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WHAT CAUSES A MANAGEMENT ARTICLE TO BE CITED—ARTICLE, AUTHOR, OR JOURNAL?

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Citations to research articles in other research articles are increasingly used as a metric for assessing the impact of an article, the career success of researchers, and the quality and status of academic units and journals. Despite the growing importance of citations as a performance metric (Baldi, 1998; Monastersky, 2005; Starbuck, 2005), there is relatively little understanding of what drives citation rates for a given article. In this editorial, we report the results of a broad investigation into various factors that cause management articles to be cited. To make a long story short, we find that although certain characteristics of both articles (e.g., research plot, quality of writing) and authors (e.g., affiliation of the first author) influence citations, the single most important factor driving citations to an article is the prestige or average citation rate of the journal in which the article was published.

Before getting to the details of our investigation, let us first discuss why the question, What drives citations?, matters. As "frozen footprints on the landscape of scholarly achievement" (Cronin, 1984: 25), citations are part of the formal accounting process of science, documenting the origin and evolution of research streams over time. If the most important outcomes of science are the creation and dissemination of new knowledge, citations not only document the history of an investigation or research area, but also project its future. To the extent that management is characterized by weak paradigm development—and strong arguments have been advanced that it is (Pfeffer, 1993; Van Maanen, 1995)—then management researchers "face tremendous uncertainty in choosing research questions and methods that will allow contributions in the published literature" (Glick, Miller, & Cardinal, in press). Thus, citations to articles can shine a light on the otherwise dim path of gauging the viability of research streams.

Citations also matter to academic institutions—in particular, to journals and universities. For journals, editors can be so affected by citation rates that they change the types of articles they publish (Monastersky, 2005). For example, *Financial Management* changed its editorial policies regarding the types of articles it would accept in order to increase its citation rate (Borokhovich, Bricker, & Simkins, 1999). In like vein, the former editor of the *Journal of the American Medical Association* (*JAMA*), now one of the most cited journals in all of academia, acknowledged a similar deliberate effort to increase the journal's "impact factor" (IF; Garfield, 1955), or the number of citations accrued by an average article over a certain period of time: "When I began as the editor of *JAMA* in 1982, *JAMA*'s IF was in the range 3-4. Some considered this an embarrassment, so we set out to raise the IF as part of our efforts to improve the quality of the journal" (Lundberg, 2003: 253). Indeed, the impact factor has become so important to journals that a recent article in the *Chronicle of Higher Education* described it as "The Number That's Devouring Science" (Monastersky, 2005).

As for universities, citations have long been used as an index of institutional quality and prestige (e.g., Endler, Rushton, & Roediger, 1978). Citations garnered by academic departments are significantly related to rankings of their academic quality, and it is now commonplace to see published lists of the most impactful faculty and institutions (e.g., Dusansky & Vernon, 1998). The importance of top-tier publications and citations to those in the field of management has steadily increased as various popular publications (e.g., *BusinessWeek,* the *Financial Times)* have begun to integrate publication in top-tier journals and research impact into their

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rankings of business schools. Because such rankings drive student applications and alumni donations, they are having an impact on the internal policies of business schools (Martins, 2005; Zell, 2005). Moreover, Fee, Hadlock, and Pierce (2005) found that business school dean turnover increased following drops in the schools' *BusinessWeek* rankings and *U.S. News and World Report*'s student placement scores.

Perhaps most palpable, however, is the impact that citations have on individual researchers. Christenson and Sigelman (1985) argued that how often one's work is cited is a measure of scholarly "influence," and Turner and Rojouan (1991) concluded that citations measure "international visibility." As a result, researchers' impact factors are used in appointment, promotion, pay, and external funding decisions (Diamond, 1986; Seglen, 1997). Gomez-Mejia and Balkin (1992) estimated the marginal dollar value of a single citation to articles in top-tier journals (the same 21 journals included in the present study) at $192 in 1988, with a future value of $1,522 and a cumulative annuity of $13,350 in 2011. Moreover, the importance placed on citations in appraising researchers' careers extends well beyond the United States. For example, Monastersky (2005) reported that Spain has passed a law dictating that researchers be rewarded for publishing in journals with high impact factors, and in China scientists are often given substantial monetary bonuses (in the thousands of dollars) for publishing in high-impact journals.

Is this focus on citation rates more than a temporary *Zeitgeist*? We believe that it is. Changes in information technology are transforming the dissemination of information in ways that bear directly on the importance of citation rates. For example, because electronic media have made a wide variety of journals available in many parts of the world, researchers now have access to a much wider range of sources for locating prior research. With this increased access, both the mean and variability of citation rates may increase, making them a potentially more important and relevant factor. However (and somewhat paradoxically), having more journals at one's fingertips may exacerbate the perceived need to be selective about what one reads. As Glass observed more than 50 years ago, "No problem facing the individual scientist is more defeating than the effort to cope with the flood of published scientific research, even within one's own narrow specialty" (1955: 583). As a result, researchers may find it increasingly expedient to focus mainly (or solely) on articles in journals that have been previously sanctioned via high average citation rates.

Finally, software is now readily available that greatly facilitates tracing an article's citations. The originator of the impact factor and founder of the Institute for Scientific Information (ISI), Eugene Garfield, started the organization in a converted chicken coop in Thorofare, NJ, in 1960. Since that time, ISI (and the metrics it compiles, most notably the Science Citation Index and Social Science Citation Index) has grown into an endeavor with hundreds of employees and a database of more than 550 million citations (Perkel, 2005). In sum, as a result of the advances in information technology, the link between citation counts and individual and institutional status seems likely to strengthen in the future.

Thus, citation counts matter to both institutions and individuals, and many predict that they will matter even more in the future than they do now. The task of understanding what causes articles to be cited, then, is an important one. In the research reported here, we used individual articles as the unit of analysis to examine two broad schools of thought that have emerged on this issue.

UNIVERSALISM VERSUS PARTICULARISM IN PUBLISHING

According to the rational, *universalistic* view of science, an article or other publication should be accepted for publication and cited when it (1) offers original contributions to science and (2) is designed and executed to high quality standards, regardless of its author's reputation or placement in the academic stratification system (Cole & Cole, 1973; Merton, 1973). According to a universalistic perspective, scientific progress and its corresponding citations should be open to all and should not be reserved for a few "elite" individuals who secure jobs at visible, prestigious institutions (Cole & Cole, 1972). From this perspective, it is irrelevant who wrote a paper—what matters is that the paper makes an original, high-quality contribution to science.

Merton's concept of universalism is essential to effective, meritocratic publication and dissemination of research findings. However, critics of the publication and stratification system in science have counterproposed a *particularistic,* or *social constructivist* (Baldi, 1998) perspective, suggesting that citations may be based on the *source* of a scientific contribution (e.g., a scientist's status and background) rather than its substance or merits (Cole & Cole, 1973). Illustrative of the particularistic perspective is the "Matthew effect," defined as "the accruing of greater increments of recognition for particular scientific contributions to scientists of considerable repute and the withholding of such recognition from scientists who have not yet made

their mark" (Merton, 1968: 58). From a particularistic perspective, publication decisions and citations are focused on the personal status of a writer, not the quality and contribution of the research per se.

It is with these ideas of universalism and particularism in mind that we examine various factors that predict the citation rates of management articles. Specifically, we discuss four categories of variables that may influence citations: (1) purely universalistic inputs to a paper, (2) purely particularistic attributes of the scientist or scientists who wrote the paper, (3) variables that combine both universalistic and particularistic processes, and (4) control variables.

Universalistic Predictors

Idea. Perhaps the most important input to a research paper is the originality of the idea. "The institution of science has developed a reward system designed to give 'recognition and esteem to those scientists who have . . . made genuinely original contributions to the common stock of knowledge'" (Cole & Cole, 1967: 382, citing Merton, 1957). Both Gottfredson (1978), in the field of psychology, and Beyer, Chanove, and Fox (1995), in the field of management, found that originality was one of the best predictors of quality judgments about research articles. Additionally, Newman and Cooper found that articles with "exploration plots"—ones that explore new paradigms, or "carry a paradigm into more unknown territory" (1993: 520)—received more citations than articles that refined or extended existing theories. Thus, we expected to find that an article is more likely to be cited when it has an exploration research plot, meaning that that is developing or introducing a novel idea, rather than refining or extending an existing one.

Methodology. Regardless of the quality of an idea, the ability to draw inferences about a phenomenon is constrained by the quality of the methods used to gather data about it. Thus, the quality of a study's methods has implications for its contribution to the literature and its potential for citation by others. In his study of editorial boards' judgments about psychology papers, Gottfredson (1978) found that poor methods were a common reason for judgments of low quality. Similarly, Shadish, Tolliver, Gray, and Sengupta (1995) found that a study's methods or design features were significantly related to subsequent citations. Although there is no definitive checklist that authors can use to ensure high quality, in our study we focused on methodological features that enhance internal or external validity for empirical research in management and the social sciences (e.g., Campion, 1993; Cook & Campbell, 1979). For example, the presence of data from two or more independent data sources improves the quality of a paper by reducing common method bias. Thus, we expected to find that empirical research articles are more likely to be cited when they have (1) high response rates, (2) independent data sources, (3) longitudinal designs, (4) acceptable scale reliabilities, (5) nonstudent samples, and (6) multiple studies.

Writing. Finally, we examine the clarity of a researcher's presentation of his or her work as an input that may affect a paper's contribution to a literature. Research papers represent science's communication system, and communications must be comprehensible to be useful (Beyer et al., 1995; Merton, 1968). Thus, we expect that the clarity of a paper will affect the degree to which other researchers cite it. Specifically, we examine the clarity and readability of a paper's basic presentation as a key element in the communication of ideas to other scientists. In addition, we examine the extent to which a paper clearly discusses its limitations, because this process clarifies what the paper does and does not contribute to the literature and also highlights directions for future research. Third, we examine the extent to which a paper discusses the implications of its findings. Implications help other researchers understand practical uses of information, why a topic is important, and how it relates to previous research. Fourth, higher-impact papers may be longer than low-impact papers, because "more substantive scientific contributions will plausibly require greater elucidation than less substantive contributions" (LaBand & Piette, 1994: 148). Beyer and her coauthors suggested that "authors who present their results and ideas in more detail and at greater length can document more clearly what they have and have not done, and thus impress and reassure reviewers" (1995: 1230). Longer journal articles may also signal article quality because journal space is a limited commodity that is allocated via stiff competition (LaBand & Piette, 1994). To summarize, we expect to find that articles are more likely to be cited when they feature (1) clear presentation, (2) clearly noted limitations, (3) clear implications, and (4) high page counts.

Particularistic Predictors

Particularism suggests that, with both the intrinsic quality of a paper and its outcomes (e.g., journal placement) controlled for, researchers may be more likely to cite papers that are written by individuals with certain attributes. Three author characteristics on which readers might base their citation decisions

include the author's publication history, the prestige of the author's affiliation, and the author's gender.

A researcher's past productivity likely results in social prominence and thus can lead to "social credit" (LaBand, 1986) or a Matthew effect (Merton, 1968). As Merton suggested, "The overloading of the scientific communication system leads scientists to choose their reading matter on the basis of an author's preceding reputation, often further enhancing that reputation" (1968: 597). Peer scientists also may be more likely to cite papers written by high-status individuals because it confers legitimacy on their own papers. Mitra discussed the "malpractice" of "sprinkling a few citations as an afterthought for merely enhancing the respectability of one's paper" (1970: 120).

Second, the prestige of a scientist's university also sends signals to peers about his or her social position, because there are far fewer elite schools than there are scientists. A high-status institution "sponsors" an individual's research by draping it in respectability (Cole & Cole, 1967: 390). Likewise, Crane (1965) found that productive biology, political science, and psychology scientists at prestigious universities gained recognition more often than equally productive scientists at lesser universities. Helmreich, Spence, Beane, Lucker, and Matthews (1980) found that the reputations of psychology researchers' departments were positively related to their subsequent citations.

Finally, a particularistic perspective suggests that author gender may affect a paper's citations. As Rossiter noted, "Women scientists have been ignored, denied credit, or otherwise dropped from sight" (1993: 325), a contention that is consistent with Cole (1979) and Helmreich et al.'s (1980) findings that male scientists were more frequently cited than their female counterparts. Although universalism demands that authors' personal attributes be irrelevant to scientific contribution (Bedeian & Feild, 1980), in a particularistic approach gender is considered because gender typically can be inferred from authors' names.

Mixed Predictors: Journal Placement and Pole Position

To this point, we have discussed how scientists might cite papers that are well-constructed and add to the literature, and/or papers that are written by well-known authors at prestigious schools. However, evaluating research papers on the basis of the quality of their inputs is time consuming. Given a limited ability to process information in the face of escalating amounts of new scientific information, researchers may adopt heuristics to help them screen the clutter of new research papers. Thus, rather than thoroughly evaluating every paper for its intrinsic quality or the prestige of its authors, scientists may use some visible outcomes of papers as signals of their value and the desirability of reading and citing them (Starbuck, 2005).

Perhaps the best signal of the quality of a paper is the journal in which it is published. The peer review system serves as a quality screen that is more rigorous at higher-quality journals, so that the best journals receive better papers to begin with and reject more of them than do low-impact journals (e.g., Donohue & Fox, 2000). Journal quality may thereby signal higher value to potential readers and citers (LaBand, 1986; LaBand & Piette, 1994). Thus, even an assessment controlling for the intrinsic quality of a paper as well as the prestige of its author(s) might show that peer scientists are more likely to read and cite papers that appear in the best journals.

In addition to journal placement, a second signal of an article's quality is whether it is the lead article in an issue. The lead article is often assumed to be the best paper in an issue, because it is widely believed that journal editors place the best paper in the "pole position." We confirmed this anecdotal evidence about paper positioning by contacting 16 current or recent editors of journals included in our study. Of the 16, only 4 indicated that perceived article quality played no role in article placement; 9 indicated that quality played some role (usually, only for lead article placement); and 3 indicated that quality played the primary role in selection of the lead article. Given researchers' limited time for processing the flood of new articles and the potential quality signal sent by lead article position, it seems likely that peer scholars are more likely to read and cite the first article in a journal issue.

Although journal quality and pole position send signals about the quality of an article, the extent to which this process is universalistic versus particularistic is debatable. On the one hand, relying on a paper's certified outcomes to guide reading and citation decisions is a universalistic process, so long as these outcomes reflect contributions to science and are open to authors from any background or position in the academic stratification system. This assumption has commonly been made in the sociology of science literature (Cole & Cole, 1967), and empirical research on the manuscript review process has shown that universalistic characteristics (e.g., article attributes) are far stronger predictors of article acceptance than particularistic ones (e.g., author characteristics [e.g., Beyer et al.,

1995]).[1] On the other hand, it is likely that some nonuniversalistic processes also are at work when scientists rely on journal quality and article placement to guide their reading and citation decisions. For example, even at journals that use blind peer review, author status and affiliation may influence editors, who may "front-load" articles by prominent scholars as a way of legitimizing the journals. In view of this mix of universalistic and particularistic principles, as well as the signaling value of journal reputation in an information-saturated world, we would expect the quality of the journal an article appears in and the article's position in the journal to affect the article's citation rate, independent of other characteristics of the article.

Control Variables

To provide better estimates of the effects of our conceptual variables, we controlled for several additional factors that could affect citations. First, because older articles have a greater opportunity to accrue citations, we controlled for the year an article was published (Shadish et al., 1995). Second, because reviews may be more heavily cited than individual empirical pieces, we controlled for whether a paper was a quantitative (i.e., metaanalytic) or qualitative review. Third, because it is known that some research domains garner more attention and research activity than others (Garfield, 2006; Kerr, Tolliver, & Petree, 1977), we controlled for the broad topic area of each article (e.g., organizational behavior, human resource management, strategic management). Finally, we controlled for the number of references cited in each article, because when there are more authors cited, there are more authors to "return the favor" in the future, thus perhaps increasing the article's citation count (Gilbert, 1977).

METHODS

Sample

To assess the predictors of scientific impact, we needed to examine a representative set of articles. In this study, we focused on a set of articles published in the 21 management journals that Gomez-Mejia and Balkin (1992) rated as the top tier in a survey of management department chairs conducted in 1988. This classification allowed us to balance a diverse set of journal characteristics with a sufficient number of articles from each journal (so as to examine the effects of journal characteristics on article impact). The journals were *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Decision Science*, *Harvard Business Review*, *Human Relations*, *Industrial and Labor Relations Review*, *Industrial Relations*, *Journal of Applied Behavioral Science*, *Journal of Applied Psychology*, *Journal of International Business Studies*, *Journal of Management*, *Journal of Management Studies*, *Journal of Occupational and Organizational Psychology*, *Journal of Organizational Behavior*, *Journal of Vocational Behavior*, *Management Science*, *Organizational Behavior and Human Decision Processes*, *Personnel Psychology, Psychological Bulletin*, and *Strategic Management Journal*.

For each of the 21 journals, we selected the first and last articles (excluding special issue introductions and papers the journals placed in a secondary category, such as research notes) from the first issue published in 1990 and from alternating subsequent issues (e.g., issue 3, issue 5) published that year and in subsequent years through 1994. Thus, on average, we selected 30 articles from each journal (6 articles per year), although the number of articles varied depending on how many issues were published in each journal. In all, 614 articles were included.

Measures

Scientific impact. Impact was measured as number of citations that had accrued for each article over the period January 1990–July 2006 on the ISI Web of Science. Two coders recorded the number of citations (ICC[1,k] = .99). As the distribution of citations was highly skewed—2 percent of the articles had generated no citations, 53 percent had been cited 20 times or less, and 8 percent had been cited more than 100 times—we transformed this variable by taking its square root (Cohen & Cohen, 1983: 263). The transformation helped normalize the distribution, dramatically reducing skew (from 6.35 to 2.32) and kurtosis (from 53.61 to 9.24).

Universalistic attributes: Idea. Article attributes were coded by one of the authors, and an advanced graduate student also coded the majority of the attributes. Perreault and Leigh's (1989) reliability index (I_r) was used to assess reliability for categorical variables, and intraclass correlations were used to assess reliability for continuous variables.

Whether an article followed an *exploration research plot* was coded following Newman and Cooper's (1993) coding scheme. Specifically, each article was coded as following one of three research

[1] In saying this, we do not wish to imply that journal acceptance decisions are without error; that there is error in journal decision processes has been convincingly demonstrated (Peters & Ceci, 1982; Starbuck, 2005). We speak here mostly to the issue of whether errors are widely associated with particularistic biases.

plots: refinement (studies with independent and dependent variables that had been tested before); extension (studies of existing dependent variables that developed new links with independent or moderator variables); or exploration (studies that explore change in a fundamental part of an existing theory or variable network). Newman and Cooper found that the smallest percentage of articles had exploration research plots, yet such studies had the most scientific impact. Accordingly, we coded exploration research plot as 1 and the other two plots (refinement and extension) as 0.

Universalistic attributes: Methodological. For empirical articles, several methodological attributes were coded. *Response rate* was the response rate for each study reported in an article. Where multiple response rates were reported, they were averaged. For *independent data sources* and *longitudinal design*, an article was coded 0 if the attribute was not present in one or more of its studies and 1 if the attribute was present. *No student sample(s)* was coded 1 if no student samples were used and 0 if student samples were used in one or more studies. *Reliability* in the measures was coded 1 if measures had minimally acceptable levels of reliability, as defined by the classic Nunnally (1978) standard of .70, and 0 if the measures were not reliable, if single-item measures were used, or if reliability information was not reported. *Number of studies* was coded as the number of independent studies reported in an article (range = 1–5). Because of their potential impact on other methodological attributes, *laboratory study* and *archival study* (coded 1 if present, 0 otherwise) were also included as methodological attributes.

Universalistic attributes: Writing. *Presentation clear and readable* was evaluated on a scale ranging from 1, "difficult to read," to 4, "all information was well organized and well written." *Limitations clearly noted* was coded on a scale ranging from 1, "no mention of limitations," to 4, "relatively complete discussion of limitations." *Practical implications clearly described* was rated from 1, "no mention of practical implications," to 4, "complete discussion of practical implications." Because reliabilities of the coding decisions were slightly lower than desired, we subsequently dichotomized the three writing variables, with 0 representing the lowest rating on each scale (e.g., "difficult to read," "no mention of limitations," "no mention of practical implications") and 1 representing the other ratings. This modification produced reliable codings for all three variables. *Length of article* was coded as a simple page count.

Particularistic attributes. *Top-tier publications of authors* was measured as the total number of publications published by each author in the 21 journals identified by Gomez-Mejia and Balkin (1992) in the years 1956–2000. Because this variable was positively skewed, we applied a square root transformation to it. We coded *highest prestige of affiliation* (at the time an article was written) using the *Gourman Report* quality rating (Gourman, 1997) for the author at the highest-rated school. Although the *Gourman Report,* which assigns continuous quality ratings to U.S. universities on a 1.00–5.00 scale, has been criticized (Bedeian, 2002), all university prestige measures suffer from limitations. The important advantage of the *Report* in the present study was its comprehensiveness—other measures of university prestige, such as the *U.S. News and World Report* annual survey—do not rate virtually every university, as does the *Gourman Report*. Nevertheless, the *Report* ratings display convergent validity with other measures of university prestige (Cable & Murray, 1999). In two situations, Gourman data were unavailable. When an author was employed outside of academia, we assigned a rating of 1 to the prestige of his or her affiliation (in academic circles, being employed in industry is generally thought to have low scientific prestige; see Beyer et al. [1995]). When an author was employed in a university outside the United States, we assigned a midpoint rating of 3. Finally, *gender of first author* was coded from each article (1 = "male," 0 = "female").

Mixed universalistic and particularistic attributes. We used two complementary measures to operationalize journal quality: journal citation rate and journal prestige. *Journal citation rate* was coded from the 1999 *SSCI Journal Citation Reports,* as reported by Starbuck (http://www.stern.nyu.edu/~wstarbuc/), which summarize bibliographic citations in social science journals. The citation rate for a journal was the average number of citations received in one year by the articles that had appeared in the journal during the two previous years. Starbuck's citation rates, at least within the confines of the 21 journals in this study, showed nearly perfect stability for 1999–2002 (r = .999). We used Starbuck's citation rates adjusted for area norms and exponentially smoothed. *Subjective prestige of journal* in which an article was published was measured with data collected by Glick, McKelvey, Cooper, Huber, and Zmud (1997). In this study, 176 of the most prolific management scholars (1987–97) rated the quality of 44 management journals on a scale ranging from 1, "poor," to 7, "one of the top five journals." Consistently with previous research (e.g., Johnson & Podsakoff, 1994), Glick et al. reported strong interrater agreement in the rankings (ICC[3,k] = .99). *Article first in issue*

was coded 1, "lead article," and 0, "last article" (excluding research notes).

Controls: Article attributes. Whether an article was a *meta-analysis* (1 = "yes," 0 = "no") or a *qualitative literature review* (1 = "yes," 0 = "no") as well as the *year article was published* (90 = "1990," etc.) were coded from the articles. Content area was coded by classifying the article's content on the basis of the Academy of Management domains and computing dummy variables for the most frequent content domains: *organizational behavior* (22%), *human resource management* (14%), and *strategic management* (18%). *Number of references cited* in each article was a simple count.

Analyses. We estimated three structural equation models (SEMs) predicting scientific impact (the square root of the number of citations) for different subsets of the data: (1) primary quantitative empirical articles (n = 342), (2) review or theoretical articles or other articles with no quantitative data (n = 272; excludes methodological attributes), and (3) all articles combined (n = 614; again, excluding methodological attributes, since review and theoretical articles were part of the total). In the structural equation models, we estimated the direct effects of all variables on article citations as well as the indirect effects of the control variables, universalistic attributes, and particularistic attributes on article citations through the mixed variables associated with journal placement (i.e., journal citation rate, subjective prestige of journal, and article first in issue). We corrected for measurement error in variables assessed by two coders using interrater reliability estimates.

RESULTS

Table 1 presents descriptive statistics, correlations, and interrater reliabilities of the study variables. As the table shows, the average number of total citations was 41.84. Variables having the highest bivariate correlations with article citations are journal citation rate (r = .44), number of references cited (r = .41), and subjective prestige of journal (r = .35).

Tables 2, 3, and 4 summarize the path coefficients for models of quantitative empirical articles, review/theoretical articles, and the two sets combined, respectively, as well as the direct, indirect, and total effects of all variables on article citations. The results can be summarized according to the variable categories. With respect to the *control variables*, we found (as would be expected) that more recently published articles were cited less often in the empirical and combined models. Meta-analyses (for review/theoretical articles and all articles combined) and articles with more references (in all three models) were cited more often, with the coefficients for meta-analyses being quite large, and more direct than indirect (through journal or article placement). Organizational behavior content (in the empirical and combined models) had a positive direct effect on citations, but a negative indirect effect (in the model testing review/theoretical articles) because of a negative relationship with journal quality indicators. Similarly, HR content (in the combined model) had a negative indirect effect on citations.

Turning to *universalistic attributes (idea)*, we found that articles with exploration research plots had higher citations in the empirical and combined models, primarily because of a direct effect on citations. With respect to *universalistic attributes (methodological),* only two methodological characteristics had a significant total effect on citations. As expected, articles with longitudinal designs were cited more often. However, response rate was unexpectedly negatively related to citations. Additionally, an article's use of independent data sources had a significant, positive indirect effect on citations, an effect that was offset by a negative direct effect. In terms of *universalistic attributes (writing),* articles with clear presentation (in the review/theoretical and combined models) and longer articles (in the combined model) were cited more often. Clearly describing implications (in the empirical model) had a positive direct effect on citations, but a nonsignificant total effect. However, noting limitations was not associated with future citations, nor did we find a curvilinear relationship between noting limitations and citations.

With respect to *particularistic attributes*, the number of top-tier articles by the authors of a sample article (in the combined model) and the highest prestige of affiliation (in the review/theoretical and combined models) significantly predicted citations. In the model for quantitative empirical articles, highest prestige of affiliation had an indirect effect on citations (through journal prestige and pole position).

With respect to journal characteristics and article placement (i.e., mixed universalism and particularism), the citation rating for the journal in which an article was published was a significant, positive predictor of article citations in all three SEMs. In contrast, the journal's *subjective* prestige rating positively predicted citations for empirical articles and all articles combined, but not for theoretical/review articles. Being the first article in an issue also positively predicted citations for all articles combined. It is also noteworthy that the sizes of these effects (particularly for journal characteris-

TABLE 1
Means, Standard Deviations, and Correlations of Study Variables[a]

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. Year article was published	92.04	1.42																											
2. Meta-analysis	0.03	0.16	−.02	(.99)																									
3. Qualitative literature review	0.07	0.22	.01	−.05	(.94)																								
4. Organizational behavior content	0.22	0.35	−.04	.16	−.04	(.79)																							
5. Human resources content	0.15	0.32	.00	.06	−.03	−.17	(.88)																						
6. Strategic management content	0.14	0.31	.03	−.08	−.04	−.25	−.21	.90																					
7. Number of references cited	46.47	34.20	.12	.05	.44	.07	−.05	.04	.99																				
8. Exploration research plot	0.09	0.23	.01	−.07	−.08	.03	−.04	−.02	.25	.87																			
9. Response rate (%)	78.41	32.58	−.19			.00	−.02	−.08	−.23	−.15																			
10. Independent data sources	0.51	0.42	.04			−.20	.04	.17	.19	.10	.10	(.59)																	
11. Longitudinal design	0.31	0.41	.03			−.12	−.04	.14	.03	.07	.16	.29	(.79)																
12. Reliability demonstrated	0.21	0.37	.03			.17	.12	−.13	.08	.02	−.20	−.05	−.07	(.85)															
13. No student sample used	0.74	0.42	−.03			−.19	.03	.25	.12	.03	−.20	.20	.21	.03	(.95)														
14. Number of studies	1.17	0.59	.03			.12	−.02	−.13	−.13	.03	.09	−.07	−.13	.00	−.31	(.85)													
15. Laboratory study	0.22	0.41	.00			.13	−.06	−.19	−.09	−.04	.20	−.12	−.20	−.11	−.73	.31													
16. Archival study	0.20	0.40	.01			−.32	.01	.27	−.07	−.01	.33	.21	.46	−.24	.28	−.13	−.26												
17. Presentation clear and readable	0.23	0.32	.01	.00	.02	.06	.06	.15	.01	.08	−.16	.01	−.10	.18	.04	.05	−.07	−.15	(.64)										
18. Limitations clearly noted	0.20	0.36	.10	.01	−.14	.17	.13	.01	.08	−.01	−.13	.00	−.05	.18	−.01	−.03	.02	−.13	.18	(.87)									
19. Implications clearly described	0.33	0.39	.03	−.02	−.12	−.15	.01	.31	−.04	−.03	−.13	.12	.01	.05	.13	−.10	−.09	−.04	.33	.10	(.64)								
20. Length of article	18.38	7.05	.14	−.01	.16	.05	−.05	−.02	.58	.26	−.03	.22	.10	−.14	.01	.01	.05	.01	−.08	.10	.04	(.98)							
21. Journal citation rate	1.59	1.37	−.01	.12	.16	−.10	−.07	.06	.27	.08	−.05	.30	.23	.01	.11	−.06	−.11	.12	.11	−.02	.06	.04							
22. Subjective prestige of journal	4.93	0.92	.01	−.01	−.05	−.19	−.12	.17	.16	.16	.00	.31	.21	−.09	.00	.04	.09	.12	.12	.06	.09	.09	.47						
23. Article first in issue	0.50	0.50	−.01	.05	.14	.04	−.07	.03	.18	.09	.04	.02	.02	.01	−.03	.05	.07	−.03	.01	−.02	.02	.17	.00	.00	(.99)				
24. Top-tier publications of authors	9.95	11.13	−.01	.12	−.04	.05	.15	.07	.07	.02	−.02	.03	−.01	.14	−.05	.05	.12	−.10	.15	.14	.00	.02	.03	.18	.12				
25. Highest prestige of affiliation	3.88	1.03	−.03	.00	.05	.03	−.10	.02	.17	.05	−.05	.07	.04	.04	.08	.08	.04	.03	.00	.09	.03	.17	.11	.28	.15	.30			
26. Gender of first author[b]	0.81	0.37	.02	−.01	.03	−.22	−.05	.14	−.05	−.04	.01	.05	.02	.00	.12	.03	−.03	.08	.00	−.04	−.03	−.05	.00	.14	.01	.08	.01		
27. Article citations	41.84	81.47	−.06	.18	.15	.09	−.04	.10	.41	.24	−.27	.10	.11	.13	.09	−.05	−.11	−.10	.18	.09	.10	.30	.44	.35	.17	.20	.25	−.06	(.99)

[a] Article citations and top-tier publications of authors were transformed using square root transformation (the descriptive statistics are the untransformed variables). Correlations involving methodological quality variables were estimated on the basis of the primary empirical articles only (n = 342). All other correlations are for the total sample of articles (n = 614). For the full sample, correlations greater than or equal to .08 are significant at $p < .05$; correlations greater than or equal to .10 are significant at $p < .01$; correlations greater than or equal to .13 are significant at $p < .001$; all two-tailed tests. Interrater reliability estimates are shown in parentheses on the diagonal. Perreault and Leigh's (1989) reliability index was used for categorical variables, and intraclass correlations (ICC[1,k]) were used for continuous variables.

[b] Coded 1 = "male."

TABLE 2
Structural Equation Models Predicting Article Citations for Quantitative Empirical Articles[a]

Variables	Path Coefficients: With Journal Citation Rate	Path Coefficients: With Journal Prestige	Path Coefficients: With Article First in Issue	Path Coefficients: Direct Effect with Citations	Indirect Effect on Citations	Total Effect on Citations
Article attributes: Controls						
Year article was published	−.10	−.01	.02	−.16*	−.02	−.18*
Organizational behavior content	−.20*	−.23*	.01	.26*	−.10*	.16
Human resources content	−.03	−.15	−.05	.08	−.05	.03
Strategic management content	.10	.12	.03	.06	.05	.11
Number of references cited	.03	.11	.05	.17*	.04	.21*
Universalistic attributes: Idea						
Exploration research plot	.11	.07	.07	.16*	.05	.21*
Universalistic attributes: Methods						
Response rate	−.03	−.02	.07	−.17*	.00	−.17*
Independent data sources	.24*	.26*	−.02	−.12	.12*	.00
Longitudinal design	.17*	.18*	.02	.11	.08*	.19*
Reliability demonstrated	.01	−.07	.03	.05	−.02	.03
No student sample used	−.14	−.09	.03	−.03	−.05	−.08
Number of studies	−.04	.02	.03	.01	.00	.01
Laboratory study	−.07	.16*	.03	−.10	.03	−.07
Archival study	−.03	−.04	−.06	−.04	−.02	−.06
Universalistic attributes: Writing						
Presentation clear and readable	.34*	.38*	−.10	−.09	.16*	.07
Limitations clearly noted	−.01	−.06	−.04	.01	−.02	−.01
Implications clearly described	−.08	−.10	−.03	.20*	−.05	.15
Length of article	.10	.00	.04	.05	.02	.07
Particularistic attributes						
Top-tier publications of authors	.08	.07	.16*	.04	.04	.08
Highest prestige of affiliation	.05	.16*	.14*	.02	.06*	.08
Gender of first author[b]	−.03	.06	−.03	−.04	.01	−.03
Mixed universalistic and particularistic						
Journal quality/prestige						
Journal citation rate				.18*		.18*
Subjective journal prestige				.28*		.28*
Article first in issue				.08		.08

[a] $n = 342$.
[b] Coded 1 = "male."
* $p < .05$

tics) tended to be larger than those associated with either universalistic or particularistic characteristics of the articles or their authors.

To determine the relative contributions of each of the independent variable sets, we regressed citations on the six variable sets both individually and incrementally. (We assumed linear effects across the variables; this may not be the case for all research purposes.) Table 5 provides the results of this variance partitioning. Overall, the results revealed relatively strong and significant multiple correlation between the set of independent variables and scientific impact. When entered individually, each variable set explained significant variance in article impact. Furthermore, in only three cases—*universalistic attribute (idea)* for review/theory articles, *universalistic attribute (writing)* for primary empirical articles, and *particularistic attributes* for primary empirical articles—did an independent variable set fail to explain significant unique variance in impact (measured as the decrease in R^2 when the variable set was removed from the full regression). Mixed universalistic-particularistic attributes (i.e., journal quality and article first in issue) explained the most variance, both individually and incrementally, in impact,

TABLE 3
Structural Equation Models Predicting Article Citations for Review or Theoretical Articles[a]

Variables	Path Coefficients: With Journal Citation Rate	With Journal Prestige	With Article First in Issue	Direct Effect with Citations	Indirect Effect on Citations	Total Effect on Citations
Article attributes: Controls						
Year article was published	.02	−.02	−.05	−.07	.00	−.07
Meta-analysis	.13	.03	.13	.26*	.06	.32*
Qualitative literature review	−.07	−.21*	.27*	.04	−.02	.02
Organizational behavior content	−.11	−.23*	−.02	−.11	−.06	−.17
Human resources content	−.11	−.12	−.07	.02	−.06	−.04
Strategic management content	−.11	−.08	−.01	.05	−.05	.00
Number of references cited	.56*	.30*	.06	.07	.23*	.30*
Universalistic attributes: Idea						
Exploration research plot	−.08	.07	.17	.08	.00	.08
Universalistic attributes: Writing						
Presentation clear and readable	.25	.14	−.11	.30	.09	.39*
Limitations clearly noted	.01	.10	.03	−.04	.02	−.02
Implications clearly described	−.05	−.12	.32	−.16	.00	−.16
Length of article	−.34*	−.19*	.12	.26*	−.12*	.14
Particularistic attributes						
Top-tier publications of authors	−.13	.06	.08	.02	−.03	−.01
Highest prestige of affiliation	.12	.20*	.04	.18*	.06*	.24*
Gender of first author[b]	−.06	.07	.09	−.01	−.01	−.02
Mixed universalistic and particularistic						
Journal quality/prestige						
Journal citation rate				.35*		.35*
Subjective prestige of journal				.10		.10
Article first in issue				.09		.09

[a] $n = 272$.
[b] Coded 1 = "male."
* $p < .05$

followed by purely universalistic variables (idea, methodology, and writing) and trailed by purely particularistic ones (author publications, affiliation, and gender). Thus, purely universal characteristics had a greater impact than particularistic ones. However, the largest impact of all was obtained for mixed characteristics associated with journal impact and article placement.

DISCUSSION

Our results suggest that universalistic, particularistic, and mixed universalistic-particularistic characteristics all play significant roles in the extent to which research articles in the field of management are cited. However, in terms of unique variance explained by substantive (as opposed to control) variables, our results suggest that the single best predictor of citation is publication in a journal with a high average citation rate. This finding is consistent with Glass's (1955) contention that time-constrained readers employ a journal quality heuristic to help them determine which articles are most worthy of attention. It is also consistent with Frank and Cook's (1995) observation that economic and technological changes are increasing the rewards (in this case, citations) for the winners of contests for the "very best" (top-tier journal publication, in this case), even when the next-best (publication in another journal) is quite close to the best in quality, and variability is high (that is, article quality varies widely within journals) (e.g., Starbuck, 2005).

The considerable effect that subjective journal prestige and average journal citations have on the citations received by an individual article has several interesting and important implications. First, as citations become ever more important in tenure,

TABLE 4
Structural Equation Models Predicting Article Citations for All Articles Combined[a]

Variables	Path Coefficients: With Journal Citation Rate	With Journal Prestige	With Article First in Issue	Direct Effect with Citations	Indirect Effect on Citations	Total Effect on Citations
Article attributes: Controls						
Year article was published	−.03	−.02	−.02	−.09*	−.01	−.10*
Meta-analysis	.15*	.03	.05	.12*	.05*	.17*
Qualitative literature review	.02	−.17*	.14*	.05	−.01	.04
Organizational behavior or content	−.22*	−.32*	.05	.14*	−.10*	.04
Human resources content	−.13*	−.19*	−.05	.05	−.07*	−.02
Strategic management content	−.05	.00	.01	.08	−.01	.07
Number of references cited	.34*	.19*	.03	.14*	.12*	.26*
Universalistic attributes: Idea						
Exploration research plot	.03	.08	.08	.12*	.03	.15*
Universalistic attributes: Writing						
Presentation clear and readable	.17*	.20*	−.06	.09	.07*	.16*
Limitations clearly noted	.00	.05	−.04	.01	.00	.01
Implications clearly described	−.01	−.08	.09	.05	−.01	.04
Length of article	−.16*	−.02	.09	.14*	−.04*	.10*
Particularistic attributes						
Top-tier publications of authors	−.02	.09*	.12*	.07	.01	.08*
Highest prestige of affiliation	.08	.21*	.08	.09*	.05*	.14*
Gender of first author[b]	−.05	.06	.02	−.03	.00	−.03
Mixed universalistic and particularistic						
Journal quality/prestige						
Journal citation rate				.28*		.28*
Subjective prestige of journal				.14*		.14*
Article first in issue				.07*		.07*

[a] $n = 614$.
[b] Coded 1 = "male."
* $p < .05$

promotion, salary,[2] and external hiring decisions, the pressure on authors to place their work in top-tier outlets will increase. Indeed, top journals in most fields (not only management) are feeling the pressure of rising submission rates (Monastersky, 2005).[3] Along with rising numbers of submissions come increases in "desk rejection" rates, or the numbers of manuscripts that are not even sent out for full review. For example, Monastersky (2005) reported 50 percent desk rejection rates in some high-impact journals. These high rates occur in part because journals simply cannot afford to fully review an endlessly increasing number of articles, and in part because the average quality of articles submitted is diminished when authors of low-quality articles feel they have to "give it a try" at top-tier journals before approaching lower-tier or less-cited outlets.

If these trends are creating challenges for top-tier journals, they are creating equal (if not greater) difficulties for lower-tier and niche journals. As Monastersky stated, "Pressure to publish in the highest-impact science journals—*Nature, Science,* and *Cell*—has led researchers to compete more and more for the limited number of slots in those broader journals, thus diminishing the specialty titles that have traditionally served as the main

[2] Gomez-Mejia and Balkin (1992) calculated the value of *each* top-tier article (operationalized as a publication in any one of the 21 journals included in the present study) at $1,210 in 1988, with a future value of $9,589 and a cumulative annuity of $84,134 in 2011. The absolute value of *all* top-tier publications (for the average faculty member in their study) was $9,209 in 1988, with a future value of $72,978 and a cumulative annual annuity of $640,305.

[3] This trend includes *AMJ*, where submissions have risen approximately 80 percent over the past seven years.

TABLE 5
Variance Partitioning of Independent Variable Sets[a]

Variables	Quantitative Empirical Articles	Review or Theoretical Articles	All Articles Combined
Article attributes: Controls			
R^2 alone	.21**	.24**	.22**
R^2 unique	.06**	.05**	.05**
Universalistic attributes: Idea			
R^2 alone	.09**	.03**	.06**
R^2 unique	.02**	.01	.01**
Universalistic attributes: Methodological			
R^2 alone	.12**		
R^2 unique	.05**		
Universalistic attributes: Writing			
R^2 alone	.15**	.14**	.13**
R^2 unique	.01	.05**	.02**
Universalistic attributes: Combined			
R^2 alone	.26**	.15**	.15**
R^2 unique	.09**	.06**	.04**
Particularistic attributes			
R^2 alone	.07**	.11***	.08**
R^2 unique	.01	.03**	.02**
Mixed universalism and particularism			
R^2 alone	.25**	.26**	.25**
R^2 unique	.11**	.14**	.11**
Full model			
Multiple R	.68**	.69**	.65**
Overall adjusted R^2	.43**	.43**	.40**

[a] Values are for R^2 alone when the variable set was entered into a regression predicting impact alone. Values for R^2 unique are the drop in R^2 when the variable set was removed from the full regression.

** $p < .01$

*** $p < .001$

publications of each discipline" (2005: A12). Furthermore, some journal editors admit that they now take likely citations into account when deciding which articles to accept or reject. Still others have been accused of the unethical behavior of asking authors whose papers are under review to cite more previous studies from their own journals (Monastersky, 2005). Additional distortions are being caused by the fact that various lists produced to assist in the ranking of business school productivity omit discipline-based journals (such as *Journal of Applied Psychology* and *Organizational Behavior and Human Decision Processes;* see Judge [2003]) that are just as good, or better, than many journals these lists do include.

Under these conditions, it does not take much imagination to realize that these trends are stressful, not just for journal editors, but also for authors. Starbuck (2005) indicated that the pressures on faculty to produce top-tier publications has been *increasing* fastest among lower-ranked business schools. Given the difficulty of publishing in top-tier journals, along with the errors that can occur in the review process, most junior faculty members are seriously disadvantaged by systems that emphasize journal placement over individual article quality. However, arguing for the quality of an article that appears in a second- or third-tier journal is a risky business, especially since the arguments must carry over the multiple disciplines involved in promotion and tenure processes in business schools. Indeed, we ourselves have seen promotion and tenure committees disparage the quality of top-tier articles far more often than we have seen them praise the quality of second-tier ones.

Although we see the strong influence of journal placement as a cause for some concern (or at the very least, as a cause for much more careful evalu-

ation of individual article quality in promotion and tenure decisions), we do see some good news in the rather small effects of particularism on citations. This is not to say that there were no particularistic aspects operating in the knowledge dissemination process; our results reveal that authors' affiliations and previous top-tier publications both had significant effects on citations, at least for theoretical or review pieces. However, in the case of nonempirical work, an article's impact was almost completely dependent on astute topic selection and adroit argumentation. As such, although particularistic associations with citation rates for theoretical pieces may be due entirely to the (particularistic) Matthew effect, they may also reflect the effects of some universalistic article attributes that are difficult to measure (e.g., stage in a research stream or creativity of framing). To the extent that hiring and promotion processes for academics have validity, it is likely that there is some correlation between unmeasured universalistic aspects of researcher quality (e.g., creative ability) and particularistic measures of career success (e.g., university reputation). In reality, it is likely that causality is multidirectional, with higher-quality researchers being hired by more prestigious organizations that, in turn, provide additional resources that contribute to even higher quality in the researchers' future publications.

Still, our results are not consistent with previous claims of rampant particularism in scientific opportunity and reward structures (e.g., Merton, 1968). At least two factors may explain discrepancies with some of these prior results. First, particularism in *hiring*, particularly for newly minted Ph.D.'s (e.g., Cable & Murray, 1999), may be stronger than particularism in publication decisions and citations because hiring processes are inherently *not* blind, whereas most high-quality journals treat blindness as an almost sacred aspect of the review process. Second, the higher range restriction in research productivity at the newly minted Ph.D. stage than at later career stages (Merton, 1988) increases the signaling value of early-stage proxies for productivity, such as the reputation of one's school or advisor.

In addition, prior findings of particularism in citations have been obtained mainly in the physical sciences (Garfield, 1987), as opposed to the social sciences and management. Relative to management research, research in the physical and health sciences generally requires heavier up-front investment in the form of laboratories and high-tech equipment (Powell & Owen-Smith, 1998; Slaughter & Leslie, 1997). In addition, physical science research is more likely to be conducted in large teams headed by prominent, grant-earning researchers. In such resource-dependent environments, the advantages of association with high-prestige, resource-rich universities or with prominent scientists who have garnered the resources to run large research laboratories may be larger than the comparable advantages in the social sciences.

A final notable result from our analyses is the considerable citation payoff to meta-analysis. The direct effect coefficient for citations to meta-analyses among review or theoretical articles is .26, with another .06 added indirectly through journal placement and article positioning. The attractiveness of meta-analyses is quite easy to see, as they simultaneously summarize previous literature, provide estimates of effect sizes for multiple relationships, and identify potential moderator variables all in single papers. Indeed, Rousseau and McCarthy (2007) believe that meta-analyses are one of the best tools scholars have for sharing trustworthy information with practitioners in the service of "evidence-based management." On the other hand, the rewards to meta-analysis (which include frequent "best paper" awards in addition to high citation levels) may be reducing enthusiasm for conducting the primary studies on which meta-analyses are based. (For example, the chair of an Academy division's Scholarly Achievement Award Committee indicated that virtually all the nominations for the award were meta-analyses, since committee members doubted that any primary study would have the subsequent clout of a meta-analysis.)

Implications

Our results have at least two major implications from the perspective of the individual author. First, looking at aspects of research that are largely under the control of a researcher, we find that researchers can increase the number of times their work is used by others by conducting either qualitative or quantitative (i.e., meta-analytic) literature reviews, conducting empirical studies that clearly extend the theoretical base of existing literature (via exploration research plots), employing longitudinal designs in empirical research, and ensuring that their presentations are clear and readable. Thus, our results support the idea that it is worthwhile for authors to master the basics of scientific authoring: idea generation, theory construction, and clear writing (Huff, 1998).

However, the strong effects for journal citation rate (and to a lesser extent, journal reputation) suggest that the importance of idea quality and clear writing is considerably magnified to the extent that they result in placement in a journal with a higher average impact factor. A clear implication for re-

searchers hoping to ensure that their work is widely read and utilized is to target it to journals with the highest objective impact (i.e., highest citation rate). Of course, the fact that it is rational for individuals to pursue this strategy under the present reward system creates all kinds of pressures and inefficiencies at other points in the system and may cost individuals enough precious time that they end up with far fewer total publications than they would achieve if they sometimes aimed lower on a first try.

Limitations and Contributions

Although we took considerable care in building our database, this research nevertheless has limitations. For example, some of the variables (such as topic area) were measured at a fairly broad level, and others (stage of research stream, number of researchers working in area) were not measured at all. Likewise, in choosing the variables to focus on, we tried to consolidate the piecemeal collection of article attributes investigated in past research in order to offer a comprehensive test of our hypotheses; but we might have investigated many other factors, including the clarity of an intended contribution and the degree to which a paper opens up or shuts down a stream of research. Although some exclusion was unavoidable, given the wide range of topics and journals covered, our broad data nevertheless mean that variance is reflected either in the error term or in (measured) universalistic, particularistic, or article characteristics. Also, as noted, although our data are longitudinal, our results are still bounded by time (citations are still being accumulated) and by the phase of the knowledge generation process (that is, we did not study the editorial review process). Another potential limitation is that the effects for top-tier publications of authors may be partially a result of authors with more publications having more opportunities for self-citation.

Additionally, it is possible that the particularistic attributes act as moderators, in that universalistic attributes may be more likely to translate into citations for those with particularistic strength. For example, high-quality articles may be even more likely to be cited when they are written by well-regarded authors or appear in well-regarded journals. Although this is an interesting hypothesis, there are so many particularistic and universalistic variables that scores of interaction terms would be required to test it. Nevertheless, this issue is an interesting one for future research.

Finally, it is possible an analysis of an even broader array of management journals might change the results. For example, although more recent analyses suggest that most of the top-tier journals designated by Gomez-Mejia and Balkin (1992) are still viewed as prestigious (see Glick et al., 1997), other journals, such as *Organization Science*, have moved into the top 20 since 1992 (e.g., Glick et al., 1997; Tahai & Meyer, 1999). However, our best guess is that broadening the range of journals studied would, if anything, increase the variance attributed to universalistic characteristics, via lessened range restriction.

Despite these limitations, we believe that our study offers a single, relatively comprehensive examination of piecemeal results found in past research. Our findings shed new and mixed light on the citation process. Although our study reveals that citations are not allocated on a purely universalistic basis, it nevertheless suggests that universalistic characteristics dominate particularistic ones. As such, our results support the idea that individuals can positively influence their prospects of producing influential work by focusing on the basics of the scientific method, from start (idea generation) to finish (presentation of ideas). These are factors that other researchers (as well as the present study) have found to influence the likelihood of placing work in high-quality journals—which, our results suggest, further increases the likelihood of strong article impact.

Overall, then, we view our results as suggesting that the knowledge dissemination process is working largely as it should with respect to journal placement. Although the process does not operate without error, universalistic characteristics do appear to meaningfully outweigh particularistic ones. On the other hand, the average article clearly gets a citation boost from appearing in a highly cited *journal*—a boost that may have far less to do with the quality of the article itself than with the signaling power of the journal and the time limitations of busy scholars. In turn, this boost causes a host of subsidiary inefficiencies, such as excessive submissions to a small set of journals, wasted time for authors who go through many rounds of revisions (often at many journals), and difficulties for high-quality niche journals and journals that for one reason or another do not make particular lists that matter to academic departments and business periodicals. These are systemic effects that reach far beyond the confines of the journal review process.

REFERENCES

Baldi, S. 1998. Normative versus social constructivist processes in the allocation of citations: A network-

analytic model. ***American Sociological Review,*** 63: 829–846.

Bedeian, A. G. 2002. Caveat emptor: The Gourman Report. ***Industrial-Organizational Psychologist,*** 39(1): 32–33.

Bedeian, A. G., & Feild, H. S. 1980. Academic stratification in graduate management programs: Departmental prestige and faculty hiring patterns. ***Journal of Management,*** 6: 99–115.

Beyer, J. M., Chanove, R. G., & Fox, W. B. 1995. The review process and the fates of manuscripts submitted to *AMJ*. ***Academy of Management Journal,*** 38: 1219–1260.

Borokhovich, K. A., Bricker, R. J., & Simkins, B. J. 1999. *Financial Management*'s success as an academic journal. ***Financial Management,*** 28(X): 76–82.

Cable, D. M., & Murray, B. 1999. Tournament vs. sponsored mobility determinants of job search success. ***Academy of Management Journal,*** 42: 439–449.

Campion, M. A. 1993. Article review checklist: A criterion checklist for reviewing research articles in applied psychology. ***Personnel Psychology,*** 46: 705–719.

Christenson, J. A., & Sigelman, L. 1985. Accrediting knowledge: Journal stature and citation impact in social science. ***Social Science Quarterly,*** 66: 964–975.

Cohen, J., & Cohen, P. 1983. ***Applied multiple regression/correlation analysis for the behavioral sciences*** (2nd ed.). Hillsdale, NJ: Erlbaum.

Cole, J. R., & Cole, S. 1972. The Ortega hypothesis. ***Science,*** 178: 368–375.

Cole, S. 1979. Age and scientific performance. ***American Journal of Sociology,*** 84: 958–977.

Cole, S., & Cole, J. R. 1967. Scientific output and recognition: A study in the operation of the reward system in science. ***American Sociological Review,*** 32: 377–390.

Cole, S., & Cole, J. R. 1973. ***Social stratification in science***. Chicago: University of Chicago Press.

Cook, T. D., & Campbell, D. T. 1979. ***Quasi-experimentation: Design & analysis issues for field studies.*** Chicago: Rand-McNally.

Crane, D. 1965. Scientists at major and minor universities: A study of productivity and recognition. ***American Sociological Review,*** 30: 699–714.

Cronin, B. 1984. ***The citation process.*** London: Taylor Graham.

Diamond, A. M. 1986. What is a citation worth? ***Journal of Human Resources,*** 21: 200–215.

Donohue, J. M., & Fox, J. B. 2000. A multi-method evaluation of journals in the decision and management sciences by US academics. ***Omega,*** 28: 17–36.

Dusansky, R., & Vernon, C. J. 1998. Rankings of U.S. economics departments. ***Journal of Economic Perspectives,*** 12: 157–170.

Endler, N. S., Rushton, J. P., & Roediger, H. L. 1978. Productivity and scholarly impact. ***American Psychologist,*** 33: 1064–1082.

Fee, C. E., Hadlock, C. J., & Pierce, J. R. 2005. Business school rankings and business school deans: A study of nonprofit governance. ***Financial Management,*** 34: 143–166.

Frank, R. H., & Cook, P. 1995. ***The winner-take-all society.*** New York: Free Press.

Garfield, E. 1955. Citation indexes for science: A new dimension in documentation through association of ideas. ***Science,*** 122: 108–111.

Garfield, E. 1987. Mapping the world of science: Is citation analysis a legitimate evaluation tool? In D. N. Jackson & J. P. Rushton (Eds.), ***Scientific excellence:*** 18–39. Newbury Park, CA: Sage.

Garfield, E. 2006. The history and meaning of the journal impact factor. ***Journal of the American Medical Association,*** 295: 90–93.

Gilbert, G. N. 1977. Referencing as persuasion. ***Social Studies of Science,*** 7: 113–122.

Glass, B. 1955. News and notes. ***Science,*** 21: 583–596.

Glick, B., McKelvey, B., Cooper, M., Huber, G., & Zmud, B. 1997. ***1997 INFORMS committee review of*** **Organization Science:** ***Survey feedback from surveys of journal reputations*** (Unpublished report). INFORMS.

Glick, W. H., Miller, C. C., & Cardinal, L. B. In press. Making a life in the field of organization science. ***Journal of Organizational Behavior.***

Gomez-Mejia, L. R., & Balkin, D. B. 1992. Determinants of faculty pay: An agency theory perspective. ***Academy of Management Journal,*** 35: 921–955.

Gottfredson, S. D. 1978. Evaluating psychological research reports: Dimensions, reliability, and correlates of quality judgments. ***American Psychologist,*** 33: 920–934.

Gourman, J. 1997. ***The Gourman report.*** Los Angeles: National Education Standards.

Helmreich, R. L., Spence, J. T., Beane, W. E., Lucker, G. W., & Matthews, K. A. 1980. Making it in academic psychology: Demographic and personality correlates of attainment. ***Journal of Personality and Social Psychology,*** 39: 896–908.

Huff, A. S. 1998. ***Writing for scholarly publication.*** Thousand Oaks, CA: Sage.

Johnson, L. J., & Podsakoff, P. M. 1994. Journal influence in the field of management: An analysis using Salancik's index in a dependency network. ***Academy of Management Journal,*** 37: 1392–1407.

Judge, T. A. 2003. Marginalizing the *Journal of Applied Psychology*. ***Industrial Psychologist,*** 40(1): 56–59.

Kerr, S., Tolliver, J., & Petree, D. 1977. Manuscript characteristics which influence acceptance for management and social science journals. ***Academy of Management Journal,*** 20: 132–141.

LaBand, D. N. 1986. Article popularity. ***Economic Inquiry,*** 24: 173–180.

LaBand, D. N., & Piette, M. J. 1994. A citation analysis of the impact of blinded peer review. ***Journal of the American Medical Association,*** 272: 147–149.

Lundberg, G. 2003. The "omnipotent" Science Citation Index impact factor. ***Medical Journal of Australia,*** 178: 253–254.

Martins, L. L. 2005. A model of the effects of reputational rankings on organizational change. ***Organization Science,*** 16: 701–720.

Merton, R. K. 1957. Priorities in scientific discovery: A chapter in the sociology of science. ***American Sociology Review,*** 22: 635–659.

Merton, R. K. 1963. Resistance to the systematic study of multiple discoveries in science. ***Archives Europeennes de Sociologie,*** 4: 237–282.

Merton, R. K. 1968. The Matthew effect in science. ***Science,*** 159: 56–63.

Mitra, A. C. 1970. The bibliographic reference: A review of its role. ***Annals of Library Science,*** 17: 117–123.

Monastersky, R. 2005. The number that's devouring science. ***Chronicle of Higher Education,*** 52(8): A12.

Newman, J. M., & Cooper, E. 1993. Determinants of academic recognition: The case of the *Journal of Applied Psychology.* ***Journal of Applied Psychology,*** 78: 518–526.

Nunnally, J. 1978. ***Psychometric theory.*** New York: McGraw-Hill.

Perkel, J. M. 2005. The future of citation analysis. ***Scientist,*** 19: 24–25.

Perreault, W. D., & Leigh, L. E. 1989. Reliability of nominal data based on qualitative judgments. ***Journal of Marketing Research,*** 26: 135–148.

Peters, D. P., & Ceci, S. J. 1982. Peer-review practices of psychological journals: The fate of published articles, submitted again. ***Behavioral and Brain Sciences,*** 5: 187–255.

Pfeffer, J. 1993. Barriers to the advance of organizational science: Paradigm development as a dependent variable. ***Academy of Management Review,*** 18: 599–620.

Powell, W. W., & Owen-Smith, J. 1998. Universities and the market for intellectual property in the life sciences. ***Journal of Policy Analysis & Management,*** 17: 253–277.

Rossiter, M. W. 1993. The Matilda effect in science. ***Social Studies of Science,*** 23: 325–341.

Rousseau, D. M., & McCarthy, S. 2007. Educating managers from an evidence-based perspective. ***Academy of Management Learning and Education,*** 6: 84–101.

Seglen, P. O. 1997. Why the impact factor should not be used for evaluating research. ***British Medical Journal,*** 314: 498–502.

Shadish, W. R., Tolliver, D., Gray, M., & Sengupta, S. K. 1995. Author judgments about works they cite. ***Social Studies of Science,*** 25: 477–498.

Slaughter, S., & Leslie, L. 1997. ***Academic capitalism: Politics, policies, and the entrepreneurial university.*** Baltimore: Johns Hopkins University Press.

Starbuck W. H. 2005. How much better are the most-prestigious journals? The statistics of academic publication. ***Organization Science,*** 16: 180–200.

Tahai, A., & Meyer, M. J. 1999. A revealed preference study of management journals' direct influences. ***Strategic Management Journal,*** 20: 279–296.

Turner, W. A., & Rojouan, F. 1991. Evaluating input/output relationships in a regional research network using coword analysis. ***Scientometrics,*** 22: 139–154.

Van Maanen, J. 1995. Style as theory. ***Organization Science,*** 6: 133–143.

Zell, D. 2005. Pressure for relevancy at top-tier business schools. ***Journal of Management Inquiry,*** 14: 271–274.

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