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Content and Citation Analyses of *Public Relations Review*

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ABSTRACT: This study analyzed 161 cited and 177 uncited articles published in *Public Relations Review* (1975–1993) to determine if three independent variables—research methods, type of statistics, and topics—influenced whether or not articles were cited in other research articles. Significant differences were found between quantitative and qualitative research methods ($t = 3.20$, $p = .002$) and topics ($\chi^2(3,1) = 10.47$, $p = .01$), but not by type of statistics. Topics also differed by years with professional topics the most published category and technical topics the least published. The authors provide tables listing the most cited authors, their university affiliations, and the journals citing their articles.

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Until 1975, public relations research had no specific outlet. It consisted mostly of biographies of leading practitioners and case studies of public relations practice. Few studies provided findings that could be generalized to guide public relations practice.

With the establishment of *Public Relations Review* in 1975, public relations scholars got their first specific outlet for public relations research. Since then, the journal has been instrumental in encouraging generalizable research, developing a body of knowledge, and providing a measure of the field's maturity.

The purpose of this study is to analyze articles published in *Public Relations Review* from its first issue in 1975 through 1993. It used content analysis to determine changes over time and to compile a table of most cited authors, their universities, and journals that most cite *Public Relations Review.* It used citation analysis to determine if cited articles differed significantly by three independent variables—research methods, type of statistics, and subject areas.

Scholars from several disciplines have conducted content analysis to study changes over time in journal research. Bread (1987) studied *Journal of American Indian Education.*[1] Simmons (1982) studied the *Journal of Black Education.*[2] Lee (1979) studied the *Journal of Special Education.*[3] Olsgaard (1980), Jarvelin and Vakkari (1993), and Nour (1985), analyzed authorship and topics in library and information science.[4]

Many scholars are increasingly investigating citation patterns to determine how frequently a journal's articles are cited.[5] Journalism scholars have produced a few citation analysis, and public relations scholars have produced one. Pasadeos and Renfro found several changes demonstrating that public relations research is maturing: public relations researchers cite each other more than in the past; public relations research now revolves more around its own body of knowledge, and more educators now contribute to scholarly public relations publications.[6]

Numerous studies in mass communications have examined research methods used in articles. They indicate a steady increase in articles using quantitative methods. Schramm's study of *Journalism Quarterly,* 1937 to 1965, revealed that quantitative methods increased from nearly none in 1937 to almost half by 1965.[7] Perloff noted continued growth in quantitative studies from 1965 to 1974.[8] Smith found that the trend toward the use of quantitative methods increased significantly for *Journalism Quarterly* but not for *Journalism Educator.*[9]

Bibliographies in *Public Relations Review* provide subject areas for classifying public relations research. The body of knowledge in 1987 and several annotated bibliographies classify articles into three subject areas—technical, management, and professional.

Several scholars have investigated authorship by ranking academic programs and scholars by article productivity.[10] Soley and Reid studied authors of advertising articles.[11] Vincent examined authors of broadcasting articles.[12] Schweitzer investigated authors of mass communications articles.[13] Cole and Bowers ranked journalism units producing the most research articles in mass media from 1962 to 1971.[14]

HYPOTHESES AND RESEARCH QUESTIONS

Six hypotheses test the independent variables. Three tested for differences by cited and uncited articles and three tested for differences in articles over time.

H1: Quantitative articles will be cited significantly more than qualitative articles.

H2: Articles using inferential statistics will be cited significantly more than articles using descriptive statistics.

H3: Articles relating to management topics will be cited significantly more than other articles relating to other topics.

H4: There will be a significant difference in type of research by years.

H5: There will be a significant difference in topics by years.

H6: There will be a significant difference in cited and uncited articles by years.

Three research questions relate to authors, their university affiliations, and journals most citing *Public Relations Review.*

Q1: Which authors have been cited the most?

Q2: Which universities do the most cited authors represent?

Q3: Which journals have cited the most articles from *Public Relations Review?*

METHOD

Sample Size

The research population consisted of all articles from *Public Relations Review* from 1975 to 1993 except book reviews, the body of knowledge, and annotated bibliographies. The sample of 177 uncited articles included all those appearing in the same issues as cited articles. All cited articles were included. They were retrieved on-line from the Social Science and Arts & Humanities Citation Index using *Dialogue.* A total of 161 articles were cited in 39 different journals. Total sample size equaled 338.

Variables

Research Methods

Research methods were divided into two major categories—quantitative and qualitative—to test hypothesis 1. All articles using numerical or counting procedures were classified as quantitative research. Any article not delegated as quantitative was considered qualitative. Qualitative research usually refers to several methods of data collection, which include focus groups, field observation, in-depth interviews, case studies, critical analysis, and theoretical research.

Type of Statistic

Descriptive statistics include means, medians, and percentages. Inferential statistics include ANOVAs, chi-squares, t-tests, correlations, regression

analysis, factor analysis, Z-scores, etc. Use of each type of statistic was recorded to test hypothesis 2.

Topics

Topics were divided into four major categories—technical, management, and professional, other—and 14 subcategories. The first analysis looked for differences among the 14 subcategories. The second analysis collapsed the subcategories and looked for differences among the four major categories. Definitions of each are provided below:

A. Technical: This category included topics with themes related to publicity, media relations, publication, and graphic design, and photography and line art.

1. Publicity: Any article that is primarily about writing, distributing, and publishing publicity or the effect of publicity.
2. Media Relations: Any article that is primarily about maintaining working relationships with media representatives or analyzing the usage and influence of media or use of technology (computer) in the support of public affairs function.
3. Publication and Graphic Design: All aspects of producing publication except photography and line art.
4. Photography and Line Art: Any article that is primarily about using photography and line art to report a story or get a story told in the media.

B. Management: This category included topics with themes related to issues and crisis management, legal issues, audience analysis, and public relations research.

5. Issues and Crisis Management: Any article which is primarily about the process of identifying issues, analyzing those issues, setting priorities, establishing plans, selecting program strategy options, implementing a program of action and communication, and evaluating effectiveness or acquiring consensus from management to minimize the impact of crises.[15]
6. Legal Issues: Any article that deals with laws and regulations relating to public relations or the act of trying to influence legislation and regulations.
7. Audience Analysis: Any article that is primarily about analyzing the public (agency, employees, etc.) or public relations officers to implement projects and to determine what activities, communication, and media will reach them effectively.
8. Public Relations Research: Any article that is primarily about using or conducting research and study in public relations, excluding audience analysis.

C. Professionalism: This category included topics with themes related to licensing and professional standards, public relation's practices and principles in society, public relations theory, education in public relations, ethics, and public relations history.

9. Licensing and Professional Standards: Any article that is primarily about the license of public relations, accreditation standard, professional preparation and orientation (experience), membership in professional organizations.
10. Public Relations Practices and Principles in Society: Any article that is primarily about the public relations role, function, or responsibility.

11. Public Relations Theory: Any article that is primarily about a theory in public relations, theory formulation, or application of the theory for public relations.

12. Education in Public Relations: Any article that is primarily about the public relations curriculum in schools or anything related to education issues.

13. Ethics: Any article that is primarily about the standards of professional responsibility for public relations practitioners or refers to the ethical considerations.

14. Public Relations History: Any article that is primarily about the history of public relations or past events that enlighten public relations practices.

D. Others: Those articles excluded in technical, management, and professionalism were considered others. (see Table 1)

Authorship

Authors of cited articles, their affiliations, and journals citing the articles were tallied. Authorship points were divided by the number of authors per article.

Intercoder Reliability

Articles were coded by both researchers. A pilot study was conducted using 20 randomly selected articles to test the categories. The Holsti formula revealed an intercoder reliability of 90%.

Data Analysis

Independent t-tests were performed to examine differences between quantitative and qualitative research methods (H1) and between inferential and descriptive statistical tests (H2). One-way Analysis of Variance tested differences among topics (H3). Crosstabs provided tables and chi-square statistics for topics, type of research and times cited by years, and for citation of the four major topics by years to test hypotheses 4–6. Descriptive statistics were used to report frequency and percentage data for answering research questions.

RESULTS

Hypotheses

Significant differences were found between cited and uncited articles by quantitative and qualitative research methods and topics, but not by type of statistics. Topics also differed by years with professional topics the most published category and technical topics the least published.

H1: Quantitative articles will be cited significantly more than qualitative articles.

TABLE 1

Research Methods of Articles by Number of Times Cited

	Quantitative		*Qualitative*	
Times Cited	*n*	*%*	*n*	*%*
0	60	17.8	117	34.6
1	34	10.1	43	12.7
2	12	3.6	22	6.5
3	6	1.8	9	2.7
4	10	3.0	5	1.5
5	5	1.5	4	1.2
6	0	0.0	3	0.9
7	2	0.6	0	0.0
8	1	0.3	0	0.0
10	0	0.0	1	0.3
11	1	0.3	0	0.0
18	2	0.6	0	0.0
22	1	0.3	0	0.0
Total	134	39.6	204	60.4

($t = 3.20, p = .002$)

Hypothesis one was supported ($t = 3.20$, $p = .002$). There was a significant difference between cited and uncited articles by research methods. Quantitative articles were cited a mean of 1.73 while qualitative articles were cited a mean of only .89. Of the 134 quantitative articles, 74 (55.2%) were cited compared to 87 (42.7%) of the 204 qualitative articles. Eight quantitative articles, compared to only one qualitative article, were cited more than seven times. The number and percentages of quantitative and qualitative articles by times cited is provided in Table 1.

H2: Articles using inferential statistics will be cited significantly more than articles using descriptive statistics.

Hypothesis two was not supported ($t = 1.83$, $p = .07$). There was no significant difference between cited and uncited articles by type of statistics. However, a greater proportion of quantitative articles using inferential statistics (58.7%) were cited with a mean of 2.20 while only 41.3% of those using descriptive statistics were cited for a mean of 1.17. Articles using the chi-square statistic composed 11.2% of all cited articles. Articles using analysis of variance and correlations, each made up 8.7% of all cited articles. Those using other statistics composed 15.5% of all cited articles: factor analysis = 6.2%, *t*-tests = 5%, regression analysis = 3.7%, Z-scores = .6%, and others = 3.1%. However, uncited articles were distributed similarly: Chi-Square = 5.6%, ANOVA = 5%, correlations = 2.8%, factor analysis = 2.3%, *t*-tests = 3.4%, regression analysis = 3.4%, Z-scores = 1.1%, and others = .7%. Overall, articles using inferential statistics composed 47.2% of all cited articles and 24.3% of all uncited articles.

TABLE 2

Topics of Articles by Cited and Uncited

	Cited Articles			*Uncited Articles*			*Total Articles*	
Article Topics	*n*	*% by Topics*	*% of Cited*	*n*	*% by Topics*	*% of Uncited*	*n*	*%*
Technical	28	50.9	15.8	27	49.1	16.8	55	16.3
Management	44	46.8	24.9	50	53.2	31.1	94	27.8
Professional	83	51.2	46.9	79	48.8	49.1	162	47.9
Other	22	81.5	12.4	5	18.5	18.5	27	8.0

($\chi^2(3,1) = 10.470, p = .01$)

H3: Articles relating to management topics will be cited significantly more than articles relating to other topics.

Hypothesis three was supported ($\chi^2(3, 1) = 10.470, p = .01$). There was a significant difference between cited and uncited articles by the four topic categories. A larger percentage ($n = 50$, 53%) of all the management related articles were cited than were professional ($n = 80$, 49%), technical ($n = 26$, 48%) or other topics ($n = 5$, 18.5%). However, when considering only the cited articles, professional topics accounted for 49%, management for 31%, technical for 17% and other for only 3%. Table 2 provides number and percentages for each topic category by cited and uncited.

H4: There will be a significant difference in type of research used in articles by years.

Hypothesis four was not supported ($\chi^2(1, 17) = 25.355$, $p = .09$). Articles using quantitative research methods did not significantly differ by years from those using qualitative methods. However, articles using quantitative research methods made up only 25–35% of *Public Relations Review* articles between 1975 and 1979. They increased to around 50% in 1980 and 1981, and peaked at 67% in 1984 and 1985. They continuously declined from 1986 to 1988, rose again to 50% in 1989, then fell to 20% in 1990 before starting another gradual climb to 40% in 1992.

H5: There will be a significant difference in topics covered in articles by years.

Hypothesis six was supported. The first analysis by the 14 topic subcategories was significant ($\chi^2(1, 238) = 417.818$, $p = .000$) as was the analysis by the four major topic categories ($\chi^2(1, 51) = 112.501$, $p = .000$). Table 3 shows numbers of articles relating to each topic by five-year periods. Articles dealing with professional topics were published more in each five-year period ($N = 162$). Management topics ($N = 94$) were published more than technical ones ($N = 55$)

TABLE 3

Topics of Articles by Five-Year Periods

Subjects	*1975–1979*	*1980–1984*	*1985–1989*	*1990–1992*	*Total*
Technical	10	18	15	10	55
Publicity	2	2	5	10	19
Media Relations	8	12	8	0	28
Pubs & Graphic Design	2	3	2	0	7
Photography & Art	0	1	0	0	1
Management	32	17	25	20	94
Issues/Crisis Management	11	5	13	9	38
Legal Issues	4	2	0	3	9
Audience Analysis	9	6	6	2	23
Research	8	4	6	6	24
Professionalism	33	43	59	27	162
Licensing & Standards	1	6	8	0	15
Practices & Principles	13	14	17	11	55
Theory	2	2	12	4	20
Education	7	14	10	6	37
Ethics	1	2	8	1	12
History	9	5	4	5	23
Other	3	13	8	4	28

in each five-year period except 1980–1984 (technical = 18, management = 17). Figure 1 portrays annual changes in the proportion of articles by the four topic categories.

H6: There will be a significant difference in cited and uncited articles by years.

Hypothesis eight was not supported ($\chi^2(17, 1) = 24.704$). No clear relationship between years and cited articles was found. However, 1975 ($n = 9$, 75%) and 1985 ($n = 15$, 71%) articles were cited the most. The only other years in which more than half of the articles were cited were 1977 ($n = 12$, 55%), 1979 ($n = 10$, 63%), 1986 ($n = 12$, 57%), and 1989 ($n = 14$, 58%). Exactly half of the articles from 1983 and 1988 were cited.

Research Questions

This study answered three questions concerning cited articles in *Public Relations Review:*

Q1: Which authors have been cited the most?

Table 4 lists the authors who have been cited the most from *Public Relations Review* over the 19-year period. There were 152 authors listed in 166 cited

TABLE 4

MOST AUTHORS CITED BY TIMES CITED

Authors	*Times Cited*	*Authorship Points*
James Grunig	11	9.50
Donald K. Wright	5	4.00
Judy VanSlyke Turk	5	4.00
Scott M. Cutlip	4	4.00
David M. Dozier	5	3.75
Glen M. Brown	6	3.66
Larissa Grunig	4	3.50
Walter Lindenmann	4	3.50
Brad Hainsworth	4	3.00
Larry R. Judd	3	3.00
Robert Heath	5	2.50
Craig E. Aronoff	2	2.00
Hugh M. Culbertson	2	2.00
Otto Lerbinger	2	2.00
Philip Lesley	2	2.00
Linda P. Morton	2	2.00
Harry W. O'Neill	2	2.00
James F. Tirone	2	2.00
Elizabeth L. Toth	2	2.00
Dennis L. Wilcox	2	2.00
Cornelius Pratt	2	1.50
Keith Stamm	2	1.50
Frank W. Wylie	2	1.50
Michael Heath	2	1.50
Richard A. Nelson	2	1.50
Ray E. Hiebert	2	1.50
Raymond Ewing	2	1.50
William P. Ehling	2	1.50
Martha M. Lauzen	2	1.33
Laura Cottone	3	1.25

articles. Only 30 of them were cited more than once. The most productive author, James Grunig, scored 9.5 authorship points.

Q2: Which universities do the most cited authors represent?

Those universities most represented are listed in order of representation in Table 5.

Q3: Which journals cited articles from *Public Relations Review* the most?

A total of 161 cited articles were found in 39 journals. Of 161 cited articles, 109 were cited by *Public Relations Review;* 31 were cited by *Journalism Quarterly.* A complete list of the 39 journals with the frequency of times each cited articles from *Public Relations Review* is provided in Table 6.

TABLE 5

University Affiliations of Cited Authors by Times Cited

University Affiliation	*Times Cited*
University of Maryland	20
University of Houston	13
San Diego State University	11
University of Georgia	9
University of Oklahoma	8
Brigham Young University	6
Central Missouri State University	5
Michigan State University	5
University of Texas	5
University of Wisconsin	5
Purdue	4
Boston University	3
Northwestern University	3
Southern Illinois University	3
University of Minnesota	3
University of Washington	3
Syracuse University	3
Virginia Polytechnic	3
Georgia State University	2
Northern Illinois University	2
Ohio University	2
Southern Methodist University	2
University of Alabama	2
University of South Alabama	2
University of Southern California	2
University of Pennsyvania	2

TABLE 6

Journals Citing Articles by Times Cited

Journals	*Times Cited*
Public Relations Review	109
Journalism Quarterly	31
Journal of Business Ethics	4
Journal of Communication	4
Communication Research	4
Communication Education	3
Advances in Consumer Research	2
Journal of Advertising Research	2
Journal of Advertising	2
American Journal of Physical Anthropology	1
American Behavioral Science	1
Adult Education Quarterly	1
Administration & Policy in Mental Health	1

TABLE 6 *(continued)*

Journals Citing Articles by Times Cited	
Journals	***Times Cited***
Academy of Management Review	1
Armed Forces & Society	1
American Journal of Epidemiology	1
American Management Review	1
Academy of Management Journal	1
California Management Review	1
Communication	1
Central States Speech Journal	1
Environment & Behavior	1
Evaluation & the Health Professions	1
Hospital & Health Services Administration	1
Human Communication Research	1
International Journal of Rehabilitation Research	1
Journal of Technical Writing & Communication	1
Journal of Marketing	1
Journal of Occupational Behavior	1
Journal of Technical Writing	1
Journal of Broadcasting & Electronic Media	1
Journal of Black Studies	1
Long Range Planning	1
Local Government Study	1
Psychology Reports	1
Play & Culture	1
Research in Organization Behavior	1
Social Work	1
Social Science Journal	1

DISCUSSION

The absence of a clear relationship between years and cited articles could mean that the influence of *Public Relations Review* has not grown consistently. The drop in citation of articles published since 1989 could be because enough time has not passed for researchers to incorporate information from these later articles into their research. However, it may relate to the creation of *Public Relations Research Annual* in 1989 and its growth into a quarterly journal in 1992.

The creation of this second public relations research journal and several findings related to citation of articles from *Public Relations Review* indicate a healthy condition for public relations research.

Public relations researchers are citing other public relations researchers. Researchers from other fields (11.84% of authors in the sample) and public relations practitioners (10.53%), are publishing public relations research, indicating interaction between public relations educators and practitioners. Academic research-

ers provide the theoretical framework for public relations practice while practitioners' provide a practical and application-oriented agenda for further research. This is encouraging.

However, less encouraging is that public relations research is cited rarely in other journals. Only nine journals cited more than one *Public Relations Review* article. This is understandable since public relations research is so young. Researchers have been concentrating on building the body of knowledge and communicating that knowledge to one another. As the body of knowledge and the number of public relations researchers increase, researchers need to expand their reach by relating public relations research to broader domains. This should, in turn, increase citation of public relations research.

According to authors of *Public Relations Theory* relating public relations research to broader social science domains provides one way of increasing citation of public relations research.[16] This study provides two other ways.

The first is to produce more quantitative articles. Articles using quantitative research were cited significantly more than those using qualitative research. However, this study, unlike Schramm's, Perloff's, and Smith's studies, found no consistent growth in quantitative research. It even suggests a repetitive cycle of greater use of first qualitative then quantitative methods. Breaking this cycle with increasing use of quantitative methods should increase citation of public relations articles. However, this is not a call to eliminate qualitative research. Knowledge is developed through various methods. Both quantitative and qualitative research contribute to the body of knowledge. Each is appropriate at different times for different information.

The second way is to produce more articles on professional and managerial topics. Professional and managerial topics in this study deal with principles shared by other social sciences while technical topics primarily interest only others in mass communications.

This is not to say that technical topics should be avoided. While it is important to public relations research to be cited in the larger domain of social science research, it is imperative that it serve and upgrade public relations practice. Practitioners face real problems daily. Many of which are unique to public relations, leaving other social scientists unaware of or unconcerned about them. Researchers must remain aware and concerned enough to help practitioners through applied research. Better research, like:

> "better" theories describe adequately the activities and processes that constitute public relations... and suggest how... practitioners might control the outcomes that derive from public relations activities....[17]

Many (55) of the articles relating to professional topics also concentrate on practices and principles of public relations practice, but most (107) relate to broader concerns with theory education, ethics, history, licensing, and standards. *Public Relations Review*'s emphasis on professional topics could represent a bias for professional topics by the reviewers or could indicate that public relations research-

ers are more interested in professional topics. Since public relations is striving for professional stature, such interest in professional topics is understandable.

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NOTES

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