion voiced by Long et al. (1998), our findings point to significant advantages held by productive researchers in high-prestige departments relative to their productive counterparts affiliated with lower prestige departments. For management professors in less prestigious departments, it is less likely that the benefits gained from refereed publications will yield the same opportunities to achieve high-prestige appointments.

Given the nature of our data, we can only speculate about factors that may underlie our findings. Contrary to the reasoning advanced in the present analysis, it is possible that prestige of doctoral origin is associated with other more fundamental variables indicative of scholarly ability. The most prestigious graduate departments of management, in fact, may produce the most qualified job candidates. If this were so, the relationship between prestige of doctoral origin and prestige of initial academic appointments would be consistent with the assignment of rewards based on merit (Bedeian & Feild, 1980). Our results and the reasoning underlying our hypotheses, however, are well founded in the academic literature on prestige as it relates to social stratification processes and are consistent with findings in many other disciplines.

In suggesting that recruitment patterns in management reflect an inherent academic stratification system, it appears that management is similar to other disciplines in the placement of its PhD graduates. Because of the management discipline's commitment to universalistic-achievement values in the allocation of rewards, including the ideals of advancement by merit (Bedeian, Van Fleet, & Hyman, 2009) and hiring "the best qualified individuals *wherever* they are" (Brown, 1967: 103), our findings may be disturbing to some within the discipline. After all, as a profession and in our classrooms we urge compliance with federal affirmative action guidelines and stress the importance of increasing the number and types of job candidates considered for employment. In a word, it is comforting to believe that management faculty members are more meritocratic and less swayed by considerations such as the prestige of a job applicant's degree when selecting new colleagues.

We suspect that veteran faculty, however, would concur with the basic validity of our findings, recognizing that "the academic marketplace is *competitive, but not perfectly*" (Han, 2003: 251). In this sense, compared to other professions, market forces within academia play a restricted role (Burris, 2004). Indeed, Moore et al. (1983) have doc-

umented how the academic market for emerging PhD graduates, in particular, is influenced more by perceived quality differentials (inferred by doctoral origin prestige) than price adjustments. The implications of this finding relative to the perspective underlying our hypotheses have been clearly stated by Smelser and Content (1980: 6): "If the allocation of academic services is to be characterized in market terms, then surely the principal operative currency is prestige."

D'Aveni (1996), among others, has suggested that an emphasis on perceived quality differentials as opposed to true differences in talent and motivation may make the leading PhD programs a closed system, wherein they hire one another's graduates to reinforce their own prestige. One danger that has been associated with staffing departments from a closed circle is that a small group of faculty will set the agenda for an entire discipline (Epstein, 2005). Kuhn (1970) has argued that in situations where scientists operate in social isolation, belief in the empirical validity of theories may be sustained long past the available evidence. The downside implications of such situations for the advancement of science, as well for the immobility of individual faculty, are quite real. The progress of science may be easily hindered by a closed circle of faculty who share the same cognitive framework through which they evaluate evidence (Grannis, 2007). At the individual level, use of socially derived particularistic processes rather than universalistic criteria in the recruitment and selection of faculty would represent a misallocation of positions. This would not only damage the advancement of the management discipline as a whole but, to the extent that prestigious positions and superior resources are allotted to those not best qualified to use them, would be unfair to individual scholars (Bedeian & Feild, 1981).

We hasten to add, however, that our data do not suggest that the management discipline is composed of a "rigid hierarchy of self-contained clusters where equally prestigious institutions trade faculty within the group and never allow outsiders participation" (Brown, 1967: 98). As indicated in Table 2, doctoral origin prestige explained 9% of the variance in prestige of our respondents' initial appointments. The remaining unexplained variance indicates that management departments do not hire exclusively from other departments within the same prestige strata. Some graduates from less prestigious departments evidently do obtain initial appointments in more prestigious departments. To shed light on the degree to which emerging graduates "move up," we arrayed the doctoral origin prestige–initial appointment prestige rankings used in our analysis into a 3 X 3 prestige-mobility matrix (Table 6). As would be expected, a chi-square analysis of the data contained in Table 6 confirmed a significant relationship, $X^2(6) = 224.91$, $p < .0001$, between emerging faculty members' doctoral origin and prestige of initial employment. In the table, 16.4% of emerging faculty are above the diagonal (upward mobility), 28.1% are along the diagonal (horizontal mobility), and 55.6% are below the diagonal (downward mobility). This is consistent with prior studies in other disciplines, indicating that academic mobility is mainly horizontal or downward, and less seldom upward (Burris, 2004).

An examination of the cell values in Table 6 reveals areas of greater or lesser mobility. Assuming randomness, we computed an observed/expected ratio of expected hiring frequencies for individual cells.[2] A ratio greater than 1 indicates

TABLE 6
Academic Placement Distribution by Prestige Ranking of PhD-Granting and Hiring Departments: 1977–1987

PhD-Granting Department Prestige	Hiring Department Prestige			
	Low Prestige	Middle Prestige	High Prestige	Total
Low prestige				
Raw *n*	15	6	5	26
Row percent	57.7	23.08	19.23	
Column percent	16.67	17.14	10.87	
Ratio	1.10	1.13	.72	
Middle prestige				
Raw *n*	27	9	17	53
Row percent	50.94	16.98	32.08	
Column percent	30.00	25.71	36.96	
Ratio	.97	.83	1.19	
High prestige				
Raw *n*	48	20	24	92
Row percent	52.17	21.74	26.09	
Column percent	53.33	57.14	52.17	
Ratio	.99	1.06	.97	
All Departments				
Raw *n*	90	35	46	171
Percent	52.63	20.47	26.90	100

Note. Raw *n* = raw number of PhDs; percent = % of the entire sample; ratio = ratio of the actual number of PhDs to the expected number assuming randomness (i.e., row marginal times column marginal divided by total *n*). $X^2(6) = 224.91$, $p < .0001$.

[2] We also examined the patterns of residuals in Table 6 to determine which cells contributed most to the significant chi-square value. Following Reynolds (1977: 11–12), we calculated

that the graduates in each cell are overrepresented. A ratio less than 1 means the opposite. Emerging graduates from low-prestige departments are overrepresented in their own strata as well as among middle-prestige departments. On average, emerging graduates from less prestigious departments, however, are the only group that tends to be hired disproportionately by other departments within the same prestige strata. This suggests that what Baldi (1994) has termed "intra-prestige-group inbreeding" is a primary source of new PhD hires among less prestigious departments. Inversely, emerging graduates from middle-prestige departments are overrepresented among high-prestige departments and underrepresented in both their own strata and among lower prestige departments. These data thus suggest that middle-prestige departments provide an important labor supply for higher prestige departments. Further, these data imply that emerging graduates of higher prestige departments are likewise underrepresented within their own prestige strata. Finally, our data indicate that whereas emerging graduates from a less prestigious program may obtain initial appointments at similar or middle-prestige departments, the odds of securing such an appointment in a higher prestige department are long. Emerging graduates of middle-prestige departments, however, appear to stand a reasonable chance of moving up to a more prestigious department. Emerging graduates from high-prestige departments, however, appear to be largely unrestricted in their crossover mobility. Brown (1967: 98) has observed that the prestige ladder in academia is "more appropriately seen as a spectrum of circles with broadly overlapping membership." Our data are consistent with this view.

The finding that prestige rankings among PhD departments tend to shape opportunities for individuals trying to move between departments with different levels of prestige carries with it a message for those actively involved in management learning and education. In general, we suspect most faculty members—management or otherwise—advise their undergraduate students that "attending a highly rated graduate institution is paramount to landing a prestigious academic job upon graduation" (Wu, 2005: 53). Our results provide empirical support for what may otherwise appear to be mundane advice. The implications of this advice for the future career success of those contemplating pursuing a PhD in management are nonetheless profound. Mitchell (2007) has stressed the importance of proving future faculty members with realistic job previews of what they need to know to be successful. Like Mitchell (2007), we feel it is important to provide doctoral students with an understanding of the dynamics underlying professional careers. We would go further, however, to suggest that such knowledge should also be shared with prospective PhD students faced with navigating the inherent academic stratification system and comprehending the influence of doctoral origin prestige on future career mobility.

adjusted (standardized) residuals for each cell. All residuals except those of the center-left and center-bottom are significant at the $p < .05$ level, suggesting that the frequencies in the remaining seven cells are greater or smaller than they should be under an assumed model of independence.

Limitations

As with any research, the reported study has limitations. Unlike previous studies that used cross-sectional data or data restricted to a select set of departments or universities, our analysis employs uncensored longitudinal data covering up to 2 decades of our sample respondents' academic careers. The time order of sequential events is thus clear. One must be cautious, however, in generalizing our results to other cohorts. Whereas our data suggest that where a doctorate is earned is an "advantage to some and an unerasable disadvantage to others" (Fogarty & Saftner, 1993: 446), our findings may not apply to sample groups drawn from other time spans. Further, whereas it seems reasonable to assume that "within fairly broad limits" (Niland, 1972: 142) most individuals can be expected to accept a position with the most prestigious university offering them employment, it is possible that some do not seek high-prestige appointments because of the pressure to achieve in such environments (West & Newman, 1977: 380). Thus, a limitation of our study is the presupposition that the decision to accept one job offer over another does not reflect considerations that are more personal or idiosyncratic. In such situations, a desired lifestyle may be more important to an individual than being associated with a prestigious department. We also acknowledge that scholarly performance includes many elements beyond the quality of one's journal publications. Consequently, the evaluation of an individual faculty member may be based on a host of other factors (Hargens & Hagstrom, 1967). Journal publications, however, are generally cited as a principal criterion in judging scholarly success (Bedeian, Van Fleet, & Hyman, 2009). Finally, because sys-

tematic random sampling procedures were not employed in our data collection, unmeasured effects related to our focal variables may have influenced our comparisons to an unknown degree.

Directions for Future Research

Further research opportunities remain. It would be interesting to know the extent to which the cumulative advantage perspective articulated above is equally pronounced across management subfields. As Wiseman and Skilton (1999) have noted, publication practices and productivity vary within management as a discipline. This variation, at least in part, rests on different levels of paradigm development and contrasting research traditions. Along this same line, it would also be interesting to determine the extent to which the relationship between doctoral origin prestige and academic location is related to mobility within prestige strata (Hargens & Hagstrom, 1967). Might productivity be more highly related to mobility in lower tiers, with prestige of doctorate being a larger influence on mobility in upper tiers? It would likewise be interesting to know whether regional factors affect mobility within tiers independently of doctoral origin (Grofman, Feld, & Masuoka, 2005). Are departments in different geographic regions equally adept at placing their graduates? Are there regional placement patterns? Are there regional biases? Further, in that academic stratification systems vary across countries in terms of both numbers of prestige departments and in the steepness of the hierarchies within different tiers (Crane, 1970), future studies may wish to extend the present research to include other national contexts possessing alternative educational and normative structures. Extensions or refinements of the present research might also include other dimensions of scholarly productivity, as well as alternative prestige rankings. Finally, future researchers may wish to employ an alternative perspective to cumulative advantage theory and view a department's position within an academic stratification system as a form of social capital (Burris, 2004).

In conclusion, our findings should be of particular interest to both current students, many of whom can no doubt identify with the unfledged PhDs described in our opening vignette, and to prospective students contemplating careers in the management discipline. In addition, we hope that our findings provide management departments that produce PhD graduates, as well as members of the profession at large, with further insights into the academic stratification system operating within the management discipline. Management is evidently similar to other disciples in the degree to which doctoral origin prestige is an important determinant of early and later career opportunities.

APPENDIX

Sample Content and Process Activities

Content activities	Process activities
Authoring a scholarly book	Reviewed a scholarly book proposal for a publisher
Authoring a scholarly proceedings paper	Reviewed a practitioner book for a publisher
Presenting a scholarly conference paper	Reviewed a grant proposal for a funding agency
Authoring a practitioner book	Reviewed papers for a scholarly conference
Editing a scholarly journal	Served as a session chair for a scholarly conference
Editing a practitioner journal	Served as a discussant for a scholarly conference
Editing a scholarly book	Served as a professional association newsletter editor
Editing a readings book	Served as a professional association proceedings editor
Served on an editorial review board	Served as a advertising coordinator for a scholarly conference
	Served as a membership committee member for a professional association
	Served as ad hoc committee member professional association
	Served as a president or chair professional association
	Served as a governance board member professional association
	Served as a program chair professional association
	Served as any other professional association officer

Note. These sample activities are based on categories originally developed by Hunt and Blair (1987).

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