CITATION ANALYSIS AND THE IMPACT OF JOURNALISM AND MASS COMMUNICATION PUBLICATIONS [1970-1990]

By

MARIA ZENAIDA T. SARABIA

Bachelor of Journalism
Silliman University
Dumaguete City, Philippines
1977

Master of Arts in Communication
University of the Philippines
Diliman Quezon City, Philippines
1984

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the degree of
DOCTOR OF EDUCATION
May, 1993

OKLAHOMA STATE UNIVERSITY

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Thesis Approved:

David J. White
Thesis Advisor

Charles A. Fleming

Constance M. Lowry

David Edgy

[illegible]

Thomas C. Collins
Dean of the Graduate College

ACKNOWLEDGEMENTS

Calling dissertation work independent research is an oxymoron, a misnomer. A number of people had their own individual inputs to this work for it to take its final shape and form. While I take responsibility for its content and errors, I would like to gratefully acknowledge the contributions of the following:

Dr. David S. Webster, my dissertation adviser, for giving me material information which served as the main guide in the development of the research topic; for his contagious enthusiasm and interest on the subject of academic quality rankings; for his careful review of the manuscript; and for the numerous words of encouragement;

Dr. Charles A. Fleming, for clarifying issues essential to the definition of the research problem and for his patient guidance and mentoring which has earned him the respect and gratitude of his students;

Dr. Connie Lawry, for her thorough critique of the paper; for her prompt attention and very reassuring nature which made it always a pleasure to call on her;

Dr. Thomas A. Karman, for important suggestions which helped specify what the study was actually measuring;

Dr. Charles Edgley, for injecting more realism to citation analysis by recommending a discussion on the

politics of citations;

My friends, especially Ramu, who was always at my rescue whenever there was a computer-related problem;

My family, especially my parents, who instilled in me the value of an education and whose unwavering support and trust never failed to make me do my level best;

And finally to "Mahal" for providing a steadying arm even at a distance and for making almost everything possible for me.

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CHAPTER I

INTRODUCTION

Journalism and mass communication [JMC] schools, which produce a substantial part of what are known as "media studies," have been around since the early 1900s. After nearly a century of existence in the academic research arena -- legitimately as a field of study or marginally in the fringes of the social sciences -- both the schools and their research output can be said to have come of age.

The number of journalism departments in the United States has burgeoned from the original four [Illinois - 1904; Wisconsin - 1905; Missouri - 1908; and the Columbia School of Journalism - 1912] to 455 by the mid -30s and 652 by 1953. In the late 1960s, 1,148 out of 2,313, or 50% of institutions of higher learning offered some form of journalism education [Katzen, 1975].

This boom era of mass media education also witnessed an upward spiral in student enrollments which even surpassed national university averages for growth in undergraduate and graduate degrees awarded, and the era witnessed a parallel growth in research production. In succeeding years, however, the number of journalism

institutions began to decline until only about 343 remained [Weaver and Wilhoit, 1988]. The size of the student body, while reaching a high of 147,000 in 1988 [Becker, 1989] still continued to increase, but at a diminishing rate. Soon enough, it reached a steady state like many other disciplines.

The ten largest schools in terms of student population are Michigan State, University of Texas-Austin, Syracuse, Boston, California State [Fullerton], University of Florida, Alabama, Ohio University, Texas Tech, and Wisconsin-Madison [Peterson, 1987].

Research Traditions

Over the years, a distinctive research tradition has been developed in the various schools leaving indelible imprints in the methodologies and theoretical orientations applied here and elsewhere in the world. The "Columbia School," for instance, has been concerned with attitude formation studies as well as "tools and theories of measurement and analysis." Using mainly survey research, this generation of empirical scholars looked at "the impact and effect of media messages on individuals, which in turn, has led to the development of various theories about society and culture" [Dennis, 1988, p.9].

Central to the research agenda of the "Chicago School," on the other hand, were "problems related to the sociology of work and knowledge as well as organizational

theory," including studies on media organizations, industry professionals and the nature of news itself [Dennis, 1988, p.10].

The establishment of communication research centers at Stanford University and institutes at the universities of Illinois, Wisconsin, and Minnesota in the 1940s and 1950s constitutes the third stream. These programs combined the strengths of the Lazarsfeld-Columbia tradition with emphasis on public opinion research and the Chicago interest in the dynamics and problems of media organizations. Involved in contract work for industry, war research, and other policy-oriented projects, the "Communication Schools" were basically engaged in applied communication studies, but not to the exclusion of "theory construction and methodological testing" [Dennis, 1988, p.10].

Graduate Schools

Most of the mass communication research going on in the universities was done in graduate schools. But the single most important impetus to provide graduate courses in mass media studies was not research imperatives per se but the need to staff the post-Second World War growth in number and size of JMC schools.

Graduate education in journalism, of course, also served to provide advanced professional training, especially in schools with declared professional leanings

such as Columbia's Graduate School of Journalism, Boston University's School of Public Communication, and Northwestern University's Medill School of Journalism, among others.

The academic framework for institutions offering "journalism" and those offering "mass communication" has served as the model in many places even outside the United States. The difference seems to be on emphasis. The former is decidedly on a professional track and, therefore, stresses techniques, while the latter has a more academic cast and, therefore, focuses on theory and research [Katzen, 1975]. From all indications, the United States has undoubtedly been on the cutting edge in the development of mass communication scholarship and the growing acceptance of university training for the different mass media professions.

Diversity in JMC Schools

Even at a much reduced number of 343 JMC institutions, the diversity in these schools can still be confounding. There is a wide array of departmental titles, courses offered and topics covered. Katzen [1975] noted that mass media studies take place in several departments, such as journalism; communication arts and sciences; telecommunications; broadcasting; mass communications; cinema; speech communications, etc. Existing variations make it extremely difficult, if not impossible,

"to tell apriori whether a mass communications department focuses its attention on the press or broadcasting or both, whether it stresses the informational aspect of the mass media or treats entertainment functions as well, or whether all the individual media are regarded as components of a total social communication process" [p.19].

And if one subscribes to the view that the American university is a meritocracy where competence and achievement are the main evaluation criteria, questions of quality and standards of excellence of the whole or its parts are inevitable. Are there variations, therefore, in the quality of U.S. journalism and mass communication departments?

Although mass communication programs were excluded from both Allan Cartter's, An Assessment of Quality in Graduate Education [1966] and the 1970 report by Kenneth D. Roose and Charles Andersen, A Rating of Graduate Programs, quality rankings did not remain alien to the field for long. The earliest reputational or opinion survey was, in fact, undertaken in 1966, while faculty research productivity studies as a basis for ranking communication departments were done seven years later. These studies consistently reveal that the diversity in JMC programs extends to their quality, prestige and excellence as perceived by peers or judged according to rates of research production by the respective faculties.

Statement of the Problem

Focus of the current investigation is the research and publication record of journalism and mass communication programs in the United States during the last two decades [1970-80 and 1981-1990]. Past research efforts have so far established a hierarchy of the most prolific schools in terms of their research and publication status [Cole and Bowers, 1973; King and Baran, 1981; Soley and Reid, 1983; Vincent, 1984; Schweitzer, 1988; Greenberg and Schweitzer, 1989; Burroughs et al, 1989; Su, 1990; and Vincent, 1991].

But while the most research productive JMC schools are already known, no assessment has been made to determine which of these departments and who among their faculty are doing the more "important, relevant or influential" research. The present study seeks to fill in this knowledge gap. It will attempt to document patterns of relevance and influence of scholarly work in the field over the years using faculty citations.

A yearly and overall analysis of trends will also be made to note changes in department rankings based on citation productivity over time as well as the geographical concentration of the best JMC schools.

Study Objectives

In the main, this study will identify and rank-order

the top JMC departments in the U.S. on the basis of the "impact" of their research and publication output measured in the study by the number of citations received per published faculty research article during selected years between 1970 to 1990. It will specifically address the following research questions:

1] Are there differences in the impact of research and publications produced by the various JMC institutions during the period under investigation?

2] What are the rankings of JMC departments based on citation productivity?

3] What changes in citation productivity occurred during the last two decades?

4] Who among the JMC faculty members published germinal work in the field as indicated by total frequency of citations received?

5] Did variations in ranking method [reputational surveys, research productivity, and faculty citations] yield differences in the pecking order of JMC schools?

By examining the research and publishing component, particularly the research utilization and recognition structure among JMC faculty, the quality of the departments can be inferred. This is based on the assumption that the quality of the faculty reflects program quality. Most reputational studies, in fact, especially at the graduate level, relied heavily on a single criterion of excellence -- faculty quality [Conrad and Blackburn,

1985]. Objective indicator research likewise contends that "departmental quality is dependent on the quality of the faculty" [Tan, 1986].

Conceptual and Theoretical Framework

Academic quality rankings [AQR] almost always invite controversy because they are value-laden. They represent value judgments of the supposed excellence or quality of institutions of learning. The underlying principle is that quality differs. And despite difficulties in precisely defining academic quality, prestige groupings abound. In the journalism and mass communication field alone, some 25 rankings have already been done since the first reputational survey in 1966.

Petrowski [1973] observed that while there is hardly a universally accepted definition of quality, any system of evaluating academic quality is better than no system at all. With the American penchant for ranking almost everything, it is small wonder that not a few researchers have devoted their energies to quantifying quality.

With very scant theoretical guidance in the choice of variables to accurately measure academic eminence, scholars largely used their own discretion in selecting various criteria. This has resulted in a plethora of variables which generally fall into five types, namely -- those dealing with faculty, students, organizational resources, outcomes, and a mix of several criteria known

also as the multivariate approach [Tan, 1986].

For a classification of educational institutions to qualify as an AQR, certain characteristics have to be met. Webster [1986] specified that:

1] "It must be arranged according to some criterion or set of criteria which the compiler[s] of the list believed measured or reflected academic quality;

2] It must be a list of the best colleges, universities, or departments in a field of study, in numerical order according to their supposed quality with each school or department having its own rank, not just lumped together with other schools into a handful of quality classes, groups, or levels." [p. 5].

Both reputational and objective indicator studies which stratified JMC departments according to some measurable yardstick of prestige and excellence have centered thus far on the faculty. To a fault, these AQRs equated institutional quality with faculty quality. Although obviously limited by the use of a single criterion, these studies have been informative of the levels of excellence in over 300 JMC schools in the United States.

Research has been the hallmark of the academic elite. In the "ideal" university and Clark Kerr's multiversity, research is considered an important function along with teaching and service. It is, of course, widely known that rankings based solely on faculty research productivity have been roundly criticized for perpetuating a monolithic

model of learning which is the research university [Dolan, 1976].

Arguably, the apprehensions regarding the dominance of a single paradigm may be valid. But everyone knows that research is essential to the generation of new knowledge. It is not and should never be viewed as a contradiction. Rather, it is best taken as a complement of teaching and service roles. Indeed, research enriches the knowledge base upon which the intellectual community derives its raison d'etre. Chaffee [1988] said it most succinctly -- "research is an academic necessity."

It is perhaps the acknowledgment of this primary function that drives the evaluation process to strongly consider research and publication for faculty tenure and promotion as well as in departmental reviews. There is, of course, the possibility that because research yields more to quantifiable measures than either teaching and service, it maintains a stronghold in the academic reward system. In this system, some are definitely better than others.

The current work is built on previous research which tried to establish layers of distinction in JMC departments across the United States on the basis of faculty research productivity. It aims to evaluate the quality of research and publications so far generated using citation frequencies as a means of rating the quality of JMC schools.

The study draws theoretical support from Merton's [1960] stratification of science and the sociology of importance thesis. In discussing the complexity of the recognition process in science, Merton asserted that the uneven distribution of scholarly recognition makes it a stratification variable. The act of recognizing or citing another's work confers "prestige, power or privilege in its stability and perpetuation."

The scientific community is first known for the practice of acknowledging the contribution of scientific colleagues to one's work. The practice is so deeply entrenched that it also serves as a means of social control. The mere failure to recognize previous work can accordingly threaten the incentive system of science, thus, every effort is exerted to ensure conformity to the norm.

Hagstrom [1965] brilliantly elucidates this in his theory of social control in science. The crux of this theory, he said, is the proposition that scientists, social or natural, are driven by their desire to obtain recognition from the scientific community.

The citation is an institutionalized form of recognition. Its sociological significance rests neither from approval nor negative appraisal but from continuity [Roche and Smith, 1978]. The cited author occupies a catalytic core in the chain of scientific inquiry, one which spurred further study of particular phenomena.

Citations, therefore, bind present to past research endeavors indicating relevance, importance and influence of cited document.

As an index of importance, a citation does not necessarily denote "correctness" of cited author but rather the usefulness of the research. If a work is used by others, it bears some importance so that a citation becomes a recognition of such influence or significance.

Like Roche and Smith, this study embraces the view that a citation more closely resembles an "important contribution to knowledge," than sheer publication. As a measure of quality, the logic seems to be that often cited articles are more significant and influential than seldom cited ones. A scholar who publishes but whose work is mediocre is not likely to be cited very often. Thus, apart from bestowing recognition, importance and prominence, the citation symbolizes influence, scientific continuity and the operative social control mechanism among intellectuals.

This paper also argues that because the scientific community is a collective or social enterprise [Roche and Smith, 1978], any conclusions about its parts can be extended to the whole. Conversely, the larger reality is as good only as its microcosm. Utilizing a citation-based measure of scholarly excellence, the present endeavor will identify the individual and departmental frontliners in journalism and mass communication research.

Significance of the Study

By using faculty citations as an alternative means of rating the quality of JMC schools, the major contributions of this study are two-fold:

1] Methodologically, it represents a first application in the mass communication field. While faculty citations have been extensively used in the natural and social sciences, notably physics, sociology, and psychology, as well as in professions such as engineering, they have never been used to rank JMC departments.

2] The present work is an empirical examination not only of the quality or impact of published research and the departments/faculty producing them but also of the distribution of influence or the structure of recognition in the field.

The many uses of AQRs while debatable are likewise applicable here.

For students, AQRs can be useful aids in making an informed choice of the JMC program that suits individual academic goals and research interests. Because these represent a more systematic and comparative assessment of quality, AQRs are a better source of information on academic quality than college catalogs known to contain all but self-serving claims of superiority [Webster, 1983].

Choosing the right college is indeed no mean activity. Solmon [1975] underscored that the choice of a

reputable, outstanding school is crucial because the quality of the institution of higher education has significant impact on lifetime earnings.

This study will particularly inform the interested consumer about JMC departments and faculty who have been producing relatively useful and widely recognized research and publications over the past two decades.

AQRs based on absolute counts of research publications, many of which were done for various specializations in communication, have been attacked because accordingly they say nothing about the quality of the research. To address this issue, the current work using faculty citations will hopefully provide some indication as to the relative quality or impact of university-based research in mass communication.

Even the staunchest critics of academic quality rankings concur, although begrudgingly, that documentary evidence of the comparative standing of universities affects "academic prestige and respectability, federal and foundation funding, the ability to attract intelligent students, the content of disciplinary and institutional programs, professional priorities, individual goals and institutional behavior..." [Dolan, 1976].

Study results may, therefore, serve as guideposts for administrators when making policy decisions or allocating resources to departments. In periodic reviews of faculty performance, data generated by this research may be

helpful in establishing quantitative criteria upon which promotion and tenure decisions can be based. Indeed, the relevance and utility of the study within the existing academic reward system can not be totally glossed over.

Media organizations, research institutions and business corporations will find studies like this tremendously helpful in providing direction to their recruitment efforts. Public and private funding agencies will also find results valuable in determining where the monies should go.

JMC schools interested in bettering their image or strengthening their research programs may be able to get clues from this study in addition to other sources.

In deciding between and among job options, JMC faculty members may use this and other research to ascertain the best "fit" between professional and organizational objectives. Those considering a career move and are wondering whether it is an upward movement or not, may especially find research findings instructive.

Limitations of the Study

The use of faculty citations as a single index of quality, while an improvement over pure research productivity studies [Cole and Cole, 1971], greatly limits validity and perhaps ultimate usefulness of findings. The literature is filled with arguments that institutional quality is the sum total of several factors -- the

learning environment, resources, faculty, students, etc. Interpretation of results should necessarily be restricted within the context of what was actually measured -- the quality or impact of faculty research and publications based on utilization rates by colleagues in the discipline.

The approach admittedly checks, but only to some extent, the drawbacks of other methods of assessing quality. Citation-based quality ratings, for instance, are generally regarded as more objective than reputational or opinion surveys.

In itself, the methodology has a number of flaws. The Social Sciences Citation Index does not distinguish between quality levels of citations. And it is beyond the ambit of this study to make distinctions as to the quality of citations per se.

Also, the SSCI lists only the first author in multi-authored articles which automatically eliminated from the analysis the impact of collaborative research work. This is a major limitation of the study, as co-authors who may represent two or more institutions were excluded. Rankings derived are, therefore, not reflective of research linkages between and among JMC institutions.

Moreover, the current work did not take into account who is doing the citing, which may well be the subject of future research. Certainly, citations made by luminaries in the discipline should outweigh those made by students

or lesser known authors [Webster, 1981].

This research likewise assumed that citations are given on the basis of actual merit or relevance of one study on another which may not always be the case. The politics of citations in the journalism and mass communication field was not evaluated here. This is another serious limitation which should be taken into account when making generalizations based on study results.

The choice of institutional population may pose some problems, too. It automatically confined the scope to departments which were mentioned at least once in the past several rankings. Although logical, because the likelihood of being cited depends in large measure on whether one has published or not, it may have been unfair to the other departments whose strengths are not in research. Because of this and other limitations mentioned, extreme caution should be exercised in interpreting study results.

By and large, this study proposes another perspective of quality of JMC schools and/or their research component. It is not intended to be viewed as a normative model. At best, it presents itself as an option by which academic prestige can be evaluated.

CHAPTER II

ACADEMIC QUALITY RANKINGS OF JOURNALISM AND MASS COMMUNICATION PROGRAMS IN THE UNITED STATES: A SURVEY OF THE LITERATURE

Introduction

Several academic quality rankings of American institutions and programs have been compiled since James McKeen Cattell, eminent Columbia University psychologist, published the first in 1910. Only a handful of studies, however, ranked mass communication/journalism schools in the United States. Of the few, about fifteen [15] used reputational or peer review and ten employed objective indicators, specifically faculty research productivity. Among the reputational surveys, five utilized quality assessments by deans or administrative heads. Only one polled editors. The rest surveyed professional organization members. The discredited Gourman Reports [Webster, 1984] included rankings of journalism schools and programs using the multidimensional approach based on such claimed indicators as reputation, faculty, publications, tuition rates, library facilities, test scores, alumni achievement, faculty salaries and admission selectivity.

Not a few scholars have alluded to the difficulty of defining in precise terms the concept of "quality." It is such an elusive but pervasive concept that there is hardly a general consensus as to its meaning. Conrad and Blackburn [1985] have, however, identified four elements that are frequently associated with the idea of quality. These are accountability, efficiency, effectiveness and excellence. Applied to education, quality programs are almost always linked with the faculty responsible for program implementation. Facilities, administrative support, the curriculum, and student attributes are likewise considered dimensions of the quality of educational institutions.

Despite the lack of agreement, the ambiguities of the term, and the diversity of meanings attached to the notion of quality, consistent efforts have been directed to assessing the quality of various academic programs. Evaluative studies of program quality in higher education generally fall into three categories: 1] reputational rankings; 2] rankings based on objective indicators of quality, and 3] studies of the quantitative correlates of quality.

Peer evaluations or reputational studies, which are essentially grounded on the belief that experts in a given field are the best judges of program quality, have long dominated the research on quality rankings. Severely criticized by some and lauded by others, reputational studies suffer from a number of methodological

limitations. The problem of rater bias and the creation of a "halo" effect, both of which stem from the highly subjective nature of the technique, as well as the failure to include institutional environment factors such as the size and composition of student population, are among the frequently cited flaws [Tan, 1986]. The central merit of peer assessments, however, lies in their informative content particularly with regards to excellence of academic programs at the graduate level.

Objective indicator studies, on the other hand, rate programs through the use of such variables as faculty research productivity, financial resources, or student outcomes. Deriving strength from the utilization of objective measures of quality, this type of research, however, has been criticized for using faculty research productivity as the only measure of quality. Critics argued that faculty and program quality are not one and the same. These studies also tended to focus on highly visible institutions [Conrad and Blackburn, 1985]. Moreover, the inability to use a consistent set of objective measurements and the failure to include multiple variables are some of the methodological limitations of the approach.

Quantitative correlate studies, unlike peer rankings and objective indicator research, are not designed to measure quality. The main objective of this kind of investigation is to identify factors that are correlated

with highly reputed programs. As such these studies may be viewed as extensions of the two other quality ranking designs, most particularly reputational ratings. The dependence on peer review was, however, singled out as a methodological flaw. Other criticisms include the atheoretical way in identifying correlates of quality and the almost exclusive emphasis on graduate programs. Notwithstanding the procedural imperfections, quantitative correlate studies have succeeded in sifting the major correlates of reputation in graduate level programs, particularly at highly visible educational organizations. As such these studies have somewhat contributed to a better understanding of program quality.

This review presents a brief history of academic quality rankings of American colleges, universities, and departments; a historical account of the development of mass communication programs and mass media research; selected rankings of journalism and mass communication schools including broadcasting and advertising as well as ratings of communication programs.

Historical Notes

David S. Webster [1986] traced the development of academic quality rankings of American colleges, universities, and individual departments from 1888 to 1925. He disclosed that "academic rankings are almost universally believed to have begun with the reputational rankings of

20 graduate school departments published by Raymond M. Hughes in 1925." But, the first "true" academic quality ranking was actually published by James M. Cattell in 1910. While "true" academic quality rankings, referring to those which hierarchically assign institutions to an exact ordinal position, started in 1910, studies which have classified colleges or departments according to some quality categories date back to 1888.

Webster further noted that early rankings of academic institutions based on certain criteria of quality have been almost an all-exclusive American tradition. Various types of organizations in the United States attempted to "rank-order, classify, stratify or admit colleges and universities to membership on the basis of their quality," since the late nineteenth century. Among them were federal government agencies like the United States Bureau of Education; state organizations such as the Iowa Board of General Examiners; religious groups like the Methodist Episcopal Church South; philanthropic organizations like the Carnegie Foundation for the Advancement of Teaching; and membership associations such as the American Association of University Women. A number of the early academic quality rankings were "multidimensional," -- that is measuring academic "quality" using several criteria.

The Field of Mass Communication

Mass communication as an academic discipline is

distinct from the much broader field of communication, although it certainly is a form of communication. According to Morris Janowitz [1968], "Mass communication comprises the institutions and techniques by which specialized social groups employ technological devices [press, radio, films, etc.] to disseminate symbolic content to large heterogeneous and widely dispersed audiences. In other words, mass communication performs essential functions for a society that uses complex technology to control the environment."

Professional Journalism Education

Journalism education in the United States began in 1869. The seeds of the movement for professional journalism education were, however, sown as early as 1857 when the Board of Directors of the Farmers' High School [later called Pennsylvania State College] recommended to the State Legislature that education for members of the journalistic community be made an integral part of the institution's curriculum. It was not until 1869 that the first few journalism courses were offered at Washington College [later Washington and Lee University]. The 39-year conflict with the Penny Press, the English progenitor of the modern newspaper, provided the impetus for the establishment of professional journalism training in the country [O'Dell, 1935].

The Penny Press, brainchild of New York City entrepreneur Benjamin Day, signalled the commercialization of newspapers with the attendant changes in content and style. To realize more profits and appeal to wider audiences, newspapers began to be written in a more entertaining fashion. With the development of a mass readership, the new status of the print media as legitimate business enterprises was secured but with it came problems associated with the need to balance commercial and journalistic interests. In short, there was a general deterioration of quality in newspaper content. To stem the tide of sensationalism, professional training of journalists and enforcement of mass media standards became felt needs.

As early as 1904, the first four-year curriculum for journalism was developed at the University of Illinois under the leadership of Dr. Frank W. Scott. At Wisconsin, Dr. Willard Grosvenor Bleyer introduced the first journalism class with the English department in 1905. Wisconsin's department of journalism was subsequently created in 1912 with an emphasis on the editorial aspects of the profession.

The first separate school of journalism in the United States was established in the University of Missouri in 1908 under the direction of Walter Williams, its first dean. Journalism was, however, part of

Missouri's curricular offerings since 1878 but like Wisconsin was taught through the English department.

In 1912, the Pulitzer School of Journalism at Columbia University opened with Dr. Talcott Williams as its first director.

Mass Communication Research

The later part of the nineteenth century saw the beginnings of mass communication research. It was not, however, considered an independent field or discipline but was in the periphery of the other social sciences such as psychology, political science and sociology.

Everette Dennis [1988] wrote, "By the 1920s, sociologists had discovered this field and enriched it with institutional analyses. By the 1930s, audience researchers coming largely from the new field of broadcasting, added their imprint to the intelligence of mass communication."

With the unprecedented growth of the mass media in the 1970s and the establishment of mass communication graduate programs in colleges and universities, media studies increased in scope, number and influence not only in the United States but throughout the world [Dennis, 1988; Katzen, 1975].

While a strong empirical tradition in media research has been documented, early studies focused on the historical, legal and ethical aspects of the press.

Research was also done on communicators, their media, and message content [Emery et al., 1965]. Since then, mass communication research centered around studies of media persuasion, process and effects of communication, agenda-setting, ideology, uses and gratifications, and the knowledge gap between classes [Barnouw, 1989].

By the mid-1980s, mass media studies expanded to include the impact of television on children; role of violence in mass media; public attitudes towards the news media; treatment of women and minorities; coverage of business, education, politics, military, the environment, and other special concerns [Dennis, 1986].

Beginning in the 1960s, journalism schools also began to emphasize social science and quantitative methods of research [Lovell, 1987]. During this time, mass media scholars also investigated the role of communication in development, diffusion of innovations, etc.

Reputational Rankings of Journalism Schools

Peer evaluations have been used to assess perceived quality of various academic disciplines and fields. Cartter [1966] used peer rankings to ascertain quality of Ph.D. programs in the humanities, social sciences, and physical sciences. Four years later, the tandem of Roose and Andersen [1970] completed a similar study. Neither of the studies, however, which were supported by the American

Council on Education [ACE], covered communication, journalism, and related disciplines.

Apparently, among the earliest reputational ratings of journalism programs which appeared in the literature was one done by Syracuse University's S.I. Newhouse School of Public Communication. The 1971 opinion survey by Wesley C. Clark *et al.* was prompted by the exclusion of journalism and communications graduate programs in ACE's reputation rankings of doctoral programs in the United States. Patterned after the ACE study, Clark *et al.* first mailed questionnaires to administrative heads of 173 journalism [and communication] programs listed in the *Editor and Publisher Yearbook 1970* and the *Journalism Educator 1971 Directory* issue.

A total of 175 schools were listed in the two sources combined. Two administrators, however, indicated during the earlier pilot study that their programs were being phased out.

Out of the 173, only 41 schools were finally chosen based on the results of the pilot survey. Journalism administrators were asked to rate the 41 schools on the following criteria: 1] quality of the faculty; 2] effectiveness of the graduate program in professional areas; 3] effectiveness of the doctoral program; and 4] "relevancy" of the research program. For each case, the institutions were rated by the percentage of responses giving the program a "high," "medium," or "low" rating.

The top ten schools based on the combined total of the "high" percentages in all four ranking categories were: 1] Minnesota; 2] Stanford; 3] Wisconsin; 4] Missouri; 5] North Carolina; 6] Illinois; 7] Northwestern; 8] Texas; 9] Syracuse; and 10] Columbia.

Researchers clarified that these results reflected "the reputation or image" of journalism programs at 41 schools as held by participating administrators surveyed in the study. They said that "in no way should this data be construed as anything more than opinion."

In a critique of this investigation, the NASULGC Circular Letter No. 8 [1972], wrote that the survey implied that a school with a good reputation in one of the areas evaluated is good in all the rest. Except for two, all ten of the top schools also appeared in the top ten for each of the individual categories, although some changes in relative positions within each of the categories were evident.

Exceptions include Michigan State which replaced Columbia in the top ten for effectiveness of graduate programs and Indiana which leapfrogged Texas in the top ten for "relevancy" of the research program. The University of Minnesota was a consistent topnotcher in all criteria except in effectiveness of the graduate program where it trailed behind Columbia.

To determine the best radio-television schools in the U.S. John M. Kittross [1966] asked teachers of broadcast-

ting who were subscribers to the Journal of Broadcasting to list those colleges and universities to which they would send their own children for an education in broadcasting. The 1965 survey, involving 140 broadcasting teachers, ranked the 20 leading graduate institutions for radio and television, making this the first AQR for a specialized field in mass communication.

The top rated schools were: 1] Michigan State; 2] Syracuse; 3] University of Southern California; 4] Ohio State; 5] Northwestern; 6] University of Michigan; 7] Wisconsin; 8.5] Illinois and Stanford; 10.5] Iowa and UCLA; 12] Boston; 13] Indiana; 14] New York; 15] Columbia; 16] Ohio University and the University of Pennsylvania [Annenberg]; 18] Texas; 19.5] Denver and Missouri.

Unique to the Kittross approach was a regional analysis of the rankings. The following universities scored highest in their respective regions: Syracuse [East]; University of Texas [South]; Michigan State [Midwest]; and the University of Southern California [West]. What was intriguing was the failure of any Southern school to rank very high even among teachers from that region. Similarly, Northwestern, a Midwestern school, did proportionately better in the East and South than in its home region. No explanation could be found for the rating pattern although relative distribution of sample by region and institutions where respondents obtained their doctorates were examined.

Apart from the 20, the study enumerated three categories of universities based on the number of times they figured in the ratings:

5-7 Total Mentions: North Carolina, Wayne State, Florida, Brooklyn College, Kansas, Minnesota, Oregon, San Diego State, San Francisco State, and Iowa.

2 Mentions: Baylor, Brigham Young, Houston, Oklahoma, Pennsylvania State, and the University of Washington.

1 Mention: American University, Bowling Green, University of California, Eastern Washington State, Kansas State, Kent State, Miami, Oklahoma State, San Jose State, Temple, and Washington State.

The survey appeared to indicate a positive correlation between reputation and the number of full-time faculty as well as the number of course or degree offerings. The five top-ranked graduate programs had 39 full-time and 21 part-time faculty members teaching broadcasting.

In 1972, Kittross updated the 1965 ranking with another opinion survey. This time the universe consisted of all broadcasting teachers listed in Niven's 13th Report. About 1,155 questionnaires were mailed but the response rate was only 19%, obviously very short of the statistical threshold required to generalize with confidence. Nevertheless, the researcher believed that findings were more valid estimates of quality than word-of-mouth, catalogs, and other unscientifically tested

claims of academic distinction.

Over a seven-year period, substantial changes in the ranking structure of broadcasting schools were noted. Hierarchical composition of schools in either direction was particularly dramatic for Temple University which zoomed from rank 42.5 in 1965 to the top-most slot in 1972. Wisconsin jumped from 7th to 4th; Ohio University, from 16th to 7th; Columbia, from 16th to 13.5; Texas from 18.5 to 16th and San Francisco State, from 26.5 to 17th.

Not all of the schools showed improvement in their rating. Michigan State, for instance, slipped from first in 1965 to second in 1972; Syracuse, from 2nd to 3rd; Ohio State, from 4th to 5.5; University of Michigan, from 6th to 9th; Southern California, from 3rd to 11th; University of Iowa, from 10.5 to 12th; Boston, from 12th to 15th; University of Illinois, 9th to 18.5; New York University, 14th to 18.5; and Missouri, 18.5 to 20.5.

Eight of the ten elite schools in 1965 remained in the 1972 list. These were: Michigan State, Syracuse, Wisconsin, Northwestern, Ohio State, Stanford, Michigan, and UCLA. In terms of geographical appeal, Temple University displaced Syracuse in the East. Stanford also edged out the University of Southern California in the West. In the South and Midwest though, the University of Texas and Michigan State preserved their respective prestige domains.

Kittross explained that many of the fluctuations in rank between 1965 and 1972 can be accounted for by major program development of specific universities. The University of Southern California, for instance, had reduced its programs, and specialized programs such as Minnesota's international broadcasting might have been overlooked. Nevertheless, the changes in rankings only point to the fact that "no school is so well regarded that it can afford to rest on its laurels."

Peter Blau, a sociologist, and Rebecca Margulies [1973], graduate student in sociology at Columbia University, conducted a similar study ranking the leading five professional schools in each of 17 professional fields. Rankings were based on the collective judgment of the deans in each of these fields of study. Because of the low number of responses received, a replication was undertaken which achieved a larger number of responses.

All the deans of 1,181 accredited and university-affiliated schools in 17 fields namely: architecture, business, dentistry, education, engineering, forestry, JOURNALISM, law, library science, medicine, nursing, optometry, pharmacy, public health, social work, theology, and veterinary medicine.

The deans were not asked to rank schools but to simply list the five they consider best in the field. Rankings reported in the study were derived from the number of deans who mentioned a given school as one of the

best five. Very close correspondence between the replication survey and the original research was noted despite the big difference in sample size.

For journalism, the following schools made it to the top five: 1] Columbia; 2] University of Illinois-Urbana 3] Minnesota; 3] Missouri-Columbia; and 5] Wisconsin-Madison.

The study also asked the deans whether professional ethics was part of their school's curriculum. Responses showed that in 14 of the 17 types of schools including journalism, the code of ethics is being taught. This is not, however, the case for the schools of business, engineering, forestry, and public health.

Interestingly, existence of a separate library was used as an indicator of the relative stature and importance given to a profession's accumulated knowledge. As might be expected, all the law schools and nearly all the medical and dental schools, owing to their well established status, took pride in their own library facilities.

It was also found that a school's autonomy was not related to the degree of financial dependence on the university. Law schools were particularly cited as these apparently were receiving larger share of their budgets from the university yet they maintain jurisdiction over admission and degree requirements. In contrast, those schools which have yet to enjoy full professional status, like forestry, have less control over degree and admission policies.

By looking at these differences, the researchers, by their own admission, raised more questions than they could answer. One specific issue of interest was the impact of these differences on the academic quality of the various professional schools.

In 1974-75, the Blau and Margulies tandem produced another reputational rating of professional schools. With very minimal changes from the 1973 survey, in terms of coverage and sample population, the investigation yielded a slight difference in the relative rankings of the elite group of journalism departments.

Columbia was still number one, but Minnesota, which used to share top billing with Columbia, went down to number three. Missouri inched to third rank from number four, while Wisconsin maintained its fifth position in both surveys. The biggest improvement in academic distinction, however, was shown by Illinois which jumped from rank five to second in overall prestige rating.

The rationale for conducting two identical surveys successively using the same sample group and covering the same types of professional schools is not clear. But that is not the major issue. The bigger question is what changes in these schools would account for the differences in prestige standing in just a matter of two years? Although the composition of the best five JMC departments was the same, the individual ranks were not. What could

explain the downgrading of Minnesota, for example, or the upward surge of Illinois in so short a time?

This 1974-75 study apparently eliminated one school as it only covered 1,180 but it had a very much lower return rate of 36% for its first mailing compared to 53% earlier which improved to 79% when an abridged version of the questionnaire was sent to those who failed to respond the first time around. As a whole, there was nothing in these figures which can give the slightest clue as to why variations in rank occurred. If for argument's sake, the deans indeed changed their minds, was it not a serious oversight not to ask them why?

In the area of film, Ernest D. Rose and Philip Nord did a pilot study on institutional images of quality in 1975. Largely a peer review which was limited to members of the University Film Association [UFA], the survey produced a ranking of distinguished film programs. The following universities and colleges were ranked highest by UFA members: University of Southern California, University of California-Los Angeles [UCLA], New York University, Temple, Ohio State, University of Iowa, San Francisco State, Columbia, Northwestern, Rochester Institute of Technology, Stanford, Iowa State, Boston, University of Pennsylvania, University of Texas, University of Ohio, Syracuse, Ithaca college, University of Indiana, and University of Southern Illinois.

The UFA student members, on the other hand, rated the following institutions favorably: New York University, Ohio State, Temple, Southern California, UCLA, Maryland, University of Iowa, University of Michigan, Columbia, Cincinnati, New Orleans, and Southern Mississippi University.

While there were obvious differences in judgments between the two respondent groups as to the best film programs in the country, they actually concurred in six out of the ten. Not necessarily in the same rank position, the programs which appeared in the top ten list of both groups were: Southern California, UCLA, New York University, Temple, Ohio State, and Iowa. The apparent disparity in the composition of the ten top-ranking film schools may be indicative of a difference not only in perceptions of prestige but also and perhaps more importantly in the requirements or needs between practitioners and students. The former seemed to emphasize faculty quality as the most important attribute of quality while the students placed a slightly higher premium on diversity of course offerings.

The study likewise reported that the age of a particular program appears not to be related to prestige, although several of the highest ranked film training institutions have existed for decades. No geographic region of the country seemed to dominate over the rest.

The data confirmed the suspected ethnocentric tendency among UFA members. There was evidence that

"first-hand knowledge of more than one's own institution is quite meager."

This report was for limited circulation to UFA membership only. The researchers warned that the rankings "must be viewed for what they are, namely the collective impressions of how well or how poorly people think we are doing, based not only of what they know but what they have picked from other sources."

Since no composite ranking was made for both active UFA members and student respondents, the study failed to present an overall picture of the pecking order of film institutions in 1975. Still in all, the research was an important initial effort at obtaining information on an issue where there has been a dearth of reliable data on a national scale.

Carl Byoir and Associates [1979] also attempted to rank U.S. colleges and schools of communication or journalism. As with previous surveys, deans of 73 schools were asked to name five schools other than their own that rank highest in reputation and quality of educational program. Investigators treated reputation and quality as separate criteria on the assumption that these were not synonymous. A high response rate of 51 out of 73 or 70% was recorded.

Evidently questions on the methodology of the research were raised by the respondents primarily because of the failure to define criteria, differences among

course sequences, and the distinction between undergraduate and graduate programs or teaching versus research capabilities. Nevertheless, the research group disclosed in alphabetical order the schools in each of the two categories which were mentioned ten or more times by the deans. Based on reputation, the schools were: Columbia, Minnesota, Missouri, Northwestern, Stanford, and Syracuse. For quality of instruction, the following schools were listed: Columbia, Indiana, Kansas, Minnesota, Missouri, Nebraska, Northwestern, and Wisconsin.

A 1983 report of the Associated Press Managing Editors [APME] identified "10 good J-schools" and "10 good J-profs." APME vice chairman David Hawpe polled 600 members on the subject of good journalism programs in the United States. Editors were specifically asked which programs are sending them the best young journalists, to which 89 different schools were named. The most frequently mentioned programs were: Missouri, Northwestern, Kansas, Indiana, Columbia, North Carolina, Florida, Texas, Ohio, and Syracuse in this order. Hawpe insisted that this was not a ranking but a reflection of editors' perceptions. The second portion of the report profiled ten influential instructors, four of whom were on the faculty of the schools just enumerated.

The group of Kittie W. Watson, Renee Edwards, and Larry L. Barker published the largest number of academic quality rankings in the field of communication. Their

series of surveys conducted under the auspices of the Association for Communication Administration [ACA] in 1976, 1978 and 1982 included mass communication as a dimension of the general area of communication. However, the fourth study in 1987 deleted mass communication, so a parallel but separate survey focusing on Ph.D. programs in mass communication was subsequently done. Five of their studies which covered mass communication or some field of mass media are reviewed here.

"A Rating of Doctoral Programs in Selected Areas of Mass Communication: 1987-1988" [1989] used two groups of respondents. The first random sample consisted of 300 respondents drawn from the Association for Communication Administration [ACA] membership while the second was composed of 300 members of the Broadcast Education Association [BEA] selected from the organization's 1987 membership. The survey asked respondents to rate doctoral programs in the following content areas: 1] communication research; 2] broadcasting/videography; 3] media effects studies; 4] new technologies studies; 5] international communication; 6] broadcasting and film criticism; 7] journalism; 8] film studies; 9] public relations; and 10] advertising. Ranking was also made of overall quality.

The ACA sample yielded a 46% return rate or some 138 respondents while the BEA group had a slightly lower return figure of 33%. Although only 97 respondents actually returned the questionnaires from the BEA sample, a high

84% of the returns evaluated at least one doctoral program in mass communication in contrast to only 20% from the ACA returns.

Of the ACA sample, 50% were professors; 29% associate professors; 14% assistant professors, and 7% were instructors. Comparatively, the BEA sample consisted of 24% professors; 25% associate professors; 27% assistant professors; 12% instructors; and 12%, others. In terms of gender distribution, a majority [74%] were male while only 26% were female. Average number of publications reported was 8.32 articles in regional and/or national journals. Highest degree earned for 71% of the respondents was a Ph.D. while 24% had a master's degree.

Survey results indicated that the primary bases for program evaluation were familiarity with faculty, familiarity with publication records, and familiarity with program graduates. These were followed by familiarity with administrators and hearsay.

The 10 top-ranked university programs were shown according to sample group. For the ACA sample, the following were in the magic ten: 1] Pennsylvania; 2] Wisconsin-Madison; 3] Southern California; 4] Southern California-Annenberg; 5] Illinois and Iowa; 7] Stanford; 8] Michigan State University; 9] Texas; and 10] New York University. In journalism, the ACA respondents ranked Missouri, Wisconsin-Madison, Indiana, Illinois, Georgia, Texas, and Maryland in the top seven.

The BEA rankings, on the other hand, listed the following in the first ten for overall quality: 1] Pennsylvania; 2] Wisconsin-Madison; 3] Stanford; 4] Texas; 5] Southern California; 6] Southern California-Annenberg; 7] Illinois; 8] Iowa; 9] Michigan State; and 10] Northwestern. For the journalism area, the topflight programs were: Missouri-Columbia, Wisconsin-Madison, Texas, Indiana, Syracuse, Georgia, and Maryland.

In discussing study findings, the researchers noted that ratings were generally consistent even though some differences existed. This may be accounted for by the ACA sample's greater familiarity with program administrators. Furthermore, the relatively small size of the ACA sample prompts the need for caution in interpreting the results.

Additionally, factors such as the "halo" effect and the possibility of a time lag between prior and current time survey was conducted or perception of program quality should be considered. For instance, the "halo" effect could occur when a specialist in one area assesses the program in another. Rater's familiarity with a program relative to others may influence evaluation of any given department. Also, departments are always in a state of perpetual flux but there is normally a time gap between awareness and the actual occurrence of these changes. As a result, quality rankings reported in the study may not be reflective of current program status but rather of its performance sometime in the past.

In the main, this survey only used peer evaluations as a basis for rating program quality. There are, of course, several ways of defining and operationalizing quality, hence, interpretation of results should be made within the confines of these limitations.

Using the same basic assumption that peer rating of speech communication programs is a valid and reliable indicator of quality, the Edwards, Watson, and Barker team surveyed selected areas of speech communication, results of which were reported in the ACA Bulletin in 1989. Originally, this included mass communication programs but the final report only presented the rankings of public relations programs.

"A Rating of Doctoral Programs in Selected Areas of Speech Communication: 1987-1988," [1989] was basically a survey of some 300 subjects representing 68% of the ACA membership and another 1098 participants drawn from the 1987 Speech Communication Association [SCA] member list accounting for 20% of total population. A 45% return rate was recorded for the ACA sample [134] while only 31% responded from the SCA sample [342]. Researchers explained that the low return rate for the SCA pool could be accounted for by the fact that subjects may have lacked information and felt unqualified to evaluate doctoral programs. Moreover, since 20% of the SCA membership were students, those included in the sample may not have responded to the survey.

Nevertheless, since all of the content areas evaluated were in speech communication [communication theory and research, interpersonal communication, organizational communication, rhetorical theory; public address; communication education and instruction, and oral interpretation] with the exception of public relations, only the public relations ranking is reported in this review. Surprisingly, both the ACA and SCA samples had the same universities cracking the top four slots although in different rank-order. The following universities were included: 1] Purdue [West Lafayette]; 2] Texas [Austin]; 3] Utah; and 4] the University of Washington.

The authors did not discount the possibility that the earlier surveys could have influenced the results of this study. Besides, they wrote that "although there are minimal standards necessary for training doctoral candidates, at some point factors other than those reflected in peer ratings and rankings should be considered. These factors include areas of specialization, financial support, library and computer facilities, faculty time available to students, faculty publications, jobs obtained by graduates and professional leadership in the discipline among faculty, to name a few."

The third survey to be covered in this review is the Edwards and Barker study [1983] entitled the "Evaluative Perceptions of Doctoral Programs in Communication - 1982." Like the previous surveys, two different sets of samples

were drawn for the study. The "Random Sample" consisted of 614 respondents drawn by choosing every sixth member from the SCA membership roll. The second group of subjects known as the "First Author" sample included 123 SCA members who have been first authors of journal articles in any of the following publications during the past 10 years: Communication Education, Communication Monographs, and the Quarterly Journal of Speech. Response rates were a good 52% for the "Random" group and 76% for the "First Author" sample.

Demographic data for the "Random" sample showed that average age of respondents was 40.6. There was also a predominance of male subjects [67%] while females comprised only 33% of the sample.

As to academic rank, 21% were professors; 28% associate professors; 36% assistant professors; 6% instructors and 16% others. About 23% of respondents were department chairs. A high of 78% of the random sample were Ph.D.s; 16% masters degree holders and the remainder were graduates of Ed.D., bachelor and other degree programs.

The "First Author" group, on the other hand, was slightly older with mean age at 42.46. The same pattern of sex distribution was noted with males outnumbering females. Male respondents for this sample, however, were even more in number at 83% while the females accounted for only 17%.

Publication record revealed that respondents published an average of 15.48 articles since receiving their highest degree; 1.57 book reviews during the last four years and about 2.6 books or monographs. Unlike the "Random" group, the "First Author" sample had a higher percentage of professors at 40%; associate professors accounted for 38%; and assistant professors comprised 22%.

Although some eight program areas [rhetorical and communication theory; interpersonal communication; organizational communication; public address; mass communication; communication education; oral interpretation and overall quality] were actually assessed, only the mass communication [Radio-TV-Film] portion is considered directly relevant to the coverage of this review.

For the "Random" sample, the following universities were ranked in the first 10: 1] Iowa; 2] Wisconsin; 3] Texas-Austin; 4] Illinois-Urbana; 5] Michigan State; 6] Northwestern; 7] Indiana; 8] Ohio State; 9] Minnesota; and 10] Ohio University-Athens. In contrast, the "First Author" group's composition for the magic 10 included: 1] Iowa; 2] Wisconsin; 3] Texas; 4] Ohio State; 5] Indiana; 6] Michigan State; 7] Illinois-Urbana; 8] Utah; 9] Temple; and 10] Minnesota.

Analyzing survey results, the investigators mentioned that the ratings made by the random sample tended to be

higher and with narrower range than those of the "First Authors." Considerable overlap in the judgments of programs by the two groups was apparent, although genuine differences in rank ordering existed.

"A Rating of Doctoral Programs in Speech Communication" randomly surveyed members of the SCA using every sixth name in the membership list and SCA members who have been first authors of SCA journal articles during the past decade. A total of 415 responses were received from the two sample groups. Results showed that the randomly selected batch of respondents rated the programs in Wisconsin, Iowa, and Northwestern highest in overall quality. The sample of first authors, on the other hand, ranked the Wisconsin, Iowa, and Illinois programs the highest in overall quality.

In the 1988 survey, Edwards et al. used a random sample of SCA members who were drawn by selecting 20% of the membership. Some 1098 respondents comprised the sample. Part I of the survey instrument culled academic and demographic data while Part II was devoted to the ratings of doctoral programs in 10 content areas. These were: communication theory and research, interpersonal communication, organizational communication, rhetorical theory, public address, communication education and instruction, oral interpretation, PUBLIC RELATIONS, film studies, and MASS COMMUNICATION. Although mass communication and film studies were included, the results

were not analyzed since doctoral programs in these areas were not always offered in the same departments which housed the other areas of communication.

A six-point Likert scale was used with the following levels: 1] distinguished; 2] strong; 3] good; 4] adequate; 5] marginal; and 6] not sufficient for Ph.D. training. Repeated measure analysis of variance [ANOVA] statistically tested the differences in the use of evaluative bases for rating the programs such as hearsay or familiarity with faculty, graduates, administrators or publications associated with the various programs.

Obviously more quantitative than their previous works, this update did not report the overall ranking of the communication programs. Only ratings of doctoral programs in the eight content areas were tabulated. For the public relations field, Purdue and Texas were in the top quartile [75-100%], while Utah and Washington occupied the second quartile [50-75%].

The last of the Barker et al. studies included in this review is actually the earliest in the batch that covered mass communication. "A Rating of Doctoral Programs in Speech Communication, 1978, Part I" involved a sample of 615 chosen by picking every 10th name from the SCA membership list. Only SCA members residing in the U.S. were selected.

Respondents were asked to rank about 42 doctoral-granting institutions in several areas of speech

communication. With a 39% return rate, only about 240 respondents actually rated the programs. Respondent profile was slightly different from the other studies in that there was a smaller percentage of professors [9.1%] and graduate students [12%]. Also, high school teachers [3.8%] were included. Associate professors, on the other hand, totalled 10.5%; assistant professors, 30.6%; instructors, 19.1% and others, 12%.

The sample was also significantly younger than previous surveys with a mean age of 35. Consistently, males outnumbered females at 64% and 34%, respectively.

Findings showed the following institutions comprising the top 10: 1] Iowa; 2] Texas; 3] Syracuse and Wisconsin; 5] Indiana, Ohio State and Temple; 8] Michigan State; 9] Northwestern, Pennsylvania State, and Southern California.

It is important to note that because the mean ratings and standard deviations were very close, they were almost indistinguishable in terms of quality differences.

Tables I-A and I-B present a comprehensive list of U.S. journalism and mass communication programs with their respective ranking based on the 15 reputational surveys completed from 1966 through 1989. As could be gleaned from the table, substantial changes in the rankings of journalism and mass communication departments occurred over the last 23 years.

Although an attempt at a longitudinal comparison of reputational standings of the various schools is made

TABLE I - A

RANKINGS OF JMC SCHOOLS IN 15 OPINION SURVEYS:
A COMPREHENSIVE LIST [Part 1]

Schools	Kittross 1966	Clark et al. 1972	Kittross 1972	Blau & Margu-lies 1973	Blau & Margu-lies 1974-75	Rose & Nord 1975 [A.M.]	Rose & Nord 1975 [S.M.]	Byoir & Asso. 1980	APME 1983
Michigan State	1		2						
Syracuse	2	9	3			10		*	10
Southern California	3		11			1	4		
Ohio State	4		5.5			5	2		
Northwestern	5	7	5.5		3	8		*	2
Michigan	6	8	9				5		
Wisconsin-Madison	7	3	4	5	5	11		*	
Illinois	8.5	6	18.5	2	5			*	
Stanford	8.5	2	8		9	10		*	
Iowa	10.5		12			6	5		
UCLA	10.5		10			2	5		
Boston University	12		15			10			
Indiana	13		13.5			10		*	4
New York	14		18.5			3	1		
Columbia	15	10	13.5	1	1	7	5	*	5
Ohio	16		7			10			9
University of Pennsylvania	16		20.5			10			
Texas	18	8	16			10		*	8
Denver	19.5		6*						
Missouri	19.5	4	20.5	3	4			*	1

TABLE I - A [Continued]

Schools	Kittross 1966	Clark et al. 1972	Kittross 1972	Blau & Margu-lies 1973	Blau & Margu-lies 1974-75	Rose & Nord 1975 [A.M.]	Rose & Nord 1975 [S.M.]	Byoir & Asso. 1980	APME 1983
North Carolina	6*	5	22					*	6
Wayne State	6*		3*						
Florida	5*		4*						7
Brooklyn College	4*		26.5						
Kansas	4*		2*					*	3
Minnesota	4*	1	5*	3	1				
Oregon	4*		6*						
San Diego State	4*		24.5						
San Francisco State	4*		17			7			
Iowa State	3*		6*			10			
Baylor	2*								
Brigham Young	2*		2*						
Houston	2*		1*						
University of Oklahoma	2*		1*						
Pennsylvania State	2*		4*						
University of Washington	2*		1*						
American	1*		5*						
Bowling Green	1*		4*						
Univ. of California	1*		2*						
East Washington	1*								
Kansas State	1*								
Kent State	1*								
Miami University	1*								
University of Miami [Ohio]	1*								

TABLE I - A [Continued]

Schools	Kittross 1966	Clark et al. 1972	Kittross 1972	Blau & Margu-lies 1973	Blau & Margu-lies 1974-75	Rose & Nord 1975 [A.M.]	Rose & Nord 1975 [S.M.]	Byoir & Asso. 1980	APME 1983
Oklahoma State	1*		1*						
San Jose State	1*		*						
Temple	1		1			4	3		
Washington State	1*		2*						
Florida State			23						
Kentucky			24.5						
Southern Illinois			6*			11			
Utah			4*						
Massachusetts			4*						
Colorado			3*						
South Carolina			3*						
Arizona State			2*						
Indiana State			2*						
Maryland			2*				5		
Murray State			2*						
Purdue			2*			11			
Arizona			1*						
Auburn			1*						
Cal. State-Northridge			1*						
Catholic			*						
Central Missouri			1*						
Emerson			1*						
Hawaii			1*						
Howard			1*						

TABLE I - A [Continued]

Schools	Kittross 1966	Clark et al. 1972	Kittross 1972	Blau & Margu-lies 1973	Blau & Margu-lies 1974-75	Rose & Nord 1975 [A.M.]	Rose & Nord 1975 [S.M.]	Byoir & Asso. 1980	APME 1983
Ithaca			1*			10			
Louisiana State			1*						
Memphis State			1*						
Mississippi			1*						
Texas Christian			1*						
Texas Tech			1*						
Rochester Institute						9			
U.C. Berkeley						11			
Chicago						11			
Cincinnati							5		
New Orleans							5		
Southern Mississippi							5		
Nebraska					7			*	

Legend:

A. M. - Rankings by active members of the University Film Association.
S. M. - Rankings by student members of the University Film Association.
* - Listed alphabetically, not ranked.
1*-6* - Not in top 25 but were mentioned between 1 - 6 times.

TABLE I - B

RANKINGS OF JMC SCHOOLS IN 15 OPINION SURVEYS:
A COMPREHENSIVE LIST [PART 2]

Schools	BEW 1978	BEW 1982 RS/FA	BEW 1987-88 ACA/SCA	BEW 1987-88 ACA/BEA	BEW 1987	Gourman * 1989
Michigan State	8	5		8		
Syracuse	3					
Southern California	9			3	4	
Ohio State	5	8		17		
Northwestern	9	9		10		2
Michigan	12			16		7
Wisconsin-Madison	3	2		2		6
Illinois	12	4		5		5
Stanford				7		8
Iowa	1	1		5		
UCLA						
Boston University						
Indiana	5	6		12		10
New York		12		11		
Columbia						1
Ohio	14	15				
University of Pennsylvania				1	1	
Texas-Austin	2	3	2	9	1	9
Denver						
Missouri	16	16		17		3
North Carolina						
Wayne State	19	20				
Florida						
Brooklyn College						
Kansas	22					
Minnesota		11		13		4
Oregon	17	22				
San Diego State						
San Francisco State						
Iowa State						
Baylor						
Brigham Young						
Houston						
University of Oklahoma						
Pennsylvania State	9	14				
University of Washington			4	18	2	
American						
Bowling Green	22	23				

TABLE I - B [Continued]

Schools	BEW 1978	BEW 1982 RS/FA	BEW 1987-88 ACA/SCA	BEW 1987-88 ACA/BEA	BEW 1987	Gourman 1989
East Washington						
Kansas State						
Kent State						
Miami University						
University of Miami [Ohio]						
Oklahoma State						
San Jose State						
Temple	5	7		15		
Washington State						
Florida State	19	17				
Kentucky		21				
Southern Illinois						
Utah	14	10	3	14	2	
Massachusetts	19	13		19		
Colorado	24	25				
South Carolina						
Arizona State						
Indiana State						
Maryland		18				
Murray State						
Purdue	17	19	1		1	
Arizona	27					
Auburn						
Cal. State-Northridge						
Catholic						
Central Missouri						
Emerson						
Hawaii						
Howard	28					
Ithaca						
Louisiana State						
Memphis State						
Mississippi						
Texas Christian						
Texas Tech						
Rochester Institute						
U.C. Berkeley						
Chicago						
Cincinnati						
New Orleans						
Southern Mississippi						
Nebraska						
Tennessee	24	24				

TABLE I - B [Continued]

Schools	BEW 1978	BEW 1982 RS/FA	BEW 1987-88 ACA/SCA	BEW 1987-88 ACA/BEA	BEW 1987	Gourman 1989
Rensselaer Polytechnic	26					
SUNY- Buffalo		26				
SUNY -Albany		26				
North Texas State		28				

Legend:

R. S. - Ranking by Random Sample
F. A. - Ranking by First Author Sample
A.C.A. - Association of Communication Administrators
S.C.A. - Speech Communication Association
B.E.A. - Broadcast Education Association
BEW - Barker, Edwards and Watson
* - Although validity of ratings is highly suspect, these are included for comparison with other rankings.

here, there are reservations as to the genuine comparability of data due to at least two fundamental concerns. First, the departments may not be comparable at all because of the variance in course offerings and degrees granted, i.e., some universities may be noted for journalism and others for public relations or broadcast communication. This is particularly critical in interpreting the Barker, Edwards, and Watson surveys as these basically targeted doctoral programs in speech communication except for one study which was devoted to mass communication. Speech communication is already a broad discipline which historically included specializations in journalism and mass media-related studies.

As mass communication gained legitimacy as a field of study it expanded its areas of concentration and not all departments offer uniformly the various specializations. Some schools, for instance, include advertising, while others offer advertising courses through their business department. Universities would also differ in emphasis between teaching and research so that it is extremely difficult to grasp what the rankings actually measured -- quality in what?

Second, differences in the choice of sample population and sample size could have skewed the results in favor of some programs. As the rankings were based on surveys, the issue of representativeness of the sample can be raised. A case in point is the Barker, et al. survey

which utilized the Broadcast Education Association [BEA] to rank various communication programs and the Kittross and Nord/Rose studies which used broadcast teachers and a film association membership, respectively, in their ratings. Naturally, these groups of respondents were more conversant of the broadcast and film study areas.

These limitations can possibly explain the wide fluctuations in the ratings of the highest-ranked journalism and mass communication programs over the years. Since the first reputational ranking in 1966 which identified 48 top JMC departments, for instance, all but seven managed to be mentioned at least once in succeeding studies. Those that dropped out were Baylor, Eastern Washington State, Kansas State, Kent State, Miami University, San Jose State, and the University of Miami [Ohio].

Only 14 schools or a mere 16% appeared in about half or at least seven out of 15 reputational surveys. These were: Texas, Northwestern, Wisconsin, Missouri, Illinois, Columbia, Minnesota, Indiana, Syracuse, Southern California, Ohio State, Stanford, Iowa, and Temple.

Texas was the most frequently mentioned [11 out of 15], followed by Northwestern, Wisconsin, and Missouri which figured in 10 rankings each. Coming in close third were Illinois and Columbia with nine mentions each. Indiana and Minnesota raked in eight to land in fourth berth while the rest garnered seven mentions each.

Of the 20 top-rated institutions in the first reputational ranking done in 1966, eight did not make it in at least 50% of subsequent listings. The schools were: Michigan State, UCLA, Boston, Michigan, New York, Ohio, University of Pennsylvania, and Denver.

An overwhelming 38 departments were added to the list since the 1966 ranking or a grand total of 86 distinguished JMC schools over 23 years of opinion rating. Of the 38, Utah and Purdue were the frontliners. Both appeared in six of the 15 rankings. Four others made it to at least three, namely: Massachusetts, Florida State, Colorado, and Maryland.

It should be mentioned here that based on Webster's [1966] definition of an AQR which was adopted in this study, the Byoir and Associates' 1979 work would not strictly qualify as a quality ranking. For some reason, said study simply listed the schools in alphabetical order.

Tables II-A and II-B zero in on 34 JMC programs which made it to the top 10 or so list in all 15 reputational surveys. Interestingly, less than half or only 15 of these schools were mentioned five times or more in the magic 10 of the opinion rankings. Of this number, Northwestern, Wisconsin, and Texas were the top grossers. These were followed by Columbia, Stanford, Illinois, Syracuse, Southern California, Ohio State, Iowa, Indiana, Michigan State, Temple, Missouri, and Michigan in that

TABLE II - A

TOP TEN JMC SCHOOLS IN 15 REPUTATIONAL RANKINGS

Schools	Kittross 1966	Clark et al. 1972	Kittross 1972	Blau & Margu-lies 1973	Blau & Margu-lies 1974-75	Rose & Nord 1975 [A.M.]	Rose & Nord 1975 [S.M.]	Byoir & Asso. 1980
Michigan State	1		2					
Syracuse	2	9	3			10		*
Southern California	3					1	4	
Ohio State	4		5.5			5	2	
Northwestern	5	7	5.5		3	8		*
Michigan	6	8	9				5	
Wisconsin-Madison	7	3	4	5	5			*
Illinois	8.5	6		2	5			*
Stanford	8.5	2	8		9	10		*
Iowa	10.5					6	5	
UCLA	10.5		10			2	5	
Minnesota		1		3	1			*
Missouri		4		3	4			*
North Carolina		5						*
Columbia		10		1	1	7	5	*
Temple			1			4	3	
Ohio			7			10		
Nebraska					7			
Boston University						10		
Indiana						10		*
New York						3	1	

TABLE II - A [Continued]

Schools	Kittross 1966	Clark et al. 1972	Kittross 1972	Blau & Margu-lies 1973	Blau & Margu-lies 1974-75	Rose & Nord 1975 [A.M.]	Rose & Nord 1975 [S.M.]	Byoir & Asso. 1980
University of Pennsylvania						10		
Texas-Austin						10		*
San Francisco State						7		
Iowa State						10		
Ithaca						10		
Rochester Institute of Tech.						9		
Maryland							5	
Florida								*
Kansas								*
Pennsylvania State								
University of Washington								
Utah								
Purdue								

Legend:

A.M. - Rankings by active members of the University Film Association [U.F.A.].
S.M. - Rankings by student members of the U.F.A.
* - Listed alphabetically, not ranked.

TABLE II - B

TOP TEN JMC SCHOOLS IN 15 REPUTATIONAL RANKINGS

Schools	APME 1983	BEW 1978	BEW 1982 RS/FA	BEW 1987-88 ACA/SCA	BEW 1987-88 ACA/BEA	BEW 1987	Gourman* 1989
Michigan State		8	5		8		
Syracuse	10	3					
Southern California		9			3	4	
Ohio State		5	8				
Northwestern	2	9	9		10		2
Michigan							7
Wisconsin-Madison		3	2		2		6
Illinois			4		5		5
Stanford					7		8
Iowa		1	1		5		
Minnesota							4
Missouri	1						3
North Carolina	6						
Columbia	5						1
Temple		5	7				
Ohio	9						
Indiana	4	5	6				10
New York							
University of Pennsylvania					1	1	
Texas-Austin	8	2	3	2	9	1	9
Florida	7						
Kansas	3						
Pennsylvania State		9					
University of Washington					4	2	
Utah					3	2	
Purdue					1	1	

Legend:

BEW - Barker, Edwards and Watson
R. S. - Random Sample
F. A. - First Author Sample
ACA - Association of Communication Administrators
SCA - Speech Communication Association
BEA - Broadcast Education Association
* - Although validity of rankings is highly suspect, these are included for comparison with other rankings.

order.

The rating game in the JMC field seems to confirm that journalism education is predominantly a Midwest and Western tradition. With the exception of Syracuse and Columbia in the East, a clear geographical dominance is shown with the best regarded schools clustering in the nation's central region.

It also includes the larger departments counting among them the biggest three, namely -- Michigan State, Texas, and Syracuse. A 1988 enrollment profile reveals that Michigan State has the highest doctoral and second highest master's enrollment which raises the issue of a possible correlation between departmental size and academic reputation. It could not be dismissed as mere coincidence that the highly regarded JMC programs are also among the country's biggest in terms of student population. The nuances of this relationship beg a more serious scrutiny as apparently size equals might.

In tracing causality, what comes first in shaping a department's prestige? Is it the critical mass which enhances the capability of influencing public perceptions, thereby increasing a program's drawing power for additional resources including its attractiveness to students and faculty alike? Or is it the case that a school built a good reputation in the first place and the rest of the benefits accrued over time?

The transience of this elite class of JMC institutions in the public's mind is also noticeable. Michigan State, which controlled the rating game in the mid-60s, never maintained its number one position but managed anyway to stay in the top 10 even in the late eighties. The same can be said of Southern California, Temple, New York, and Texas which were perceived to have the best JMC departments in the early to mid-70s. Texas, the late bloomer in the group, is an exception as it reached the apex of prestige in a much later 1987 study.

Five schools, however, hold the distinction of having duplicated their number one ratings. Columbia was the undisputed leader in the prestige rankings having placed first in three studies [Blau and Margulies' 1973 and 1974-75 ranking and Gourman's 1989 list]. In fact, Columbia is the only one which seemed to have maintained its academic image for more than a decade.

Minnesota also appeared to have an exceptionally outstanding academic reputation in the early to mid-70s. And this was recognized in two opinion surveys by different researchers [Clark et al. 1971, and Blau and Margulies, 1974-75]. The other three -- Iowa, University of Pennsylvania, and Purdue were ranked the highest in two studies each but by the same authors. Iowa occupied top billing in the 1978 and 1982 surveys done by the Barker, Edwards and Watson [BEW] triad; University of Pennsylvania by BEW's 1987 and 1988 reputational count; and Purdue by

the trio's 1987 and 1988 ranking but was based solely on its public relations department.

Rankings Based on an Objective Indicator: Faculty Research Productivity

Richard R. Cole and Thomas A. Bowers' study [1973] entitled "Research Article Productivity of U.S. Journalism Faculties" was a germinal work on quality rankings of communication programs. It ushered the use of faculty research publications as an objective index of contributions to the growing field of mass communication research and consequently to the literature on relative prestige ratings of journalism schools and their faculty.

The study identified schools and departments of journalism which produced the greatest number of mass media research articles in six journals from 1962 to 1971. Researchers assumed that quality of research is maintained partly through publication where ideas are subjected to a cleansing process chiefly done via critical evaluation by colleagues. Publication was further assumed to "sharpen not only the author's individual scholarship but that of the discipline as well."

Although this study did not explicitly aim to rank journalism schools according to the research productivity of their faculties, it actually came up with a ranking of 25 schools according to a composite weighted faculty productivity index; full article credit in each journal;

school from which author received his highest degree; and research note credit in each journal. Covering 171 U.S. schools and departments of journalism listed in the 1972 directory issue of Journalism Educator, the study allotted author credit fractionally from 1.00 to .17 depending on whether articles are co-authored or written singly. Of the 520 full articles included, 75% were written by individual authors, 20% by two authors and about 5% by more than two authors. More prestige seemed to accrue to the "first author" of a multi-authored publication. Allocation of school credit was made on the same fractional basis as the full articles.

For a meaningful assessment of productivity, weights were assigned to article types: one to a research note and two to a full article. To control for differences in faculty size, an "index" of article productivity per faculty member was calculated from listings in the 1962, 1966 and 1971 Journalism Educator directories.

The six journals covered over the 10-year period examined were: Journalism Quarterly, Public Opinion Quarterly, Journal of Broadcasting, Journal of Communication, Gazette and Journalism Monographs.

Major findings include: 1] Wisconsin, Minnesota, Iowa, Stanford, and Illinois cracked the top five slots in terms of sources of final degrees for authors. 2] An inverse relationship was found between professorial rank and article productivity. Assistant professors as a group

tended to produce more than associate professors who in turn received more credit than full professors. 3] The rankings based on research note credit showed North Carolina, Stanford, Syracuse, Wisconsin, and Oregon in the first five while only three of these schools were assigned to the top five in full article credit as follows: Wisconsin, Stanford, and North Carolina. Oregon and Syracuse were replaced by Iowa and Minnesota. 4] Ordinal positions of the schools according to composite weighted faculty productivity index were: Wisconsin, North Carolina, Stanford, Minnesota, and Kentucky. Wisconsin produced the greatest overall article productivity in the six journals for the ten-year period among the 171 schools.

Among the earlier studies on the comparative standing of mass communication programs based on research and publishing record was one done by Robert D. King and Stanley Baran [1981]. Employing the method first used by Cox and Catt [1977], they looked into five journals over a ten-year period [1970-79] to rate the top 60 most prolific mass communication research departments.

The refereed journals included were the Journal of Broadcasting, Journal of Communication, Journalism Quarterly, Public Opinion Quarterly, and Educational Communication and Technology [formerly Audio-Visual Communication].

In the first 20 rungs of the research productivity ladder were the following institutions: 1] Wisconsin-Madison; 2] Michigan State; 3] Temple; 4] Indiana; 5] Michigan; 6] Minnesota-Minneapolis; 7] Illinois-Urbana; 8] Texas-Austin; 9] North Carolina-Chapel Hill; 10] University of Pennsylvania; 11] Columbia; 12] Georgia; 13] Stanford; 14] Ohio State; 15] Iowa; 16] Florida State; 17] Syracuse; 18] Massachusetts; 19] Southern Illinois-Carbondale; and 20] Kentucky.

Also reported were the ratings of 12 departments which showed a comparative increase in the number of publications during the second half of the survey period [1975-79] from the first half [1970-74]; 13 other programs which recorded a drop in publication points and the top five universities by publication points for each of the journals. The following were the departments exhibiting positive growth in publication points -- Syracuse, Temple, University of Texas-Austin, Stanford, Columbia, University of Colorado-Boulder, Southern Illinois University [Carbondale], Indiana, University of Minnesota-Minneapolis, Georgia, University of Iowa, and Florida State.

Those with reduced number of publications were -- Ohio State, Kentucky, Ohio, University of Illinois-Urbana, University of Michigan, Florida Tech, Purdue, North Carolina-Chapel Hill, Wisconsin-Madison, University of Massachusetts, University of Pennsylvania, Michigan State, and University of Washington.

On a per journal count, the following were the top raters in each of the five journals:

Journal of Broadcasting -- Michigan State, Wisconsin-Madison, Temple, Ohio State, and the University of Massachusetts.

Journal of Communication -- University of Pennsylvania, Temple, Stanford, Wisconsin-Madison, and Columbia.

Journalism Quarterly -- Wisconsin-Madison, Minnesota-Minneapolis, Michigan State, Temple, and North Carolina-Chapel Hill.

Public Opinion Quarterly -- University of Michigan, Columbia, Illinois-Urbana, Michigan State, and North Carolina-Chapel Hill.

EC & TJ: Educational Communication and Technology -- Indiana, Wisconsin-Madison, Florida State, Syracuse, and University of Massachusetts.

The University of Wisconsin-Madison had the strongest presence with 4 out of the 5 journals [80%]. Michigan State trailed closely with 3 [60%] while Temple University, Columbia, University of Massachusetts, and North Carolina had two each [40%].

King and Baran added a new dimension to research publishing analysis by examining whether having a journal editor as a colleague would boost a scholar's chance of having a study published mainly because of an assumed similarity of research interest. The finding was that institutions housing journal editors tended to have more

of their faculty publications appear in the in-house journals.

Columbia University, for instance, which housed the Public Opinion Quarterly for ten years had 64% of its publication points coming from its resident journal. Similarly, when the University of Pennsylvania held the editorship of the Journal of Communication [JOC] for six years in the seventies, 62% of the university's publications were in JOC. For Minnesota, Indiana, and Temple, 59%, 35% and 23% of their publication points were accounted for by the Journalism Quarterly, Journal of Educational Communication and Technology, and Journal of Broadcasting, respectively, when these institutions held the editorship of the journals.

A similar study was undertaken by John C. Schweitzer [1988] covering 210 schools and departments of journalism between 1980 to 1985. In "Research Article Productivity by Mass Communication Scholars," Schweitzer found that 57% of the articles came from only 30 out of the 210 schools included in the study. Except for a slight difference in the number and kind of journals examined, the bigger universe of journalism schools and the time-frame considered, this investigation closely parallels that of Cole and Bowers' study [1973] in terms of methodology.

The nine journals used were: Communication Research, Journal of Advertising, Journal of Advertising Research, Journal of Broadcasting, Journal of Communication,

Journalism Quarterly, Newspaper Research Journal, Public Opinion Quarterly and Public Relations Review. With the inclusion of journals on advertising and public relations, the study appeared to have widened the scope and improved representativeness of disciplinary coverage compared to earlier works.

During the six-year period examined, only Wisconsin was represented in all nine journals. Maryland was represented in all but one of the journals while Michigan State, Georgia, Texas, Illinois, Purdue, Pennsylvania State, Alabama, Washington, and Northwestern were represented in seven of the nine publications.

The top ten schools within the magic 30 ranked by author credit were: Wisconsin-Madison, Michigan State, Indiana, Georgia, Illinois, Texas, Maryland, Ohio, Purdue, and Tennessee at Knoxville.

Only Wisconsin has consistently maintained the lead in research article productivity among the journalism schools during the 1962-71 and 1980-85 periods examined by Cole and Bowers [1973] and Schweitzer [1988], respectively. Schweitzer also listed 50 most productive researchers by current school.

Since the interest of this study may be considered bifocal -- academic quality of JMC departments and the quality of research as determined by productivity indices, two studies which relate more to the latter are reviewed. Both the Booth-Butterfield [1987] and Burroughs et al.

[1989] investigations dwelt on publication trends in the communication field.

On a limited scale, Booth-Butterfield surveyed 10 communication journals to verify the number of authorships produced between 1981-85. His examination showed that like other disciplines, the curve of scholarly production in communication is J-shaped. This means that only a few individuals [1%] tend to generate eight or more publications compared to the majority [95%], who publish three or fewer papers over the course of five years. He also found that to be ranked within the top 5%, a faculty only need to publish one article per year.

The researcher admitted that while number of authorships is "a crude and clumsy indicator of scholarly value," there is somehow a link between a scholar's publication and professional achievement in the field. The top producers, for instance, are or have served as officers of professional organizations and are or were editors of journals surveyed. Buttterfield, therefore, argues that high output levels over a long period of time and across a wide range of journals must also exemplify excellence or quality.

In what could be considered as the most extensive study of research output to date, Nancy Burroughs et al. [1989] identified the top published authors in communication studies between 1915-1985. Although a ranking of authors and not of institutions was produced, the study

nevertheless suggested that "those who consistently publish are doing so because their work, in the judgment of their peers represents quality work. Their presence on the faculty of a program can legitimately be taken as one positive indicator of the quality of that program, one which should be considered along with several others in an overall judgment."

About 15 journals listed in the Index to Journals in Communication Studies were covered, including five prominent journalism and mass communication journals, namely: Communication Monographs, Critical Studies in Mass Communications, Communication Quarterly, Journalism Quarterly, and the Journal of Broadcasting and Electronic Media. All articles appearing in the Index were counted equally during the 71-year period under consideration.

The single most important contribution of this study is the establishment of some long range norms of research productivity in the communication field. It provided factual data on research output across time aside from identifying where and when the leading authors obtained their highest degree and their current affiliation.

There are two ways by which program quality can be extrapolated from the study's data. One is based on the number of graduates who have made it to the most prolific authors list and the other by current affiliation of the active publishers. Because the first approach necessarily yields no more than a historical indicator of institution-

al excellence, the second appears to be a far better guide of current program quality.

Results revealed that the three schools with the most graduates ranked in the top 99 published scholars are Iowa, Northwestern, and Pennsylvania State. Northwestern had an outstanding program in the 1940s and 1950s while Iowa and Pennsylvania State emerged as the leaders in the 60s.

Furthermore, Burroughs et al. found that 63 of the top publishers continue as active scholars in the field and are located in 41 different academic organizations. Most of the institutions have only one of these highly productive authors on their faculty. Texas, however, leads the pack with four while Illinois, Michigan State, Southern California, and West Virginia have three each. Another eight institutions have two each. These are Indiana, Arizona, Massachusetts, Pennsylvania State, Denver, Iowa, Houston, and Minnesota.

Clearly, Burroughs et al.'s subsequent study, having the benefit of hindsight, is superior to that of Booth-Butterfield's in terms of length of coverage, number and kind of journals included, and the fact that it rank-ordered the leading authors in communication. Comparatively, Burroughs looked at a 71-year stretch [1915-85], the most extensive scope thus far, while Booth-Butterfield covered only a five-year period [1981-85]. Burroughs to some extent duplicated Butterfield's survey. There are

critical differences though. Of Burroughs' 15 journals, three decidedly have a mass media orientation, namely: Critical Studies in Mass Communication, Journalism Quarterly, and Journal of Electronic Media. Booth-Butterfield only included the first in his choice of ten journals, hence, had a more communication, rather than a mass media fit.

Finally, Booth-Butterfield simply listed the scholars with four or more publications. No ranking of the 109 authors was made although a faculty member at West Virginia was shown to have the most number of publications at 18, followed by another at the same university at 13. A University of Southern California and a University of Wisconsin-Milwaukee faculty member recorded twelve each, while two faculty of the University of Hawaii and Michigan State University had 11 published articles each over the five-year period.

Some correspondence is evident between the top published authors in the two studies. J. McCroskey of West Virginia University, who was ranked first in Burroughs' study was also the most prolific scholar in Butterfield's listing. The same is true with G. Miller of Michigan State University who was third in publication frequency in both surveys. But while Burroughs indicated specific rank of authors, Butterfield listed them alphabetically along with the frequency distribution of authorships. The former then qualifies more as an AQR than the latter.

It is indeed amazing that despite variations in number of years and journals covered, the two studies would share some homogeneity and consistency in findings. There is a strong possibility, however, that productivity of both authors peaked during the converging period of five years which the two studies evaluated. The cumulative effect of years of continuous publishing is also probable. Since only current affiliation of scholars was reported, extreme caution should be exercised in assigning institutional rank, as it is always possible that the authors could have moved from one department to another. This is more applicable with Burroughs' 71-year span unless, of course, the height of scholarly activity was reached in the universities where they were currently affiliated.

A very recent investigation of mass communication research productivity and trends was carried out by Chiung-Pi Su [1990]. Employing content analysis to examine characteristics and patterns of mass media research in the U.S. during the ten-year period between January 1980 to December 1989, Su covered only two publications: Journalism Quarterly and Dissertation Abstracts.

The sample population of this thesis was limited to university-based mass communication research articles published in the two journals. A total of 719 articles were analyzed. Six variables of analysis were developed, namely: publication, year, school, media type, topic, and method.

The study found that the top ten research universities remained almost identical for the period covered and were also similar to the top ranking schools in Schweitzer's 1988 research. Wisconsin and Michigan State ranked first and second as the most productive schools with the largest number of mass communication research articles published in both Journalism Quarterly and Dissertation Abstracts during the decade of the 80s.

The most productive top ten schools for the overall 10-year period were as follows: Wisconsin, Michigan State, Indiana, Minnesota, Ohio, New York, Illinois, Northwestern, Texas, and Tennessee. Only Minnesota, New York, and Northwestern did not appear in Schweitzer's 1988 ranking.

Among the other significant findings of the study were: 1] Communication theories, history and biography consistently chalked up larger percentages of research articles published while public relations had the smallest proportion overall. 2] Content analysis, mail surveys and historical research designs were the most frequently used methodologies while the Q-method was the least popular overall. 3] Broadcast media appeared to have a larger percentage of research articles devoted to them than articles on print media for most of the ten-year duration except in 1983 and 1984.

The collaborative work of Bradley Greenberg and John Schweitzer [1989], "Mass Communication Scholars Revisited and Revised," essentially used the data of Schweitzer's

1988 study. A minor revision was implemented by assigning one point to each author listed in a research article, including multi-authored publications. Originally, only single authors received full point credits while co-authors were given fractional credits.

The revised approach yielded the following rankings of mass communication schools with the most productive journal authors [1980-85]: Michigan State, Wisconsin, Georgia, Indiana, Texas, Illinois, Maryland, Ohio, Central Florida, and Tennessee.

In their examination of "Advertising Article Productivity of the U.S. Academic Community," Lawrence C. Soley and Leonard N. Reid [1983] found that while faculty at 151 colleges and universities published, 41% of the productivity was accounted for by just 20 of the schools. Sixteen journals were evaluated for a 10-year time- frame between 1971-1980. Only seven of the journals here were represented in previous related studies. A significant portion were drawn from business, marketing, retailing and consumer-oriented periodicals. Methodological design closely resembles that of Cole and Bowers [1973].

The top ranking schools in terms of article productivity were as follows: Illinois, Wisconsin, Michigan State, Georgia, Columbia, Pennsylvania, South Carolina, Harvard, Texas, Stanford, New York, Washington, Iowa, Southern California, Purdue, Northwestern, Alabama, North Carolina, Arizona, and Temple.

This study documented the involvement of both academics and non-academics or practitioners in advertising article writing. Authors noted a "symbiotic relationship between advertising education and practice in that both groups generate, expand and disseminate knowledge about advertising through advertising article publishing."

For the broadcast specialization in mass communication, Richard C. Vincent [1984] did a study on "Broadcast Research Productivity of U.S. Communications Programs, 1976-83." He observed that in some instances, a wide gulf existed between scholarly productivity and reputation of schools.

Some 14 communication journals were selected for the analysis from which 734 articles were coded. Of the total, only four were used in studies reviewed in this paper while the majority represented human communication, film and video, speech communication education, and some regional periodicals, such as Communication Quarterly, Central States Speech Journal, Southern Speech Communication Journal, and the Western Journal of Speech Communication.

Unlike most other studies, except perhaps Su's [1990], Vincent also looked into student research productivity. Results seemed to both confirm and contradict some widely held assumptions of the status of broadcasting research. There was evidence to the contrary that the most published schools also have the most highly regarded

graduate programs. Doctoral programs like those in Pennsylvania [Annenberg East], Syracuse, Southern California [Annenberg West], Stanford, Washington, and North Carolina, which all made it to the 26 highest ranking institutions in this study, failed to get mentioned in the Edwards and Barker 1982 mass communication Ph.D. program rankings where 28 schools were rated.

Student research publications, however, proved to be quite similar to the tabulated rankings of the schools. Pennsylvania, Wisconsin, Michigan State, Temple, Massachusetts, Texas, Indiana, Ohio, Iowa, Southern California, Minnesota, and Illinois all appeared in the top 16 of the institutional listing and are among the leading 14 in student research production as well.

Vincent's work yielded two rankings of communication programs based on: 1] overall ranking in terms of broadcast articles published in the journals, and 2] publication points. The top flight five schools out of the 54 overall that were listed include: the University of Pennsylvania, Wisconsin, Michigan State, Temple, and University of Massachusetts. Based on publication points, the first five were: Pennsylvania, Wisconsin, Michigan State, Temple, and Massachusetts at Amherst.

Vincent [1991] did a most recent assessment of telecommunications research productivity of U.S. communication departments. Reviewing 15 major research journals over a six-year period [1984-89], his study was an effort

to bridge the gap in media research by focusing on the broadcast/electronic media discipline which according to him has been left out by communication researchers in the past. While mass communication, by definition, included broadcasting and other electronic media, journalism and even film studies, scholars have traditionally concentrated on either the general field of communication studies and mass communication or on the more specialized journalism and advertising areas.

Telecommunications research was operationalized in Vincent's study as that "covering topics of broadcasting, electronic media and all newer technologies designed for information and data transmission." This 1991 article is actually an update of his 1984 examination of broadcast-related research, discussed earlier in this review, which yielded a ranking of the top 55 U.S. communication programs engaged in broadcasting research.

The current analysis excluded the regional journals covered in the 1984 study and added the Journal of Advertising, Journal of Advertising Research, Journalism Monographs, Critical Studies in Mass Communication, and the Journal of Popular Film and Television. The other ten journals were: Journal of Broadcasting and Electronic Media, Journalism Quarterly, Journal of Communication, Mass Communication Review, Public Opinion Quarterly, Human Communication Research, Communication Research, Quarterly Journal of Speech, Journal of the University

Film and Video Association, and Communication Education.

A total of 1,081 individual authors were coded. This represents 180 mass communication programs in the United States. His present investigation found that telecommunications research has a relatively strong presence in the journals selected and that the most frequent contributors were at the assistant and associate professor levels. Topics most discussed were on broadcasting and video [83%] while cable and satellite television accounted for only 7% of total article productivity. Research on new technology comprised just under 10% of the telecommunication articles analyzed. Of the 15 journals, Journalism Quarterly published more telecommunications research overall.

The study most particularly generated a ranking of the top 64 communication programs producing telecommunications articles in the 15 journals between 1984-89. Occupying the elite 20 are the following: 1] Michigan State; 2] Indiana; 3] Texas; 4] Wisconsin; 5] Southern California; 6] Alabama; 7] Cleveland State; 9] Minnesota; 9] Ohio State; 10] Maryland; 11] Iowa; 12] Ohio; 13] Stanford; 14] Kent State; 15] Illinois; 16] Georgia; 17] North Carolina; 18] Memphis State; 19] Michigan; and 20] Purdue. The study also produced a ranking of the 36 most productive telecommunications researchers; the 16 communication programs having the highest number of student-authored telecommunications articles; the 22 programs producing articles of new and recent emerged technologies; and the

19 programs having the most number of articles with international emphasis.

Of particular interest is the change in the present composition of the most productive research universities compared with that in the 1984 study. Some 15 top institutions in the 1984 ranking dropped off the list, including two which were rated 12th and 15th. The current 20 top flight programs includes two not previously ranked at all and another five which used to occupy the 22nd and 54th slots.

The author pointed out that the change in journals, shifts in faculty affiliations as well as the increase in institutional and/or individual interests in scholarly work may have contributed to the difference. Unquestionably, the changes demonstrate the volatility of these rankings.

The Gourman Reports -- A Rating of Graduate and Undergraduate Professional Programs in American and International Universities [1989] contained various rankings of journalism schools. These rankings have to be taken with caution as the methodology used was not sufficiently described. Even the actual conduct of the research and related concerns are highly suspect. Webster [1991] altogether dismissed these rankings as "without merit and should not be used."

For whatever residual utility the Gourman ratings will serve, this review includes two of the latest

available volumes [1989 and 1991]. In the 1989 edition, rankings covered graduate and undergraduate programs in journalism. In the graduate level, the following were in the top five: Columbia, Northwestern, Missouri, Minnesota, and Illinois. Leading institutions at the undergraduate level include: Missouri, Northwestern, Illinois, Minnesota, and Michigan.

Totally different categories were presented in the 1991 Educational Rankings Annual. Among them were top-rated doctoral programs in communication research, theory and methodology, media effects studies, new technologies and international communication as ranked by Broadcast Education Association members. There were also rankings of the doctoral programs in broadcasting, film criticism, video studies, journalism, public relations, advertising and mass communications schools with the most productive journal authors. In each of these fields, a sketchy description of ranking basis and background was included.

Surprisingly, an overwhelming majority of the 1991 published rankings were based on the study of Watson, Kittie, et al. "A Rating of Doctoral Programs in Selected Areas of Mass Communication: 1987-1988." Respondents included members of the Association of Communication Administration [ACA], Broadcast Education Association [BEA] and the Speech Communication Association [SCA].

Tables III-A and III-B summarize the rankings of 122 journalism/mass communication schools based on objective

TABLE III - A

RANKINGS OF JOURNALISM AND MASS COMMUNICATION PROGRAMS BASED ON FACULTY RESEARCH PRODUCTIVITY [PART 1]

Schools	Cole & Bowers 1973	King & Baran 1981	Soley & Reed 1983	Vincent 1984	Booth-Butterfield 1987
Wisconsin-Madison	1	1	2	2	19
North Carolina	2	9	18		7
Stanford	3	13	10		
Minnesota	4	6		12	11
Kentucky	5	20			
Michigan State	6	2	3	3	6
Iowa	7	15	13	10	10
Southern Illinois [Carbondale]	8	19		14	19
UCLA	9	47			
University of Washington	10	22	12		19
Wayne State	11				
Oregon	12	34			
Ohio	13	21		9	14
Syracuse	14	17			
Maryland	15	32			
Illinois-Urbana	16	7	1	14	
Michigan	17	5			
UC-Berkeley	18				3
San Fernando Valley State	19				
Indiana	20	4		7	11
Missouri	21	35			
Drake	22				
North Dakota	23				
Colorado	24	24			19
Pennsylvania State	25	31			15
Georgia		12	4		19
Texas-Austin		8	9	6	5
Purdue		23	15		2
Tennessee		42			
West Florida					
Temple		3	20	4	13
Memphis					
Alabama			17		13
Bowling Green					19
Cleveland State		33			14
Northwestern			16		17
Marquette		39			
Houston					16
Ohio State		14		8	

TABLE III - A [Continued]

Schools	Cole & Bowers 1973	King & Baran 1981	Soley & Reed 1983	Vincent 1984	Booth-Butterfield 1987
Louisiana State					
University of Pennsylvania		10	6	1	
Cal. State-Fullerton					
New York		45	11		
Columbia		11	5		
South Carolina			7		
Harvard		49	8		
Southern California		28	14	11	4
Arizona State			19		16
Massachusetts		18		5	19
Texas Tech		38		12	14
West Virginia		55			1
Kent State					8
Hawaii					9
Oklahoma		46			10
Dayton					11
CUNY-Queens College		29			13
Hartford					13
San Diego State					14
Northern Illinois		60			17
Denver					17
New Mexico State					17
Montana					17
Washington State					18
Central Washington State					18
Western Illinois					18
Connecticut		40			18
Wyoming					18
Auburn					18
SUNY-Stony Brook		30			19
Wayne State					19
Arizona					15
Florida					19
Humboldt State					19
Arkansas					19
Miami University [Ohio]					19
Delaware					19
Tulane					19
SUNY-Buffalo		54			19
Utah		44			19
San Jose State					19
Florida State		16			
Texas Christian					

TABLE III - A [Continued]

Schools	Cole & Bowers 1973	King & Baran 1981	Soley & Reed 1983	Vincent 1984	Booth-Butterfield 1987
South Florida					
CUNY-Hunter College					
Tulsa					
Kansas					
Cornell					
Iowa State		50			
Chicago		27			
Western Reserve					
Nebraska					
Louisiana State					
Florida Tech		25			
Illinois-Chicago		26			14
Illinois State		36			
Brigham Young		37			
Hebrew		41			
Kansas State		48			
Yale		51			
Cincinnati		53			
American		56			
SUNY-Albany		57			
Florida Atlantic		58			
Colorado State		59			
UC-Santa Barbara					
San Francisco State					
Howard					
Nevada-Las Vegas					
Cal. State-Fullerton					15
Virginia Polytechnic					
Middle Tennessee					
Virginian Commonwealth					
Southern Methodist					
Ithaca College					
University of Miami					
Southern Mississippi					
Drexell					
Trinity					
CUNY-Baruch					
Wisconsin-Milwaukee		43			12

TABLE III - B

RANKINGS OF JOURNALISM AND MASS COMMUNICATION PROGRAMS
BASED ON FACULTY RESEARCH PRODUCTIVITY [PART 2]

Schools	Schweitzer 1988	Greenberg 1989	Burroughs et al. 1989 [School Affiliation]	Burroughs et al. 1989 [Degree Source]	Chiung-Pi 1990	Vincent 1990
Wisconsin-Madison	1	2		2	1	4
North Carolina	11	13	12			17
Stanford			23	26		13
Minnesota	20	17	8	7	3	8
Kentucky			22			21
Michigan State	2	1	1	14	2	1
Iowa			5	1		11
Southern Illinois [Carbondale]	17	23		17		25
UCLA			4			60
University of Washington	18	24	22			
Oregon						64
Ohio	8	8		6	4	12
Syracuse	22	14		16		
Maryland	7	7	17			10
Illinois-Urbana	5	6	15	5	6	
Michigan	29	29		8		19
UC-Berkeley			22			
Indiana	3	4	12	22	3	2
Missouri						43
Colorado			21			
Pennsylvania State	12	20	8	4		26
Georgia	4	3	11			16
Texas-Austin	6	5	3		8	3
Purdue	9	11		14		20
Tennessee	10	10	22		9	34
West Florida	13	9				
Temple	14	25	23			28
Memphis	15	21				18
Alabama	16	22				6
Bowling Green	19	18				43
Cleveland State	21	12	16			7
Northwestern	23	26		3	7	23
Marquette	24	27				42
Houston	25	19	10			64
Ohio State	26	15	18	11		9
Louisiana State	27	28				
University of Pennsylvania	28	16	21			33

TABLE III - B [Continued]

Schools	Schweitzer 1988	Greenberg 1989	Burroughs et al. 1989 [School Affiliation]	Burroughs et al. 1989 [Degree Source]	Chiung-Pi 1990	Vincent 1990
Cal. State-Fullerton	30	30	17			
New York				26	5	43
Southern California				9		5
Arizona State			17			50
Massachusetts			8			21
Texas Tech						35
West Virginia			2	20		
Kent State			7	18		14
Hawaii						36
Oklahoma						61
CUNY-Queens College						52
San Diego State						46
Northern Illinois						64
Denver			13			64
New Mexico State			20			
Washington State						24
Auburn			14			
Wayne State				15		
Arizona			6			
Florida				13		48
Arkansas						54
Miami University [Ohio]						54
Delaware						31
Utah						46
San Jose State						29
Florida State			9	12		29
Texas Christian			19			39
South Florida			20			
CUNY-Hunter College			21			54
Tulsa			21			
Kansas				24		
Cornell				10		31
Iowa State				21		64
Chicago				23		
Western Reserve				19		
Nebraska				19		
Louisiana State				25		52
Illinois-Chicago						15
San Francisco State						37
Howard						38
Nevada-Las Vegas						39

TABLE III - B [Continued]

Schools	Schweitzer 1988	Greenberg 1989	Burroughs et al. 1989 [School Affiliation]	Burroughs et al. 1989 [Degree Source]	Chiung-Pi 1990	Vincent 1990
Cal. State-Fullerton						48
Virginia Polytechnic						50
Middle Tennessee						54
Virginian Commonwealth						54
Southern Methodist						54
Ithaca College						61
University of Miami						61
Southern Mississippi						64
Drexell						64
Trinity						64
CUNY-Baruch						64
Wisconsin-Milwaukee			22			39

indicators over an 18-year period [1973-1991].

Unlike the reputational rankings, the ten ratings based on faculty research productivity demonstrated some stability or consistency. Two institutions were listed among the top 20 in all ten of the rankings. These were Wisconsin-Madison and Michigan State University. Wisconsin was ranked first in 40% of the studies, second in another four, and 19th and 4th in the remaining two. Michigan State was first in three of the listings, second in another three, third in a couple of studies, and sixth in another pair. The data seemed to show that both departments displayed a fluctuating trend in their research productivity over the last 18 years.

Wisconsin was clearly the research leader in the early 70s to the mid-80s. Its productivity apparently sank in 1987 when it placed only 19th overall in one study. The school, however, had regained much of its publishing vigor beginning 1988 when it topped once again the rating charts; it slipped to second in 1989; and it resumed its dominance the following year and finally settled in a fourth finish in 1991.

Michigan State was a different story. Its ranking pattern actually reflected a steady improvement in research productivity. In 1973, for instance, the school was only in sixth place but it zoomed to second and third in the early to mid-80s; went back to sixth position in 1987; then reestablished its dominance thereafter. In

fact, it was a toss up between Wisconsin and Michigan State in the late eighties to early nineties for the first or second berth in the research productivity ratings.

Of the highest ranking JMC departments in the 1973 study, Kentucky, Southern Illinois, and Washington did not make it to the magic ten in subsequent studies. Stanford and UCLA, however, were able to crack the top ten only in the 1983 and 1989 rankings, respectively. These later studies show that Stanford slipped from third in 1973 to tenth in 1983. UCLA, on the other hand, was upgraded from ninth in 1973 to fourth in 1989.

Moreover, 29 out of the 122 [24%] universities appeared in at least half of the ten research productivity rankings. The schools were: Wisconsin, North Carolina, Stanford, Minnesota, Michigan State, Iowa, Southern Illinois, Washington, Ohio, Syracuse, Maryland, Illinois-Urbana, Michigan, Indiana, Pennsylvania State, Georgia, Texas, Purdue, Tennessee, Temple, Alabama, Cleveland State, Northwestern, Houston, Ohio State, University of Pennsylvania, New York, Southern California, and Massachusetts.

The pecking order among the research-front universities in terms of frequency of appearance in the productivity ratings would show in the elite ten: Wisconsin, Michigan State, Minnesota, Ohio, Indiana, Texas, North Carolina, Southern Illinois, University of Illinois-

Urbana, and Temple. The first two were present in all ten of the rankings; the next four in nine and the remaining in eight.

Since the first research productivity study in 1973 where 25 institutions were listed, a hefty 97 were added as these registered among the higher ranking universities in terms of faculty research output in at least one or a couple of the studies.

Tables IV-A and IV-B shortlist 43 schools which may be considered the creme de la creme of JMC research. This academic gentry of only 35% were in the top ten of the productivity rankings so far undertaken. Further stratification on the basis of the total frequency a department makes it to the upper ten list would show even a smaller elite group of only eight universities. These are: 1] Michigan State, 2] Wisconsin-Madison, 2] Texas, 3] Minnesota, 4] Iowa, 4] Illinois-Urbana, 4] Ohio, and 4] Indiana.

Michigan State figured in the top ten of all productivity studies reviewed, thereby, dislodging Wisconsin-Madison and Texas by just one frequency count. Minnesota appeared in six out of ten, while the rest appeared in five or 50% of the best ten list.

Only six schools, however, really managed to be first in any of the productivity ratings. Wisconsin was considered the most prolific in four studies; Michigan State in three; while Iowa, Illinois-Urbana, University of

TABLE IV - A

TOP TEN MOST PROLIFIC JMC DEPARTMENTS IN TEN RESEARCH PRODUCTIVITY RANKINGS [PART 1]

Schools	Cole & Bowers 1973	King & Baran 1981	Soley & Reid 1983	Vincent 1984	Booth-Butterfield 1987	Schweitzer 1988
Wisconsin-Madison	1	1	2	2		1
North Carolina	2	9			7	
Stanford	3		10			
Minnesota	4	6				
Kentucky	5					
Michigan State	6	2	3	3	6	2
Iowa	7			10	10	
Southern Illinois-Carbondale	8					
UCLA	9					
University of Washington	10					
Illinois-Urbana		7	1			5
Michigan		5				
Indiana		4				
Texas-Austin		8	9	6	5	6
Temple		3		4		
Georgia			4			4
University of Pennsylvania			6	1		
Columbia			5			
South Carolina			7			
Harvard			8			
Ohio				9		8
Indiana				7		3
Ohio State				8		
Massachusetts				5		
U.C. Berkeley					3	
Purdue					2	9
Southern California					4	
West Virginia					1	
Kent State					8	
Hawaii					9	
Maryland						7
Tennessee						10
Pennsylvania State						
Northwestern						
Houston						
New York						
Alabama						
Cleveland State						
Central Florida						

TABLE IV - A [Continued]

Schools	Cole & Bowers 1973	King & Baran 1981	Soley & Reid 1983	Vincent 1984	Booth-Butterfield 1987	Schweitzer 1988
Arizona						
Florida State						
Cornell						

TABLE IV - B

TOP TEN MOST PROLIFIC DEPARTMENTS IN TEN RESEARCH PRODUCTIVITY RANKINGS [PART 2]

Schools	Green-berg 1989	Burroughs et al. 1989 [I.A]	Burroughs et al. 1989 [D.S.]	Chiung-Pi 1990	Vincent 1991
Wisconsin-Madison	2		2	1	4
Minnesota		6	7	3	8
Kentucky					
Michigan State	1	1		2	1
Iowa		5	1		
UCLA		4			
Illinois-Urbana	6			6	
Michigan			8		
Texas-Austin	5	3		8	3
Georgia	3				
Ohio	8		6	4	
Indiana	4			3	2
Ohio State					9
Massachusetts		8			
Southern California			9		5
West Virginia		2			
Kent State		7			
Maryland	7				10
Tennessee	10			9	
Pennsylvania State		8	4		
Northwestern			3	7	
Houston		10			
New York				5	
Alabama					6
Cleveland State					7
West Florida	9				
Arizona		6			
South Florida		9			
Cornell			10		

Legend:

I. A. - Rankings based on institutional affiliation.
D. S. - Rankings based on degree source.

Pennsylvania and a dark horse -- West Virginia, had one study each placing them in number one position.

A comparative look at the rankings using peer evaluation and faculty research output would show a high degree of agreement in results between the two ranking methods [Table V]. Seven universities, namely Wisconsin-Madison, Texas, Illinois, Michigan State, Southern California, Iowa, and Indiana, were rated high in the majority of the studies. In other words, these departments were not only perceived to have reputational quality but also had the more productive research scholars among their faculty. Whether the visibility gained through faculty research and publication was a factor in positive peer evaluations was beyond the scope of the present review but should be a vital issue to address in future research.

A clear convergence of results was further exhibited with the ranking of Wisconsin and Texas in second and third positions, respectively, in both reputational and research productivity studies.

While similarities exist, there are important differences worth noting in the composition of the most reputable and the most prolific JMC departments. The topnotch school in terms of academic reputation, for example, was Northwestern, while Michigan State was the most productive research institution. Stanford, Columbia, Syracuse, Missouri, and Temple appeared to be in good standing among peers but were not necessarily considered

TABLE V

COMPARATIVE RANKING OF JMC DEPARTMENTS BASED ON FREQUENCY OF TOP TEN LISTING IN REPUTATIONAL AND RESEARCH PRODUCTIVITY STUDIES

Reputational Surveys			Research Productivity		
School	Frequency Total	Rank	School	Frequency Total	Rank
Northwestern	11	1	Michigan State	10	1
Wisconsin-Madison	10	2	Wisconsin-Madison	9	2
Texas-Austin	9	3	Texas-Austin	9	2
Illinois	8	4	Minnesota	6	3
Stanford	8	4	Iowa	5	4
Columbia	8	4	Illinois-Urbana	5	4
Syracuse	7	5	Ohio	5	4
Michigan State	6	6	Indiana	5	4
Southern California	6	6	North Carolina	3	5
Ohio State	6	6	Georgia	3	5
Iowa	6	6	Southern California	3	5
Missouri	6	6	Maryland	3	5
Temple	6	6	Tennessee	3	5
Indiana	6	6			

strong or equally productive research-wise. Data further reveal that Minnesota, Ohio, North Carolina, Georgia, Maryland, and Tennessee may have excellent research records but did not seem to rate well in reputational surveys. It is possible that the difference of about eight years in time coverage between the peer opinion studies and the research productivity rankings would account for the presence or absence of some JMC departments in the ratings.

Other Related Studies

In "Factors Affecting Scholarly Research Among Mass Communications Faculty" John C. Schweitzer [1989] identified factors that contribute most to productive scholars' success as published researchers. Personal motivation was found to be the strongest contributing element to a researcher's overall productivity.

Schweitzer's "The Research Climate in Programs in Journalism and Mass Communication," [1989] investigated the degree of support among administrators of mass communication programs for academic research among their faculty. It documented the fact that even programs without graduate degree courses still expect faculty to do research. Support within these programs, however, may be considerably less than within programs offering graduate studies.

Another article, "Faculty Research Expectation Varies Among Universities" [Schweitzer, 1989], reported results of a survey of mass communication administrators who were members of the Association of Schools of Journalism and Mass Communication. Major findings indicated that journalism and mass communication faculty are under constant pressure to conduct and publish research. And despite efforts of professional organizations, administrators tend to prefer traditional academic research and publication when it comes to evaluating faculty members for promotion and tenure.

The same scholar suggested in another paper, "Practical Research Can Bring Respect to J-Schools" [Schweitzer, 1985], that academic research in journalism needs to address more relevant problems and issues faced by the mass media industry. This is to better prepare students for the profession and bring needed credibility to schools of journalism.

In the same vein, Schweitzer [1985] in his survey entitled "How Academics and Practitioners Rate Academic Research" found that more professors reported academic journals as being very useful to them than did practitioners. Both groups stated they would like to see more practical, problem-centered research published in academic journals.

Richard R. Cole and Thomas A. Bowers' [1975] "An Exploration of Factors Related to Journalism Faculty

Productivity" was essentially a follow-up to their 1973 descriptive study measuring the research productivity of U.S. schools and departments of journalism reviewed earlier in this report. The current survey attempted to explore why certain scholars and schools were more productive than others. Often the assumption is that research productivity is related to school size, so that the larger the schools, the more research produced because they attract more research funds and more and brighter graduate students.

Basically using the survey research design, Cole and Bowers sent questionnaires to 24 individuals who wrote the most articles in the six communication journals between 1962-1971 and to the deans, chairs or directors of 25 journalism schools or departments that ranked the highest according to the weighted faculty productivity index in their 1973 study.

Results showed that both individual researchers and administrators rated personal motivations as the most significant explanatory variable in research productivity levels of journalism departments. While the deans surveyed considered it important for faculty in the department to exchange ideas and stimulate each other, accomplished researchers said that stimulation and interchange of ideas with faculty members at other schools were more important.

Both groups of respondents, however, concurred that the administrators' encouragement and support are crucial

for a school's productivity. Surprisingly, reduced teaching loads or ample graduate research assistants were not considered by either panel as necessary to foster and increase productivity. Nor was monetary support for research seen as a crucial factor. The study likewise noted that faculty members perceived the "publish or perish" pressure as more important than the deans did.

Del Brinkman [1985] argued in his article, "Quality Must be Emphasized in 21st Century Education," that despite new technological innovations and their applications to education, the philosophical, theoretical and practical moorings of journalism and mass communication education are likely to remain constant. To meet the challenges of the 21st century, Brinkman advocated a combination of this solid educational foundation with quality administration, curriculum instruction, and overall high standards of teaching.

In "Journalism Education Is in an Enviable Catbird Seat," Neale Copple [1985] opined that the ways in which Midwestern and Plains schools of journalism differ from those of Ivy League schools can be advantageous, particularly in the areas of research, service and accreditation. He believed that journalistic research must delve further and deeper than social science research. Lamenting that in the area of research, journalism schools have been imitators, he wrote, "We have imitated the other disciplines for so long ... We have accepted low

rank in the pecking order for so long ... We have let others set our priorities for so long." He recommended an emphasis on the quality of teaching and learning and the return to traditional liberal education.

CHAPTER III

METHODOLOGY

This study employs citation analysis of journalism and mass communication research articles and other publications as listed in the Social Sciences Citation Index for five selected years during the past 20 years.

Intrinsic to this research method is the assumption that among scholars, it is imperative to cite the work they found useful in pursuing their own study [MacRoberts and MacRoberts, 1989; Cozzens, 1981].

Meaning and Purposes of Citations

Scientific publications are said to be unsolitary occurrences. They do not stand alone. This is because virtually every published scientific treatise is embedded in the "literature of the subject" [Ziman, 1968].

A citation represents the relationship between citing and cited articles. Although the nature of this relationship is at best complex, the reasons why authors cite documents have been identified. Garfield [1979] enumerated 15 of these as follows:

1] Paying homage to pioneers

2] Giving credit for related work [homage to peers]

3] Identifying methodology, equipment, etc.

4] Providing background reading

5] Correcting one's own work

6] Correcting the work of others

7] Criticizing previous work

8] Substantiating claims

9] Alerting to forthcoming work

10] Providing leads to poorly disseminated, poorly indexed or uncited work

11] Authenticating data and classes of fact -- physical constants, etc.

12] Identifying original publications in which an idea or concept was discussed

13] Identifying original publications or other work describing an eponymic concept or term

14] Disclaiming work or ideas of others [negative claims]

15] Disputing priority claims of others [negative homage].

The range of motivations for citing seems to imply a legitimate end of the continuum which is acknowledgment of genuine scholarly impact as well as dubious ones at the other, such as promoting a colleague's publications in return for a similar favor [Bavelas, 1978]. As revealed by a 1975 study, however, about 90% of references given were confirmative suggesting that a citation can generally be seen as a token of appreciation and recognition [Moravcsik

and Nurugesan, 1975].

It should be further noted that citing patterns of authors vary across disciplines. This explains in part the differential rate of citations among scholars in various fields of study. Primary attention was given here to the citing behavior of journalism and mass communication faculty in the United States.

Assumptions and Uses Of Citations

Expounding on the assumptions frequently underlying citation analysis, Smith [1981] wrote that citation of a document suggests use of that document by the citing author and a relationship in content between cited and citing articles. It also reflects merit [quality, significance, impact] of that document, author, journal, etc. Moreover, it is popularly held, true or not, that citations are made to the best possible works.

Citation use likewise presupposes that all citations are equal. This paper takes exception to this. Self-citations, for obvious reasons, were eliminated from the current analysis. Whitney's 1969 study, for example, pointed out that individual self-citation rates for papers with low prestige were significantly higher than for highly prestigious, important papers. Dieks and Chang [1976] had similar observations.

Faculty citation studies have several uses. They have been utilized to evaluate research [Martino, 1967];

identify "research-front authors and classic papers," [Velke, 1970]; assess the quality of scientific work [Cole and Cole, 1973; Oromaner, 1972; Clark, 1957]; and rank-order departments according to academic quality [Sindelar and Schloss, 1987; Thyer and Bentley, 1986; Liu, 1978, and; Roche, 1978].

The Politics of Citations

It would be completely naive to assume that all citations are given according to Garfield's framework. Citer motivations differ, and not all would be legitimate or above board.

Bavelas [1978] hinted that a researcher may at times cite the journal editor's work to improve one's own chances of getting published. Citing a friend's work can also be done on the tacit or even explicit agreement of returning the favor in the future.

Using a power perspective to explain stratification patterns in sociology, Roche and Smith [1978] wrote that a self-perpetuating elite group of individuals and institutions may actually try to "prolong their importance by citing one another..." [p.57].

This theory appeared to be supported in J. Cole's [1970] finding that physicists of the most prestigious departments cited scientists in other reputable departments more than they cite researchers in lesser known schools.

In like vein, Crane [1972] concluded that because social factors affect the diffusion of information within a research field, "a high level of utilization reflects conformity to norms set by the invisible college in the area." [p. 83]. The publishing and citation process appears to, therefore, set into motion the power of an "invisible college" to limit access only to those who nod in the right direction. And the presence of this knowledge oligarchy tended to perpetuate more of the same kind of methodologies, research topics and the like.

In the communication field, analysis of the citation pattern among all communication journals between 1977-1985 exhibited "clustering and inbreeding." Cliques of interpersonal communication journals and other residuals were found to exist [Rice, 1988].

In all, citation analysis while fraught with problems and uncertainties is still being used and thought to be a valid approximation of the value or impact of research publications [Cole, 1970]. Besides, citations are unobtrusive measurement tools and are readily available.

Research Questions and Hypotheses

This study was chiefly interested in finding out the differences in the impact of research and other publications produced by JMC institutions in the United States and the rankings of JMC departments based on citation productivity between 1970 and 1990.

Specifically, the four research questions which the author sought to answer and their corresponding hypotheses are:

1] Are there differences in the impact of faculty research and publications produced by various U.S.-based JMC departments as indicated by the number of citations received per published work during the last two decades?

Null Hypothesis:

There is no difference in the impact of research and publications generated by JMC institutions in the U.S. during the past two decades.

2] Are there differences in the academic quality rankings of JMC departments based on citation productivity during the period under investigation?

Null Hypothesis:

There are no differences in the academic quality rankings of JMC departments based on citation productivity during the period being evaluated.

3] What are the trends in citation productivity in JMC schools during the 20-year period and are the changes in productivity genuine and not due to chance?

Null Hypothesis:

No real changes in citation productivity occurred in JMC departments during the 20-year period.

4] Is there a genuine difference in the academic quality rankings of JMC departments using reputational surveys, faculty research productivity, and citation

analysis?

Null Hypothesis:

There is no genuine difference in the rankings of JMC departments using reputational surveys, faculty research productivity, and citation analysis.

Operational Definition of Variables

Quality or Impact of Faculty Research -- Refers to the relative importance, influence or relevance of published research based on the number of citations garnered by a particular work as listed in the Social Sciences Citation Index.

Academic Quality Ranking [AQR] of JMC Departments -- This is a ranking based on citation productivity of journalism and mass communication departments in the United States.

Citation Productivity -- An AQR method used in assessing the prestige standing of academic organizations on the basis of total number of citations amassed by faculty research and publications for any given period.

Reputational Survey -- Another AQR method which ranks institutions according to the opinion or expert judgment of peers surveyed for the purpose. In this study, this refers to the 15 opinion rankings of JMC schools between 1966 and 1989.

Faculty Research Productivity -- These are the ten rankings of JMC departments reviewed in this study which

were principally based on the number of faculty research articles published in selected journals during the 18-year period [1973-1991].

For the nominal data, chi-square tests were employed to statistically test the significance of relationships and differences among the research variables. Spearman Rho correlation was, however, used for rank-ordered data and multiple regressions were run to ascertain predictability of departmental rankings using the different quality rating methods. Rank-ordering was performed on Microsoft Excel while the rest of the statistical tests were done on Systat 4.0.

The Social Science Citation Index

Published by the Institute for Scientific Information [ISI], the Social Sciences Citation Index [SSCI], along with other ISI products such as the Science Citation Index [SCI], Arts and Humanities Citation Index [AHCI], Journal of Citation Reports [JCR], and the Corporate Source Index [CSI], provide a wealth of data for citation analysis. Dating back to 1966 and published annually since then, the SSCI is a reference tool which lists by author the bibliographic citations in the literature. Both the cited author and article as well as citing author and paper, among other information, appearing in journals and periodicals covered by the SSCI in a given year are listed alphabetically.

Broadly based, some 3,300 journals were used to compile the SSCI in 1991. It covers 19 communication, journalism and mass communication journals. These are: Communication; Communication Education; Communication Monographs; Communication Research; Critical Studies in Mass Communication; Educational Technology, Research and Development; Human Communication Research; Journal of Broadcasting and Electronic Media; Journal of Communication; Journal of Technical Writing and Communication; Journalism Quarterly; Language and Communication; Media Culture and Society; Public Opinion Quarterly; Public Relations Review; Quarterly Journal of Speech; Speech Communication; Telecommunications Policy; and Written Communication.

Of the 19, some 5 or 26% are considered prestigious journals. The periodicals with corresponding prestige ranking are: Journalism Quarterly [1]; Public Opinion Quarterly [3]; Journal of Communication [4]; Journal of Broadcasting [7]; and Communications Research [10].

Journalism Quarterly [JQ] was perceived as the most prestigious journal by all faculty and administrators polled for a 1981 survey. It even outranked the special-interest periodicals in their own specialties, namely: news editorial, radio-television, advertising, and public relations [Smith and Larkin, 1981].

In the Trayes and McCombs study [1981], JQ was also reported to be the most useful for research and planning,

teaching, and keeping current with the field. Based on a trend analysis of the periodical, it was likewise concluded that "JQ reflects the strength and diversity " of the journalism and mass communication field [Stempel, 1990].

Institutional Coverage

The combined list of 135 high-ranked JMC departments in the U.S. culled from 15 reputational ratings and 10 research productivity studies over a 25-year-period reviewed in Chapter II compose the sample of institutions included in the present investigation. The sample represents 40% of U.S. JMC departments. Schools mentioned at least once in any of the 25 rankings so far done in the JMC field were automatically included.

Logically, only the ten research productivity rankings should be included as the main interest of the study is the quality of JMC faculty research and publications. To provide a wider base for the current ratings, however, it was deemed best to include institutions perceived as outstanding in the various reputational surveys, as well. By doing so, the present research encompasses all the JMC quality ratings done over the years.

Besides, a dual ranking is attempted here -- the authors publishing the more important or often-cited and, therefore, "quality" research, and the "academic quality"

of the departments to which these stellar performers are connected.

For better manageability of the research in terms of time and resource availability, covering all 343 schools was not considered practical. The rationale simply is that if a department does not figure even once in any of the 25 previous rankings during the last two decades, it is not likely to rate high in the present study, given the relative stability and consistency in institutional rankings over the years.

For each of the 135 JMC departments, the names of professors, associate and assistant professors were obtained from institutional catalogs or the Association of Educators in Journalism and Mass Communication [AEJMC] Directory corresponding to the years selected for the study. Using the Social Sciences Citation Index, a frequency tabulation of citations received by individual faculty sampled for the years chosen was undertaken. Per capita citations were aggregated and credited to the departments where the faculty members were affiliated to arrive at a quality ranking of the institutions.

Time Frame

Mass Communication research has been vigorously attacked for its "fragmentation and not building on past studies," [Tunstall, 1983; Yu, 1988; Davison and Yu, 1974]. The present work heavily depended on previous

opinion surveys and quantitative evaluations of research output by JMC faculty during the past 25 years for both the choice of institutions covered and the years examined.

Determining the years of coverage was guided by the following considerations:

First, the period covered by the reputational and faculty research productivity rankings spans roughly two decades. The first prestige rating based on peer opinion was undertaken in 1966 [Tables 1-A and I-B] while the latest was that of Gourman in 1989. Ranking studies using research output as the main criterion, on the other hand, began to appear in the literature in 1973 although it covered the period 1962-71. The most recent so far was published in 1991 but examined the period 1984-89 [Table III-B]. Effort should, therefore, be made to sample at least five representative years within the two decades during which ranking studies of JMC departments were done.

Second, it has been found that in the social sciences, the average annual number of citations received by an article is zero [Webster, 1981]. This means that only a few authors are frequently cited. There is also corroborative evidence which suggests that the time lag between publication and citing for the majority of papers is about three to five years [Yoels, 1973]. Cognizant of this fact, longer periods should be reviewed.

The researcher believed that a straight two or three year period as done by most studies of this nature may not

be truly reflective of trends compared to one in which the years are reasonably spread out.

For our purposes, a five-year interval between 1970-1990 will best meet the conditions this study tried to consider. The years 1970, 1975, 1980, 1985 and 1990 were, therefore, selected.

Sampling Design and Procedure

The names of all professors, associate and assistant professors listed in the 1970, 1975, 1980, 1985 and 1990 catalogs or AEJMC directories for the 135 institutions included in this study comprise the sampling frame. Arranged alphabetically by professorial rank, a stratified random sample was drawn to maintain original proportion of professors [28%]; associate professors [32%] and assistant professors [40%] in the population. This group was called faculty sample.

In addition, about 64% of the 350 most published authors identified in research productivity studies reviewed in chapter II were included to examine who among the research-front JMC authors are frequently cited. This sample is referred to as the most published authors or special sample.

The final sample size of about 1025 individuals consisting of 800 faculty members [faculty sample] and 225 of the productive authors [special sample] was chosen by systematic random sampling using Microsoft Excel's random

number generation. This sample size gives a tolerated sampling error of 3% at the 95% confidence level.

Longitudinal in approach, the study counted citations earned by each faculty member in the sample over the five-year period under investigation. Total citation frequencies, excluding self-citations, were used to determine the most productive departments overall as well as note changes in citing patterns among authors and departments.

Cole and Cole [1971] lend methodical support to this system in concluding that total number of citations can serve as an adequate indicator of impact or quality. In fact, they wrote that "straight citation counts highly correlated with virtually every refined measure of quality like weighted counts and those that take into account collaborative work," [p. 28]. Consequently, straight counts can be used with reasonable confidence to empirically determine variations in quality/impact of scholarly publications.

Owing to the expected mobility of faculty during the study period, the Corporate Source Index, AEJMC directories, or university catalogs were consulted to track down movements of JMC faculty and determine institutional credit. This guaranteed that credit was given to the department where the faculty was affiliated at the time he/she was cited.

Use of faculty affiliation at the time citation was given was proposed and eventually used to distinguish this from research production studies. The latter, unlike a citation analysis, gives credit to the department where the author was at the time the research was published. Besides, by crediting the school where the faculty was connected when he/she was cited represents a more updated indicator of research and publication and/or program quality which may have current information value to readers.

CHAPTER 1V

ANALYSIS OF DATA

Introduction

The main purpose of this research was to evaluate relative impact of university-based journalism and mass communication research and publications; examine trends in citation productivity over a selected five-year period during the last two decades; and rank JMC schools and authors on the basis of citations earned. Sample frame consisted of 4008 JMC faculty members and 350 most published authors in five research productivity studies [Vincent, 1990; Greenberg and Schweitzer, 1989; Burroughs et al., 1989; Schweitzer, 1988; and Booth-Butterfield, 1987].

Of this population, a sample size of 1025 was drawn. The faculty sample of 800 individuals was composed of 224 professors [28%]; 256 associate professors [32%]; and 320 assistant professors [40%]. The special sample, on the other hand, consisted of 225 of the most published authors [64%]. Citations received by each member of the two major sample groups comprise the sampling units.

During the study period, a total of 9594 citations were recorded or an average of 9.36 citations per person.

Presentation of Findings

Figure 1 shows the total number of citations over the five-year period. A consistent growth pattern in citation productivity was noted, with an average yearly increase of about 39%. In 1970, some 854 citations, accounting for 9% of total was tabulated; increasing by 40% to 1194 or 12% of total in 1975; further augmenting to 2017 or 21% in 1980; moderately increasing to 2457 [26%] in 1985 and finally reaching 3072 [32%] in 1990. The highest percentage increase was achieved between 1975 and 1980 at 69%, while the lowest was between 1980 and 1985 at 22%. Median production was 2218, and the five-year average production was 1918.8.

Not all of the differences in annual citation productivity were statistically significant. However, there were significantly more citation frequencies in 1980 than in 1970, as shown by a chi-square value of 4.8, df = 1 at the 95% confidence level. We are also 99.5% sure that the citation total for 1985 was genuinely different from 1970 as indicated by chi-square statistic = 8.2, df = 1. There were definitely more citations in 1990 than in 1970 [X = 12.90, df = 1, confidence level = 99.9%], and there was a true difference in citation counts between 1985 and 1975 as well as between 1990 and 1975 as shown by X = 5.15, df = 1, confidence level 97.5% and X = 9, df = 1, confidence level 99.5%, respectively.

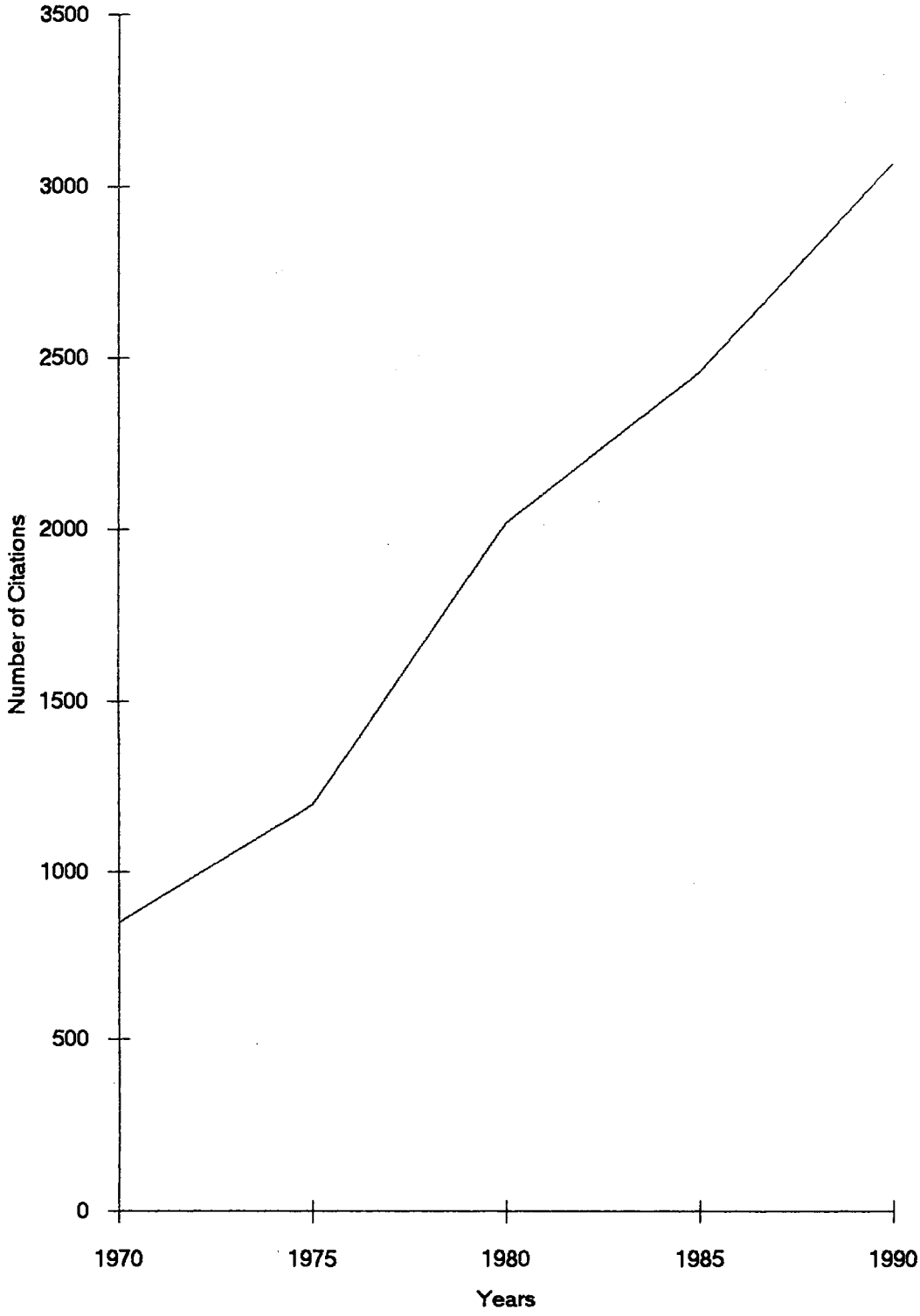

Figure 1. Total Citations by Year

The percentage distribution of citations for each of the sample groups is summarized in Figure 2. The special sample or the most published authors as a group contributed 6273 citations or 65% of total. Consolidated production of the faculty sample, on the other hand, was 3321 or 35% of total. The professors tabbed 1748 citations accounting for 18% of total while the associate and assistant professors with 808 and 765 citations each had 8.42% and 7.97% share of the total, respectively [Figure 3]. Statistical tests showed that at the 99.9% certainty, the special sample clearly dominated the citation productivity chart. With chi-square values of 9, 11.11, 20.16, and 22.53, all at df = 1, this group's citation count was overwhelmingly more than that of the faculty sample as a whole or taken singly according to the citation yields of the professors, associate and assistant professors. There were no real differences found in the citation productivity between and among the other sample groups.

Figure 4 details the yearly citation output of the most published authors. A steady upward trend in citation productivity was observed, with a mean annual percentage increase of about 52%. The bumper season was 1990, with 2173 citations accounting for 35% of the group's total.

There were only 424 citations, or 7% of sample total, in 1970. Five years later, the figure stood at 770 or 12% of the year's production. This represents an 82% increase

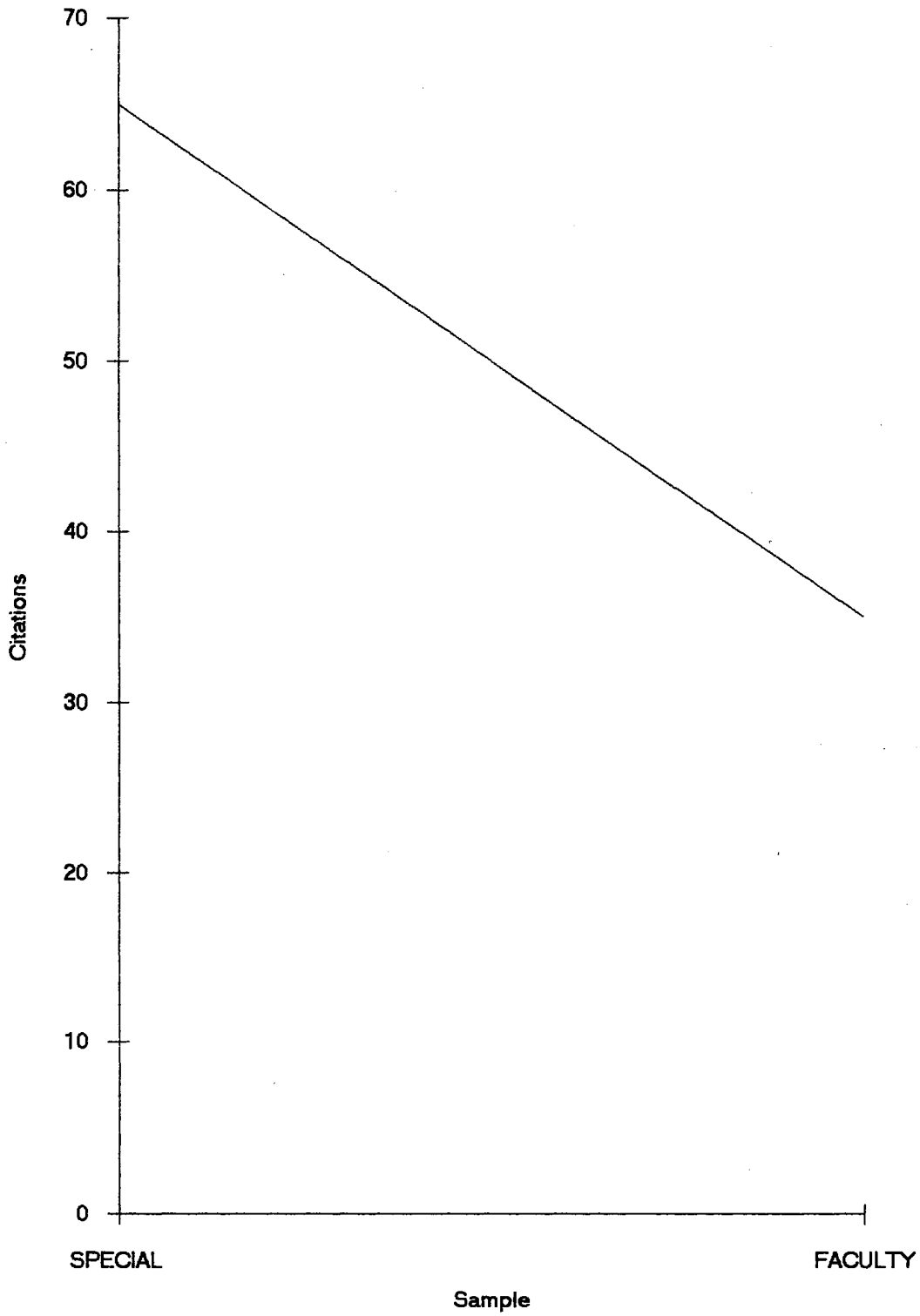

Figure 2. Percentage Distribution of Citations by Sample Group

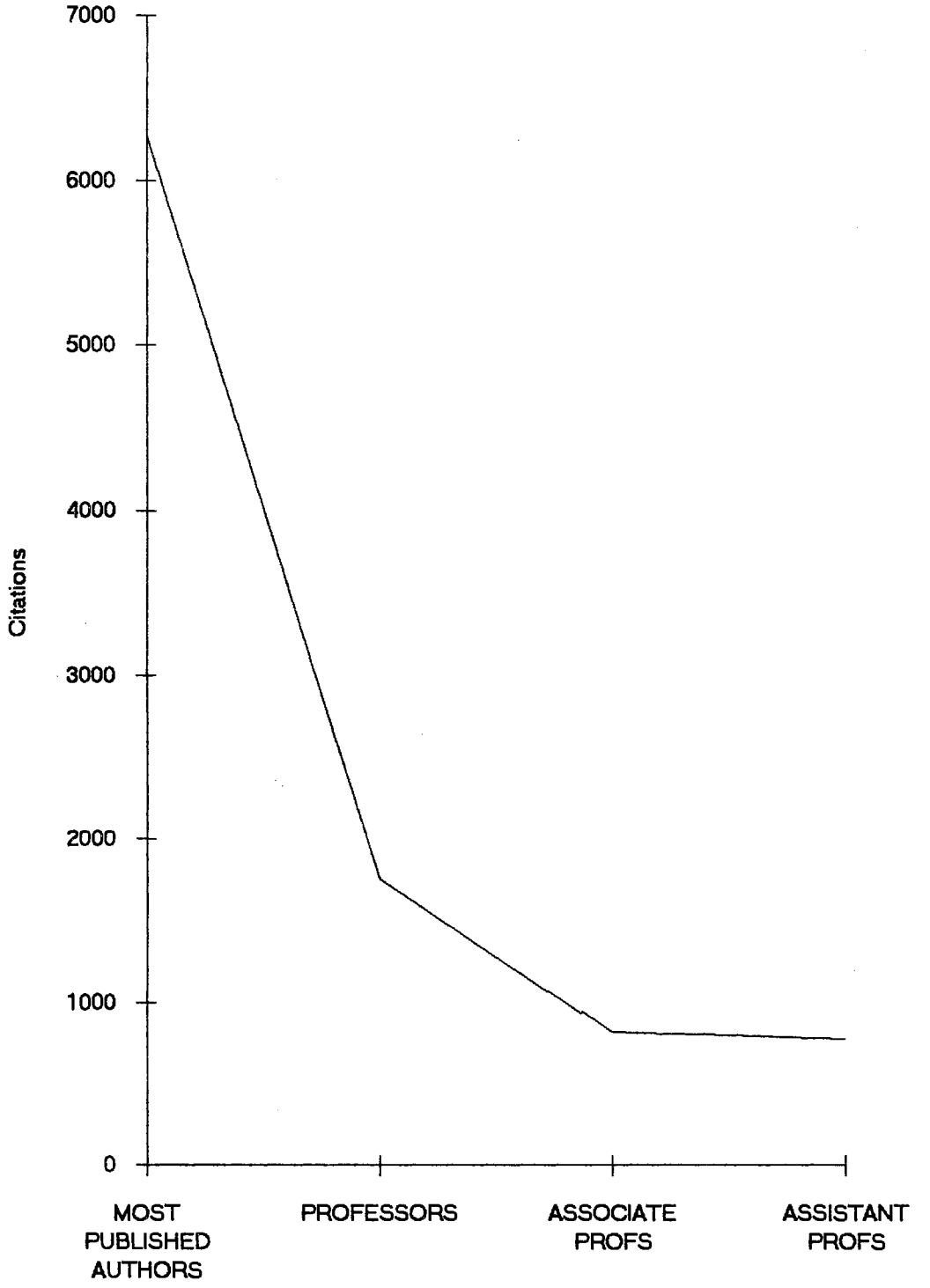

Figure 3. Percentage Distribution of Citations by Faculty Sample

over that of the 1970 output. In 1980, about 1244 citations [20%] were recorded, which was a 62% improvement over that of 1975. Another 34% growth was registered in 1985 with 1662 citations or 26% of total followed by the group's most modest percentage increase of only 31% occurring between 1985 and 1990.

Average citation count for the most published authors sample was 28 distributed on a yearly basis as follows: 1.88 in 1970; 3.42 in 1975; 5.52 in 1980; 7.38 in 1985 and 9.65 in 1990.

In terms of percentage share of total, the group's 1980, 1985 and 1990 citation outputs were statistically different from the 1970 production with chi-square values of 6.2, 10.93 and 18.66, all at df = 1. This means that at the 99.9% confidence level, the special sample produced significantly more citations in 1980, 1985 and 1990 than in 1970. Also, production during the same three years was definitely greater than in 1975 as shown by X = 8; 5.15 and 11.2, df = 1. Moreover, a real difference in citation yield for the years 1980 and 1990 was indicated at the 95% confidence level [X = 4.09, df = 1] which means that the most published authors netted more citations in 1990 than in 1980.

The yearly citation productivity of professors is given in Figure 5. Unlike the special sample, the professors as a group displayed a fluctuating pattern in citation frequencies. In 1970, professors earned 216

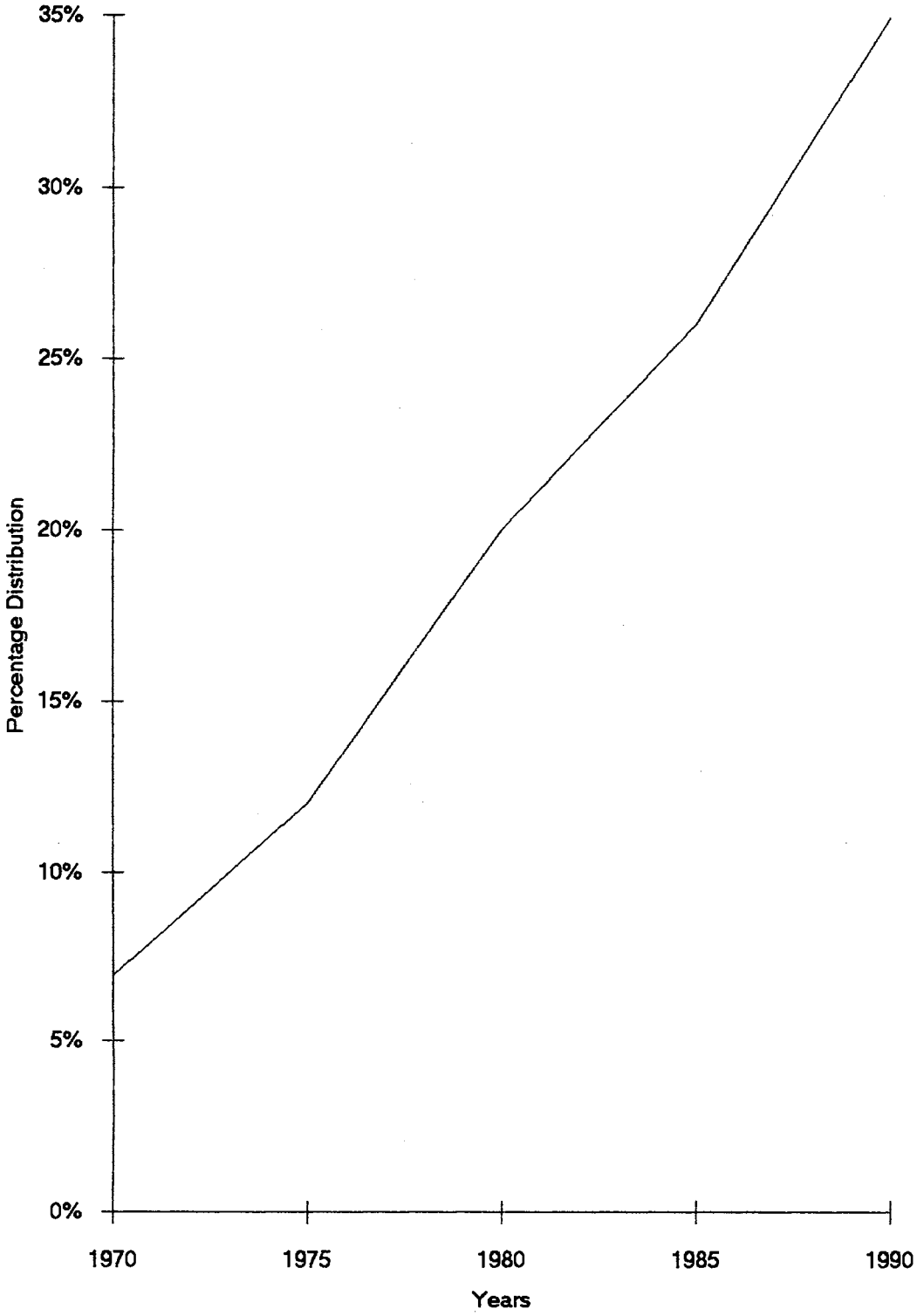

Figure 4. Annual Citation Productivity of Most Published Authors

citations representing 12% of group total. A slight increase of 11% was made in 1975 with 240 citations produced. The biggest percentage growth of 80% was observed in 1980 with 431 citations accounting for 25% of total. This was followed by a 6% drop in production of only 404 citations [23%] in 1985, but rebounding with 457 [26%] citation counts in 1990, which represented a 13% increase over the 1985 figure.

Professors yielded an average of 8 citations broken down annually as follows: .96 in 1970; 1.07 in 1975; 1.92 in 1980; 1.80 in 1985 and 2.04 in 1990.

Statistically, only the 1980 and 1990 citation outputs were found to be genuinely greater than the 1970 count at the 95% and 97.5% confidence levels. This was shown by $X = 4.56$ and 5.15, which were higher than the critical values 3.8 and 5, $df = 1$, respectively. The sample's 1980 production was also found to be significantly higher than that in 1975 at the 95% confidence level [$X = 3.10$, $df = 1$].

Figure 6 plots the citation frequencies per year for the associate professors sample. As a group, associate professors displayed a constant improvement in their annual citation productivity, with an average annual increase of about 42%. The sample started with 65 citations only which accounted for 8% of the group total in 1970. This was the lowest citation count for that year in all four sample groups. Production rose to 100 [12%] in 1975

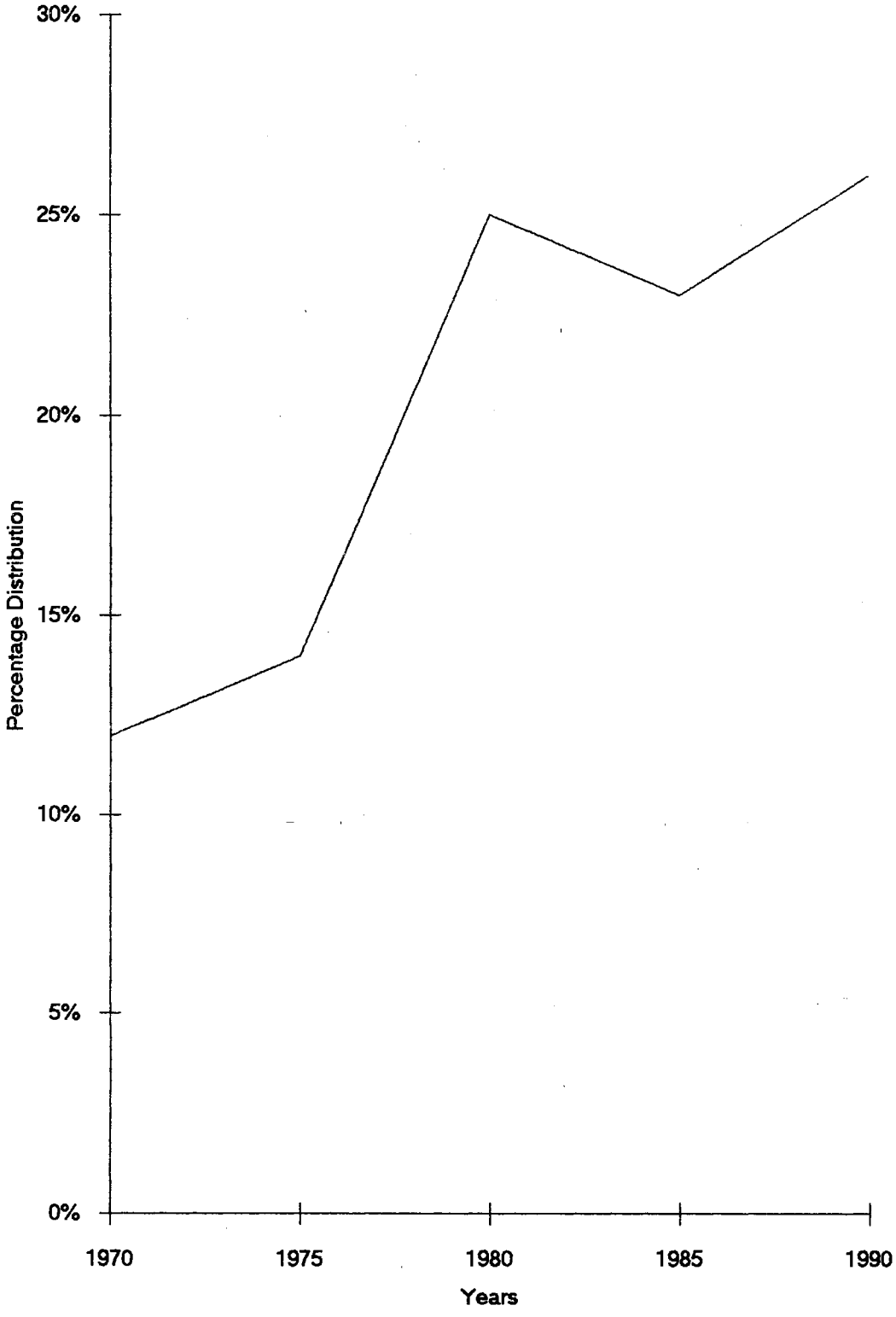

Figure 5. Annual Citation Productivity of Professors

representing a 54% increase over the 1970 figure followed by a 68% growth of some 168 citations [21%] in 1980. Five years hence, about 220 citations [27%] were received which was a 31% increase over the previous year's record. By 1990, the citation figure stood at 255 or 32% of total and representing a 16% increase over the 1985 count.

The mean citation output for the sample was three with a yearly distribution of .25 in 1970; .39 in 1975; .65 in 1980; .85 in 1985 and .99 in 1990.

The chi-square values of 5.82, 10.3, and 14.4, df = 1 mean that the associate professors garnered significantly more citations in 1980, 1985 and 1990 than in 1970, respectively, and that this was a real difference in productivity at the 99% confidence level. Also their 1985 and 1990 citation counts were truly greater than those in 1975 as indicated by $X = 5.76$, df = 1 and $X = 9.09$, df = 1 at the 97.5% and 99.5% confidence levels.

Annual citation productivity of assistant professors is shown in Figure 7. Like the professors, this sample group exhibited fluctuations in citation output. The 1970 figure was 149 which was 19% of total group production. A 44% decline in productivity was observed in 1975 with only 84 citations representing the lowest percentage share of total for the sample at 11%. The succeeding five years saw a 107% increase or 174 citations [23%]. This was followed by a 1.72% decrease in 1985 with 171 citations or 22% of total. The 1990 citation record was 187 [24%] which was a

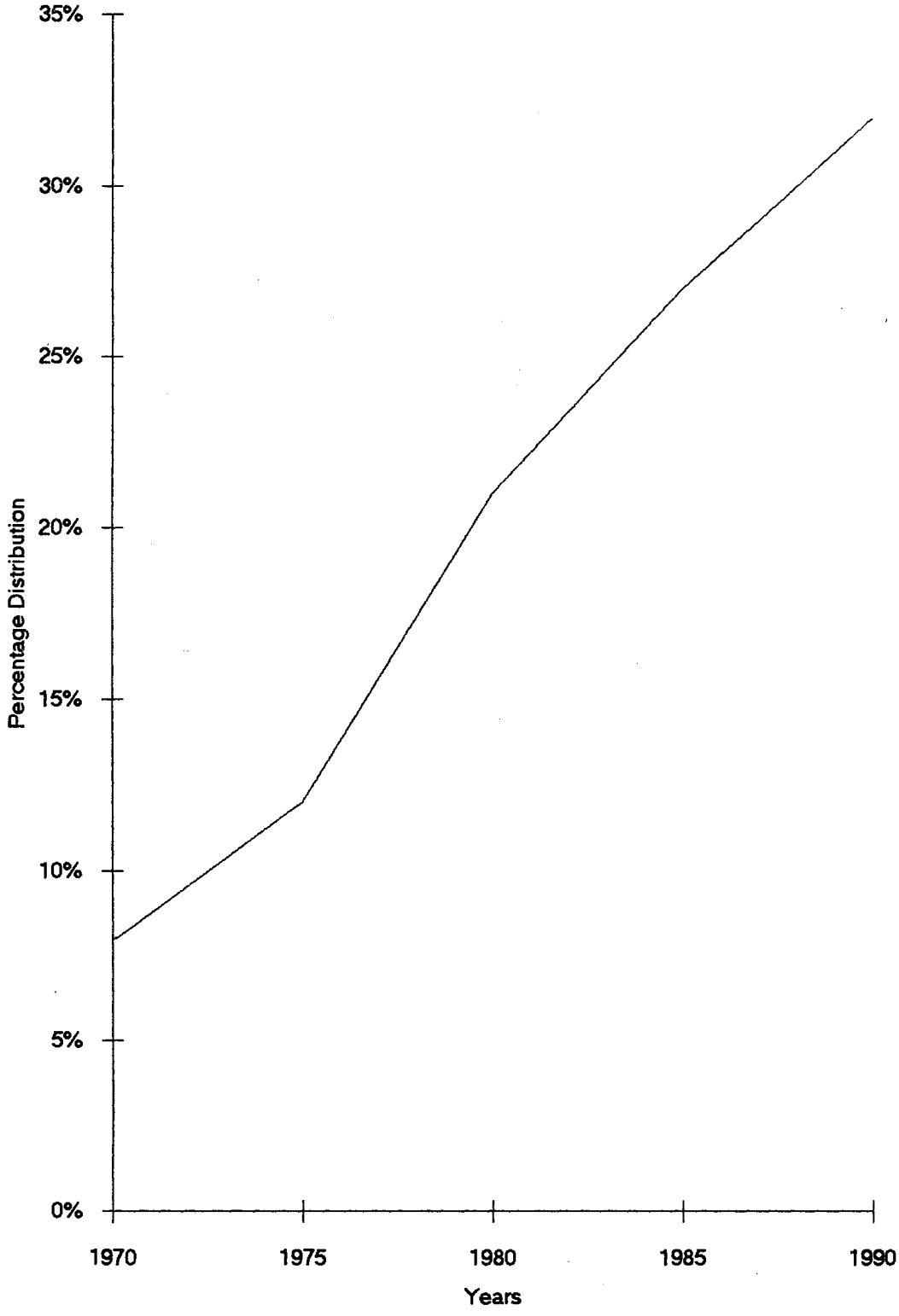

Figure 6. Annual Citation Productivity of Associate Professors

.09% improvement only over their 1985 production.

Assistant professors had the lowest average citation yield among all the sample groups at two. This was broken down yearly as follows: .46 in 1970; .26 in 1975; .54 in 1980; .53 in 1985 and .58 in 1990.

Only the 1980, 1985 and 1990 citation frequencies were shown to be statistically significant than the 1975 output at the 95% confidence level. The chi-square values of 4.2, df = 1; 3.6, df = 1 and 4.82, df = 1 mean that the assistant professors yielded more citations in 1980, 1985 and 1990 than in 1975, respectively.

Tables VI to X present the rankings of JMC departments on the basis of their citation productivity between 1970 and 1990.

According to Table VI, Michigan State University produced the largest number of citations in 1970 at 154 or 18% of total production during that year. It was followed by Stanford with 75 citations, a little less than half of Michigan State's total or about 9% of the 1970 aggregate. Iowa, Illinois, Pennsylvania State, Boston University, Northern Illinois, Maryland, Minnesota and the University of Washington complete the high ranking 10 for the year.

Occupying third berth, Iowa generated only 44% of Stanford's and 21% of Michigan State's production. The rest of the universities had negligible differences in citation frequencies separating them from each other.

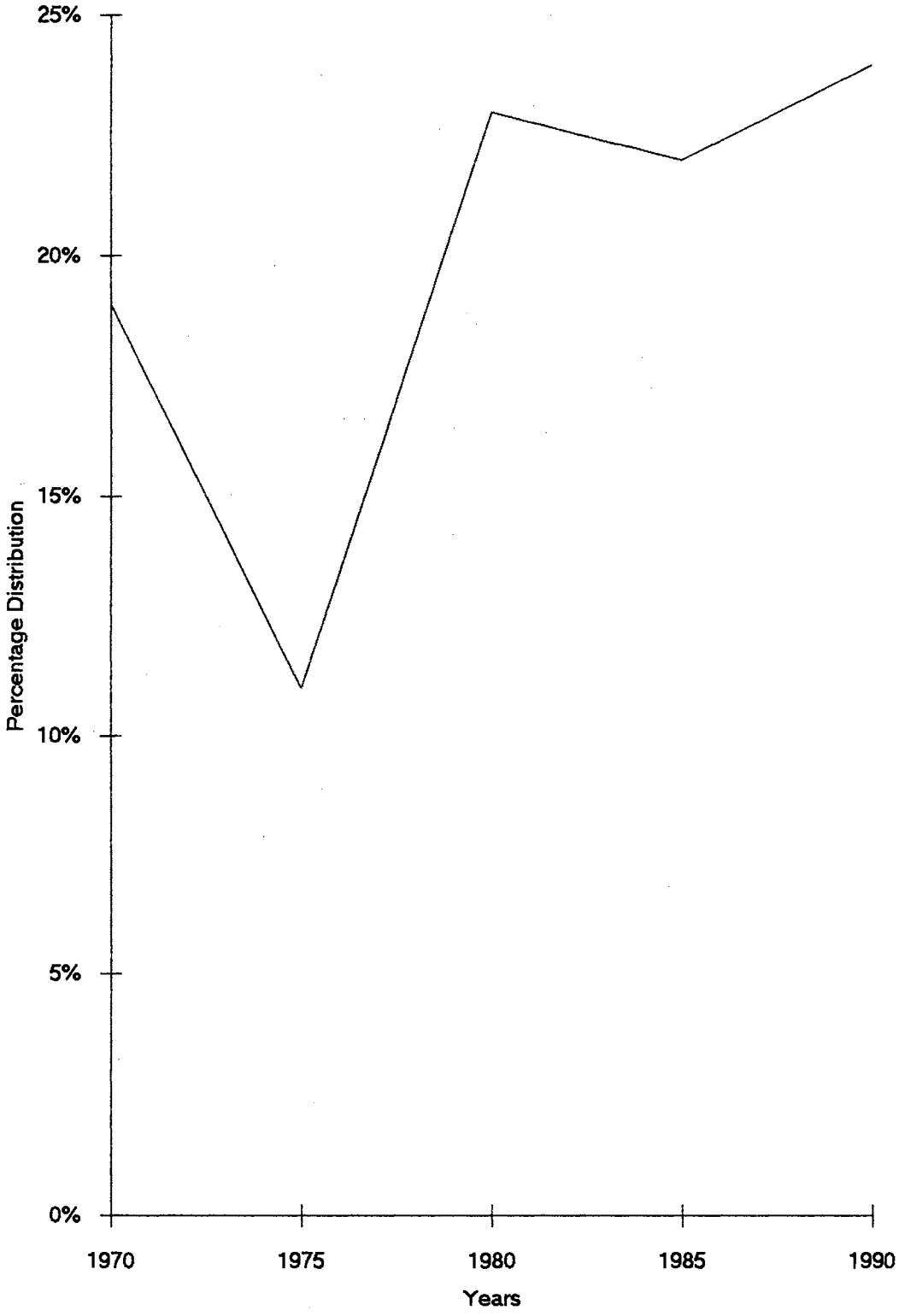

Figure 7. Annual Citation Productivity of Assistant Professors

TABLE VI

CITATION PRODUCTIVITY OF 25 HIGH RANKING
JMC SCHOOLS PLUS TIES IN 1970

Rank	Department	Citations Total	% of Total N = 854
1	Michigan State	154	18.03
2	Stanford	75	8.78
3	Iowa	33	3.86
4	Illinois [Urbana]	31	3.62
5	Pennsylvania State	30	3.51
6	Boston	27	3.16
7	Northern Illinois	25	2.92
8	Maryland	24	2.81
8	Minnesota	24	2.81
10	University of Washington	23	2.69
11	Alabama	22	2.57
11	Florida State	22	2.57
13	University of Pennsylvania	19	2.22
13	Wisconsin-Madison	19	2.22
15	South Carolina	18	2.1
16	North Carolina	16	1.87
17	Columbia	15	1.75
18	UCLA	14	1.63
19	Northwestern	13	1.52
20	Kansas	11	1.28
20	Louisiana State	11	1.28
20	Southern Illinois [Carbondale]	11	1.28
23	Georgia	10	1.17
23	Indiana	10	1.17
23	Missouri	10	1.17
23	Florida	10	1.17
	Others	177	20.84
	TOTAL	854	100%

With a median at 144, only Michigan State stays above the mid-point and all the rest below it.

In 1975, however, Stanford edged out Michigan State for the number one slot with a convincing 255 citations accounting for 21% of the year's total [Table VII]. Michigan State earned only 70 citations or 6% of the 1975 total and a drop of about 45% from its 1970 count. The University of Wisconsin-Madison made a stronger showing with 60 citations or 5% of total, moving it up from rank 13 in 1970 to rank 3 in 1975. Iowa, however, obtained 30 citations only or 3% of the 1975 total placing it at ninth rank, a multi-step demotion from its 1970 third position.

Minnesota inched from number eight in 1970 to number six in 1975 with 41 citations or 3% of total. Five new universities appeared in the top 10 for 1975. These were: North Carolina in fourth rank with 53 citations [4.43%]; West Virginia in fifth with 49 citations [4.1%]; University of Pennsylvania in sixth with 41 [3.43%]; Alabama in eighth with 31 citations [2.59%] and Georgia in ninth with 30 citations [2.51%].

Table VIII shows that Stanford and Michigan State maintained their first two positions in 1980. With 310 citations, Stanford accounted for 15% of total productivity during that year while Michigan State's 127 citations made up 6.29% of total. Wisconsin-Madison, however, slipped from third in 1975 to fourth in 1980 with 85 citations accounting for 4.21% of total.

TABLE VII

CITATION PRODUCTIVITY OF 25 HIGH RANKING
JMC SCHOOLS PLUS TIES IN 1975

Rank	Department	Total Citations	% of Total N = 1194
1	Stanford	255	21.35
2	Michigan State	70	5.86
3	Wisconsin-Madison	60	5.02
4	North Carolina	53	4.43
5	West Virginia	49	4.1
6	Minnesota	41	3.43
6	University of Pennsylvania	41	3.43
8	Alabama	31	2.59
9	Georgia	30	2.51
9	Iowa	30	2.51
11	Illinois	29	2.42
11	Maryland	29	2.42
13	Purdue	27	2.26
14	Pennsylvania State	24	2.01
15	Temple	23	1.92
16	University of Washington	21	1.75
17	South Florida	20	1.67
18	Columbia	19	1.59
19	Indiana	18	1.5
19	Northwestern	18	1.5
20	University of Michigan	17	1.42
20	Missouri	17	1.42
20	Ohio	17	1.42
23	Queens [CUNY]	16	1.34
24	Ohio State	15	1.25
	Others	224	18.88
	TOTAL	1194	100%

TABLE VIII

CITATION PRODUCTIVITY OF 25 HIGH RANKING
JMC SCHOOLS IN 1980

Rank	Department	Total Citations	% of Total N=2017
1	Stanford	310	15,36
2	Michigan State	127	6,29
3	University of Pennsylvania	122	6,04
4	Wisconsin-Madison	85	4,21
5	Georgia	79	3,91
6	West Virginia	73	3,61
7	Minnesota	70	3,47
8	Illinois	68	3,37
9	Pennsylvania State	67	3,32
10	Maryland	59	2,92
11	Texas-Austin	53	2,62
12	Syracuse	52	2,57
13	University of Washington	46	2,28
14	North Carolina	45	2,23
15	Purdue	42	2,08
16	Iowa	41	2,03
17	Missouri	40	1,98
18	Massachusetts	36	1,78
19	California State-Fullerton	32	1,58
20	Florida State	24	1,18
20	Indiana	24	1,18
22	Columbia	23	1,14
23	Central Florida	22	1,09
24	Boston University	21	1,04
24	Brigham Young	21	1,04
	Others	435	21,68
	TOTAL	2017	100%

The University of Pennsylvania, on the other hand, improved its sixth rating in 1975 by finishing third in 1980 with 122 citations [6.04%]. Georgia also moved up from ninth to fifth with 79 citations or 3.91% of total. West Virginia and Minnesota, however, failed to retain their 1975 ratings by finishing only sixth [73 citations or 3.61%] and seventh [70 citations or 3.47%] in 1980.

Three universities, namely Illinois, Pennsylvania State, and Maryland, which were in fourth, fifth and eighth tiers in 1970, respectively, but were eliminated from the top 10 list in 1975, successfully made a comeback in 1980. Illinois produced 68 citations [3.37%] placing it in eighth; Pennsylvania State with 67 citations [3.32%] was in ninth while Maryland with 59 citations [2.92%] was in 10th.

Based on Table IX, two universities appeared in 1985 for the first time in the top 10. These were Texas-Austin in sixth rank with 107 citations and Kent State in 10th with 71 citations. Stanford and Michigan State once again topped the rankings for the second straight rating season. Stanford had 208 citation [8.46%] and Michigan State contributed 173 [7.04%]. The University of Pennsylvania also maintained its 1980 position in third with 149 citations or 6.06% of total. Illinois rose from eighth to fourth with 130 citations [5.29%] while Wisconsin-Madison slid from fourth to fifth with 118 frequencies [4.8%]. Maryland progressed from 10th in 1980 to seventh in 1985

TABLE IX

CITATION PRODUCTIVITY OF 25 HIGH RANKING
JMC SCHOOLS PLUS TIES IN 1985

Rank	Department	Total Citations	% of Total N = 2457
1	Stanford	208	8.46
2	Michigan State	173	7.04
3	University of Pennsylvania	149	6.06
4	Illinois	130	5.29
5	Wisconsin-Madison	118	4.8
6	Texas-Austin	107	4.35
7	Maryland	101	4.11
8	North Carolina	99	4.02
9	West Virginia	72	2.93
10	Kent State	71	2.88
11	Purdue	62	2.52
12	Minnesota	59	2.4
13	Georgia	58	2.36
14	Indiana	47	1.91
14	Ohio	47	1.91
16	Iowa	45	1.83
17	Syracuse	38	1.54
17	University of Washington	38	1.54
19	Houston	35	1.42
20	Southern California	34	1.38
21	Pennsylvania State	33	1.34
22	Northwestern	32	1.3
23	Central Florida	31	1.26
23	Massachusetts	31	1.26
25	Arizona State	27	1.09
25	New York	27	1.09
25	South Carolina	27	1.09
	Others	558	22.82
	TOTAL	2457	100%

with 101 citations. West Virginia, however, dropped from sixth in 1980 to ninth in 1985 with a 2.94% share of total. North Carolina, on the other hand, chalked up 99 citations giving it an eighth finish. The rating was four shades paler though than its 1975 standing but was a gallant reentry in the top 10. The department only placed 14th in 1980.

Table X gives the ratings of JMC schools based on their 1990 citation frequencies. The University of Southern California [USC] which never figured in the top 10 during the past four sample years suddenly displaced Stanford at number one. The latter had kept its supremacy for three consecutive ranking seasons. USC was ranked 20th in 1985 but was not even in the first 25 most productive departments in 1970, 1975 and 1980. Similarly, Purdue which was not among the highly-rated programs since 1970 occupied seventh position in 1990. The rest of the universities, however, have been in the magic 10.

Michigan State, for instance, retained its second rank from 1975 to 1990 and Texas-Austin was now in third place from sixth in 1985. Wisconsin-Madison with 151 citations [4.91% of total] advanced to fourth in 1990 from fifth in 1985; so did West Virginia which moved to fourth thereby tying up with Wisconsin-Madison. West Virginia was previously rated ninth in 1985.

The University of Pennsylvania received 142 citations [4.62%] but fell from third in 1985 to sixth in 1990.

TABLE X

CITATION PRODUCTIVITY OF 25 HIGH RANKING
JMC SCHOOLS IN 1990

Rank	Department	Total Citations	% of Total N = 3072
1	Southern California	258	8,39
2	Michigan State	178	5,79
3	Texas-Austin	156	5,07
4	Wisconsin-Madison	151	4,91
4	West Virginia	151	4,91
6	University of Pennsylvania	142	4,62
7	Purdue	111	3,61
8	North Carolina	108	3,51
9	Illinois	101	3,28
10	Georgia	81	2,63
11	Kent State	77	2,5
12	Stanford	76	2,47
13	Iowa	72	2,34
14	University of Washington	68	2,21
15	Arizona State	67	2,18
16	Florida	59	1,92
17	Minnesota	57	1,85
18	Arizona	52	1,69
18	Maryland	52	1,69
20	Indiana	48	1,56
20	Pennsylvania State	48	1,56
22	Northwestern	45	1,46
23	Oklahoma	44	1,43
23	South Carolina	44	1,43
25	Ohio	43	1,39
	Others	783	74,4
	TOTAL	3072	100%

North Carolina, however, was able to maintain eighth spot with 108 citations or 3.51% of 1990's total production. Illinois, on the other hand, dived to ninth from fourth in 1985. It had 101 citations which was 3.28% of total. Meanwhile, Georgia reestablished its presence in the top 10 in 1990 after it disappeared from the list in 1985.

Data on Table XI yield positive but insignificant correlations except for the rankings between 1970 and 1985 [-.158]; 1975 and 1985 [-.040]; and between 1980 and 1990 [-.171] which were negatively related. The only significant relationship found was between institutional rankings in 1985 and 1990 as indicated by Spearman Rho coefficient of .356 which was significant at the 95% confidence level. Some 21 schools were common in the rating list of both years. The relationship found between these two annual departmental ratings was, however, weak and almost negligible.

Tables XII and XV present the citation productivity levels of JMC institutions per sample group.

According to Table XII, Stanford was the undisputed leader in citation productivity for the most published authors. It accumulated 917 citations or about 15% of total group output. Michigan State came in second with 633 citations or 10% of total followed by the University of Pennsylvania with 401 frequencies [6%]. In fourth place was Wisconsin-Madison which produced 344 citations or 5.48% of total. Chalking up 337 frequencies [5.37%] was

TABLE XI

COMPARATIVE INSTITUTIONAL RANKING BY YEAR

Department	1970	1975	1980	1985	1990
Michigan State	1	2	2	2	2
Stanford	2	1	1	1	12
Iowa	3	9	16	16	13
Illinois	4	11	8	4	9
Pennsylvania State	5	14	9	21	20
Boston University	6	*	24	*	*
Northern Illinois	7	*	*	*	*
Maryland	8	11	10	7	18
Minnesota	8	6	7	12	17
University of Washington	10	16	13	17	14
Alabama	11	8	*	*	*
Florida State	11	17	20	*	*
University of Pennsylvania	13	6	3	3	6
Wisconsin-Madison	13	3	4	5	4
South Carolina	15	*	*	25	23
North Carolina	16	4	14	8	8
Columbia	17	18	22	*	*
UCLA	18	*	*	*	*
Northwestern	19	19	*	22	22
Kansas	20	*	*	*	*
Louisiana State	20	*	*	*	*
Southern Illinois (Carbondale)	20	*	*	*	*
Georgia	23	9	5	13	10
Indiana	23	19	20	14	20
Missouri	23	*	17	*	*
Florida	23	*	*	*	16
West Virginia	*	5	6	9	4
Purdue	*	13	15	11	7
Temple	*	15	*	*	*
University of Michigan	*	20	*	*	*
Ohio	*	20	*	14	25
Queens (CUNY)	*	23	*	*	*
Ohio State	*	24	*	*	*
Texas-Austin	*	*	11	6	3
Syracuse	*	*	12	17	*
Massachusetts	*	*	18	23	*
California State-Fullerton	*	*	19	*	*
Central Florida	*	*	23	23	*
Brigham Young	*	*	24	*	*
Kent State	*	*	*	10	11
Houston	*	*	*	19	*

TABLE XI [Continued]

Department	1970	1975	1980	1985	1990
Southern California	*	*	*	20	1
Arizona State	*	*	*	25	15
New York	*	*	*	25	*
Arizona	*	*	*	*	18
Oklahoma	*	*	*	*	23

TABLE XII

RANKING OF 25 JMC DEPARTMENTS BASED ON PERCENTAGE SHARE OF CITATIONS BY MOST PUBLISHED AUTHORS

Rank	School	Total Citations	% of Total N = 6273
1	Stanford	917	14.61
2	Michigan State	633	10.09
3	University of Pennsylvania	401	6.39
4	Wisconsin-Madison	344	5.48
5	West Virginia	337	5.37
6	Southern California	311	4.95
7	Texas-Austin	261	4.16
8	Purdue	213	3.39
9	Illinois	187	2.98
10	Minnesota	173	2.75
11	North Carolina	162	2.58
12	Iowa	158	2.51
13	Kent State	137	2.18
14	Indiana	127	2.02
15	Pennsylvania State	120	1.91
16	Georgia	108	1.72
17	Ohio	106	1.68
18	Arizona State	94	1.49
19	Temple	89	1.41
20	South Florida	75	1.19
21	Massachusetts	66	1.05
22	Maryland	60	0.95
23	Syracuse	56	0.89
24	Oklahoma	55	0.87
25	Arizona	52	0.82
	Others	1031	16.56
	TOTAL	6273	100%

West Virginia in fifth followed closely by Southern California in sixth with 311 citations [4.95%]. Finishing seventh was Texas-Austin which garnered 261 citations [4.16%] and trailing close at eighth was Purdue with 213 [3.39%]. Illinois and Minnesota were in ninth and tenth, respectively. The former had 187 citations [2.98%] while the latter obtained 173 or 2.75% of total citation output by the sample.

Except for Illinois in third and the University of Pennsylvania in 10th, the professors had a totally different set of JMC departments occupying the top 10. As shown in Table XIII, Georgia dominated the rating chart with 132 citations accounting for 8% of total production by the professors sample. It was followed by North Carolina with a 6.4% share of total. Tying with Illinois in third was Maryland with 105 frequencies and in fifth was Houston which totalled 78 citations. New York University finished sixth with 75 or 4.29% while Alabama and Columbia tied for seventh with 74 citations. In close ninth was the University of Washington which earned 73 citations or 4.17%.

Table XIV shows the institutional rankings by the associate professors. Over half of the 10 top-rated departments in the associate professors sample did not seem to fare well with the most published authors and the professors. To illustrate, Northwestern, Boston University, Pennsylvania State, SUNY-Buffalo, Tennessee and

TABLE XIII

RANKING OF JMC DEPARTMENTS BY PROFESSORS

Rank	School	Total Citations	% of Total N=1748
1	Georgia	132	7.55
2	North Carolina	112	6.4
3	Illinois	105	6.01
3	Maryland	105	6.01
5	Houston	78	4.46
6	New York	75	4.29
7	Alabama	74	4.23
7	Columbia	74	4.23
9	University of Washington	73	4.17
10	University of Pennsylvania	72	4.11
11	Minnesota	66	3.77
12	Missouri	57	3.26
13	California State-Fullerton	45	2.57
14	Central Florida	42	2.4
15	Florida	35	2
15	Wisconsin-Madison	35	2
17	Northern Illinois	34	1.94
18	Kent State	33	1.88
19	Texas-Austin	31	1.77
20	Louisiana State	28	1.6
21	Syracuse	25	1.43
22	Colorado	24	1.37
23	Iowa	22	1.25
23	Northwestern	22	1.25
25	University of Michigan	21	1.2
	Others	328	18.85
	TOTAL	1748	100%

TABLE XIV

RANKING OF TOP 25 JMC SCHOOLS PLUS TIES BASED ON PERCENTAGE SHARE OF CITATIONS BY ASSOCIATE PROFESSORS GROUP

Rank	School	Total Citations	% of Total N=808
1	University of Washington	78	9.65
2	Northwestern	52	6.43
3	Illinois	49	6.06
4	Boston University	43	5.32
5	Wisconsin-Madison	35	4.33
6	Pennsylvania State	34	4.2
7	Suny-Buffalo	32	3.96
8	Tennessee	28	3.46
9	Kansas State	27	3.34
10	Purdue	26	3.21
11	Maryland	22	2.72
11	North Carolina	22	2.72
11	Texas-Austin	22	2.72
14	Syracuse	20	2.47
15	Florida	19	2.35
15	San Diego State	19	2.35
17	Georgia	15	1.85
17	Oregon	15	1.85
19	Indiana	14	1.73
20	Iowa State	13	1.6
21	Louisiana	12	1.48
22	Brigham Young	11	1.36
22	Iowa	11	1.36
24	California State-Northridge	10	1.23
24	Ohio	10	1.23
24	Rensselaer	10	1.23
24	Southern Mississippi	10	1.23
24	Utah	10	1.23
	Others	139	17.33
	TOTAL	808	100%

Kansas State were not listed among the high ranking 10 by both the professors and the special sample.

The University of Washington produced the most citations at 78 or 10% of the associate professors' total output. It was followed by Northwestern with 52 [6.43%]. Topnotcher University of Washington only placed ninth in the professors' ratings. Illinois with 6.06% share of group total, however, was ranked third by both the professors and associate professors.

In fourth was newcomer Boston University which tallied 43 citations. Fifth placer Wisconsin-Madison which rated fourth and 15th in the most published authors and professors sample, respectively, got 35 citations [4.33%]. Close behind were Pennsylvania State, SUNY-Buffalo, Tennessee, Kansas State and Purdue in the sixth through tenth ranks with corresponding production as follows: 34 [4.2%]; 32 [3.96%]; 28 [3.46%]; 27 [3.34%]; and 26 [3.21%].

Based on Table XV, the assistant professors' most productive university was Maryland which accounted for 10% of the group's overall citation yield. Michigan State which placed second in the special sample was likewise ranked second by the assistant professors with citations totalling 50 [6.53%]. Pennsylvania State improved its standing at third from sixth in the associate professors' rating with 44 frequencies or 6% of total.

TABLE XV

RANKING OF TOP 25 JMC SCHOOLS
BY ASSISTANT PROFESSORS

Rank	School	Total Citations	% of Total N=765
1	Maryland	78	10,19
2	Michigan State	50	6,53
3	Pennsylvania State	44	5,75
4	Northern Illinois	32	4,18
5	Boston	30	3,92
5	Iowa	30	3,92
7	North Carolina	25	3,26
7	South Carolina	25	3,26
9	Marquette	23	3
10	Missouri	21	2,74
11	Wisconsin-Madison	19	2,48
12	Illinois	18	2,35
12	Texas-Austin	18	2,35
14	American	15	1,96
14	Syracuse	15	1,96
16	Kent State	14	1,83
16	University of Michigan	14	1,83
16	North Dakota	14	1,83
16	Northwestern	14	1,83
16	Oklahoma	14	1,83
16	San Jose State	14	1,83
22	North Texas State	13	1,69
23	Brigham Young	11	1,43
23	Kansas	11	1,43
23	Florida State	11	1,43
	Others	192	25,19
	TOTAL	765	100%

The assistant professors were shown to have added five new departments in the top 10. These were fourth placer Northern Illinois; Iowa which tied with Boston University in fifth; Southern Carolina which shared seventh position with Northern Carolina; Marquette and Missouri in ninth and tenth. These universities were not listed in the top 10 by the other sample groups.

Data on Table XVI indicate that most of the rankings per sample group were not related. Ratings by the most published authors and professors yielded a negative Spearman Rho correlation of -.007. A negative correlation was likewise found between institutional rankings produced by the professors and associate professors [-.184] and between the latter and the special sample [-.063].

Overall, the assistant professors' list of the most cited departments were not related with that of the most published authors and the associate professors as indicated by negative Spearman Rho coefficients of -.130 and -.140, respectively.

The only positive but low correlation existing was between the rankings of the professors and assistant professors. Calculated Spearman Rho value at .138, however, shows a weak relationship.

Table XVII presents the composite ranking of the top 25 JMC departments based on the citation output of the faculty sample. This group accounted for 35% of overall production examined in the study. The values and ordinal

TABLE XVI

COMPARATIVE DEPARTMENTAL RANKINGS BY SAMPLE GROUP

Department	Special Sample	Professors	Associate Professors	Assistant Professors
Stanford	1	*	*	*
Michigan State	2	*	*	2
University of Pennsylvania	3	10	*	*
Wisconsin-Madison	4	15	5	11
West Virginia	5	*	*	*
Southern California	6	*	*	*
Texas-Austin	7	19	11	12
Purdue	8	*	10	*
Illinois	9	3	3	12
Minnesota	10	11	*	*
North Carolina	11	2	11	7
Iowa	12	23	*	5
Kent State	13	18	22	16
Indiana	14	*	19	*
Pennsylvania State	15	*	6	3
Georgia	16	1	17	*
Ohio	17	*	24	*
Arizona State	18	*	*	*
Temple	19	*	*	*
Florida State	20	*	*	*
Massachusetts	21	*	*	*
Maryland	22	3	11	1
Syracuse	23	21	14	14
Oklahoma	24	*	*	16
Arizona	25	*	*	*
Houston	*	5	*	*
New York	*	6	*	*
Alabama	*	7	*	*
Columbia	*	7	*	*
University of Washington	*	9	1	*
Missouri	*	12	*	10
California State-Fullerton	*	13	*	*
Central Florida	*	14	*	*
Florida	*	15	15	*
Northern Illinois	*	17	*	4
Louisiana State	*	20	*	*
Colorado	*	22	*	*
Northwestern	*	23	2	16
University of Michigan	*	25	*	16
Boston University	*	*	4	5

TABLE XVI [Continued]

Department	Special Sample	Professors	Associate Professors	Assistant Professors
SUNY-Buffalo	*	*	7	*
Tennessee	*	*	8	*
Kansas State	*	*	9	*
San Diego State	*	*	15	*
Oregon	*	*	17	*
Iowa State	*	*	20	*
Louisiana	*	*	21	*
Brigham Young	*	*	22	23
California State-Northridge	*	*	24	*
Rensselaer	*	*	24	*
Southern Mississippi	*	*	24	*
Utah	*	*	24	*
South Carolina	*	*	*	7
Marquette	*	*	*	9
American	*	*	*	14
North Dakota	*	*	*	16
San Jose State	*	*	*	16
North Texas State	*	*	*	22
Kansas	*	*	*	23

TABLE XVII

OVERALL RANKING OF TOP 25 JMC DEPARTMENTS
BY FACULTY SAMPLE

Rank	Department	Total Citations	% of Total N=3321
1	Maryland	205	6,17
2	Illinois	172	5,17
3	North Carolina	159	4,78
4	University of Washington	151	4,54
5	Georgia	147	4,42
6	Wisconsin-Madison	89	2,67
7	Northwestern	88	2,64
8	Houston	78	2,34
8	Missouri	78	2,34
8	Pennsylvania State	78	2,34
9	New York	75	2,25
10	Alabama	74	2,22
10	Columbia	74	2,22
11	Boston University	73	2,19
12	University of Pennsylvania	72	2,16
13	Texas-Austin	71	2,13
14	Minnesota	66	1,98
14	Northern Illinois	66	1,98
15	Iowa	63	1,89
16	Syracuse	60	1,8
17	Florida	54	1,62
18	Michigan State	50	1,5
19	Kent State	47	1,41
20	California State-Fullerton	45	1,35
21	Central Florida	42	1,26
22	University of Michigan	35	1,05
23	SUNY-Buffalo	32	0,96
24	Louisiana State	28	0,84
24	Tennessee	28	0,84
25	Kansas State	27	0,81
	Others	994	30,13
	TOTAL	3321	100%

positions given here reflect the aggregate productivities of the professors, associate and assistant professors.

Maryland dominated the citation ratings for this sample group as expected as it was already in the top 10 rungs even in 1970. Placing eighth that year, it however, fell to 11th in 1975; inched to rank 10 in 1980 and moved to number seven in 1985 in what proved to be its best showing over the five-year study period. Maryland though was shut out of the top 10 race in 1990 with its number 18th finish.

On a per sample basis, the assistant professors were found to have given the department its choicest position at number one while the most published authors gave its all-time lowest rating at 22. It was third in the professors' productivity ranking and 11th in the associate professors sample.

Second placer Illinois, on the other hand, was fourth in 1970; plummeted out of the top 10 and landed in 11th in 1975; climbed to eighth in 1980; continued upward to fourth in 1985; then fell to ninth in 1990. Its best showing among the sample groups was a two-time third finish in the professors and associate professors sample. The most published authors gave it a ninth ranking while the assistant professors shoved it to its lowest rating at 12th.

North Carolina which is in third overall for the faculty group started in 16th rank in 1970; upgraded its

rating dramatically to fourth in 1975; but was down to 14th in 1980. It bounced back to the top 10 class at eighth in 1985 and sustained that rank till 1990. The department's highest productivity was obtained in the professors sample where it placed second and unlike the other institutions, North Carolina established a presence in the top 25 for all the years and sample groupings covered in the study. It was in rank 11 with the most published authors and associate professors sample while it posted an improved seventh position with the assistant professors.

In fourth tier was the University of Washington whose best citation record proved to be in the associate professors group which gave it the topmost slot. It was rated ninth by the professors and was not a top 25 contender in the special sample and the assistant professors group. The school's yearly standing appeared to be an improvement over its sample-based ratings. It was in the list of the 25 most productive departments in all five ranking seasons and was in 10th place in 1970.

Rating fifth overall in the faculty sample, Georgia made it to the top ten in 1975, 1980, and 1990 with its ninth, fifth and tenth finish, respectively. Its 1970 output, however, was only sufficient for the 23rd berth while its 1985 standing at 13th reflect considerable gains in citation productivity.

The professors gave Georgia its best ranking at number one but it was out of the upper ten circle in the most published authors and associate professors sample. It only ranked 16th and 17th, respectively, in these groups. Its poorest citation record appeared to be in the assistant professors category where it did not figure in the best 25.

Wisconsin-Madison which was in sixth place in the faculty sample's composite ranking was the 13th most productive university in 1970. It zoomed to third in 1975; slid to fourth in 1980; went down further to fifth in 1985 and inched back to fourth in 1990. The department had the fourth largest citation yield in the special sample; was only number 15 in the professors group; reestablished top 10 position at number five in the associate professors sample and dropped to 11th in the assistant professors' citation ranking.

Occupying seventh position was Northwestern which obtained its highest productivity level in the associate professors sample thereby clinching for it rank two. The department's citation yield was, however, not adequate to land it in the top 10 for four ranking years [1970, 1975, 1985 and 1990] and two sample divisions. It placed 23rd in the professors and 16th in the assistant professors group. It was out of the top 25 frequently cited list in 1980 and in the most published authors sample.

Houston was admitted to the magic 25 only in 1985 and was just in the periphery in all but the professors' ratings where it emerged as the fifth most prolific institution. In contrast, Missouri was listed in the top 25 in 1970, 1975 and 1980 while Pennsylvania State was able to crack the high ranking 25 in all of the years evaluated. In fact, Pennsylvania State even managed to be in the top-rated 10 in 1970 and 1980, specifically in fifth and ninth, respectively.

Among the sample groupings, Missouri secured the 10th position in the assistant professors' list and was ranked 12th by the professors. Pennsylvania State, on the other hand, had the third largest citation yield in the assistant professors group, was ranked sixth by the associate professors and was eliminated in the top 10 with a 15th finish only in the most published authors' ratings.

New York University, like Houston, appeared in the best 25 charts solely in 1985. Its sample-based ranking showed a marked improvement at sixth in the professors group.

Alabama's overall 10th rating can be attributed to its two-time presence in the top 10 which was in 1975 when it placed eighth and in the professors' list where it was ranked seventh. It only secured 11th position in 1970.

Tying with Alabama was Columbia which was able to remain in the top 25 from 1970 to 1980. However, it did not rate well in all but the professors' sample where it

received its highest production rank at seventh.

According to Table XVIII, institutional ratings of the most published authors and the faculty sample were generally not related. Estimated Spearman Rho shows a negative correlation coefficient of -.173. About 69% or 29 of the JMC schools were not mutually listed by both sample groups.

Stanford University which had the most superior citation record in the special sample, for instance, did not make it to the top 25 in the faculty sample. The latter's top grosser which was Maryland was only ranked 22 by the most published authors.

On the other hand, Michigan State which occupied the uppermost crust in citation output in 1970 and was consistently in second position in four rating years -- 1975, 1980, 1985, and 1990 was only the 18th most cited department in the faculty sample. The most published authors group, in comparison, listed it in second place.

The special sample's third placer, the University of Pennsylvania, had an undulating production pattern. It shared the 13th spot with Wisconsin-Madison in 1970; rose to sixth in 1975; climbed further to third in 1980; secured third berth in 1985 and finally settled with sixth position in 1990. Its standing among the sample groups was not quite erratic. Starting in third with the most published authors, it went down to 10th in the professors' productivity ratings and disappeared from the top 25 in

TABLE XVIII

COMPARATIVE RANKING OF JMC DEPARTMENTS BY SPECIAL AND FACULTY SAMPLES

Department	Rank in Special Sample	Rank in Faculty Sample
Stanford	1	*
Michigan State	2	18
University of Pennsylvania	3	12
Wisconsin-Madison	4	6
West Virginia	5	*
Southern California	6	*
Texas-Austin	7	13
Purdue	8	*
Illinois	9	2
Minnesota	10	14
North Carolina	11	3
Iowa	12	15
Kent State	13	19
Indiana	14	*
Pennsylvania State	15	8
Georgia	16	5
Ohio	17	*
Arizona State	18	*
Temple	19	*
Florida State	20	*
Massachusetts	21	*
Maryland	22	1
Syracuse	23	16
Oklahoma	24	*
Arizona	25	*
University of Washington	*	4
Northwestern	*	7
Houston	*	8
Missouri	*	8
New York	*	9
Alabama	*	10
Columbia	*	10
Boston University	*	11
Northern Illinois	*	14
Florida	*	17
California State-Fullerton	*	20
Central Florida	*	21
University of Michigan	*	22
SUNY-Buffalo	*	23

TABLE XVIII [Continued]

Department	Rank in Special Sample	Rank in Faculty Sample
Louisiana State	*	24
Tennessee	*	24
Kansas State	*	25

both the associate and assistant professors group. This seems to explain its 12th rating overall in the faculty sample.

Among the top-seeded universities, it's Wisconsin-Madison, which had the least downgrading in rank from fourth in the most published authors to sixth in the faculty sample. And like Stanford, West Virginia, Southern California and Purdue which were in fifth, sixth, and eighth places in the special sample, respectively, were not listed in the top 25 by the faculty sample.

Southern California was a unique case. It entered the top 25 ratings only in 1985 with a rather low number 20 but in 1990 it emerged as the most productive department even besting long-time leaders Stanford and Michigan State. Its sample-based standing was not less than spectacular either. Southern California did not make it to the 25 highly-ranked schools as determined by the citation production of the professors, associate and assistant professors. But in the most published authors group it clinched an upper-ten position at number six. The university's overall classification in the citation-based ranking was derived from the fewest sample years and group sources.

The published authors' seventh rater Texas-Austin although maintaining a top 25 ranking actually plunged out of the best 10 and landed in rank 13 in the faculty sample. The only department which displayed a substantial

gain in rank was Illinois which was upgraded from ninth in the special sample to second in the faculty group. Similarly, Minnesota progressed from 10th to 14th in the two samples' hierarchy of the most cited departments. The faculty sample also showed North Carolina with the third largest citation yield but the special sample edged it out of the top 10 and placed it at 11th.

The University of Washington which clinched the fourth slot in the faculty sample was not even in the highest ranking 25 in the most published authors group. Northwestern, Houston, Missouri, New York, Alabama, and Columbia which occupied the seventh through tenth berths in the faculty sample were likewise found in the same situation as the University of Washington. On the contrary, fifth-rated Georgia and eighth-seeded Pennsylvania State in the faculty group managed to secure the 16th and 15th positions in the special sample.

Table XIX lists the 25 most frequently cited authors per sample group. Everett M. Rogers contributing 13% of the most published authors' total citation output, the highest individual yield for all sample groups, was the most cited JMC author.

Jay G. Blumler accounting for 5.14% of the professors' total citation productivity obtained the number one position for the sample, while Brenda Dervin, whose 8.41% share of the associate professors' total production, gave her the topmost rank in that group. Dervin was the only

TABLE XIX

MOST FREQUENTLY CITED JMC AUTHORS PER SAMPLE GROUP

	Most Published Authors	% Total N=6273	Professors	% Total N=1748	Associate Profs	% Total N=808	Assistant Profs	% Total N=765
1	Rogers, E. M.	13,35	Blumler, Jay G.	5,14	Dervin, Brenda	8,41	Grunig, J.E.	4,7
2	Gerbner, George	5,75	Ryan, Mike	4,4	Rawlins, W.K.	2,84	Smith, Michael B.	4,7
3	Schramm, Wilbur	5,56	Dominick, Joseph	4,29	Brown, Jereny	2,72	Johnson, Leola B.	3,79
4	McCroskey, J. C.	4,33	Black, Jay	4,23	Miller, M. Mark	2,72	Adams, Jimmie B.	3,26
5	Greenberg, Bradley S	2,94	Krippendrff, Klaus	4,11	Treichler, Paula	2,72	Cohen, Susan E.	3,26
6	Chaffee, Steven H.	2,56	Delia, Jesse	3,66	Smith, Donald D.	2,59	Allen, Chris T.	3,13
7	Miller, G. R.	2,16	Davison, Phillips W.	2,68	Maloney, John	2,47	Greene, Darcy	3,13
8	McCombs, Maxwell	1,7	Rubin, David	2,68	Thorson, Esther	2,47	March, Joseph C.	3
9	Knapp, M. L.	1,51	Carter, Richard F.	2,45	Guback, Thomas	2,1	Patterson, Mary	3
10	Clark, Ruth A.	1,41	Davis, R.H.	2,4	Broom, Glen	1,85	Ruben, Brent D.	3
11	Daly, J. A.	1,37	Gross, Lynn S.	2,4	Cole, Richard	1,85	Rowland, Willard	1,83
12	Rubin, Alan M.	1,33	Meyer, Philip	2,28	Martin, Lawrence	1,73	Donohue, Tim	1,69
13	Morgan, M.	1,25	Smith,Timothy	2,23	Entman, Robert	1,6	Murphy,James J.	1,69
14	Atkin, Charles K.	1,17	Peterson, Theodore	1,94	Cassata, Mary	1,48	Davis, Junetta S.	1,3
15	Carey, J.W.	1,11	Merrill, John C.	1,83	Fletcher, Alan	1,48	Sharp, Nancy	1,3
16	Burgoon, Judee K.	1,08	Nixon, Raymond	1,83	Brown, Wilbur	1,36	Aufderheide, Pat	1,17
17	Bormann, E.	1,06	Gross, Milton S.	1,77	Reese, Stephen	1,36	Fudge, William	1,17
18	Gudykinst, W.	0,98	Stewart , Daniel	1,77	Emery, Michael	1,23	Mcchesney, Rober	1,17
19	Phillips, G. M.	0,9	Cutlip, Scott M.	1,54	Ogan, Christine	1,23	Nelson, Richard P.	1,17
20	Simons, H. W.	0,84	Diamond, Edwin	1,48	Stephen, T.D.	1,23	Watkins, Bruce A.	1,17
20	Stempel, Guido III	0,84	Stevenson, Robert	1,48	Avery, Robert	1,11	Henry, John	1,04
22	Reeves, B.	0,82	Price, Henry	1,43	Burgess, Parke	1,11	Mills, Gordon E.	1,04
23	Levy, Mark R.	0,73	Davis, Horance	1,37	Garay, Ronald	1,11	Cline, Caroline	0,91

TABLE XIX [Continued]

	Most Published Authors	% Total N=6273	Professors	% Total N=1748	Associate Profs	% Total N=808	Assistant Profs	% Total N=765
24	Fisher, W. R.	0.7	Kline, Gerald	1.37	Johnson, J. D.	1.11	Hetzler, Sidney	0.91
24	Weaver, David H.	0.7	Shaw, Donald	1.31	Lemert, James	1.11	Nelson, David	0.91
	Others	43.85	Others	37.93	Others	49.01	Others	46.56
	TOTAL	100%		100%		100%		100%

female who made it to the pinnacle of the citation-based ratings. There were, however, eight other women who managed to be in the top 10 of the rankings by the four sample groups.

For the assistant professors, J.E. Grunig and Michael B. Smith were the topnotchers. They each generated 4.7% of the sample's total citation yield.

The rest of the 10 top-rated authors for the special sample included: 2] George Gerbner; 3] Wilbur Schramm; 4] J.C. McCroskey; 5] Bradley Greenberg; 6] Steven H. Chaffee; 7] G.R. Miller; 8] Maxwell McCombs; 9] M.L. Knapp; and 10] Ruth A. Clark.

Following Blumler in the professors group were: 2] Mike Ryan; 3] Joseph Dominick; 4] Jay Black; 5] Klaus Krippendrff; 6] Jesse Delia; 7] Phillips W. Davison; 7] David Rubin; 9] Richard F. Carter; and 10] R. H. Davis.

In the associate professors sample, composition of the high-ranking 10 most cited faculty was as follows: 2] W.K. Rawlins; 3] Jereny Brown; 3] Mark M. Miller; 3] Paula Treichler; 6] Donald D. Smith; 7] John Maloney; 7] Ester Thorson; 9] Thomas Guback; 10] Glenn Brown; and 10] Richard Cole.

And among the assistant professors, the following were their top-raters: 3] Leola B. Johnson; 4] Jimmie B. Adams; 4] Susan E. Cohen; 6] Chris T. Allen; 6] Darcy Greene; 8] Joseph C. March; 8] Mary Patterson; and 8] Brent D. Ruben.

Tables XX to XXIV present the rankings of the most cited JMC authors on a yearly basis.

Everett M. Rogers presided over the citation ratings throughout all the five-year span. According to Table XX, he received 100 citations in 1970 or 12% of that year's total production. In 1975, he upped his citation yield to 170 which accounted for 14.23% of the year's total, the highest percentage share of a single individual for all the years examined in the study. His 1980 output at 210 constituted an increase in frequency although it meant a 10.41% share only of annual total. In 1985, Rogers' citation count dropped to 145 or 5.9% of total but in 1990, he broke his own citation record with an all-time high of 213.

Wilbur Schramm was in second place for two consecutive ranking years. In 1970, he generated 75 citations or 8.78% of total and in 1975, his output slightly increased to 80 [6.7%]. His production, however, declined to 33 [1.07%] in 1990 thereby putting him in rank 14 only.

As Tables XXII and XXIII would show, George Gerbner unseated Schramm with 106 citations [5.25%] in 1980 and 111 [4.51%] in 1985. In 1990, however, J.C. McCroskey outranked Gerbner with 106 citations or 3.45% of total.

Steven H. Chaffee obtained his best rating in 1975 [Table XXI]. He produced 43 citations or 3.6% of aggregate productivity that year. Chaffee was ranked fifth in 1980 with 51 frequencies [2.52%] and seventh in 1985 with 42

TABLE XX

TOP 25 MOST CITED JMC AUTHORS
PLUS TIES IN 1970

Rank	Faculty	Total Citations	% of Total
1	Rogers, E. M.	100	11,7
2	Schramm, Wilbur	75	8,78
3	Black, Jay	21	2,45
4	Gerbner, George	18	2,1
4	Price, Henry	18	2,1
6	Greenberg, Bradley S.	16	1,87
7	March, Joseph C.	15	1,75
8	Carter, Richard F.	14	1,63
9	Miller, G. R.	13	1,52
9	Peterson, Theodore	13	1,52
11	Davison, Phillips W.	12	1,4
12	McCroskey, J. C.	11	1,28
12	Clevenger, Theodore	11	1,28
12	Kibler, Robert J.	11	1,28
15	Scott, Robert L.	10	1,17
15	Johnson, William	10	1,17
15	Markham, James	10	1,17
18	Bryant, Donald C.	9	1,05
18	Cohen, Susan E.	9	1,05
18	Smith, Donald D.	9	1,05
21	Blumler, J. G.	8	0,93
22	Smith, Michael B.	7	0,81
22	Becker, Samuel L.	7	0,81
22	Rucker, Bryce	7	0,81
25	Bormann, E.	6	0,7
25	Nixon, Raymond	6	0,7
25	Wallace, Karl R.	6	0,7
25	Knower, Franklin	6	0,7
25	Hetzler, Sidney	6	0,7
	Others	390	45,82
	TOTAL	854	100%

TABLE XXI

TOP 25 MOST CITED JMC AUTHORS IN 1975

Rank	Faculty	Total Citations	% of Total
1	Rogers, E. M.	170	14,23
2	Schramm, Wilbur	80	6,7
3	Chaffee, Steven H.	43	3,6
4	Gerbner, George	41	3,43
5	McCroskey, J. C.	36	3,01
6	Black, Jay	30	2,51
7	Miller, G. R.	22	1,84
8	Greenberg, Bradley S.	21	1,75
8	McCombs, Maxwell	21	1,75
10	Bormann, E.	16	1,34
11	Knapp, M. L.	14	1,17
12	Simons, H. W.	12	1
12	Davison, Phillips W.	12	1
12	Carter, Richard F.	12	1
15	Dominick, Joseph	11	0,92
15	Stempel, Guido III	11	0,92
15	Clevenger, Theodore	11	0,92
15	Burgoon, Michael	11	0,92
19	Blumler, Jay G.	10	0,83
19	Scott, Robert L.	10	0,83
19	Gouran, Dennis S.	10	0,83
22	Clark, Ruth A.	9	0,75
22	Conrad, C. R.	9	0,75
22	LeDuc, Don R.	9	0,75
22	Field, John	9	0,75
	Others	554	46,5
	TOTAL	1194	100%

TABLE XXII

TOP 25 MOST CITED JMC AUTHORS IN 1980

Rank	Faculty	Total Citations	% of Total N=2017
1	Rogers, E. M.	210	10,41
2	Gerbner, George	106	5,25
3	Schramm, Wilbur	98	4,85
4	McCroskey, J. C.	61	3,02
5	Chaffee, Steven H.	51	2,52
6	Greenberg, Bradley S.	46	2,28
7	McCombs, Maxwell	36	1,78
8	Gross, Lynn S.	32	1,58
9	Dominick, Joseph	29	1,43
10	Blumler, Jay G.	28	1,38
10	Gross, Milton S.	28	1,38
12	Knapp, M. L.	27	1,33
13	Morgan, M.	26	1,28
13	Johnson, Leola B.	26	1,28
15	Atkin, Charles K.	24	1,18
16	Daly, J. A.	22	1,09
16	Delia, Jesse	22	1,09
18	Miller, G. R.	21	1,04
19	Bormann, E.	20	0,99
20	Phillips, G. M.	19	0,94
21	Greene, Darcy	18	0,89
22	Rubin, Alan M.	17	0,84
23	Krippendrff, Klaus	16	0,79
24	Carey, J.W.	15	0,74
25	Simons, H. W.	14	0,69
25	Gruner, Charles R.	14	0,69
	Others	991	49,26
	TOTAL	2017	100%

TABLE XXIII

TOP 25 MOST CITED JMC AUTHORS IN 1985

Rank	Faculty	Total Citations	% of Total N=2457
1	Rogers, E. M.	145	5.9
2	Gerbner, George	111	4.51
3	Schramm, Wilbur	63	2.56
4	McCroskey, J. C.	58	2.36
5	Miller, G. R.	43	1.75
5	Clark, Ruth A.	43	1.75
7	Greenberg, Bradley S.	42	1.7
7	Chaffee, Steven H.	42	1.7
9	Delia, Jesse	35	1.42
10	Ryan, Mike	34	1.38
11	Rubin, Alan M.	31	1.26
12	Daly, J. A.	29	1.18
13	Levy, Mark R.	28	1.13
14	Knapp, M. L.	27	1.09
14	Krippendrff, Klaus	27	1.09
16	Burgoon, Judee K.	25	1.01
17	Bormann, E.	24	0.97
17	Fisher, W. R.	24	0.97
17	O'Keefe, D. J.	24	0.97
20	Weaver, David H.	22	0.89
21	Blumler, Jay G.	21	0.85
21	Rubin, David	21	0.85
21	Grunig, J.E.	21	0.85
24	McCombs, Maxwell	20	0.81
24	Atkin, Charles K.	20	0.81
24	Dervin, Brenda	20	0.81
24	Reeves, B.	20	0.81
	Others	1437	58.62
	TOTAL	2457	100%

TABLE XX1V

TOP 25 MOST CITED JMC AUTHORS IN 1990

Rank	Faculty	Total Citations	% of Total N=3072
1	Rogers,E. M.	213	6,93
2	McCroskey,J. C.	106	3,45
3	Gerbner,George	85	2,76
4	Greenberg,Bradley S.	60	1,95
5	Gudykinst,W.	53	1,72
6	Morgan,M.	47	1,52
7	Dervin,Brenda	41	1,33
8	Miller,G. R.	37	1,2
8	Ryan,Mike	37	1,2
8	Burgoon,Judee K.	37	1,2
11	Rubin,Alan M.	36	1,17
12	Daly,J. A.	35	1,13
12	Carey,J.W.	35	1,13
14	Schramm,Wilbur	33	1,07
14	Clark,Ruth A.	33	1,07
16	Cantor,Joanne	29	0,94
17	McCombs,Maxwell	28	0,91
17	Dominick,Joseph	28	0,91
17	Krippendrff,Klaus	28	0,91
20	Knapp,M. L.	27	0,87
21	Richmond,V.	26	0,84
22	Atkin,Charles K.	25	0,81
23	Blumler,Jay G.	23	0,74
23	Reeves,B.	23	0,74
23	McGee,M. C.	23	0,74
	Others	1924	62,76
	TOTAL	3072	100%

[1.7%] tying him with Bradley S. Greenberg.

Greenberg was consistently in the upper ten rungs in all five rating years. He placed sixth in 1970 with 16 citations accounting for 1.87% of total; slipped to eighth in 1975 with 21 citations [1.75%]; recaptured the sixth rank in 1980 [46 frequencies or 2.28%]; went down to seventh in 1985 [42 citations or 1.7%] and finally established his finest citation record in 1990 with 60 frequencies [1.95%], thereby securing the number four slot that year.

Occupying eighth rank in 1975, Maxwell McCombs received 21 citations or 1.75% of year's total production. He improved his rating in 1980 with 36 citations [1.78%] which placed him in seventh position. His lowest count was 20 or .81% of 1985's aggregate, therefore, downgrading him to rank 24. McCombs, however, advanced to 17th in 1990 with 28 citations [.91%].

Jay Black accumulated 21 frequencies [2.45%] in 1970 and 30 citations [2.51%] in 1975 placing him in third and sixth ranks for those respective years.

G.R. Miller cracked the top 10 in four out of five ranking years. In 1970, he ranked ninth with 13 citations [1.52%]; in 1975, he was in seventh with 22 citations [1.84%]; in 1985, he occupied fifth slot [43 citations or 1.75%]; and in 1990, he went down to eighth with 37 citations [1.2%]. His lowest rating was in 1980 when he finished 18th with 21 frequencies [1.04%].

Making it in the first 25 most cited authors list during all five years was J.G. Blumler. His highest rating was a ten in 1980 when he garnered 28 citations [1.38%]. The rest of the period, however, he was out of the magic ten. In 1970 and 1985, he placed 21; in 1975, he was in 19th rank; and in 1990 he was number 23.

Phillips W. Davison was a shade or two short of the top ten. In 1970, he ranked 11th with 12 citations [1.4%]; and in 1975, he was in 12th with the same number of frequencies but which accounted for only 1% of the annual production total.

Although J.C. McCroskey began with a 12th finish in 1970 [11 citations or 1.28%], he steadily progressed to the top ten. His 36 citations [3.01%] in 1975 placed him in fifth. In 1980, he moved to fourth with 61 frequencies [3.02%]; retaining that rank with 58 citations [2.36%] in 1985. McCroskey's most productive year was 1990 when he obtained 106 citations [3.45%]. He ranked second that year.

Data in Table XXV indicate that the biggest proportion of citations earned by a single individual was 8.73% or 9% overall. Everett M. Rogers generated 838 citations or a five-year average of 167.6. The lowest for the first 100 most cited authors was .23%. Modal figure was 23 citations and the median was a high 800 placing Rogers in a class by its own. Mean citation yield for the top 100 frequently cited researchers was five.

TABLE XXV

OVERALL RANKING OF THE TOP 100 MOST FREQUENTLY CITED JMC AUTHORS; THEIR YEARLY CITATION PRODUCTIVITY AND UNIVERSITY AFFILIATION

	FACULTY	TOT	% OF TOTAL N=9594	1970	DEPT 1	1975	DEPT2	1980	DEPT3	1985	DEPT4	1990	DEPT5	MEAN
1	Rogers, E. M.	838	8,73	100	Michigan St.	170	Stanford	210	Stanford	145	Stanford	213	So. California	167,6
2	Gerbner, George	361	3,76	18	U. Penn	41	U. Penn	106	U. Penn	111	U. Penn	85	U. Penn	72,2
3	Schramm, Wilbur	349	3,63	75	Stanford	80	Stanford	98	Stanford	63	Stanford	33	Stanford	69,8
4	McCroskey ,J. C.	272	2,83	11	Michigan St.	36	W. Virginia	61	W. Virginia	58	W. Virginia	106	W. Virginia	54,4
5	Greenberg, Bradley	185	1,92	16	Michigan St.	21	Michigan St.	46	Michigan St.	42	Michigan St.	60	Michigan St.	37
6	Chaffee, Steven H.	161	1,67	5	UW-Madison	43	UW-Madison	51	UW-Madison	42	UW-Madison	20	Stanford	32,2
7	Miller, G. R.	136	1,41	18	Michigan St.	22	Michigan St.	21	Michigan st	43	Michigan St.	37	Michigan St.	27,2
8	McCombs, Maxwell	107	1,11	2	N. Carolina	21	N. Carolina	36	Syracuse	20	Syracuse	28	Texas-Austin	21,4
9	Knapp, M. L.	95	0,99	0		14	Purdue	27	Purdue	27	Texas-Austin	27	Texas-Austin	19
10	Blumler,Jay G.	90	0,93	8	Maryland	10	Maryland	28	Maryland	21	Maryland	23	Maryland	18
11	Clark, Ruth A.	89	0,92	1	Illinois	9	Illinois	3	Illinois	43	Illinois	33	Illinois	17,8
12	Daly, J. A.	86	0,89	0		0		22	Texas-Austin	29	Texas-Austin	35	Texas-Austin	17,2
13	Rubin, Alan M.	84	0,87	0		0		17	Kent St.	31	Kent St	36	Kent St	16,8
14	Morgan, M.	79	0,82	0		0		26	Massachusetts	6	Massachusetts	47	N. Carolina	15,8
15	Ryan, Mike	77	0,8	0		1	Temple	5	W. Virginia	34	Houston	37	Houston	15,4
16	Dominick, Joseph	75	0,78	1	Georgia	11	Georgia	29	Georgia	6	Georgia	28	Georgia	15
17	Atkin, Charles K.	74	0,77	1	Michigan St.	4	Michigan St.	24	Michigan St.	20	Michigan St.	25	Michigan St.	14,8
17	Black, Jay	74	0,77	21	Alabama	30	Alabama	4	Alabama	8	Alabama	11	Alabama	14,8
19	Krippendrff, Klaus	72	0,75	1	U. Penn	0		16	U. Penn	27	U. Penn	28	U. Penn	14,4
20	Carey, J.W.	70	0,72	1	Illinois	3	Illinois	15	Illinois	18	UW-Madison	35	UW-Madison	14
21	Burgoon, Judee K.	68	0,7	0		0		6	Florida	25	Michigan St.	37	Arizona	18,8

TABLE XXV [Continued]

	FACULTY	TOT	% OF TOTAL N=9594	1970	DEPT 1	1975	DEPT2	1980	DEPT3	1985	DEPT4	1990	DEPT5	MEAN
21	Dervin, Brenda	68	0,7	0		2	Washington	5	Washington	20	Washington	41	Washington	13,6
23	Bormann, E.	67	0,69	6	Minnesota	16	Minnesota	20	Minnesota	24	Minnesota	1	Minnesota	13,4
24	Delia, Jesse	64	0,66	0		5	Illinois	22	Illinois	35	Illinois	2	Illinois	12,8
25	Gudykinst, W.	62	0,64	0		0		1	Arizona St.	8	Arizona St.	53	Arizona St.	12,4
26	Phillips, G. M.	57	0,59	5	Penn St	3	Penn St	19	Penn St	11	Penn St	19	Penn St	11,4
27	Simons, H. W.	53	0,55	0		12	Temple	14	Temple	7	Temple	20	Temple	10,6
27	Stempel, Guido III	53	0,55	1	Ohio	11	Ohio	6	Ohio	18	Ohio	17	Ohio	10,6
29	Reeves, B.	52	0,54	0		1	UW-Madison	8	UW-Madison	20	UW-Madison	23	Stanford	10,4
30	Davison, Phillips W.	47	0,48	12	Columbia	12	Columbia	12	Columbia	2	Columbia	9	Columbia	9,4
30	Rubin, David	47	0,48	0		5	New York	2	New York	21	New York	19	New York	9,4
32	Levy, Mark R.	46	0,47	2	Maryland	0		5	Maryland	28	Maryland	11	Maryland	9,2
33	Fisher, W. R.	44	0,45	1	Kent St.	1	Kent St.	3	So. Carolina	24	So. Carolina	15	So. Carolina	8,8
33	Weaver, David H.	44	0,45	0		2	Indiana	4	Indiana	22	Indiana	16	Indiana	8,8
35	Burleson, B.	43	0,44	0		0		2	Purdue	19	Purdue	22	Purdue	8,6
35	Cantor, Joanne	43	0,44	0		0		0		14	UW-Madison	29	UW-Madison	8,6
35	Clevenger, T.	43	0,44	11	Florida St.	11	Florida St.	6	Florida St.	8	Florida St.	7	Florida St.	8,6
35	Carter, Richard F.	43	0,44	14	Washington	12	Washington	9	Washington	5	Washington	3	Washington	8,6
39	Davis, R.H.	42	0,43	5	C. Florida	1	C. Florida	18	C. Florida	17	C. Florida	6	C. Florida	8,4
39	Gross, Lynn S.	42	0,43	3	Cal St. Fullerton	3	Cal St. Fullert.	32	Cal St. Fullert.	3	Cal St. Fullerton	1	Cal St. Fullerton	8,4
41	Burgoon, Michael	41	0,42	0		11	W. Virginia	8	Florida	7	Michigan St.	15	Arizona	8,2
41	Newman, John	41	0,42	1	New Mexico	1	New Mexico	2	New Mexico	15	New Mexico	22	New Mexico	8,2
41	O'Keefe, D. J.	41	0,42	0		2	Illinois	5	Illinois	24	Illinois	10	Illinois	8,2
44	Meyer, Philip	40	0,41	4	N. Carolina	2	N. Carolina	1	N. Carolina	14	N. Carolina	19	N. Carolina	8
45	Gruner, Charles R.	39	0,4	2	Nebraska	3	Georgia	14	Georgia	11	Georgia	9	Georgia	7,8
45	Scott, Robert L.	39	0,4	10	Minnesota	10	Minnesota	12	Minnesota	6	Minnesota	1	Minnesota	7,8

TABLE XXV [Continued]

	FACULTY	TOT	% OF TOTAL N=9594	1970	DEPT 1	1975	DEPT2	1980	DEPT3	1985	DEPT4	1990	DEPT5	MEAN
45	Smith, Timothy	39	0,4	2	Montana	0		8	Montana	14	Kent St.	15	Kent St.	7,8
48	Jablin, F. M.	38	0,39	0		0		5	Texas-Austin	17	Texas-Austin	16	Texas-Austin	7,6
49	McGee, M. C.	37	0,38	0		0		3	Iowa	11	Iowa	23	Iowa	7,4
49	Richmond, V.	37	0,38	0		1	W. Virginia	3	W. Virginia	7	W. Virginia	26	W. Virginia	7,4
51	Grunig, J.E.	36	0,37	1	Maryland	4	Maryland	9	Maryland	21	Maryland	1	Maryland	7,2
51	Smith, Michael B.	36	0,37	7	Maryland	3	Maryland	7	Maryland	14	Maryland	5	Maryland	7,2
53	Conrad, C. R.	35	0,36	0		9	No. Carolina	12	No. Carolina	2	No. Carolina	12	No. Carolina	7
54	Stevens, George E.	34	0,35	0		5	Purdue	5	Purdue	9	Purdue	15	Purdue	6,8
54	Turow, Joseph	34	0,35	0		5	Purdue	2	Purdue	11	U. Penn	16	U. Penn	6,8
54	Peterson, Theodore	34	0,35	13	Illinois	3	Illinois	8	Illinois	6	Illinois	6	Illinois	6,8
57	Stone, V. A.	32	0,33	1	UW-Madison	8	Georgia	9	S. Illinois	7	S. Illinois	7	Missouri	6,4
57	Merrill, John C.	32	0,33	4	Missouri	7	Missouri	3	Maryland	9	Louisiana St.	9	Louisiana St.	6,4
57	Nixon, Raymond	32	0,33	6	Minnesota	6	Minnesota	18	Minnesota	3	Minnesota	4	Minnesota	6,4
60	Becker, Samuel L.	31	0,32	7	Iowa	4	Iowa	5	Iowa	9	Iowa	6	Iowa	6,2
60	Culbertson, Hugh M.	31	0,32	1	Ohio	2	Ohio	4	Ohio	16	Ohio	9	Ohio	6,2
60	Poole, M. S.	31	0,32	0		2	Minnesota	0		7	Minnesota	22	Minnesota	6,2
60	Gross, Milton S.	31	0,32	1	Missouri	0		28	Missouri	2	Missouri	0		6,2
60	Stewart, Daniel	31	0,32	2	N. Illinois	3	N. Illinois	1	N. Carolina	3	N. Illinois	22	N. Illinois	6,2
65	Anderson, Douglas	30	0,31	0		0		0		18	Arizona St.	12	Arizona St.	6
65	Bryant, Donald C.	30	0,31	9	Iowa	6	Iowa	8	Iowa	3	Iowa	4	Iowa	6
65	Greene, J. D.	30	0,31	1	Purdue	0		2	Purdue	7	Purdue	20	Purdue	6
68	Cody, M. J.	29	0,3	0		0		0		13	So. California	16	So. California	5,8
68	Jackson, S. P.	29	0,3	1	Oklahoma	0		0		7	Oklahoma	21	Oklahoma	5,8
68	Johnson, Leola B.	29	0,3	3	Penn St	0		26	Penn St	0		0		5,8
71	Giffin, Kim	28	0,29	3	Kansas	6	Kansas	11	Kansas	3	Kansas	5	Kansas	5,6

TABLE XXV [Continued]

	FACULTY	TOT	% OF TOTAL N=9594	1970	DEPT 1	1975	DEPT2	1980	DEPT3	1985	DEPT4	1990	DEPT5	MEAN
71	Kibler, Robert J.	28	0,29	11	Florida St.	5	Florida St.	7	Florida St.	4	Florida St.	1	Florida St.	5,6
71	McLaughlin, M. L.	28	0,29	0		1	So. California	1	So. California	9	So. California	17	So. California	5,6
71	Oliver, Robert T.	28	0,29	2	Penn St.	8	Penn St	9	Penn St	6	Penn St	8	Penn St	5,6
75	Cutlip, Scott M.	27	0,28	2	UW-Madison	0		18	Georgia	10	Georgia	2	Georgia	5,4
76	Dunwoody, Sharon	26	0,27	0		0		1	UW-Madison	8	UW-Madison	17	UW-Madison	5,2
76	Hopper, R.	26	0,27	0		3	Texas-Austin	12	Texas-Austin	7	Texas-Austin	4	Texas-Austin	5,2
76	Rosenfeld, L. B.	26	0,27	1	N. Carolina	3	N. Carolina	5	N. Carolina	11	N. Carolina	6	N. Carolina	5,2
76	Wilson, B. J.	26	0,27	0		0		0		9	UC-St.Barbara	17	UW-Madison	5,2
76	Diamond, Edwin	26	0,27	0		4	New York	10	New York	4	New York	8	New York	5,2
76	Stevenson, Robert	26	0,27	0		3	N. Carolina	3	N. Carolina	18	N. Carolina	2	N. Carolina	5,2
82	Andersen, J. M.	25	0,26	0		0		0		5	Utah	20	Florida	5
82	Tan, Alexis S.	25	0,26	0		0		1	Texas Tech	6	Washi St	18	Washi St	5
82	Price, Henry	25	0,26	18	S. Carolina	1	S. Carolina	0		0		6	S. Carolina	5
82	Adams, Jimmie B.	25	0,26	5	San Jose St.	7	N. Carolina	7	N. Carolina	5	N. Carolina	1	N. Carolina	5
82	Cohen, Susan E.	25	0,26	9	Boston	7	Michigan St	5	Michigan St	3	UC-Berkeley	1	UC-Berkeley	5
87	DeVito, Joseph A.	24	0,25	0		8	Queens	4	Queens	6	Queens	6	Queens	4,8
87	Rubin, R. B.	24	0,25	0		1	Kent St	1	Kent St	11	Kent St	11	Kent St	4,8
87	Davis, Horance	24	0,25	1	Florida	1	Florida	0		1	Florida	21	Florida	4,8
87	Kline, F. Gerald	24	0,25	1	Michigan	6	Michigan	12	Minnesota	2	Minnesota	3	Minnesota	4,8
87	Allen, Chris T.	24	0,25	0		1	Michigan St	0		9	Michigan St	14	N. Dakota	4,8
87	Greene, Darcy	24	0,25	4	Michigan St	0		18	Michigan St	0		2	Michigan st	4,8
93	Bradac, J. J.	23	0,23	0		1	Iowa	4	Iowa	2	UC-St. Barbara	16	UC-St. Barbara	4,6
93	Gantz, Walter	23	0,23	1	Indiana	0		0		11	Indiana	11	Indiana	4,6
93	Gouran, Dennis S.	23	0,23	2	Indiana	10	Indiana	5	Indiana	2	Penn St.	4	Penn St.	4,6
93	Street, R. L.	23	0,23	0		0		0		3	Texas A&M	20	Texas A&M	4,6

TABLE XXV [Continued]

	FACULTY	TCIT	% OF TOTAL N=9594	1970	DEPT 1	1975	DEPT2	1980	DEPT3	1985	DEPT4	1990	DEPT5	MEAN
93	Shaw, Donald	23	0,23	1	N. Carolina	3	N. Carolina	7	N. Carolina	11	N. Carolina	1	N. Carolina	4,6
93	Rawlins, W.K.	23	0,23	0		0		0		5	Purdue	18	Purdue	4,6
93	March, Joseph C.	23	0,23	15	N. Illinois	3	N. Illinois	3	N. Illinois	2	N. Illinois	0		4,6
93	Patterson, Mary	23	0,23	0		0		1	S. Carolina	0		22	S. Carolina	4,6
93	Ruben, Brent D.	23	0,23	0		2	Iowa	4	Iowa	8	Iowa	9	Iowa	4,6
			64,16											
	TOTAL		100%											

Legend:

TCIT - Total Citations

Table XXV, which presents the overall ranking of the 100 most cited JMC authors with their yearly citation productivity and university affiliation, shows that Rogers appeared to have exerted the strongest influence in the overall rating of two JMC departments -- Stanford and Southern California. Rogers accounted for 60% of Stanford's and 70% of Southern California's entire citation yield. Wilbur Schramm contributed 38% of Stanford's productivity and Steven Chaffee, the remaining 2%.

Michigan State's ranking seemed to be a team effort. The four largest contributors were: Bradley Greenberg, 26%; G.R. Miller, 19%; Rogers, 14%; and Charles K. Atkin, 10%.

George Gerbner also appeared to have almost single-handedly determined the rating of overall third placer University of Pennsylvania. About 75% of the University of Pennsylvania's total production was attributed to Gerbner; 15% by Klaus Krippendrff; 5% by Joseph Turow; and the remaining 4% by other faculty.

Steven H. Chaffee, on the other hand, is credited for 32% of Wisconsin-Madison's production, the single largest proportion for this university. J.W. Carey contributed 11% while the rest accounted for less than 10% each.

About half of Illinois' rating was attributed to just three faculty. Ruth Clark accounted for the biggest proportion of 25%; Jesse Delia, 18%; and Theodore Peterson, 9%.

Like Stanford, Southern California, and the University of Pennsylvania, substantial proportion of West Virginia's citation rating was also accounted for by one individual -- J.C. McCroskey. He was responsible for 75% of the department's output.

Close to 70% of Texas-Austin's citation count was produced by five faculty members. J.A. Daly accounted for 26%; M.L. Knapp, 16%; F.M. Jablin, 11%; R. Hopper, 8%; and Maxwell McCombs, 8.4%. Actually, McCombs' citation yield was credited to a couple of other universities. North Carolina got 21%, while Syracuse received the bigger chunk of 52% which accounted for 45% of the department's overall standing.

Half of North Carolina's production, on the other hand, was evenly distributed among six authors. Contributing the largest proportion of 13% was Phillip Meyer. He was followed by C.R. Conrad [11%]; Robert Stevenson and L.B. Rosenfeld with 8% each; and Donald Shaw and Maxwell McCombs at 7% each.

For Maryland, Jay G. Blumler was responsible for 33% of its productivity; Mark Levy, 17%; and J.E. Grunig and Michael B. Smith at 14% each. Only four faculty members, therefore, produced 80% of Maryland's total citation count.

Table XXVI summarizes the yearly citation output of the most productive JMC departments in the faculty and special sample groups. Data indicate changes in citation

TABLE XXVI

COMPARATIVE YEARLY CITATION RECORD
OF THE HIGHEST RANKING
JMC DEPARTMENTS

School	1970	1975	1980	1985	1990	Total	Mean
1. Stanford	75	255	310	208	76	924	184.8
2. Michigan State	154	70	127	173	178	702	140.4
3. University of Pennsylvania	19	41	122	149	142	473	94.6
4. Wisconsin-Madison	19	60	85	118	151	433	86.6
5. Illinois	31	29	68	130	101	359	71.8
6. West Virginia	2	49	73	72	151	347	69.4
7. Texas-Austin	7	9	53	107	156	332	66.4
8. North Carolina	16	53	45	99	108	321	64.2
9. Southern California	4	6	13	34	258	315	63
10. Maryland	24	29	59	35	52	265	53
11. Georgia	10	30	79	58	81	258	51.6
12. Purdue	9	27	43	62	111	252	50.4
13. Minnesota	24	41	70	59	57	251	50.2
14. Iowa	33	30	41	45	72	221	44.2
15. Pennsylvania State	30	24	67	33	48	202	40.4
16. Washington	23	21	46	38	68	196	39.2
17. Kent State	5	12	20	71	77	185	37
18. Indiana	10	18	24	47	48	147	29.4
19. Northwestern	13	18	15	32	45	126	25.2
20. Ohio	2	17	15	47	43	124	24.8
21. Syracuse	4	4	52	38	18	116	23.2
22. Alabama	22	31	8	21	25	107	21.4
23. Florida	10	12	16	8	59	105	21
24. Missouri	10	17	40	15	22	104	20.8
25. Arizona State	3	2	3	27	67	102	20.4
26. Temple	10	23	15	18	35	101	20.2
27. Houston	2	6	5	35	40	88	17.6
28. Boston University	27	3	21	4	30	85	17
29. New York	5	8	11	27	33	84	16.8
30. Florida State	22	20	24	3	6	82	16.4
31. Columbia	15	19	23	9	12	78	15.6
32. Central Florida	7	8	22	31	10	78	15.6
33. Northern Illinois	8	10	17	14	26	75	15
34. Massachusetts	1	1	36	31	3	72	14.4
35. Oklahoma	3	6	10	7	44	70	14
36. Louisiana State	11	2	2	10	29	54	10.8
37. California State-Fullerton	5	4	32	4	8	53	10.6
38. Arizona	*	*	*	*	*	52	10.4
39. Tennessee	5	8	16	4	7	40	8
40. SUNY-Buffalo	4	6	9	6	11	36	7.2

TABLE XXVI [Continued]

School	1970	1975	1980	1985	1990	Total	Mean
41. University of Michigan	*	17	6	7	5	35	7
42. Kansas State	3	5	2	12	9	31	6.2

productivity of the 42 highest-ranking institutions over the years.

A clear majority or 66% of the departments registered their peak citation yield in 1990. Nine universities or 21% were most productive in 1980. These were Stanford, Maryland, Minnesota, Pennsylvania State, Syracuse, Missouri, Columbia, California-State at Fullerton, and Tennessee. Only four JMC schools -- the University of Pennsylvania, Illinois, West Florida, and Kansas State recorded their highest citation productivity in 1985. Alabama and the University of Michigan were the only departments having the highest citation output in 1975.

To determine the significance of the productivity changes among the top 25 JMC programs, a chi-square test was performed. The 1980, 1985 and 1990 citation yields were shown to be significantly higher than the 1970 output as indicated by $X = 17.60$; 24.27 and 40.44 all at $df = 1$, respectively. These differences in productivity were 99.9% genuine.

Similarly, the departments produced more citations in 1980, 1985 and 1990 than in 1975. This was shown by $X = 6$, $df = 1$, significant at the 97.5% confidence level; $X = 10.37$, $df = 1$, significant at the 99.5% confidence level; and $X = 22.47$, $df = 1$, significant at the 99.9% confidence level, respectively.

Overall citation productivity in 1990 was also considerably higher than in 1980 as indicated by chi-

square value 5.64 which was greater than the critical value 5, df = 1. This difference was significant at the 97.5% confidence level.

Table XXVII compares the rankings of JMC institutions according to method used. Stanford, which was the leading university in citation productivity in the special sample, was only ranked 14th in research output and fourth in opinion surveys. In contrast, Michigan State topped the research productivity ratings and was the second most cited department in the special sample and 18th most prolific in the faculty sample. It placed only eighth in reputational studies.

The University of Pennsylvania had the third and 12th largest citation count; was number 14 in research production; and was ranked 18th in the opinion surveys. Wisconsin-Madison seemed to have exhibited the perfect match in rating for research and opinion studies with a second rank in both but was fourth and sixth only in citation yield. Illinois ranked fifth in research; second and ninth in citation output; and fourth in reputation.

Fifth placer in citation production West Virginia, was rated fourth in research productivity, but did not seem to enjoy an outstanding reputation among its peers at all as shown by its absence in the opinion-based rankings. In comparison, Texas-Austin produced the second largest research yield; also appeared to be well-regarded among its peers with a third rating in opinion studies but was

TABLE XXVII

RELATIVE STANDING OF JMC DEPARTMENTS
BY RANKING METHOD

School	Rank in Citation Productivity		Rank in Research Productivity Studies	Rank in Opinion Surveys
	Special Sample	Faculty Sample		
Stanford	1	*	14	4
Michigan State	2	18	1	8
University of Pennsylvania	3	12	14	18
Wisconsin-Madison	4	6	2	2
West Virginia	5	*	14	*
Southern California	6	*	9	8
Texas-Austin	7	13	2	3
Purdue	8	*	14	*
Illinois	9	2	5	4
Minnesota	10	14	4	7
North Carolina	11	3	9	18
Iowa	12	15	5	8
Kent State	13	19	14	*
Indiana	14	*	5	8
Pennsylvania State	15	8	*	*
Georgia	16	5	9	*
Ohio	17	*	5	18
Arizona State	18	*	*	*
Temple	19	*	14	8
Florida State	20	*	*	*
Massachusetts	21	*	14	*
Maryland	22	1	9	*
Syracuse	23	16	*	7
Oklahoma	24	*	*	*
Arizona	25	*	*	*
Washington	*	4	*	*
Northwestern	*	7	14	1
Alabama	*	10	*	*
Florida	*	17	*	*
Missouri	*	8	*	8
Columbia	*	10	*	4
Tennessee	*	24	5	*
Ohio State	*	*	14	6
University of Michigan	*	22	14	15
UCLA	*	*	14	17
Houston	*	8	*	*
New York	*	9	*	*
Boston University	*	11	*	*

TABLE XXVII [Continued]

School	Rank in Citation Productivity		Rank in Research Productivity Studies	Rank in Opinion Surveys
	Special Sample	Faculty Sample		
Northern Illinois	*	14	*	*
California State-Fullerton	*	20	*	*
Central Florida	*	21	*	*
SUNY-Buffalo	*	23	*	*
Louisiana State	*	24	*	*
Kansas State	*	25	*	*

only the seventh and 13th most productive in citations received overall.

Based on the reputational method, North Carolina was the 18th prestigious department. It was the ninth most research productive and the third and 11th frequently cited. Southern California, on the other hand, was sixth in citation yield, ninth in research productivity, and had an even better standing at eighth in opinion surveys.

Although Maryland like West Virginia appeared not to have developed an excellent image based on the opinion of its peers, it did seem to have a good research and citation record. This was shown by its ninth rank in research production and first and 22nd finish in the overall faculty and special samples' citation count.

Surprisingly, the best regarded university in the reputational surveys was not even in the top 10 in the research productivity ratings. Northwestern ranked first in the opinion surveys but was only 14th in research. And although it had the seventh biggest citation yield in the faculty sample, it was not listed in the top 25 by the most published authors.

Another amazing outcome was that 40% of the 25 most cited departments in each of the special and faculty samples were not in the top 20 or 25 in both research and opinion studies. Moreover, Syracuse, Missouri and Columbia which appeared to have splendid citation and reputational ratings did not fare well in research productivity. On the

other hand, West Virginia, Georgia, Purdue, Kent State, Tennessee and Massachusetts, like Maryland, which were prolific in terms of research and citation yield were not ranked high in opinion surveys.

Statistical tests show a positive relationship between research and opinion rankings. Estimated Spearman Rho correlation was .351 which was greater than the critical value .3494, df = 30. The relationship was real at the 95% confidence level but was almost negligible in strength [Squared R = .12].

Citation-based ratings were also found to be positively related with research productivity. Calculated Spearman Rho value of .598, df = 30 indicates that the relationship is 95% genuine and moderate in strength [Squared R =.40]. The coefficient of determination value of .40 means that about 40% of the variations in departmental rankings could be explained by either citation or research production.

There was also a positive but low correlation between citation and opinion-based rankings. The relationship was, however, insignificant at the 95% level and could be attributed to chance. Calculated Spearman Rho of .139 was less than the critical value .3494, df = 30.

Multiple regression analysis indicated that citation productivity and opinion surveys were not very good predictors of institutional ranking; opinion and research were better predictors but citations in combination with

research appeared to be the best predictor of overall departmental standing. Multiple R = .454 was significant at the 95% confidence level, df = 30.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This dissertation was an initial attempt at evaluating the impact of academic research and publications in journalism and mass communication in the United States during five selected years over the past two decades [1970 and 1990]. The primary agenda was to identify the structure of scholarly influence in the field over the years using faculty citations. The final goal was to provide a basic understanding of research utilization trends as a means of inferring comparative research and publication impact of the various JMC departments and perhaps guide decision makers in determining priorities in the future.

The researcher considers the study a logical sequel to past investigations which have identified the most research productive JMC schools in the United States. While the research-front American institutions of journalism and mass communication are already known, no assessment has ever been made as to which of these JMC departments have actually produced research with the most impact on the academic community. The fundamental concern seems to be quality over quantity.

It is common knowledge that research and publication propel the reward system of academia. Unfortunately, this "publish or perish" scheme tended to breed a tendency to generate more and more research at differing levels of quality. Although it can be argued that quality checks are embedded in the system through the gatekeeping process [i.e., peer reviews], expert opinion points to some deficiencies in mass communication research as a whole.

Indiana University's director of media research, David H. Weaver, has criticized mass communication research as trivial and lacking in "application to important social and scholarly issues" [Weaver, 1988, pp.23-27].

Frederick T. C. Yu of Columbia University also noted a general lack of direction, intellectual excitement, and social usefulness of mass communication research. According to him, only a few really enjoy the respect and support from the journalism profession [Yu, 1988].

British media scholar Jeremy Tunstall was more critical. He wrote: "Something is badly wrong with U.S. mass communication research ... and that the symptoms include too much low-quality work and very little, if any, work of really high quality" [Tunstall, 1983, p.12].

These criticisms inevitably suggest the need for a reemphasis on quality, relevance, and useful research and publications in mass communication. The present work is an empirical approach for assessing the impact of

published research in journalism and mass communication.

Summary of the Study

Citation analysis was the main research tool employed. The population consisted of 4008 faculty members and 350 of the most published authors from 135 highly-ranked JMC institutions in the United States. The final sample size of 1025 was composed of 800 faculty members and 225 of the research-front authors. For the faculty sample, professors comprised 28%; associate professors, 32%; and assistant professors, 40%. The special sample represented 64% of the most published authors. Inclusion of the latter group was prompted by a curiosity to know who among the most published JMC authors identified in past research productivity studies reviewed in Chapter II were, in fact, frequently cited. Sampling units were citations earned by individual faculty members as listed in the Social Sciences Citation Index during the years -- 1970, 1975, 1980, 1985 and 1990.

Self-citations, for obvious reasons, were excluded in the study.

The principal research question was "Were there differences in the impact of faculty research and publications produced by U.S.- based JMC departments as indicated by the number of citations received during the last two decades?"

Three corollary questions were likewise addressed.

a] Were there differences in the rankings of JMC departments based on citation productivity during the period investigated?

b] What were the trends in citation productivity in JMC schools during the five-year period?

c] Was there a genuine difference in the rankings of JMC departments using opinion surveys, faculty research productivity, and citation analysis?

A total of 9594 citations were tabulated during the study period. The average citation count per person in the sample was 9.36. For the most published authors, mean citation yield was 28 while for the overall faculty sample, it was 4.15.

Three research variables were analyzed. These were years, sample group, and ranking method. Major findings were presented in seven graphs and 22 tables and were statistically tested using chi-square, Spearman Rho rank correlation and multiple regression.

Discussion of Results

Composition of the top 25 JMC departments ranked on the basis of their citation productivity during the five years sampled in the study was almost identical. Most of the institutional ratings between 1970 and 1990 were positively related with the exception of those between 1970 and 1985; 1975 and 1985; and 1980 and 1990.

Except for changes in rank, 68% of the schools originally identified in 1970 remained in the top 25 in 1975 and a higher 80% of the first-rated 10 departments in 1970 made it also to the top 10 in 1975. The relationship found between these years was, however, not statistically significant and could be simply due to chance.

Similarly, 17 of the most productive JMC schools in 1975 were in the top 25 in 1980, and 9 out of 10 programs in 1975 landed in the top 10 in 1980 as well. Also 76% of the highly-ranked schools in 1980 remained in the top 25 in 1985. More importantly, the first three departments in 1980 also composed the top three in 1985. These were: Stanford, Michigan State, and the University of Pennsylvania. Only 70% of 1980's top 10 were, however, found in the 1985 magic ten list. Again, the Spearman Rho rank correlations during these years were not real.

Moreover, 21 of the 25 schools [84%] with the highest citation yield in 1985 were ranked in the top 25 in 1990. With the exception of Stanford, Maryland and Kent State, majority of the 1985 top 10 departments cracked the 1990 top 10 as well. The relationship found between these rankings was significant but almost negligible in strength.

University rankings per sample group showed more variations in overall composition and rank as indicated by negative correlations between all but the professors' and assistant professors' ratings.

Only 44% of the highly-rated JMC programs in the most published authors group were listed in the top 25 in the professors sample. In fact, only the University of Pennsylvania and Illinois made it to the top 10 of the professors' list.

A similar trend was found between the professors' and associate professors' rankings. Only 11 of the professors' best 25 were also listed in the top 25 by the associate professors group.

The same small proportion of schools in the top-ranked 25 was common in the ratings of the associate and assistant professors. In contrast, close to 50% of the professors'top schools made it to the top 25 of the assistant professors' list. The relationship found between these sample group ratings was, however, statistically insignificant.

Departmental ratings of the most published authors and the faculty sample were also negatively correlated. Both sample groups displayed significant disparities in the ranking of 69% of the schools.

Noteworthy in these rankings was the effect of a single published researcher's productivity on the yearly standing of three universities. Everett M. Rogers appeared to have determined the number one ranking of Michigan State in 1970; that of Stanford in 1975, 1980 and 1985 as well as Southern California's meteoric rise to the top in 1990. Rogers contributed 65% of Michigan State's overall

production in 1970; 67%, 68% and 70% of Stanford's citation yield in 1975, 1980 and 1985, respectively; and 83% of Southern California's total citation count in 1990.

In fact, a very small elite group of JMC authors made up the citation productivity structure and consequently determined the final rating of the 25 leading universities. The range for this study was three to six faculty members or about 3% of the faculty size, a clear minority in the top ranking departments examined. This clique accounted for at least half of the citation yield of the universities in the overall top 10.

Like Rogers, George Gerbner and J.C. McCroskey, also exerted a powerful influence over the consolidated standing of the University of Pennsylvania and West Virginia. Both researchers were responsible for about three quarters of their institution's entire production. Gerbner though channelled all his citation credit to the University of Pennsylvania where he was affiliated during the whole period under consideration. McCroskey, on the other hand, was in Michigan State in 1970, but a major portion of his productivity was registered while he was in West Virginia from 1975-1990.

About 32% of Wisconsin-Madison's total citation count was attributed to Steven H. Chaffee, the single most substantial share for the institution.

Rogers' masterworks -- Diffusion of Innovations and Modernization of Peasants -- earned him a considerable

number of citations throughout the years examined. In 1970 alone, Diffusion of Innovations was cited 57 times or slightly over half of Rogers' productivity that year. Modernization of Peasants, on the other hand, accounted for close to 20% of the author's citation credit during the same year. These two publications somewhat served as the blueprint for mass media's role in national development especially in the Third World during the sixties and seventies.

Gerbner was noted for research on media violence, while McCroskey devoted the majority of his publications to speech and broadcast communication. Chaffee also wrote on television and social behavior as well as political communication.

Four factors are worth mentioning with respect to the 25 leading JMC programs ranked according to aggregate citation yields in both the special and faculty samples.

1] Department Size

Nine out of the 42 citation productive universities [21%] were counted among the largest in the nation in terms of student population. Three of the nine, namely: Michigan State, Wisconsin-Madison, and Texas-Austin were in the top 10 most frequently cited list. The rest of the nine were: Ohio, Syracuse, Alabama, Boston University, Florida and California State-Fullerton.

2] Graduate Programs

All but eight of the special sample's 25 top-ranking

departments offer doctoral programs. About 60% of the 25 frequently cited schools in the faculty sample are also doctoral granting institutions. The fact that the majority of the schools have doctorate programs could partly explain their citation productivity as these schools would generally publish more than those offering either just the bachelor's or master's degrees, thereby increasing the likelihood of being cited. This is especially true in the case of the latter if the master's programs are tailored more towards professional enhancement than research. Notable exceptions to this are Boston University, Columbia, and Northwestern which were shown to have outstanding reputations as professional schools but have not fared too badly in citation ratings.

3] Accreditation

The majority or 74% of the highest-ranked JMC programs citation-wise, were accredited by the Accrediting Council on Education in Journalism and Mass Communication. Recognized by the Council on Postsecondary Accreditation and by the U.S. Office of Education, the ACEJMC is composed of educator, media and industry professionals.

Surprisingly, three of the 11 non-accredited programs were in the top ten most cited list. These were Stanford which enjoyed the widest margin in citation yield; the University of Pennsylvania which was ranked third; and Purdue which was in eighth place in the special sample. A possible explanation for this is that these programs did

not submit themselves to accreditation as the process is done on voluntary basis. But by their size and stature, these programs may not really need accreditation to be able to attract students. To be accredited, the ACEJMC apparently requires a balance in the number of liberal arts and journalism course offerings in the curriculum. In the case of the non-accredited programs mentioned here, they reportedly want to offer more journalism subjects than the ACEJMC allows, so by deliberate choice, they did not have their programs accredited.

4] Regional Location

Geographical distribution of the top-ranking 25 in both the most published authors and faculty sample indicates that 65% are concentrated in the Midwest and Eastern regions of the country. A slightly higher concentration of 15 schools [36%] are found in the Midwest and the remaining 29% are in the East. The balance of 35% was split between the South [21%] and Western regions [14%]. It appears that nothing much has changed in terms of geographical distribution of the highly reputable schools. Over the years, many of the best regarded JMC programs continue to be found in the Midwest.

Also, two of the original four schools of journalism, namely -- Illinois and Wisconsin, have maintained leadership positions in the discipline in terms of citation and research output as well as academic prestige.

With respect to disparities in citation productivity of the 25 leading departments, the majority [66%] registered their peaks in 1990. This was understandable as 1990 recorded the highest overall citation count of 3072 or 32% of the grand total. Most of the yearly fluctuations in citation yield were significant except those between 1970 and 1975; 1980 and 1985; and 1985 and 1990. The changes during these years could have been due to chance.

The positive correlation found in the rankings using reputational surveys, research productivity, and citation analysis seemed to indicate that the overall composition of the highly regarded JMC programs in the United States has fairly remained homogeneous. That except for differences in ordinal rank, the list of JMC departments considered prestigious by their peers or having strong research programs in terms of research and citation productivity is almost identical.

About 22 of the 42 citation-productive JMC departments [52%], for instance, were also research prolific. Between research and opinion rankings, some 65% of the research productive schools also had outstanding academic reputations according to the collective judgment of their peers. This is with the exception of West Virginia, Maryland, Georgia, Purdue, and Kent State whose reputations as excellent academic institution were not as strong as their research and publishing records.

Finally, only 40% of JMC departments were commonly listed in both citation productivity and reputational ratings. This explains the positive but low and insignificant correlation between the results of the two ranking methods.

What these findings imply is that with the exception of Northwestern which placed first in the opinion-based ratings but did not fare too well in the two other ranking methods, it is more likely than not that the visibility and respect earned through mass communication scholarship tend to enhance the school's overall prestige. Northwestern's reputation as an academically superior JMC institution could have been largely due to another strength -- professional training.

Stanford's dramatic showing in the citation-based ranking combined with only a 14th finish in research productivity represents another anomaly. Possibly, the comparatively few research publications the department produced were in growth areas. This can be in terms of the number of scholars publishing in the field or of issues popular and in the main research agenda during particular times. In Stanford's case, its most cited faculty appeared to have done germinal work on media's role in national development, the buzz words in the sixties and seventies.

Conclusions

Citation productivity as a measurable index of the

relative impact of academic research and publications in journalism and mass communication yielded some important trends.

A steady growth in citation frequencies was registered during the five sample years covering the last two decades examined in the study. As a whole, faculty research and publications produced at American JMC departments had varying levels of impact over the years. Substantial differences in impact occurred with more citations recorded in 1980, 1985 and 1990 than in 1970. Total citations in 1985 and 1990 were also significantly higher than in 1975. The null hypothesis was, therefore, rejected as there were genuine differences in impact or citation productivity during some of the years.

As a group, the most published authors sample produced research and publications with the most impact among academic scholars in the field. This sample yielded the most sizable proportion of citations than either of the professors, associate and assistant professors or the faculty sample taken as a group. As such, the special sample exerted the strongest influence in the citation-based hierarchy of the JMC institutions they represented. Crane [1972] corroborates this finding. In a study of the mathematics area, it was shown that publications of the most productive authors were much more likely to be cited and were, in fact, more frequently cited than those by less published ones.

It is interesting to note that fewer than seven faculty members or approximately 3% of the faculty size accounted for at least half of the citation yield of the universities in the overall top 10 of the special and faculty samples. There is clearly a small minority of JMC authors producing research and publications which generated the most influence on the work of their colleagues. If this is any indication, the finding seemed to confirm the observations of Columbia's Frederick T.C. Yu that only a few researchers are respected and supported by their peers.

Everett M. Rogers by accounting for 8.73% of total citation productivity appeared to have made the single largest impact.

The positive correlations found in the majority of the yearly departmental rankings based on citation count indicate no differences in the overall composition of the most productive departments. Except for variations in actual ordinal position, the institutions comprising the best 25 each year remained fairly consistent. This, however, excludes the ranking structure between 1970 and 1985; 1975 and 1985 and 1980 and 1990 where the proportions of schools not commonly listed were 92%; 68% and 76%, respectively. The null hypothesis stating no real changes in institutional ratings over the period evaluated is, therefore, supported.

Also, the 25 top-ranked JMC programs exhibited true differences in citation yield for most of the years except in 1970-1975; 1980-85 and 1985-90. The changes in citation productivity during these years were not real and may be attributed to chance.

The stability in the composition of the well-regarded American JMC institutions found in past ranking studies was likewise borne out by this research. Despite variations in ranking methods and periods of time covered, the list of the highly reputable universities generally remained almost the same, although most are in new positions. The positive relationships found between the rankings using opinion surveys, research productivity, and citation analysis means that as a whole, institutional standing did not vary significantly with ranking approach which leads us to accept the study's null hypothesis.

Multiple regression results further showed that research output and peer evaluations were better predictors of departmental rank than citations and peer opinions but research in combination with citation productivity was the best predictor of a university's overall rating.

In sum, there seems to be a distinct advantage of not simply publishing more but in producing more meaningful and useful research in terms of enhancing individual and institutional prestige.

Since there is still a raging debate as to the ultimate utility and fairness of using any one of the

academic quality ranking methods to stratify educational institutions, it was thought best to refrain from making generalizations as to overall program quality. The study employed citation analysis to verify the comparative impact or influence of journalism and mass communication research and publications. Interpretation of results should, therefore, be confined to what the rankings really mean -- that the JMC schools produced research and publications with varying levels of impact on the academic scholarship in the field over time. If at all, the study simply reinforced perceptions of the leading JMC programs in terms of research and publishing capability.

Among the major findings of the study, the following are worth highlighting in terms of their implications to the status of research and publishing in the discipline, in particular, and to higher education, in general.

1] That often a significant proportion of the citations of the most productive departments were accounted for by one or six most frequently cited scholars. The situation may not be unique to journalism and mass communication as there seems to be a widespread pattern of dependence on a few "stars" which make or break an institution's hierarchical position. The structure of influence or impact being so narrowly concentrated in too few scholars or authors invites, needless to say, not just a cursory attention as this inevitably suggests the existence of an oligarchy of knowledge generation and dissemi-

nation. The effects of this on the diversity of new information, theories, and methodologies in the discipline should be evaluated.

2] That there is a general consistency or agreement in the relative standing of the departments regardless of the criteria used to rank them, whether it is research productivity, citations to publications, and reputational surveys. This may be attributed to the fact that the ranking methods used seemed to be inherently biased toward research and publishing. Citation and research productivity, and to some extent, opinion studies appear to be measuring the same academic activity using different instruments. The implications of the apparent lack of emphasis, at least by the ranking methods already applied in the field, on the teaching and service roles of JMC schools in the United States, deserve more scrutiny.

3] That a good number of the citation productive JMC departments are also among the 10 largest in the nation in terms of student population. These were Michigan State, Wisconsin-Madison, Texas-Austin, Ohio, Syracuse, Alabama, Boston University, Florida, and California State at Fullerton. Since these schools were also among the more research prolific, and were likewise well-regarded by their peers, there seems to be a tendency to favor larger departments, although the magnitude of this observation needs systematic verification.

4] That a substantial proportion of the top-ranking departments citation-wise are doctoral granting institutions and about 33% offer the master's degree. This implies that graduate level programs tended to fare better in ranking studies using citation productivity as criterion than those offering undergraduate courses only. While understandable because graduate programs are expected to produce research and publications which increases the probability of being cited, it may be advantageous to start introducing research at the undergraduate level. A two-track curriculum may be considered -- one which emphasizes professional training and the other research. This gives students contemplating to pursue higher education better preparation for graduate work, and to a lesser degree, improves the chances of undergraduate programs desiring to rank well in citation- and research-based studies.

Recommendations

Every attempt at evaluating impact using a single criterion will expectedly be far from flawless. Still and all, it is better to have some measurable indicator of quality than none at all.

The need to assess the impact of research and publications produced in U.S. departments of journalism and mass communication cannot be overemphasized. This study, however, restricted the impact assessment on an empirical-

ly verifiable level. Future studies along this area should consider a less quantitative and more qualitative approach to better explain and understand the findings.

Distinguishing types of citations made -- whether these were critical or confirmative; the productivity of the citing authors and the timing of the citations are among the few things worth examining. Surveys and in-depth interviews of the most cited authors and those citing them can be made for a closer investigation of the citing behavior of mass communication researchers. Certainly, the most cited publications also deserve further evaluation.

Other research imperatives include: a] an examination of who is doing the citing and why -- this would be useful in determining, among other things, if any of the politics of citation use and misuse are operative in the field; b] an assessment of the impact of academic research on the industry and media professions as well as the society at large; c] a study of the institutional characteristics of the consistently top-rated programs, and; d] an exploration of ways to increase relevance or applicability of university-based research to media and industry professionals without risking the loss of intellectual autonomy.

Citation analysis as used in this study measured a single dimension of research impact -- the influence of published research on another within academia. It maybe important to explore and include other dimensions of im-

pact, if there are any.

Methodological refinements are likewise in order. Distinctions should be made for citations to books or chapters of books and refereed journals and credit assignments should reflect the greater weight of these documents as opposed to other publications. Citation credit should also be apportioned to other authors in multi-authored articles. Use of the Social Sciences Citation Index which lists only first authors prevented this study from making such credit distributions.

All said, periodic impact assessments appear to be a sine qua non for journalism and mass communication research and publications to improve their effectiveness and relevance in the perpetually shifting priorities of time.

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VITA

Maria Zenaida T. Sarabia

Candidate for the Degree of

Doctor of Education

Thesis: CITATION ANALYSIS AND THE IMPACT OF JOURNALISM AND MASS COMMUNICATION PUBLICATIONS [1970-1990]

Major Field: Higher Education/Mass Communication

Biographical:

Personal Data: Born in Tagbilaran City, Bohol, Philippines, July 1, 1956, the daughter of Leonardo A. and Constancia T. Sarabia.

Education: Obtained High School Diploma from the College of the Holy Spirit, Tagbilaran City, March 1973; received Bachelor of Journalism degree from Silliman University, Dumaguete City, Philippines, March 1977; received Master of Arts in Communication from the University of the Philippines, Diliman, Quezon City, July 1984; completed requirements for the Doctor of Education degree at Oklahoma State University in May, 1993.

Professional Experience: Graduate Teaching Assistant, School of Journalism and Broadcasting, Oklahoma State University, August, 1991 to May 1993; Wentz Service Scholarship, Student Services, College of Arts and Sciences, Oklahoma State University, January - May 1991; Information Supervisor, International Students Orientation Program, International Student Services, Oklahoma State University, January 1992 and 1993 and August 1991 and 1992.

Professional Organization: Member, Kappa Tau Alpha National Journalism Honor Society.