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ORIGINAL ARTICLE

Clustering Research Activity in Communication Doctoral Programs: Relationship of Publication Productivity and Department Size to Disciplinary Reputation and Prestige

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This study extends previous work relating contemporary approaches to the comparative evaluation of doctoral programs, focusing on the 2004 NCA study (based on perceptual measures) and the ComVista system (based on publication patterns). Coding and analyzing the ComVista data for topical content revealed 17 clusters of intellectual activity in the field, grouped doctoral programs into nine categories of publication frequency and distribution, and found substantial prediction of NCA ratings for perceived quality of doctoral faculty. Results suggest that these data are principally based on peer perceptions of faculty publication activity, that more specialized publication activities tend to be perceived more favorably, and that the number of publishing faculty in a program is strongly related to positive perceptions of faculty quality.

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The comparative evaluation of academic programs has become a common feature of contemporary higher education with a long history of interest within the communication field. Early studies of doctoral program reputation were conducted under the auspices of the Association of Communication Administration by Renee Edwards and her colleagues (Edwards & Barker, 1977, 1979a, 1979b, 1983, 1984; Edwards & Pood, 1987; Edwards, Watson, & Barker, 1988; Watson, Edwards, & Barker, 1989). More recently, in addition to two influential studies conducted by the National Communication Association in 1996 and 2004, the National Research Council (NRC) has included comparative assessment of the field's graduate programs in its current study. As well, two entirely new systems of comparative assessment have been introduced in the past 3 years: the Faculty Scholarly Productivity Index (FSPI)

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from the Academic Analytics Corporation (AAC) and the ComVista system from the Communication Institute for Online Scholarship (CIOS). With highly ranked communication programs commonly proclaiming their standings on departmental web pages, there is evidence that departments faring well in these assessments have been quick to adopt these data for public relations purposes. However, such data are valuable to all programs for a variety of important uses that include recruiting faculty and students, building cases to university administration in support of additional resources and programs, and, in the case of the ComVista system, for differentiating departments from their peer institutions on the basis of their research strengths and foci.

Stephen (2008) has provided a detailed comparison of the methodological approaches of the four systems of assessment currently in play—National Communication Association (NCA), NRC, AAC, and CIOS. One core difference is especially apparent in the contrast between the measurement strategies of the NCA and that of the CIOS's ComVista system. The NCA's measurement strategy, modeled on earlier NRC studies, relies exclusively on perceptual measures of faculty opinion regarding program quality. In fact, the 2004 NCA doctoral program rankings were based on the averaged responses to a single 6-point Likert-type item, taken from an earlier NRC study, inquiring about the scholarly quality of program faculty as ranked from "Distinguished" to "Not sufficient for doctoral education" (a seventh response possibility allowed respondents to opt out of a rating). Two other items similarly presented inquired about "program effectiveness in educating researchers" and program "quality change" over the last 5-year period. Data from these additional questions were reported but not used in the NCA rankings.

By contrast, the measurement strategy of the CIOS's ComVista system is similar to that of the AAC's FSPI, relying exclusively on behavioral measures: publication counts tallied across department personnel. These two methodologically distinct assessment systems, one wholly perceptual and the other wholly behavioral, are similar in that they are designed to serve the needs of the communication field specifically. The NRC and AAC systems are designed for generic, multidisciplinary assessment, and, perhaps because of the broader focus of their methods for sampling and categorizing doctoral programs, do not provide the same degree of specificity as regards program focus as the NCA and ComVista assessments. For example, the NCA assessment distinguishes among nine areas of focus in doctoral education and the ComVista assessment ranks programs using nearly 100 categories of research. By contrast, the NRC lumps all communication programs into a single group and the AAC provides just one distinction: that between communication programs versus mass communication and media programs.

The purpose of the present study was to explore correspondences between the perceptual ratings of the NCA assessment and the behavioral data of the ComVista assessment, the two approaches created and deployed within the field. Such an analysis has value because it may help to address concerns about validity in the two approaches, especially of the NCA system. Hollihan (2004) has documented

sources of controversy that resulted from the 2004 NCA Doctoral Reputational Study. Among them was the criticism that because the study's rankings were based on subjective perceptual data it enabled respondents "to make intellectually lazy judgments about the quality of different departments" (p. 5). On the other side of the equation, previous attempts to rank scholars and programs based purely on publication counts (e.g., Barker, Roach, & Underberg, 1980; Hickson, Stacks, & Amsbary, 1989; Hickson, Stacks, & Bodon, 1999) have met with the criticism that merely counting publications does not accurately reflect quality (e.g., Erickson, Fleuriet, and Hosman, 1993). Thus, insofar as the NCA ranks can be taken as an indication of perceived scholarly quality of program faculty, it would be valuable to compare outcomes from that study with those of the ComVista system to establish the degree of correspondence between them. Stephen (2008) began this process by correlating rough publication tallies by subject area for departments with the NCA reputational ratings in correspondent areas of disciplinary focus. Moderate to strong positive correlations were found in eight of the nine areas assessed by the NCA and the single most face-relevant category of the ComVista data (e.g., the NCA's rating for organizational communication and the ComVista count of publications classified as organizational communication scholarship). The study also found that prediction was enhanced when all faculty publications were counted, not just those of the most recent 5-year period, a restriction of other assessment systems.

This study extends this work in several ways. First, it uses cluster analysis to examine correspondences between divisions of interest evident in the research literature cataloged in ComVista and the NCA's nine divisions of interest. Second, it uses multiple regression analysis (MRA) to combine ComVista categories and improve prediction of the NCA data. Third, it examines the relationship of the NCA ratings to other metrics of departmental publication productivity, including department specialization of publication activity across areas of intellectual focus, department size, and the proportion of faculty without publications appearing in the ComVista corpus.

Summary of the methodologies of the NCA and comvista approaches

The NCA study

The 2003/2004 NCA study ranked U.S. doctoral programs in terms of perceived scholarly quality of relevant faculty in nine areas for which an initial NCA survey revealed that a minimum of 15 doctoral programs provided special focus (Hollihan, 2004). These areas were communication technology, critical theory/cultural studies, health communication, intercultural/international communication, interpersonal and small-group communication, mass communication, organizational communication, political communication, and rhetorical studies.

In the NCA study, every program was allowed to select the areas of specialization in which it wished to be assessed. Faculty within each area of specialization were identified in a questionnaire sent to program administrators asking them to name

doctoral faculty and their areas of primary research and teaching (Hollihan, 2004). Although it proved controversial, no faculty member was permitted to be associated with more than two of a program's areas of specialization. As well, some faculty whose specialties fell outside the nine designated areas were excluded from contributing to the program's profile. Administrators were also asked to confirm that at least two doctoral students had either graduated or were currently working within each area in which the program wished to be assessed. Thus, programs were rated in an area of specialization only if there were faculty and students active in that area.

In the second phase of the assessment another questionnaire was distributed at all institutions in the study to all doctoral faculty. Respondents were invited to evaluate any of the doctoral programs other than their own in any of the nine areas of specialty identified for the program unit in which the faculty rater felt knowledgeable. The 84-page instrument for this assessment listed the names of faculty associated with each program unit and the assessment was intended to refer specifically to those people as a group. This part of the survey had a response rate of 33%.

ComVista methodology

CIOS's ComVista system is a continuously updated Internet database tracking the research productivity of all programs of communication at 4-year institutions in the United States and Canada. Thus, the ComVista sample significantly exceeds that of the NCA study. The ComVista database was constructed initially by sweeping institutional web sites and collecting departmental rosters. Following this, letters were sent to departmental representatives inviting them to provide manual corrections and updates (in this case through an online process that provides the department direct control of its own entry in the database). The ComVista database is not limited to doctoral programs or doctoral faculty; rather, it ranks all programs on the basis of the publication history of all department faculty.

Using automated name-matching technology, ComVista makes use of the CIOS's ComAbstracts database to credit publications against rosters of departmental personnel. ComAbstracts is a reasonably comprehensive database of the field's academic journal publications, covering at this time approximately 55,000 articles from 110 communication and journalism journals and annuals with depth to 1915. A full list of included journals is available online (Communication Institute for Online Scholarship, n.d.). ComVista awards full credit for each publication to each author regardless of authorship position. Department totals reflect the total number of individual authorship credits. Articles in ComAbstracts are coded using a controlled set of high-level codes representing two groups. One group was derived from statistical analysis of key concept occurrences in the ComAbstracts corpus and the other is comprised of geographic terms (e.g., "Europe," "Asia," "Middle East"). Examples of the nongeographic coding labels are "African American issues and civil rights," "political elections," "conversation," "health," "interpersonal," "organizational," "conflict," "debate," "small-group roles," "advertising," "cognition," "classical rhetoric," "prestige press," and "news." Articles can receive multiple codes

as appropriate to reflect scholarship focused across categories. Thus, the tally of codes by department will usually exceed the count of articles. In all, ComVista tracks all program units for their productivity in approximately 100 areas of research. The ComVista data reflect total departmental authorship credits broken down into these categories.

Results

Identifying the field's divisions of interest

One of the unique methodological features of the NCA study was its division of the field's educational programs into nine categories. This was accomplished by polling doctoral programs about their areas of educational concentration and tallying the number of areas reported. The resulting nine divisions were those mentioned by at least 15 programs, and which met other minimums for faculty and student activity. According to Hollihan (2004), setting the threshold at 15 was arbitrary and received criticism by some who felt that it was not adequately representative. However, some procedure for establishing a reasonably differentiated understanding of the field's structure is essential in this kind of assessment. Programs with different concentrations are likely to have different requirements for staffing and resources, different relationships to other areas of the university, different traditions of scholarship and patterns of productivity, as well as other features that prevent valid comparison. With few or no distinctions, as in the AAC and NRC assessments, cross-program comparisons lose meaning, lumping programs of substantially different character. With too many distinctions, it may not be possible to identify appropriate peers for comparison.

Clearly the level of resolution provided by ComVista's raw coding categories overshoots the mark, being so finely detailed that it would likely not be useful in identifying the larger commonalities among the discipline's programs. One would not necessarily expect such a typology to match up with the NCA typology. In addition to differences in level of resolution, a typology based on areas of research activity is not the same as a typology based on educational programs. A department offering an educational concentration in political communication may staff it with faculty who publish in related areas and not in political communication directly, or who may have once published in the political communication literature but now pursue research in other areas. Or the area may be historical, remaining after scholars actively publishing in the area left the department.

For these reasons one would not expect a one-to-one correspondence between the structure of the field revealed by an NCA-style typology of its educational concentrations and the structure revealed by a ComVista-style typological exploration of the field's research. At the same time, a typological analysis of the ComVista research foci is not without relevance in considering questions that have been raised about the validity of the NCA typology. As well, such an analysis is certainly relevant to the broader question of how best to categorize the field's departments. To this

end a cluster analysis of the ComVista publication data was undertaken to reduce the full set of codes to a smaller number of naturally occurring topical groups. Cluster scores from this analysis were then input to a second cluster analysis, this time of departments with doctoral programs, the goal of which was to classify the departments on the basis of their pattern of topical research activity. A third cluster analysis was used to identify the divisions of the field at the highest level of abstraction. Each analysis was conducted with squared Euclidian distances in the dissimilarity matrix. The Ward method was used for deriving clusters.

Clustering research topics

Results of this analysis suggested that the field's research could be usefully categorized into 18 clusters. The first consisted of a large number of unrelated, relatively low-frequency topical content codes that did not group thematically. That cluster was dropped from further analysis. The remaining clusters are to a degree correspondent with the set of areas identified in the NCA assessment: Health, Organizational, Political, Communication Technology, and International/Intercultural are all represented. However, other divisions of the NCA analysis appear in the ComVista data with more complex structure. For example, while the NCA study assessed "Interpersonal and Small Group" as a single area, the ComVista analysis revealed that in addition to a general "Interpersonal" category there are four standalone clusters of research interest that separate out: One is suggestive of research with an interactional focus (conversation and small group); a second represents research on marriage, family, and children; a third is comprised of research that is suggestive of psychological approaches to interpersonal (emotion, nonverbal, personality and psychology, interpersonal competence); and a fourth is comprised of the codes for conflict, persuasion, and gender. Similarly, the ComVista analysis provides a more detailed representation of the mass communication area, which it segments on the basis of publication emphasis into broadcasting and television versus print journalism and news. The rhetoric area is also divided between studies coded simply as rhetoric versus a related set comprised of studies coded for law, history, democracy, and debate. The NCA category "critical theory/cultural studies" was not represented even though the ComVista system does provide a code for critical theory.

Clustering departments

The second analysis clustered departments based on each one's history of faculty productivity with regard to the 17 topical content areas defined in the previous step. The sample for this analysis was limited to the 55 doctoral departments that were clearly correspondent between the NCA and ComVista samples (see Stephen, 2008, for a discussion of procedures for establishing these correspondences). This analysis revealed 10 types of programs, one of which was dropped as it represented only a single department (University of Missouri at Columbia). Figures 1–9 break down the research emphases of these groups of departments, showing at the group level the

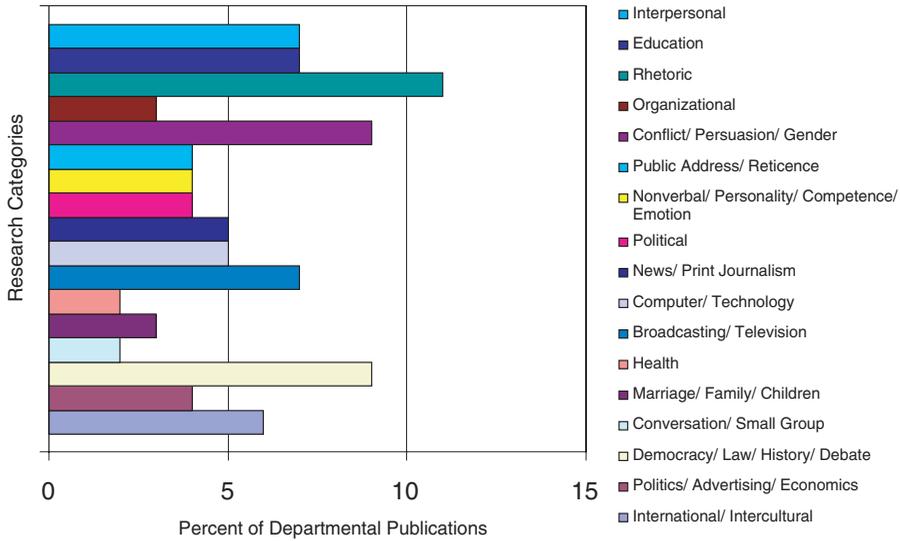


Figure 1 Cluster 1 (e.g., U. Colorado/Journalism, Wayne State).

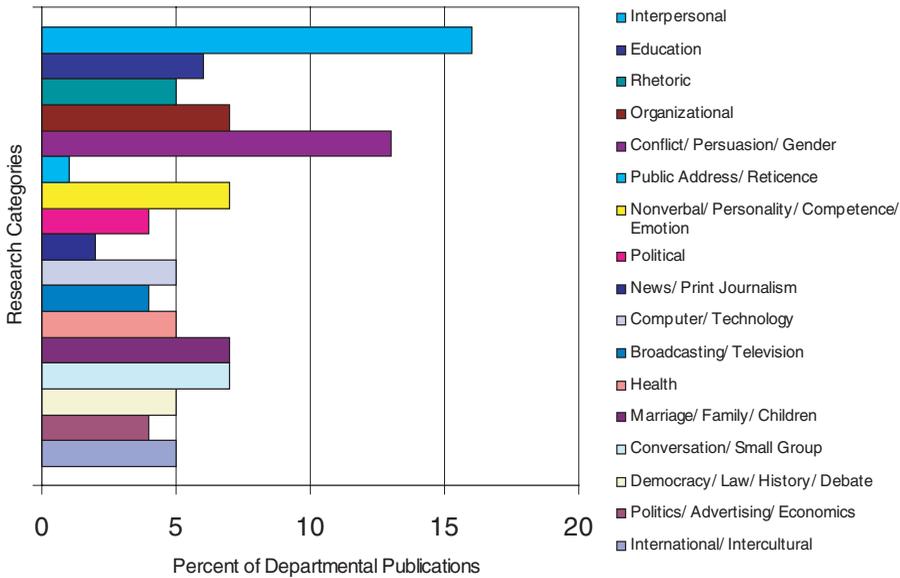


Figure 2 Cluster 2 (e.g., U. Albany, Rutgers U.).

proportion of faculty publications in each of the 17 identified areas of research. Two representative departments are listed with each figure.

The nine clusters of departments are generally distinguished by differing configurations of five to seven areas of research that each account for between 5 and 15% of total publications credited to the department. Two areas—health and public

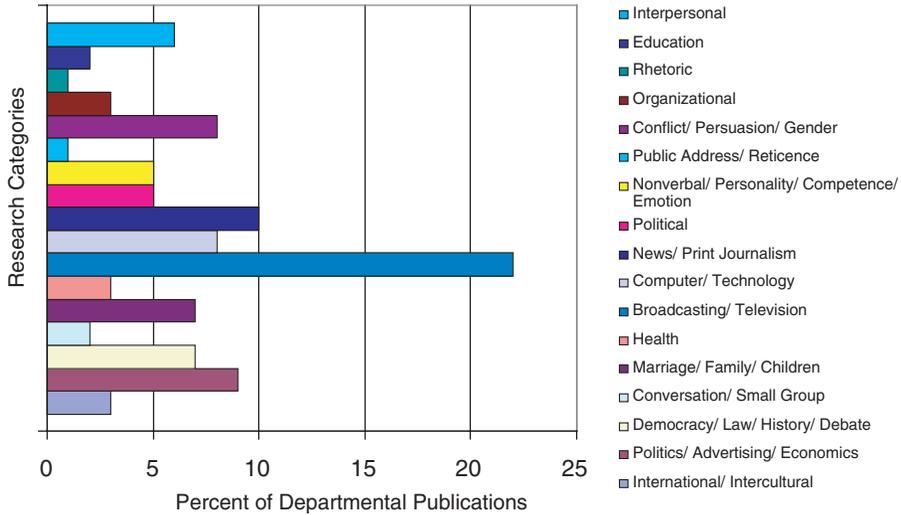


Figure 3 Cluster 3 (e.g., U. WI. Madison Sch. of Journalism, Indiana University).

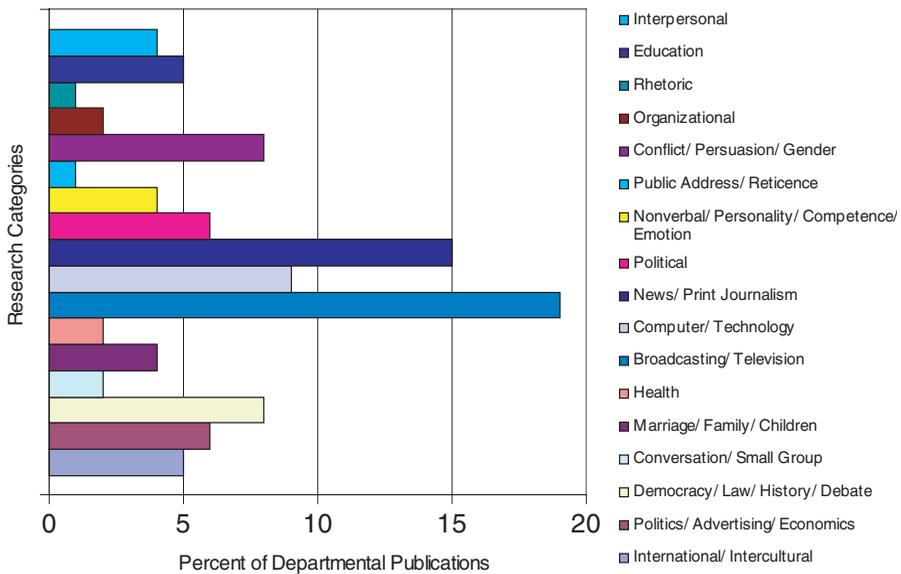


Figure 4 Cluster 4 (e.g., U Mass Amherst, Florida State U.).

address/reticence—account for relatively small percentages of research regardless of the departmental type. Three others—conversation/small group, education, and organizational—are also areas of relatively low-frequency publication for most but not all of the clusters. Figures 1–9 depict the different research emphases in each cluster of departments. An answer to the question of how these clusters themselves

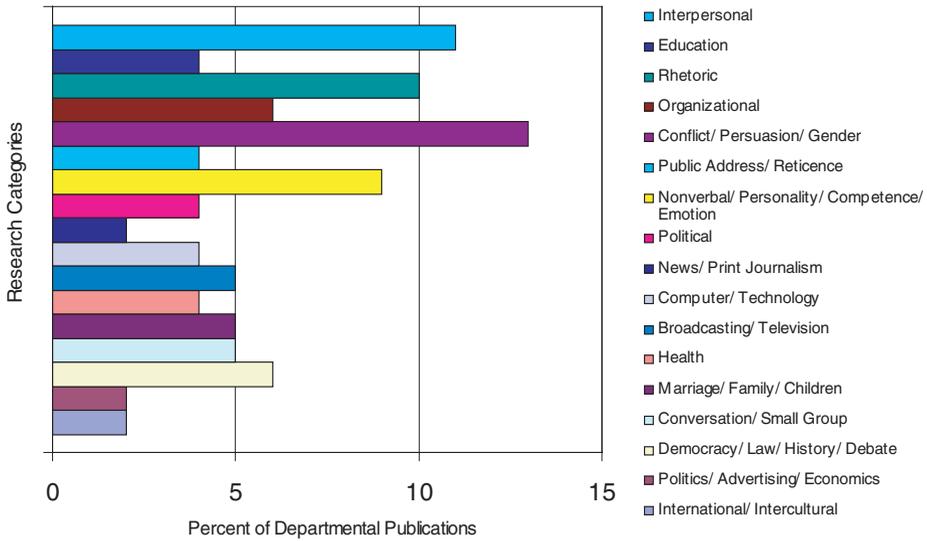


Figure 5 Cluster 5 (e.g., Texas A&M, U. Georgia).

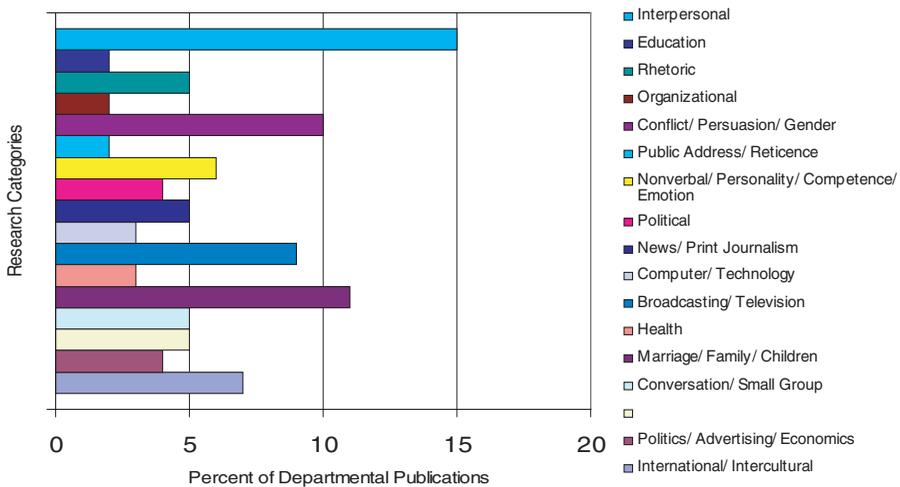


Figure 6 Cluster 6 (e.g., U. Iowa, U. Misc.-Madison/Communication).

group was facilitated by an additional cluster analysis using as data the publication percentages for the 17 research areas for the nine types of departments. The outcome of this analysis (Figure 10) depicts clearly the higher order structure of research within the field's doctoral programs. One high-level grouping consists of the two departmental types (3 and 4) that give almost exclusive prominence to mass communication and journalism research. A second high-level grouping consists of the three departmental types (5, 7, and 1) that provide more emphasis for rhetoric

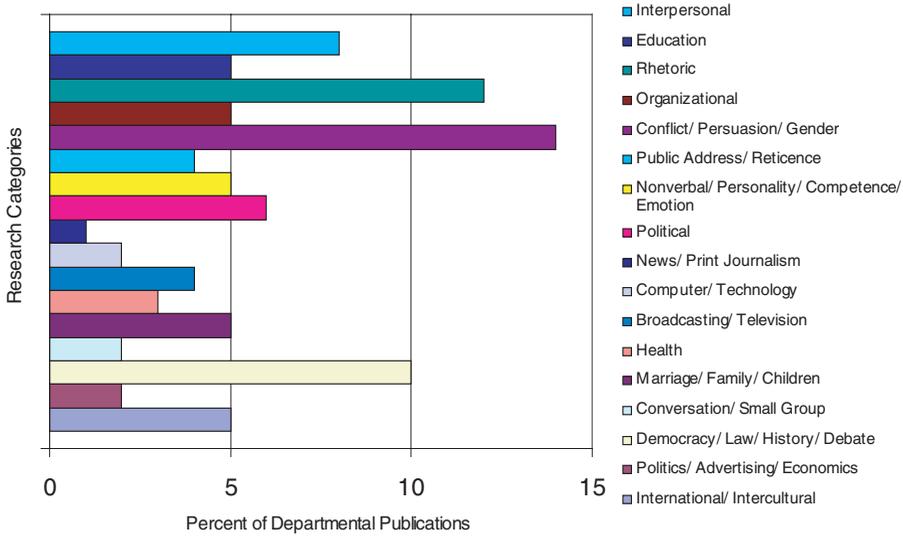


Figure 7 Cluster 7 (e.g., U. North Carolina/Comm., Ohio U. Comm. Studies).

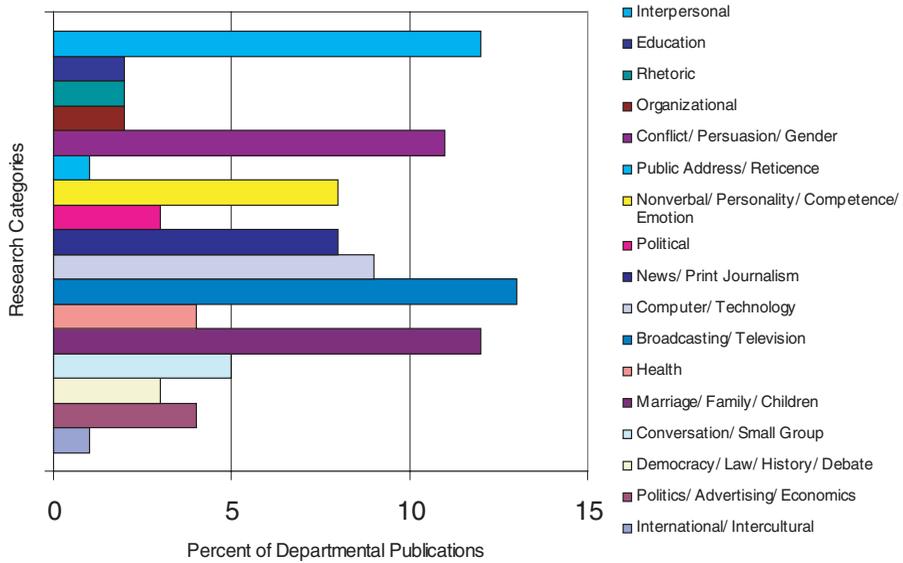


Figure 8 Cluster 8 (e.g., U. IL Urbana-Champaign, Ohio state Journalism/Comm.).

and the democracy/law/history/debate area. The final group is comprised of the four department clusters (2, 9, 6, and 8) that emphasize prominently research in interpersonal, conflict/persuasion/gender, and marriage/family/children.

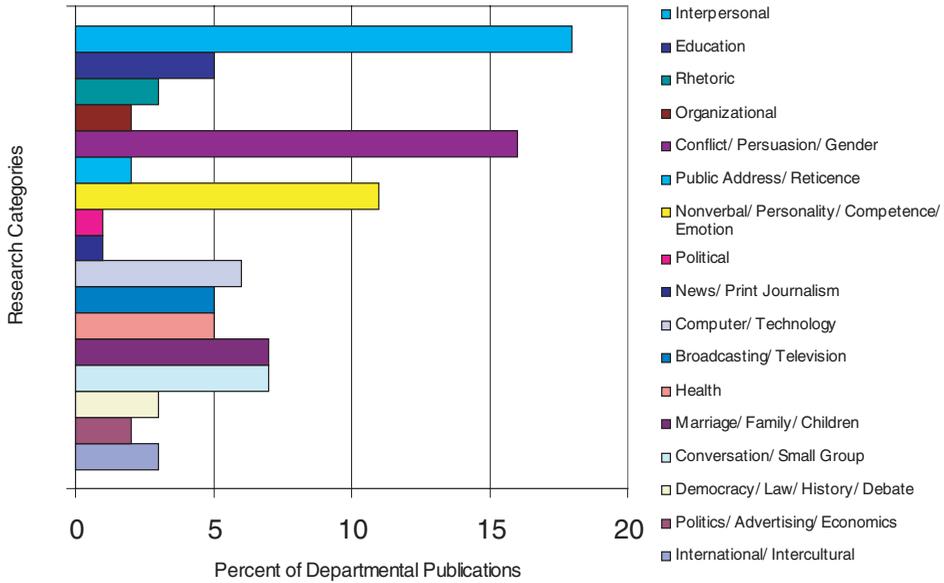


Figure 9 Cluster 9 (e.g., Mich. State U., Purdue, UC Santa Barbara, Penn State Comm.).

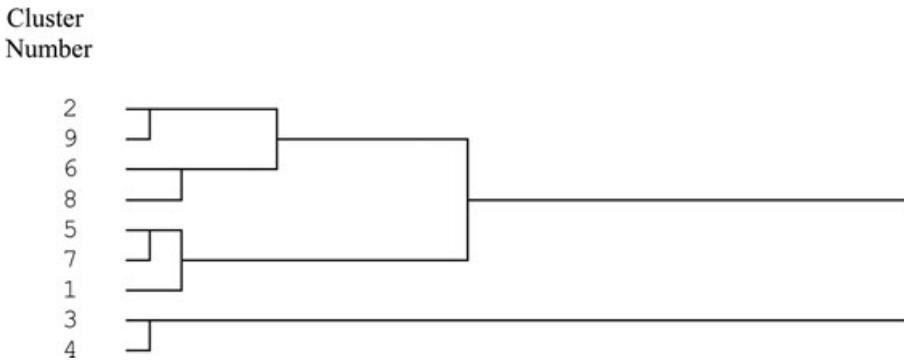


Figure 10 Cluster analysis of the departmental clusters.

Predicting perceived scholarly quality from publication productivity

The earlier study’s correlational analysis of the NCA perceptual ratings with the behavioral ComVista data found that with the exception of only one of the NCA areas—political communication—there were significant positive correlations between each of the NCA rating of doctoral programs and the program’s relevant history of publication. Of the eight significant correlations, the one between the ComVista tally for publication coded “critical theory” and the NCA rating for the critical/cultural area was lowest at .35 with the others ranging between .61 and .78. Overall, the evidence suggested that in most categories between 40% and 60% of the

Table 1 Variance Accounted for in NCA Ranks by Division: Simple Correlation Versus MRA

Division	r^2	R^2
Interpersonal	.61	.61
Health Communication	.59	.71
Intercultural	.44	.63
Critical/Cultural	.12	.18
Organizational	.56	.66
Rhetorical	.52	.65
Communication Technology	.42	.42
Mass	.37	.43
Political	.05	.39

variance in NCA data could be accounted for on the basis of relevant department publication history using the single most face relevant of the raw ComVista coding categories. This was a potentially important finding because it suggested that with so much overlap between the NCA and ComVista measures it might be possible in the future to use the more efficiently harvested ComVista data to augment the relatively burdensome procedures of the multistage NCA study, features that no doubt make it difficult to execute more frequent updates. Unexamined in this analysis was the question of how much stronger these predictions could be made using multiple ComVista categories related in combination to predict the NCA ratings. Accordingly, this question was examined using stepwise MRA and the 17 topical content clusters derived above.

Nine stepwise MRAs were conducted, each one with one of the nine NCA sets of ratings as the dependent variable and the 17 clustered ComVista categories as available independent variables for the stepwise selection. These results are presented in Table 1. Because the goal of this analysis was to explore how far prediction could be extended, statistical significance of the MRAs was not at issue, only the question of the size of the increment in variance accounted for over that obtained in the earlier correlational study. Results demonstrated that in the case of the NCA ratings for interpersonal, critical/cultural theory, communication technology, and mass communication, no improvements were provided using the topical clusters as predictors.

Meaningful improvement in prediction of the NCA ratings was evident in five of the nine areas—organizational, health, intercultural, rhetorical, and political. In the case of organizational, R^2 was elevated by 10% to .66 from the prior correlational study's r^2 outcome of .56. The MRA accomplished this by adding the conversation/small group cluster to the organizational cluster. For health communication R^2 was elevated by 12% from .59 to .71 as a result of a combination of the health cluster and the international/intercultural cluster. A 19% gain was achieved for prediction of the NCA intercultural ratings by the MRA, which selected only the international/intercultural cluster code. The prior study had achieved an r^2 value

of just .44 in that area, whereas the combined cluster code boosted prediction to a .63 value for R^2 . A gain of 13% was achieved in the rhetorical area when the MRA selected two additional cluster codes in addition to the rhetoric code—marriage, family, and children, and health. This elevated prediction from the previous r^2 value of .52 to an R^2 value of .65. However, because 80% of the total variance accounted for was attributable to the rhetoric cluster code and the two added codes are not straightforwardly relevant to rhetorical studies, it seems possible that the addition of the new cluster codes may have capitalized on chance. Future studies might consider retaining only the rhetoric cluster code. Finally, a gain of 34% was achieved in the political area when the MRA selected two cluster codes—broadcasting/television and public address/reticence. The correlational study had only achieved an r^2 of .05 but the MRA's R^2 was .39. This particular result appears likely to be spurious both because it is difficult to see how content represented by this pair of cluster codes relates to political communication, and because the cluster code for political was not itself selected for inclusion in the MRA.

Relationship of distribution of department productivity to perceived reputation

Role of department specialization

The question of the relationship of disciplinary reputation to aspects of departmental publication activity was pursued further by computing the degree of specialization of publication output across the 17 areas of content for each of the doctoral programs. The score was comprised simply of the standard deviation of the departmental publication counts across the 17 areas. A higher score would be characteristic of departments tending to devote a greater proportion of publication in one or a small number of areas, whereas lower scores would characterize programs with less specialization, that is, programs with more even rates of publication across the 17 areas. This measure of research specialization was correlated with the NCA ratings in each of the nine areas measured by the NCA. The results (see Table 2) suggest that departmental specialization is moderately to strongly correlated with positive perceptions of scholarly quality in every area except critical/cultural theory. Hence, in almost all cases, perceived scholarly quality is not only related to the raw amount of relevant publication but as well to the degree to which that publication productivity displaces publication output in other areas of research.

Role of department size

The final issue examined was the question of the relationship of the size of a department's complement of faculty to its standings in the NCA study. Hollihan (2004) reported that the NCA study was criticized for comparing programs of different size with critics theorizing that the assessment procedures favored larger departments. Because the ComVista database tracks all departmental personnel, not only those with publication records, it was possible to compute the number of faculty

Table 2 Correlations Between NCA Division Ratings and Department Specialization of Publication Activity

Division	<i>r</i>	<i>n</i>	<i>p</i> <
Interpersonal	.75	34	.01
Health Communication	.67	25	.01
Intercultural	.44	32	.01
Critical/Cultural	.3	27	ns
Organizational	.61	23	.01
Rhetorical	.52	30	.01
Communication Technology	.66	28	.01
Mass	.54	28	.01
Political	.42	24	.04

in each department who had not published articles tracked in the ComVista corpus and to include this variable in the analysis. The number of nonpublishing faculty was used as a control in a partial correlation between faculty size and the NCA ratings. Table 3 displays both the simple correlations between total faculty size and NCA ratings across the nine areas of the NCA study and the same relationship as a partial correlation controlling for the number of nonpublishing faculty. Perceived scholarly quality varied positively with faculty size, provided that additional faculty were also publishing in journals tracked in the ComAbstracts corpus. The magnitude of the effect of nonpublishing faculty in suppressing the basic positive association between faculty size and perceptions of quality was dramatic. In the case of both the NCA interpersonal rank and the organizational rank, controlling for nonpublishing faculty increased the percent of variance accounted for in the relationship between faculty size and perceptions of scholarly quality by nearly 55%.

Discussion

This study related outcomes from two independent systems for assessing the relative standings of departments of communication and journalism, one perceptual and the other behavioral. Several factors seemed likely to minimize the degree of correspondence between them. First, the NCA ratings, limited to doctoral programs and derived from a survey with a relatively low return rate, are based on the average responses to a single item inquiring about a subjective impression, a procedure generally associated with reduced reliability. As well, within each of the nine NCA categories, only those programs were rated that explicitly communicated a desire to be rated within that area. This did not mean that faculty in programs not ranked were not pursuing research within the area ranked. For example, that a department elected not to be rated in health communication did not mean that no one in the department was pursuing health communication scholarship. This would tend to restrict the range of the NCA data, a phenomenon more likely to diminish prediction than to

Table 3 Simple and Partial Correlations Controlling for Nonpublishing Faculty Between NCA Division Ratings and Faculty Size

Division	<i>r</i>	<i>n</i>	<i>p</i> <
Interpersonal			
Simple	.1	32	ns
Partial	.83	31	.01
Health Communication			
Simple	-.13	23	ns
Partial	.74	22	.01
Intercultural			
Simple	.22	30	ns
Partial	.5	29	.01
Critical/Cultural			
Simple	-.09	25	ns
Partial	.09	24	ns
Organizational			
Simple	.09	21	ns
Partial	.82	20	.01
Rhetorical			
Simple	-.1	28	ns
Partial	.51	27	.01
Communication Technology			
Simple	-.04	26	ns
Partial	.53	25	.01
Mass			
Simple	.01	29	ns
Partial	.39	28	.04
Political			
Simple	-.38	22	ns
Partial	.17	21	ns

enhance it. Other sources of difficulty with the NCA study methodology have been detailed by Hollihan (2004) and Stephen (2008). Second, the ComVista database was assembled approximately 2 years after the NCA study and any personnel changes occurring between the two points in time would serve to diminish the correspondence of the two systems. Finally, the ComVista analysis was based on publication records for a department's entire faculty, whereas the NCA ratings were at least intended to refer only to the specific members of the doctoral faculty who had been identified with a particular program unit emphasis. All of these factors should have reduced the possibility of finding relationships between the two datasets. Despite this, however, sizeable correspondences were apparent, mutually reinforcing the validity of the two systems and, in the case of the NCA assessment, helping to clarify what is actually at play when peer perceptions of the quality of doctoral faculty are assessed.

On the question of how to best represent the field's structure, the present study suggests that empirically studying the field's publication activity reveals patterns of distinction and interconnection that are invisible in the traditional categorical divisions of the field. Although the NCA's nine divisions appear as independent and coequal categories, this study suggests that the situation is more complex. The cluster analysis of the ComVista codes demonstrates that most areas of research activity tend to take place within contexts of related interests and that there is a great deal of difference among the areas in the rate to which they receive attention in research. In some cases (e.g., health communication), the lower proportion of publication may reflect a relatively recent turn of the field's interest to the subject area; however, this explanation does not hold in all the areas of lower proportional representation. As well, the cluster analysis reveals that some areas traditionally placed under labels that suggest divisional consistency may instead be comprised of more complicated structures. This was particularly evident for the interpersonal and the rhetoric divisions and their related subdivisions. It appears, for example, that the interpersonal area is not the uniculture suggested by that label but is comprised of a number of distinctive specialties, including what may be an interactional or LSI-type specialty, a specialty in psychological approaches, a specialty in persuasion and conflict, and a specialty comprised of a focus on marriage and family. Hence, to rank departments based on relative quality of scholars in "interpersonal communication" is to mask intellectual activities in the field that are of potentially meaningful distinction.

In several of the topical content clusters it is possible to see a division-crossing gravitational pull of various aspects of the field's interests. This is particularly evident in the democracy/law/history/debate cluster and in the political/advertising/economics cluster. In the former case, the mix reveals the interconnection among areas of intellectual focus that might have otherwise been seen as separated between rhetorical studies (debate and history) and mass communication (law, democracy). Something of the same sort is evident in the latter case as well, where economics (often associated with media issues) connects to elements of political communication and advertising. It should be pointed out that when content codes were grouped by the cluster analysis this did not mean that they never occurred independently or in combination with other codes not in their cluster; it only meant that they have co-occurred with the codes in the cluster with a sufficiently high frequency (and with a greater frequency of co-occurrence than with other possible clusters) to present in that combination when the cluster analysis is examined at a particular level of resolution. Indeed, in cluster analysis, the challenge analytically is to select the level of resolution that appears to offer meaningful structure, with solutions ranging from that in which every element is assigned to a group by itself to that in which every element is a member of a single group. With regard to clustering departments, the nine department types are quite distinct, forming fairly early in the cluster process, but as seen in the third cluster analysis, pushed to a more abstract level, the traditional general divisions

of the field into departments with rhetorical, interpersonal, or mass communication/journalism focus becomes apparent. That that analysis recapitulates a traditional understanding of the field's divisions is reassuring for the validity of the study, but to leave the analysis at that general level would obscure meaningful distinctions among programs.

Two final points should be made about the cluster analyses. First, something is clearly different about the political and critical/cultural theory areas and merits further study. In both cases the relationship between these codes and the NCA ratings is substantially reduced compared to other areas studied. In fact, the critical/cultural area did not emerge at all in the cluster analysis, suggesting that it is an area of relatively low frequency of publication that is isolated from other areas of study. These two areas should be examined further to try to determine the reasons behind their failure to relate to the external ComVista concept codes with the same strength as of the other NCA data. It is possible that either the NCA data in these areas have lower validity, that the ComVista coding of these areas is problematic, or that journal publication has a different relationship to reputation in these two areas. Further study will be required to sort this out.

Second, the relationship between prominence in publication productivity and excellence in doctoral education has not been established and requires further exploration. The ratings of the NCA study appear so highly connected to departmental publication activity that this must call into question the assumption that these NCA data relate to any other aspect of the quality of doctoral education. Indeed, the correlation between the NCA ratings for each of the nine areas for scholarly quality of faculty and program effectiveness only ranges between .95 and .99, suggesting that these measures tap the same phenomenon. Faculty quality as reflected in publication prominence appears to be the single underlying factor in the NCA ratings for both measures. It is possible that the NRC study currently in progress will provide useful new data relevant to this issue because it is collecting a wide range of additional information on aspects of each of the field's doctoral programs, including features of the institutional environment in which the program is situated. It is also expected to provide extensive data on educational outcomes and graduate students' perceptions of their educational experience. What it will not do is to break results down by the field's differently focused programs, meaning that although it will be possible to compare communication programs generally with programs in other disciplines, it will not be possible to use the NRC data to compare communication programs within the field on the basis of varying foci. Hopefully, however, the NRC data will permit the possibility of extending the present study.

The outcomes of this study, particularly the MRA analyses, attest to the vital importance of publication productivity to perceptions of departmental quality. With publication activity accounting for 60–70% of the variance in the NCA ratings, it is not easy to discount this relationship. Indeed considering that there has to be some allowance for measurement error, in several cases there is not a great deal of the variance left unaccounted for beyond that attributable to publication appearing

in the ComVista corpus. This raises the question of the relevance of other forms of scholarly contribution such as grants and awards, and of publication outside the ComVista collection in the journals of other fields, and in books and book chapters. These may well contribute further, but they may also account for redundant portions of the variance, because grants, awards, and publishing in other forms and outlets may well be intercorrelated activities. Indeed, the foundational activity of scholarship is generally held to be publication in the peer reviewed journal literature of one's field, and to the extent that the ComVista system represents that literature, it may provide a sufficiently robust measure of scholarly prominence. On the other hand, again although the matter must remain for future research to address, it is possible that the reason that the political and critical theory/cultural studies NCA prestige rankings did not correlate with the ComVista data is that prominence in these particular areas depends on other forms of scholarly production such as book authorship, or media appearances. Future studies might usefully explore questions of the contribution of alternative forms to scholarship in these areas and, as well, the relative weight of contribution of publication in particular of the field's journals.

The study clearly suggests that doctoral departments wishing to enhance their prestige in the field would be wise to hire and nurture scholars who contribute frequently to the field's periodical literature. This is certainly not a surprising conclusion. But the strength of these data raises the possibility that virtually all of a doctoral department's reputation and prestige is located in the productivity of its scholars. Administrators should take note that no evidence was found in the present study for the existence of a fixed institutional aura that might supercede that of the accumulated productivity of program faculty. It appears that frequent publishers function as the foundation stones of a department's prestige. Presumably, when frequent publishers leave a department, a portion of a department's reputation may leave with them. That this relationship has not been made particularly clearly in earlier studies of prolific scholarship has perhaps been a stimulus for some complaint that such studies serve no useful purpose (e.g., Erickson, et al., 1993). However, in the present study's demonstration of the strength of the link between publishing and departmental prestige, the identification of prolific scholars may serve to inform departmental efforts in recruitment and retention.

Drawing again from the earlier study (Stephen, 2008), it is worth emphasizing that it is not just a scholar's recent publication activity that matters; rather, the accumulated career history of publication contributes to department prestige. As noted, in that study it was found that the correlation between reputation and topical publishing was substantially weakened when the basis of the ComVista data was limited to only the most recent 5-year period. Hence, though it is common for prolific scholars' rates of publication in the field's serial literature to decline somewhat in the latter stages of their career (Stephen & Geel, 2007), administrators should take note that that does not mean that scholars do not continue to contribute valuably to departmental prestige through their accumulated record of journal publication.

The strength of the relationship between perceived prestige and faculty publication output indicates several potentially interesting questions for future studies. Among these is the question of the degree to which perceived prestige is attributable to the output of particular prolific scholars or whether it is a product of the combined faculty output. In other words, the question is one of the distributions of publication frequency across department faculty. Is it the case that the more the faculty who do research, the higher the department reputation? Alternatively, is it the case that having more faculty increases the likelihood that the department will include a few highly prolific “stars” who are responsible for the bulk of a department’s prestige? This could be assessed using the variability of faculty productivity as a predictor and departmental prestige as dependent variable.

Two other conclusions of relevance to administrators seeking rational strategies to improve the disciplinary stature of their programs are also supported in this study. First, when it comes to reputation, some degree of specialization appears a better strategy than generalization as regards the intellectual spectrum of a department’s scholarship. Future research might usefully explore the extent to which a faculty composed of scholars with a common focus may create a synergistic boost in overall productivity in excess of what might be expected if the same group of scholars was dispersed. Second, the present study suggests that adding faculty to the department who do not publish in the field’s periodical literature not only fails to contribute to perceptions of a department’s prestige, but also appears to be an indicator of its decline. In recent years it is not uncommon for university administrators to seek to reduce budgets by replacing lines occupied by retiring senior scholars with entry-level positions. This study points up the important risk to departmental reputation and prestige that this practice may incur.

The present study suggests that there is value in extending our understanding of the field’s research activities and its methods of self-assessment. The wealth of new data now becoming available from the assessment systems of the NCA, the NRC, the ACA, and the CIOS makes it possible to significantly refine and advance appreciation of the hallmarks of departmental and individual distinction. In addition to those already mentioned, useful directions for future research might include examination of differences among the exemplary departments in terms of types of research that predominate (e.g., experimental, survey, qualitative, etc.), faculty composition, particularly in terms of the balance within departments between senior and junior scholars and the extent to which departments with multiple scholars working with a common focus may synergize departmental productivity. As well, future research might consider the distribution of scholarly productivity and emphasis by institutional type (e.g., rural versus urban, public versus private). Further studies of the organization and flow of research at the discipline’s centers of excellence may provide knowledge that can be used to help departments obtain better institutional support and to promote a higher standard of performance for the field as a whole.

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传播学博士课程的集群研究活动：发表数量和科系的大小与学科名譽和威望的关系

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【摘要：】

本研究扩展了以往将现代方法与博士课程的比较评估相关联的研究，主要集中在2004年NCA的研究（基于感知量表）和ComVista系统（基于出版模式）。对ComVista题目内容的编码和分析数据显示了该领域的17个智力活动集群，并将博士课程分分为9个出版频率和分布的类别，因此发现了NCA对博士学位教资素质评价的实质性的预测。结果表明，这些数据主要是基于对教师发表文章活跃程度的同行的看法，更专业的论文发表往往使人更具好感，并且，在博士课程中发表文章的教师人数与对教师素质的正面看法密切相关。

Clustering Research Activity in Communication Doctoral Programs: Relationship of Publication Productivity and Department Size to Disciplinary Reputation and Prestige

This study extends previous work relating contemporary approaches to the comparative evaluation of doctoral programs, focusing on the 2004 NCA study (based on perceptual measures) and the ComVista system (based on publication patterns). Coding and analyzing the ComVista data for topical content revealed 17 clusters of intellectual activity in the field, grouped doctoral programs into nine categories of publication frequency and distribution, and found substantial prediction of NCA ratings for perceived quality of doctoral faculty. Results suggest that these data are principally based on peer perceptions of faculty publication activity, that more specialized publication activities tend to be perceived more favorably, and that the number of publishing faculty in a program is strongly related to positive perceptions of faculty quality.

Typenbildung bei den Forschungsaktivitäten in Promotionsprogrammen im Fach Kommunikationswissenschaft

Die Studie erweitert bestehende Forschung zu Ansätzen der vergleichenden Evaluation von Promotionsprogrammen fokussierend auf der Studie der NCA (basierend auf Wahrnehmungsmessungen) (2004) und des ComVista Systems (basierend auf Mustern der Veröffentlichungen). Kodierung und Analyse der ComVista Daten nach thematischem Inhalt ergab 17 Cluster intellektueller Aktivität im Fach, gruppierte Promotionsprogramme in 9 Kategorien der Publikationshäufigkeit und -verteilung und fand substantielle Vorhersagen der NCA Beurteilungen für die wahrgenommene Qualität des Promotionslehrkörpers. Die Ergebnisse zeigen, dass die Daten grundsätzlich auf der Wahrnehmung der Publikationsaktivitäten durch die Peers beruhen, dass stärker spezialisierte Publikationsaktivitäten eher positiv beurteilt werden, und dass die die Anzahl der publizierenden Mitarbeiter eines Programms eng verbunden mit der positiven Wahrnehmung der Qualität des Lehrkörpers ist.

**Clustering Research Activity in
Communication Doctoral Programs:
Relationship of Publication Productivity and
Department Size to Disciplinary Reputation
and Prestige**

커뮤니케이션 박사과정에서의 집합적 연구 행위:

학문적 명성과 우월성에 있어 논문생산성과 학과크기의 관계에 관한 연구

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요약

본 연구는 박사프로그램의 비교적 평가—특히 2004년 NCA 조사와 ComVista 체계 (논문발간 행태에 근거한)—에 대한 현재의 접근법에 관한 연구들을 더욱 발전시킨 것이다. 주제내용에 대한 ComVista 데이터의 코딩과 분석은 해당영역에서의 17개 지적행위에 대한 군집을 나타내고 있으며, 박사프로그램을 출판빈도와 배포에 있어 9개 집단으로 나누고 있으며, 박사학위 교수들의 질에 대한 인지도에 관한 NCA 조사의 실질적인 예측을 세우고 있다. 결론들은 이러한 자료들은 원칙적으로 교수들의 출판행위에 대한 동료들의 인지도에 근거하고 있다는 것을 보여주고 있으며,

더욱 특화된 출판행위들이 더욱 호감있게 인지되고 있으며, 해당 프로그램에서 학술논문을 출간하는 교수들의 숫자가 교수들의 질의 개념에 긍정적으로 연계되어 있다는 것을 보여주고 있다.

**Agrupando a la Actividad Científica en los Programas de Doctorado en
Comunicación:
La Relación entre la Productividad de Publicación y el Tamaño del Departamento y
la Reputación de la Disciplina y el Prestigio**

Timothy D. Stephen

Resumen

Este estudio extiende el trabajo previo relacionado con las aproximaciones contemporáneas de la evaluación comparativa de los programas de doctorado, enfocándose en el estudio de NCA del 2004 (basado en medidas perceptuales) y el sistema ComVista (basado en las pautas de publicación). Codificando y analizando los datos del ComVista por temas de contenido revelados en 17 agrupaciones de actividad intelectual en el campo, agrupamos programas de doctorado en nueve categorías de frecuencia y distribución de publicación, y encontramos una predicción substancial de los rankings de la calidad percibida de los profesores del doctorado. Los resultados sugieren que estos datos son basados principalmente en las percepciones de pares sobre la actividad de publicación de los profesores, que las actividades de publicación más especializadas tienden a ser percibidas como más favorable, y que el número de profesores que publican en un programa está relacionado fuertemente con las percepciones positivas de la calidad de los profesores.