

The Multilayered Nature of Reference Selection



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Why authors choose some references in preference to others is a question that is still not wholly answered despite its being of interest to scientists. The relevance of references is twofold: They are a mechanism for tracing the evolution of science, and because they enhance the image of the cited authors, citations are a widely known and used indicator of scientific endeavor. Following an extensive review of the literature, we selected all papers that seek to answer the central question and demonstrate that the existing theories are not sufficient: Neither citation nor indicator theory provides a complete and convincing answer. Some perspectives in this arena remain, which are isolated from the core literature. The purpose of this article is to offer a fresh perspective on a 30-year-old problem by extending the context of the discussion. We suggest reviving the discussion about citation theories with a new perspective, that of the readers, by layers or phases, in the final choice of references, allowing for a new classification in which any paper, to date, could be included.

Introduction

From the scientist's perspective, knowing the mechanisms that govern the choice of references is of interest for at least two reasons. First, a citation (of a reference) comprises the essential unit of information, one that allows for the progress of science to be followed (Cozzens, 1985, p. 136). Therefore, the only way to observe the progress of science is by knowing the original sources of ideas and how they later evolved (McInnis & Symes, 1988; Price, 1963; Van Dalen & Henkens, 1999). Second, not only do scientists' rewards, promotions, and research funds depend on the number of times that their papers are cited (and by whom and in which journals) but at the same time, the global analysis of citations is a general tool for evaluating and managing the level of science in many countries (Aksnes, 2006, p. 177). This is based on a range

of criteria such as the ranking of journals, obtaining funds for research subjects, evaluation of universities, the impact of papers, and maps of science (Cano, 1989; Leydesdorff & Amsterdamska, 1990; Nicolaisen, 2007; Snyder, Cronin, & Davenport, 1995), despite the limitations of such methods (e.g., Coleman, 2007; MacRoberts & MacRoberts, 1996; Marx & Cardona, 2007; Száva-Kováts, 1994).

To date, the theories for explaining the selection of references are not convincing (Baldi, 1998; Leydesdorff, 1998; Nicolaisen, 2004; Wouters, 1999a, 1999b), but there has been an increase in the number of publications on this subject, as can be seen in Figure 1. That is because it seems that this viewpoint screens other alternatives. In this sense, this is not a small problem because all papers that analyze non-motivational factors are removed from this debate, and as a result, these are not included in any complete citation theory (van Raan, 1998). We seek to remedy this problem.

The aim of this article is to show that this controversy is simply the consequence of choosing the author's perspective as the unit of analysis. In other words, it is only a sublevel of selection in a choice process that is more globally referenced. With our new proposal, this controversy would be transformed through the analysis of author prejudices that modify a previous level of decision making, which depends on the function of the citation in the paper. The result of this model is a reclassification of all factors and papers that analyze this line of research. In relation to this, we have found 12 bibliographical surveys (Bar-Ilan, 2008; Brooks, 1988; Cozzens, 1981; Cronin, 1984; Liu, 1993b; Luukkonen, 1997; Moed, 2005; Nicolaisen, 2007; Sen, 1996; Small, 1982; Walling, 2005; H.D. White, 2004a); however, none make a theoretical analysis of the total stream as does this work.

The structure of the article is as follows. First, we describe the setting of the problem by means of an extensive bibliographical survey. Next, we present the core of our article—the proposition of our new selection model of citation as a contribution to a more integrated theory of references—and attempt to gather together all articles about citation behavior. Finally, we suggest future research and discuss the central focus.

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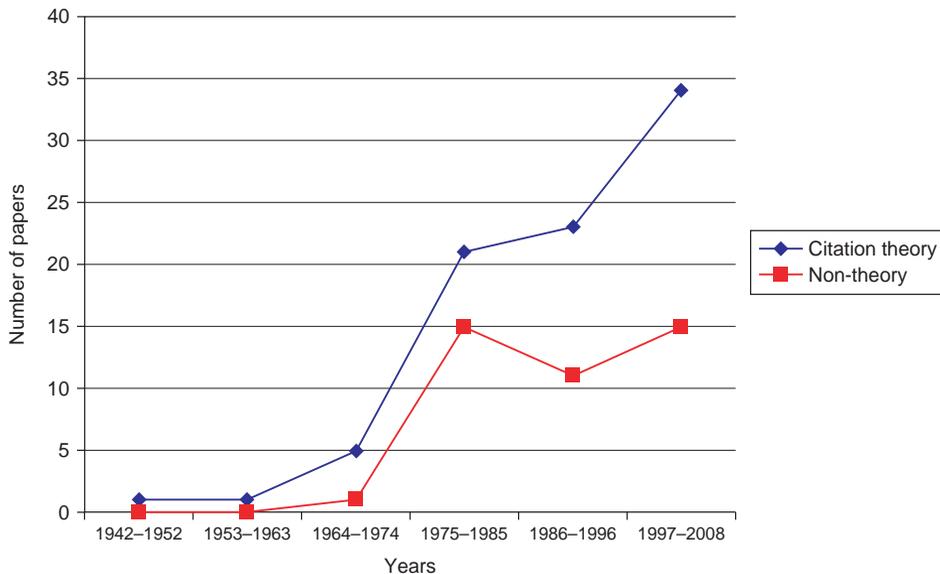


FIG. 1. Growth in number of papers about citations.

Method

We compiled all papers, books, and theses from several databases according to key words—citation studies, citation behaviors, citation theory, citation analysis, citation process, references, self-citations, evolution of science, and citation index—and selected all papers that answered the question of why authors cite (see Appendix). To our knowledge, at the present time, there are 127 papers related to the central theme of this article and 12 additional surveys named earlier (139 papers in total). Overall, there is a majority of empirical studies (78.7%) as opposed to purely descriptive ones (21.3%). These works are spread over 30 different journals (almost 47% between *JASIST* and *Scientometrics*) across nine branches of science, the most represented being information science (21.6%) followed by science in general (19.2%).

The foundation of Citation theory¹ rests on the description of researchers' motivations for citing (Walling, 2005). The basis of the theory of citations comprises two alternatives: *normative* and *social constructivist* theories. The first theory is based on processes of production and validation of scientific knowledge, from an internal perspective, founded on the norms of science (Merton, 1942). The second theory rests on the social and economic conditioning of scientific production, from an external perspective, based upon the impact of journals, the prestige of authors, self-interest, or a target audience (Gilbert, 1977; Kaplan, 1965; Latour & Woolgar, 1979). In other words, the influence of one paper within science depends on “what one says” in the normative view and on “who one is” in the constructivist view (Stewart, 1983). Between these two major theories, there is an eclectic position, or *multidimensional approach*, which confronts

critics of the normative position and defends citation analysis. This third approach views citation as a multifaceted process, but there is no original view of citation (Cozzens, 1989), although the multidimensional approach seems to show some convergence, according to empirical evidence (Rowlands, 1999).

From our review of the literature, it is unquestionably true that from all the articles in this research stream, there are 42 (33% of the total) that cannot be classified into any one of the three existing citation theories (see Figure 1). Constructive theory provides a better, though still insufficient, explanation than the normative one of the findings of citation content and context studies about the functionality of citations (Luukkonen, 1997). That is, the controversy between normative and social constructivist theory does not offer a complete answer to the central question of this study. The theoretical explanation of the citing behavior of scientists through citation theory is not valid, but one is needed (Leydesdorff, 1998; van Raan, 1998; H.D. White, 2004a; W. White, 2001; Wouters, 1999a, 1999b).

Harter (1992) argued that the act of citing is a personal and psychological process, but from the perspective of relevance, it has been demonstrated that there is a sociocultural environment that contrasts with personal processes (Hjørland, 2002). Moreover, scientists in the same discipline tend to cite references from homogeneous sources (Cronin, 2000; Nicolaisen, 2004; Skilton, 2006), but not the same reference lists (Moed, 2005, p. 212). Wouters (1998) believed that this is because of confusion between citation and reference. We demonstrate that citation theory does not embrace all papers that explain why scientists cite (see Appendix). Therefore, the alternative explanation of authors' referencing behavior through citation indicators is not suitable because it is impossible to link the sign citation to a specific behavioral citation (Martens, 2001; Wouters, 1999b). This is a semiotic view that considers a

¹For explanations in detail, see Nicolaisen (2007).

citation culture and nothing else. Another view of citation theory claims that authors are in general honest and use references to their inspirations and sources (Cronin, 2005; Nicolaisen, 2004; Rowlands, 1999). However, a global understanding of the nature of the reference and authors' reasons for citing is necessary for an evolutionary view (Moed, 2005; Nicolaisen, 2007). This is the foundation of our model: a selective process (Arunachalam, 1998; Cronin, 2005).

Results: A Model of Selective Reference Choice by Layers

In our opinion, the appeal, and subsequent success, of the controversy between normative and constructive theories arose because of the overly simple analysis of the reference phenomenon—that it is attributable to a single perspective: the author's pride. That is, the author could in theory believe that she or he is the only “free” decision maker and chooses to cite what she or he wishes; however, this reasoning is deceptive because it equates the choosing of information from which science evolves and the improving of the author's personal status. If this decision were neutral (i.e., without other restrictions), it would seem reasonable to take one attitude or another depending on personal ethics.

Nevertheless, another dimension of the same problem may be considered in line with Moed (2005). For instance, it should be remembered that if a scientist researches and publishes, it is because there is another fundamental actor in this relation who wishes to improve her or his wisdom: namely, the reader (Budd, 1999; Cronin, 2000; Garfield, 1980; Harwood, 2008; Kurtz et al., 2005). From the reader's perspective, it is slightly more difficult to justify a scientist citing a boss, coauthor, editor, reviewer, or friend instead of the real seminal papers (Aksnes, 2006). For this reason, we believe there is a multilayered selection process and limitations which impact on behavior before the final choice is made. In other words, an author's self-interested behavior is always possible when she or he believes that her or his actions can be hidden from readers.

We believe that an acceptable solution for showing this tendency is through a dynamic model of layers or phases. In this way, we can easily represent the importance of the decisions that an author makes up to the final reference selection. The first level is the external and objective limitations on an author's or reader's focus, which hinder or reduce the possibility of quoting sources. The second level, which we have named “functional selection” according to previous literature, is the first objective selection by authors from the totality of papers on the same theme, analyzed by function and utility. Finally, the last phase is the reference choice or “preferential selection.” It seems clear that authors cannot cite all references when a large number exist (Marx & Cardona, 2004) or when space is limited (Seglen, 1998, p. 225). Thus, they select specific papers depending on personal preferences. This last phase, therefore, is a subjective decision related to honesty. With this new focus, the constructivist theory is not the opposite of normative theory but is a sieve that retains one paper

or another as a function of the author's personal prejudices. Figure 2 shows our reasoning in graphic form.

Phase 1: External Limitations

There are some limitations that reduce the probability of citing articles (Soper, 1976). If a paper or a document cannot be accessed, it is not ethical to quote it because it cannot be a source of ideas (Simkin & Roychowdhury, 2003). We identify two basic restrictions on citation choice. The first restriction is access to information, which affects behavioral researchers (Schaffer, 2004). Some papers are impossible or difficult to obtain, or read. This problem has been reduced in importance thanks to the growth of digital technology (Lawrence, 2001). A related problem is the intellectual property restrictions that protect databases (Gardner & Rosenbaum, 1998). The second restriction is language: Authors may be unable to understand a paper because they cannot read the language in which it is published (Cronin, 2005, p. 1507; Martens & Goodrum, 2006, p. 332). In practice, non-English papers are less likely to be read because English is the tongue of science (Montgomery, 2004). For example, Korean papers are less likely to be cited by non-Korean scientists regardless of their quality (Kim, 2004).

Phase 2: Functional Choice

Once the author knows all usable papers, she or he needs to classify them by function. That is, each reference may be useful for demonstrating a particular point in the paper. In this way, citations justify the methodology, recount previous steps in the study, or are used simply to provide a particular definition or comment to develop hypotheses.

This second level in this choice is fundamental because authors need to elaborate their reasoning; however, the only requisite is to demonstrate the incremental knowledge that they contribute to science. It is not necessary to prove again all useful previous findings of earlier authors but simply to cite them to reinforce their own findings and convince readers of the logical truth of their ideas (Merton, 1968). We view this choice as objective, although it is a personal decision, because this choice has no moral implications but only depends on the ability of authors to identify the best sources in relation to their function in the paper (Krampen, Beker, Wahner, & Montada, 2007). At this level of the selection process, the most interesting aspect is that authors are interested only in providing the information, which is most relevant to readers, and in providing more studies to elaborate their ideas. In short, they want to guarantee that their papers have sufficient quality to be published in journals. In other words, it could be said that authors select references from the readers' perspective.

The different functions that we have collated from the literature listed in the Appendix are summarized in Table 1. This table displays the concept and its explanation. If a citation does not inform readers, it is unnecessary and is called a “perfunctory citation.”

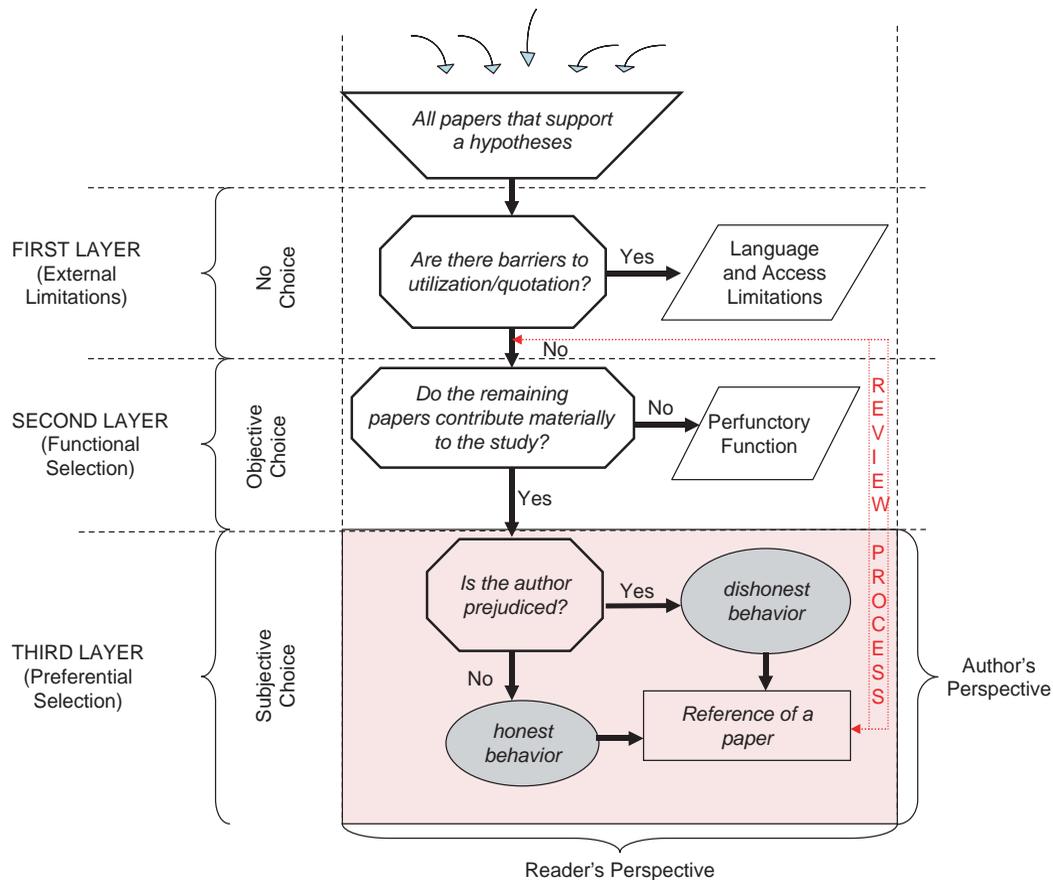


FIG. 2. Reference selection process.

TABLE 1. Functions of citations in the text.

Function	Explanation
Conceptual	Citation is useful for showing concepts, definitions, or interpretations, or for substantiating a statement or an assumption.
Operational	Citation contributes additional information, data, a point of comparison, a theoretical equation, or methodology. Results of the citing article furnish a new interpretation/explanation of the data of the cited source, a methodology, or formulation of research problems.
Organic	Parts of relevant literature that are influential, essential, basic; descriptions of other relevant work. The results of the citing article prove, verify, or substantiate data or interpretation of the cited source.
Perfunctory	Citation that is casual, unusual, neutral, or made with reservations, or for ceremonial purposes. It is included as a note or with no clear indication of reasons.
Evolutionary	Historical background; citations are mentioned in the introduction or discussion as part of the history and the state of the art.
Juxtapositional	Additional information that is supplementary or illustrative.
Confirmative	Cited source is positively evaluated, is of critical importance to results.
Negational	Cited source is negatively evaluated: partial or total negation; for example, when a theory or method is not applicable or not the best one, the citation is made with criticism and another treatment is proposed by author. It could be with the aim of correction, discussion, or disclaimer.
Others	Alerting readers to forthcoming work, anticipated value, or new research.

Phase 3: Preferential Selection

In the process of citation choice, when authors have selected all useful papers for each function and seek to maximize the quality of their research, the third level is applied. It is possible that there are several (generally many) references that guarantee the same utility for each function. Because in most cases it is impossible and irrelevant to

cite all of them, authors are obliged to choose those which they consider the best, or in the words of Nicolaisen (2004), the handicap. Here, the honesty of the authors has a role (Cronin, 2005; Merton, 1979; Nicolaisen, 2007). We consider this third step a truly subjective selection because it is from the author's perspective. There are some examples of an author's subjective reference choices being cryptomnesia or

TABLE 2. Classification of types of prejudices in the literature review.

Types of prejudices	Subspecies of each type
Author	Numbers of authors, nationality, rank/status/ position, sex, social ties, university, specialty, age, degree, relative standings of the collaborating authors, educational experience abroad, length of publishing career, position of syllabus author, institutional status of author, cryptomnesia, obliteration by incorporation.
Journal	Impact factor, visibility, language, “window dressing,” country, type of contents/topic/focus, size, frequency, reputation of editorial board, circulation numbers, balance of trade, delay, time, age of journal, sponsorship, internationality, format, online availability, target, publicity, journal spectrum.
Paper	Size/number of pages, number of years elapsed, order of articles in an issue, whether article is a comment/reply/note, historical content, regional empirical focus, type of paper, sources, bibliography, access to paper.
Subject	Focus, type, originality, theoretical or empirical content, same subtopic, category of discipline, utility, usefulness appraisals, standard reference/norms.
Others	Regional specialization, total number of citations per paper, lack of citations, interest, novelty, utility, significance, social and psychological factors, research channel, location of references.

citation amnesia (Garfield, 1980)—when an author does not recognize the original idea—or obliteration by incorporation (Merton, 1996, p. 30)—when some ideas are accepted, but authors are no longer cited. There is a question of honesty and a problem of acknowledging intellectual debts (Garfield, 2002).

We have called this phase “preferential selection” because although it could rest on strictly scientific criteria, it also is true that an author could have subjective prejudices. As an example, there could be providing the same definition, on which an author bases her or his reasoning. The scientific utility (i.e., the necessary function in the paper) is guaranteed; however, the paper published in the highest rated journal would make the topic seem more relevant. If the author of the cited paper is on the editorial board (if this situation occurred by chance), there would be an extra bonus because of the probability that she or he would review the paper. It also is true that one cites others to gain political advantage as part of the social process of knowledge construction (Latour, 2002); however, we would add that this occurs with the limitations discussed earlier. In this way, in contrast to Cozzens (1989), this view would partly invalidate the traditional controversy between normative and constructivist theories because the normative theory would assume our whole model from the first phase through to the third. But, looking for a simile, the constructivist theory would only permit the final choice of this third step. Therefore, the debate is narrowed down because authors do not face terrible moral and ethical dilemmas between scientifically correct references and those most profitable to their interests, but they simply choose among a group of similar papers according to their scientific utility. Depending on their prejudices (or susceptibility to external pressures), however, they make a final choice that benefits them. For this reason, the tension between normativist and constructivist theories is irrelevant, but what matters is the degree of prejudice among authors, research lines, or branches of science, as it was empirically demonstrated (Baldi, 1998; Leimu & Koricheva, 2005).

Table 2 displays the most important prejudices.

One characteristic of this focus is that there is more interest in the consequences of citation (publishing in an important

journal, receiving better consideration of a paper, or obtaining promotion) than in citation itself. In fact, this focus is the current tendency. However, this is a limited view because the sample is difficult to generalize to other subjects and because the importance of papers depends on sample size (Shadish, Tolliver, Gray, & Gupta, 1995).

Discussion and Future Research

In this article, we argue from an empirical standpoint that although the research on citation is interesting, it does not offer a total explanation of this phenomenon. Our multilayered selection of references is a new perspective that clarifies several aspects. First, the constructivist theory is not the antithesis of the normative theory, as seems to be derived from previous literature, but it has a mediating effect. In this way, the question is not which theory is more powerful or whether the former exists but which has the greatest influence because it is certain that both have an impact.

Many interesting research questions arise from this new perspective. For instance, as discussed earlier, we find that prejudices may exist even in the best journals. However, authors also can detract from the quality in their own interest by means of self-citation (Lawani, 1982) or conditioning by groups of researchers (Wuchty, Jones, & Uzzi, 2007). This is a delicate, but fundamental, issue; in other words, either the quality of papers is guaranteed or such prejudices will damage the development of science. In any case, it seems that prejudice is diametrically opposed to science, which should be totally objective. It requires honest referencing by authors that may be trusted by readers. Thus, it seems logical to believe that sexual, ethnic, and educational prejudices would be eliminated for the good of science. Therefore, it would be interesting not only to learn the degree of prejudice in each branch of science but also to discover mechanisms for completely eliminating these from research.

Another consequence of this dynamic model is the demonstration of the different perspectives that must be analyzed. This article studies only two perspectives: the author’s and the reader’s. We have shown how, by considering the author’s

focus, the model improves in depth and interest; however, although we have included these in the model, we have not forgotten another fundamental protagonist in this story: the editor. Latour (2002) considered the process of publication to be a strategic game among enemies and friends, and in this process, the editor is the bottleneck where all interests converge. For this reason, she or he is in the optimum position to avoid or promote reasonable behavior. On the other hand, an editor with a team of reviewers can encourage several kinds of prejudice. From this perspective, some other research questions arise. For instance, if the relationship between an author and an editor is considered a strategic game, then an equilibrium of interests may be founded between them. That is, there would be an optimal decision on the part of both the author and the editor, without neglecting the readers. However, we can only go so far. With this model, there could be a sensible analysis of how, by varying the conditions of the problem, certain behavior could be encouraged or eliminated.

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Appendix

Database of Documents that Explain Why Authors Cite

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Merton (1942)	Recognizing the value of previous work in science	Normative	Preferential	Citation behavior	Theoric	Descriptive	Examples	0	0	Science
Merton (1957)	Recognizing the value of author's work	Normative	Preferential	Citation behavior	Theoric	Descriptive	Examples	0	0	Science
Garfield (1965/1977)	Paying homage to pioneers; giving credit for related work; identifying methodology, equipment; providing background reading; correcting one's own work; correcting the work of others; criticizing previous work; substantiating claims; alerting to forthcoming work; providing leads to poorly disseminated, poorly indexed, or uncited work; authenticating data and classes of fact; identifying original publications in which an idea or concept was discussed; identifying original publication or other work describing an eponymic concept or term; disclaiming work or ideas of others (negative claims); disputing priority claims of others (negative homage)	Normative	Mixed	Citation index	Theoric	Descriptive	Examples	0	0	Bibliometric
Kaplan (1965)	Recognizing intellectual debt with other author	Multidimensional	Preferential	Citation behavior	Theoric	Descriptive	Examples	0	0	Science
Lipetz (1965)	Noted only—no clear indication of reason; distinguished from the primary focus of citing paper; compared, reviewed, reexamined; applied; modified; replaced with alternative; achieved different precision: greater or less; achieved different scope of applicability: greater or less; questioned; affirmed; refuted	Normative	Functional	Citation index	Empirical	Descriptive	Archives	750 references of 60 papers in 2 journals	1964	Physics
Merton (1968)	Recognizing the value of author, eminence	Constructive	Preferential	Citation behavior	Empirical	Case study	Interviews	13 Nobel Prize winners	1967	Science
Weinstock (1971)	Same as in Garfield (1965/1977)	Normative	Mixed	Citation index	Theoric	Descriptive	Surveys	0	0	Science
Hodges (1972)	Evidential; corroborative; general information; specific information; historical; documentary; sibling; methodological; oppositional; corrective; clarificational; logical; expositional; illustrative	Unknown	Functional	Citation utility	Empirical	Citation analysis	Interviews	42 scientific	1970-1971	Bibliometric

(Continued)

Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Chubin & Moitra (1975)	(A) Affirmative; Essential/basic; subsidiary; additional; informative; perfunctory; (B) Negational; partial negational; total negational	Unknown	Functional	Citation utility	Empirical	Content analysis	Archives	443 references in 33 letters and 10 papers in 4 journals	1968–1969	Physics
Cole (1975)	Part of relevant literature; supports idea of author; uses concept; extends or modifies theory; used in interpreting results; used in formulating research problems; attempt to test a derivative theory; attempt to test part; critical; others	Unknown	Functional	Evolution of science	Empirical	Descriptive statistics	Surveys + interviews	123 papers in 4 journals + 34 sociologists	1950–1972	Science
Moravesik & Murugesan (1975)	Conceptual; operational; organic; perfunctory; evolutionary; juxtapositional; confirmative; negational	Unknown	Functional	Citation utility	Empirical	Analysis of context	Archives	30 papers in 1 review	1968–1972	Physics
Moravesik et al. (1976)	Conceptual; operational; organic; perfunctory; evolutionary; juxtapositional; confirmative; negational	Unknown	Functional	Citation behavior	Empirical	Analysis of context	Archives	813 references in 2 journals	1968–1972	Physics
Soper (1976)	Access to bibliographic sources	Constructive	Limitations	Citation behavior	Empirical	Questionnaires + interviews	American library directory	178 questionnaires	1971	Bibliometric
Gilbert (1977)	Persuasion	Constructive	Preferential	Citation behavior	Empirical	Case study	Archives	1 reference	1975	Bibliometric
Spiegel-Rösing (1977)	Cited source is mentioned in the introduction or discussion as part of the history and state of the art; cited source is the specific point of departure; cited source contains the concept, definitions, and interpretation used; cited source contains the data used for comparative purposes; cited source contains data used sporadically; cited source contains the method used; cited source substantiates a statement or assumption; cited source is positively evaluated; cited source is negatively evaluated; results of citing article prove, verify, substantiate the data or interpretation of cited source; results of citing article disprove, put into question the data as interpretation of cited source; results of citing article furnish a new interpretation/explanation of the data of the cited source	Unknown	Functional	Citation utility	Empirical	Content analysis + descriptive statistics	Archives	66 papers in 1 journal	1971–1974	Science
Swanson (1977)	relevance (usefulness)	Normative	Functional	Citation utility	Theoric	Descriptive	Examples	0	0	Science
Tagliacozzo (1977)	Connecting the present work to previous relevant work; giving credit and paying homage; providing supporting evidence and clarification	Normative	Mixed	Self-citation	Empirical	Descriptive + correlation statistics	Archives	93 papers in 6 journals	1968 and 1972	Biology

Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Frost (1979)	(A) Primary sources: To support an opinion or factual statement; to support an opinion outside the central topic; to support a factual statement outside the central topic; (B) Secondary sources: *Independent: To acknowledge the pioneering work of other scholars; to indicate the state of present research, a range of opinions; to discuss the meaning of a term or refer to a work in which a given term or symbol first appears; *Approval: To support an opinion of the cited scholar; to support a factual statement of the citing author; to take an idea a step further; to acknowledge intellectual indebtedness; *Disapproval: To disagree with an opinion of the cited scholar; to disagree with a factual statement of the cited scholar; by expressing a mixed opinion; (C) Documentation: To refer to further reading; to provide bibliographic information on a specific edition	Normative	Mixed	Citation utility	Empirical	Inquiries	Archives	5 scholars + 60 articles	1978	Literature
Garfield (1979)	Indicators of utility and impact	Normative	Functional	Citation index	Theoric	Descriptive	Examples	0	0	Information science
Latour & Woolgar (1979)	Paying homage to pioneers; persuading: by prestige of authors and their place of education	Constructive	Mixed	Evolution of science	Empirical	Descriptive statistics	ISI	All papers of scientific in one laboratory	1977-1978	Medicine
Ruff (1979)	Citations made by a review article; citations made under more than one reference number; citation is extensive; citation made with some reservations; citation made with criticism, and another treatment is proposed by author; citation made several times throughout the paper	Unknown	Functional	Citation behavior	Empirical	Analysis of context + descriptive statistics	Archives + ISI	429 references of 59 papers	1937-1975	Physics
Garfield (1980)	Use an idea and no plagiarism	Normative	Preferential	Citation behavior	Theoric	Examples	Archives	0	0	Science
Small & Grenlee (1980)	As a symbol for an idea	Unknown	Functional	Evolution of science	Empirical	Analysis of context + coctation	ISI	72 papers	1973-1976	Medicine
Cronin (1981)	Same as in Garfield (1965/1977)	Normative	Mixed	Citation theory	Theoric	Descriptive	0	0	0	Science
Duncan et al. (1981)	Paying homage credit; bibliographical leads for researchers review; historical background reading, narrative; definition, clarification, illustration; anticipated value, new research; methodology, equipment; correction, criticism, disputing, disclaiming contradictory research; substantiation, corroboration, similar research, similar work; statistics, data, practical application	Normative	Mixed	Citation index	Empirical	Closed questionnaires + statistics	ISI	22 papers	1965-1980	Education

Bonzi (1982)	Not specifically mentioned in the text; barely mentioned in the text; one quotation or discussion of one point in the text; two or more quotations or points discussed in the text	Constructive	Preferential	Citation index	Empirical	Descriptive + correlation statistics	Archives	482 references of 31 papers in 19 journals	1978-1979	Information science
Law & Williams (1982)	Persuasion; power	Constructive	Preferential	Evolution of science	Empirical	Case study	Archives	Discussion between two groups of scientists	1978	Medicine
Lawani (1982)	Multiple authorship; relative standings of the collaborating authors; high quality	Constructive	Preferential	Self-citation	Empirical	Descriptive statistics	ISI	3,469 references of 23 agronomic paper and 2,432 references of 109 medicine papers	1974 and 1979	Interdisciplinary
Peritz (1983)	Setting the stage; background; methodological; comparative; argumental, speculative, hypothetical; documentary; historical; casual, perfunctory citations	Unknown	Functional	Citation behavior	Empirical	Case study	ISI	2,209 references of 106 articles in 5 journals	1977-1980	Science
Prabha (1983)	Essential information; critical importance; peripheral	Unknown	Functional	Citation behavior	Empirical	Questionnaires + interviews	Archives	19 authors	1982	Business
Stewart (1983)	Author characteristics; characteristics of the articles themselves; other characteristics of the articles	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics + regression	ISI, biographical sources + JHU questionnaires	All references of 139 papers published in 1968	1969-1974	Geology
Christensen-Szalanski & Beach (1984)	Availability; representativeness; overconfidence; anchoring; (mis)use of base rate; conservatism; weather forecasters; hindsight; livestock judges; misuse of sample size	Multidimensional	Preferential	Citation utility	Empirical	Questionnaires + descriptive statistics	Psychological abstracts + ISI	All references of 1 review	1972-1981	Psychology
Macrobeths & Macrobeths (1984)	To "praise" the work criticized; to cite "perfunctorily;" to avoid confronting anyone	Constructive	Preferential	Noncitation	Empirical	Case study	Archives	1 author	1963	Science
Brooks (1985)	Currency scale; negative credit; operational information; persuasiveness; positive credit; reader alert; social consensus	Multidimensional	Mixed	Citation behavior	Empirical	Analysis of variance	Interviews + questionnaires	26 members of 19 faculties	1984	Science
Cozzens (1985)	Main knowledge-claim; method; peripheral knowledge-claims	Unknown	Functional	Evolution of science	Empirical	Analysis of context	ISI	688 references of a paper of medicine/ 53 references of sociology ones	1973-1980/ 1966-1979	Interdisciplinary

(Continued)

Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Dolman & Bodewitz (1985)	Active citation; passive citation	Unknown	Functional	Evolution of science	Empirical	Analysis of context	ISI	120 references of 1 paper	1969–1981	Medicine
Brooks (1986)	Persuasiveness; negative credit; currency, positive credit, and social consensus; reader alert; operational information	Multidimensional	Mixed	Citation behavior	Empirical	Questionnaires	Interviews	437 references by 20 scholars	1984	Science
Lancaster et al. (1986)	Country; language; colleagues; subjects	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics	ISI	18,991 references and 1,316 papers	1950–1983	Science
MacRoberts & MacRoberts (1986)	Influential; not influential	Unknown	Functional	Citation utility	Empirical	Descriptive	Examples	15 papers	Various	Genetics
Swales (1986)	(A) Short; extensive; (B) Evolutionary; juxtapositional; zero; (C) Confirmative; negational	Unknown	Functional	Citation utility	Empirical	Content analysis and categorization	ISI	74 references of 1 paper	1980–1984	Linguistic
Latour (1987)	To persuade	Constructive	Preferential	Evolution of science	Empirical	Case study	ISI	All articles cite Schally	1985	Genetics
MacRoberts & MacRoberts (1987)	Some work is used, but is either never cited or is cited rarely; some work is cited mainly or only through secondary sources; some work is credited every time it is used	Constructive	Preferential	Citation theory	Empirical	Case study	ISI	23 papers	1936–1986	Genetics
Vinkler (1987)	(A) Professional motivations: Documentary; applicational; confirmative; critical motivation; (B) Connectional motivations: Dependence; filling; publicity; carrying effect; (C) Motivations of neglecting citation: Documentary; professional; subjective	Multidimensional	Mixed	Citation behavior	Empirical	Bibliometric analysis	Questionnaires to authors	All references by 20 authors of 1 paper	1986	Chemistry
Zuckerman (1987)	To persuade	Constructive	Preferential	Citation behavior	Theoric	Examples	0	0	0	Bibliometric
MacRoberts & MacRoberts (1988)	Influential; not influential	Unknown	Functional	Non citation	Empirical	Case study	Examples	1 citation	1985	Biology
Merton (1988)	Recognition to author	Normative	Preferential	Citation behavior	Theoric	Case study	Examples	Various	Various	Science
Moravcsik (1988)	Conceptual; operational; organic; perfunctory; evolutionary; juxtapositional; confirmative; negational	Unknown	Functional	Citation behavior	Empirical	Analysis of context	ISI	48 references of 1 article	1971–1980	Physics

Snyder & Bonzi (1988)	No other sources of data; identify related work; establish writer's authority; substantiate claims; critically analyze earlier work; choice among equally valid sources; best work on the subject; demonstrate knowledge of important work; earlier work on which this builds; political pressure; raise citation count; ease of access; don't remember + others motivations	Multidimensional	Mixed	Self-citation	Empirical	Questionnaires + interviews	Survey form + ISI	13 authors of environmental science and forestry	1987	Interdisciplinary
Amsterdamska & Leydesdorff (1989)	Knowledge claim; warrant; agenda building; codification	Unknown	Functional	Citation utility	Empirical	Analysis of context	ISI	4 papers	1979–1982	Biochemistry
Cano (1989)	Conceptual; operational; organic; perfunctory; evolutionary; juxtapositional; confirmative; negational	Unknown	Functional	Citation behavior	Empirical	Bibliometric analysis	Questionnaires	344 references by 42 authors in 21 different subjects	1988	Science
Cozzens (1989)	Both reward citees and persuasive	Multidimensional	Preferential	Citation theory	Theoric	Case study	Examples	0	0	Science
Luukkonen (1989)	Visibility of the journal	Constructive	Preferential	Citation index	Empirical	Bibliometric analysis + descriptive statistics	MEDLINE + chi database	All articles of 1 subject in 1 country	1978–1982	Medicine
Maricic et al. (1998)	(A) Introduction; methodology; results; discussion/conclusions; (B) Cursory citation (alta densidad); meaningful citation (baja densidad)	Unknown	Functional	Citation behavior	Empirical	Analysis of context, descriptive and correlation statistics	Archives	All references of 357 papers about physics, chemistry, and biology	1955–1964	Interdisciplinary
Mccain & Turner (1989)	Central; peripheral	Unknown	Functional	Citation behavior	Empirical	Analysis of context	ISI	All references of 11 papers	1978–1980	Genetics
Lancaster et al. (1990)	To publish in a international journal: "window dressing"	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics	ISI	2,429 references of 291 articles	1975–1984	Mathematics
Leydesdorff & Amsterdamska (1990)	Quality; relevance; influence; originality of cited papers	Constructive	Preferential	Citation behavior	Empirical	Descriptive and correlation statistics	ISI and questionnaires	239 authors by 1 of 91 references in 4 papers	1979 and 1982	Biochemistry
Luukkonen (1990)	Visibility of the journal	Constructive	Preferential	Citation utility	Empirical	Bibliometric analysis	Isi	7,698 articles	1983	Medicine

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Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Sen (1990)	For furtherance of ideas or generating newer ideas related to the ideas in the cited item; for experimental vindication; for theoretical justification; for refutation and criticism; for suggesting alternatives; for a historical or background review; for achieving importance or support via authority; for listing similar or related works; for making passing remarks; for using result, illustration; for nominal discussions in very general terms; civility; creating corresponding visibility; acquiring importance (self-citations or citations of important peers)	Multidimensional	Mixed	Citation process	Theoric	Descriptive	0	0	0	Information science
Bonzi & Snyder (1991)	Identify related body of work; earlier work on which current work builds; best/most relevant work on the subject; substantiate claims/establish precedence; no other sources of data; demonstrate knowledge of important work; establish writer's authority in the field; critically analyze/correct earlier work; of equally valid sources, choose this one; ease of access to the cited work; other reasons; political pressure; raise citation count; don't remember	Multidimensional	Mixed	Self-citation	Empirical	Descriptive statistics	Questionnaires	51 authors	1990	Science
Hooten (1991)	(A) Frequently cited: essential-subsidary; concepts, definitions, interpretation used; setting the stage; within discipline data used; (B) Infrequently cited: supplementary; casual; perfunctory; argumental/speculative/hypothetical	Unknown	Functional	Citation behavior	Empirical	χ^2 , probability, and descriptive statistics	ISI	604 references in 63 papers of 1 review	1972-1974	Information science
Harter (1992)	Eminent; noneminent psychologically	Unknown	Functional	Citation behavior	Theoric	Descriptive	Examples	Citation from Azar	0	Psychology
Rousseau (1992)	Number of authors	Constructive	Preferential	Citation behavior	Theoric	Descriptive	Examples	0	0	Information science
M.X. Liu (1993a)	Utility level of information sources; language dependency; social and psychological factors; (A) Indirect imperative: Editorial policy; carrier influence; (B) Knowledge-claim factors: Familiarity; persuasion; currency; (C) Value perception; Number of references; eminent author; prestigious journal	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics	Archives and questionnaires	725 authors of 1 review	1981-1987	Physics

Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Garfield (1996)	Paying homage to pioneers; giving credit for related work; identifying methodology, equipment; providing background reading; correcting one's own work; correcting the work of others; criticizing previous work; substantiating claims; alerting to forthcoming work; providing leads to poorly disseminated, poorly indexed, or uncited work; authenticating data and classes of fact; identifying original publications in which an idea or concept was discussed; identifying original publication or other work describing an eponymic concept or term; disclaiming work or ideas of others (negative claims); disputing priority claims of others (negative homage)	Normative	Mixed	Citation behavior	Empirical	Case study	Experiments	Students	3 years	Information science
Wang & White (1996)	Foundations; methodology; empirical evidence; data sources; justification; analogies/contrasts/comparisons; tangential/ceremonial; relative importance of articles in peripheral journal; importance of completeness; expectations of referees and/or editors; willingness to do "secondary citing;" perceptions of the role of references as a map to broadly useful literature or as a record of literature closely related to the immediate project; appropriateness of citing textbooks/standard references; appropriateness of self-citing	Multidimensional	Mixed	Citation behavior	Empirical	NUD*IST (Non-numerical Unstructured Data Indexing, Searching and Theorizing)	Interviews	15 students	1995	Economy
Allen (1997)	(A) Approach to main knowledge claim: This purpose; another purposes; (B) Reaction to knowledge claim: Agree; disagree; neutral/ambiguous	Unknown	Functional	Citation behavior	Empirical	Analysis of context, case study	ISI	81 references of 1 author	1983	Business
Z. Liu (1997)	Physical accessibility; cognitive accessibility; perceived quality; perceived significance	Multidimensional	Preferential	Citation theory	Empirical	Descriptive statistics	Archives	7 journals	1983-1990	Information science
MacRoberts & MacRoberts (1997)	Influences evident; influences nor evident	Unknown	Functional	Citation behavior	Empirical	Analysis of content	Archives	73 references of 14 papers	1988	Medicine
Smith & Goodman (1997)	Persuasiveness; currency; reader alert; classic references in the field; concept markers; supporting an assertion	Unknown	Functional	Citation behavior	Empirical	Analysis of content	MEDLINE	81 papers of 1 subject	1990	Medicine

M.D. White & Wang (1997)	Actual quality; authority; availability; classic/founder; cognitive requisite; credential; discipline; expected quality; judge; norm; novelty; orientation; prolific author; recency; relation; special requisite; standard reference; time, effort; topicality	Multidimensional	Preferential	Citation behavior	Empirical	Descriptive statistics	Interviews	12 students	1992–1996	Economy
Baldi (1998)	*Normative variables: Theoretical content; empirical content; recent work; quality; both theoretical; same subtopic; *Social constructivist variables: Institutional prestige; author's eminence; author's rank; sex; social ties; *Control variables: Article's size; number of authors; % authors working in a university; book chapter; journal visibility; Impact factor; same author; same journal; number of years elapsed	Multidimensional	Preferential	Citation behavior	Empirical	Statistical model (OLS)	Archives	4,950 references of 100 papers	1976–1995	Astronomy
Cronin (1998)	Functionalist; normative; phenomenological (motivational)	Multidimensional	Preferential	Citation theory	Theoric	Descriptive	Examples	0	0	Bibliometric
Garfield (1998)	Relevant; interested/factors conditionants; branch of science; currency; size of discipline; journal impact factor	Constructive	Preferential	Citation behavior	Theoric	Descriptive	Examples	0	0	Bibliometric
Kostoff (1998)	Citations as bookmark; as intellectual heritage linkages; for tracking research impacts; for self-serving purposes	Multidimensional	Preferential	Citation theory	Theoric	Descriptive	Examples	0	0	Bibliometric
Leydesdorff (1998)	As explanandum (the subject to be explained); as explanans (used to explain something else)	Multidimensional	Preferential	Citation theory	Theoric	Descriptive	Examples	0	0	Bibliometric
Rousseau (1998)	As ethical matter; as shorthand; as persuasion	Multidimensional	Preferential	Citation behavior	Theoric	Descriptive	Examples	0	0	Bibliometric
Senglen (1998)	Utility in research; journal e-space limitations; secondary sources; reference copying; obliteration by incorporation; argumentative citation; flattery; show-off; self-citation; in-house citation	Multidimensional	Preferential	Citation utility	Empirical	Case study, descriptive statistics	ISI	ISI Database	Undetermined	Bibliometric
van Raan (1998)	Depend on formation authors: "cumlaudes" vs. the "noncumlaudes" before and after graduation	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics	Interviews	400 students of physics and chemistry	14 years	Interdisciplinary
Vinkler (1998)	Professional; professional and connectinal; connectinal	Multidimensional	Preferential	Citation behavior	Empirical	Statistical model (MSRT)	Interviews + questionnaire	484 references of 20 papers of 20 scientific	1985	Chemistry
Budd (1999)	1 epistemology uses of the citation 2 procedural or nonepistemology use	Unknown	Functional	Citation behavior	Empirical	Descriptive statistics	Database Sociofile (Sociological Abstracts)	2,787 citations of 70 articles	1990–1995	Sociology

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Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Van Dalen & Henkens (1999)	[Impact factor; focus; language; size (number of articles); balance of trade; frequency] all about journals	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics and bibliometric analysis	ISI	All references of 1,362 papers in 16 reviews	1991–1995	Demography
Wang & White (1999)	Topicality; orientation/level; discipline; recency; authority; relation/origin; actual quality; depth; classic/founder; publicity; reputation; prolific author; journal spectrum; peer review; standard reference; judge; norm; target journal; credential	Constructive	Preferential	Citation behavior	Empirical	NUD*IST (Non-numerical Unstructured Data Indexing, Searching and Theorizing)	Interviews	All references of 13 papers by 15 students	1992–1995	Economy
Wouters (1999a)	There is no answer. Indicator as interactions of three cluster: sociological, semiotic, and information science	No theory	No answer	Evolution of science	Empirical	Descriptive statistics and cocitations	ISI	779 articles and its 11,285 references published in "Scientometrics"	1978–1992	Information science
Wouters (1999b)	There is no answer. References have very different characteristics (textually and behaviorally). Citation indicators: number of publication, author, Price Index, institutions, coauthors, titles of articles: citation patterns	No theory	No answer	Evolution of science	Theoric	Descriptive	0	0	0	Information science
Case & Higgins (2000)	(A) Review prior work; concept marker; source of method or design feature; legitimacy of topic; recognized authority; support an assertion; (B) Classic citation; social reasons for citing; negative citation; creative citation; contrasting citation; similarity citation; citation to a review	Multidimensional	Mixed	Citation behavior	Empirical	Likert scale and multivariate analyses	ISI + questionnaires	44,877 citations and 133 authors	1995–1996 and 1998	Communication
H.J. Kim (2000)	Motivations: (A) scholarly; (B) social; (C) technological: Additional or background information; easy and immediate access; example, model, case or illustration; publicity to the source; supportive or affirmative evidence; credit to the author or institution; technology enabling the link to be made is there; give a graphical image historical background; definition, concept or symbol; foundation of a idea, concept, or theory; compare with my own work; indicate the current state of research; author or institutional affiliation; providing data or statistics; setting the stage; applying or describing the methodology; demonstrating my knowledge of the important or recent work in the field; editor or editorial policy encouraged	Multidimensional	Mixed	Citation behavior	Empirical	Descriptive and descriptive statistics	2 interviews	15 students	1996–1999	Science

Paul (2000)	As reward; as rhetoric	Constructive	Preferential	Citation utility	Empirical	Descriptive and correlation statistics	ISI	609 references of 13 papers about physics and math	1975–1994	Interdisciplinary
Lawrence (2001)	Available online	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics	Internet	119,924 papers	1999	Computer science
Van Dalen & Henkens (2001)	(A) Journal characteristics: Impact factor; reputation of editorial board; circulation numbers; use of French; (B) Article characteristics: Number of pages; presidential address; order of articles in an issue; comment/reply/note; historical content; regional empirical focus; (C) Author characteristics: Reputation; number of authors; U.S. connection authors	Multidimensional	Preferential	Citation behavior	Empirical	Descriptive statistics, negative binomial and logit regression	ISI	All references of 1,371 papers in 17 journals	1990–1992	Demography
W. White (2001)	Perfunctory-positive; perfunctory-negative; organic-positive; organic-negative	Unknown	Functional	Self-citation	Empirical	Test cases, identities and contrasting	ISI and Dialog's OneSearch	References of papers of 8 authors	1999	Information science
Hjorland (2002)	Relevance	Unknown	Functional	Citation behavior	Theoric	Descriptive	Examples	0	0	Medicine
Huson (2002)	Sex; topic; regional specialization; age of citing author; total number of citation per paper	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics and multiple regressions	MEDLINE and ISI	286 papers of 4 journals	1977–1998	Archaeology
Kjaergard & Gluud (2002)	Positive outcome in the trials	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics and correlation	ISI	530 trials with 2,327 citations during 2 years	1985–1996	Medicine
Nicolaisen (2002)	General opinion to reference, gradual scale: Very favorable; favorable; neutral; unfavorable; very unfavorable	Constructive	Preferential	Citedness	Empirical	Case study, j-shaped distribution	Sociological Abstracts and ISI	420 monographs in 1 review	1985–1994	Sociology
Pichappan & Sarasvady (2002)	Conditioned by: (A) Numbers of papers an authors has already produced in a specialty; (B) to the extent the authors confine their interest in a specialty	Multidimensional	Preferential	Self-citation	Theoric	Examples	ISI	0	0	Information science
Aksnes (2003)	Conditioned by: (A) Number of self-citations; (B) number of authors of the publications; (C) scientific disciplines	Multidimensional	Preferential	Self-citation	Empirical	Descriptive and correlation statistics	ISI-database NCR for Norway	46,849 articles	1981–1996	Science
Hyland (2003)	Promotional strategies of individual and epistemological practices of their disciplines	Multidimensional	Functional	Self-citation	Empirical	Text analyses and discourse-based interviews with academics	ISI	240 research articles and 800 abstract from ten journals in eight disciplines	1997–1998	Interdisciplinary

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Appendix. (Continued)

Author	Reasons to Cite	Theory	Answers by	Keyword	Type	Methodology	Data sort	Sample size	Sample date	Subject
Ahmed et al. (2004)	Historical reasons; content; specific use; use of data; theoretical equation developed; same methods or practical techniques; normative process in science	Unknown	Functional	Citation behavior	Empirical	Analysis of context	ISI and archives	2,061 papers	1953–2002	Medicine
K. Kim (2004)	(A) Variables: Status, gender, degree, educational experience abroad, length of publishing career, category of discipline, research channel, focus of research, type of paper; (B) Motivations: conceptual; methodological; persuasive; performant; social	Constructive	Mixed	Citation behavior	Empirical	SAS GLM, regressions, and descriptive statistics	ISI, interviews and questionnaires	11,358 references of 321 authors	1998–1999	Social science
Moed & Garfield (2004)	Conditioned by number of references the papers contains (A) normative; (B) persuasion	Multidimensional	Preferential	Citation behavior	Empirical	Descriptive statistics	ISI	278,000 papers	2001	Science
Nicolaisen (2004)	Honesty credit their inspirations (handicap principle) depending on: (A) specialties; (B) research traditions	Unknown	Functional	Citation behavior	Empirical	Multivariate statistical techniques and clusters	ISI	Co-citations of 16 psychological journal and 35 communication theoreticians	1974–2003	Interdisciplinary
Small (2004a)	Misattribution; reinterpretation; idiosyncratic negative; revolutionary; ritual negative; common misattribution; conventional transformation; obliteration by incorporation; substantive; organic; creative connection; unusual quotation; performant; ceremonial; common direct quotation; interpretation; paradigmatic	Unknown	Functional	Citation behavior	Theoric	Descriptive	0	0	0	Bibliometric
Small (2004b)	Interest (to pay more attention to a topic); novelty (how new or groundbreaking his contribution); utility (if his opinion is useful to others); significance (how important or fundamental his contribution or the problem)	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics and qualitative analysis	Essential Science Indicators and questionnaires	22 authors of 22 subjects	2003	Science
H. D. White (2004b)	Labels for scale of cities' reputations; Obscure; recognized in specialty; well-known in discipline; well-known beyond discipline; world famous	Constructive	Preferential	Citation behavior	Empirical	Case study and logarithmic reputation scale	ISI and Dialog's OneSearch	28 authors	Undetermined	Science
H. D. White et al. (2004)	Three kinds of ties: (A) intellectual ties (cocitation count, same discipline; have read his/her work); (B) social ties (knew person, friend, sought advice); (C) sociocognitive ties (collaborator, editor, coauthored chapter in book)	Normative	Preferential	Evolution of science	Empirical	Descriptive and correlation statistics	Questionnaires to "Globenet" interdisciplinary research group + ISI	Intercitations of 16 scholars-authors from Dialog-ISI	1972–2000	Interdisciplinary

Cronin (2005)	Operational (usefulness) information	Normative	Functional	Citation behavior	Theoric	Descriptive	examples	0	0	Information science
Hanney et al. (2005)	(A) Develop; support; apply; refute; note/review only; (B) peripheral; limited; considerable; essential	Unknown	Functional	Citation utility	Empirical	Pilot study with 6 experts, kappa statistics, and descriptive statistics	ISI	799 references of 62 papers	Undetermined	Medicine
Ioannidis (2005)	If the outcomes are contradictory or stronger effects	Normative	Functional	Citation behavior	Empirical	Descriptive statistics	ISI	115 articles with more than 1,000 citations	190–2003	Medicine
Leimu & Koricheva (2005)	Author's sex; number of authors; alphabetical position of author's surname; country of affiliation; affiliated university	Constructive	Preferential	Citation behavior	Empirical	Descriptive and correlation statistics	ISI	228 papers of 53 journals	1975–2001	Ecology
Van Dalen & Henkens (2005)	Authors (reputation, affiliation USA, numbers of authors); journal (presidential address, type of document, number of pages, order in a journal issue, historical orientation, focus, impact factor, reputation editorial board, circulation journal; and use of French language); whether an article is cited before	Constructive	Preferential	Citation behavior	Empirical	Descriptive statistics and bibliometric analysis	ISI and others databases	1,371 papers of 17 journals	1990–2002	Demography
Martens & Goodrum (2006)	Functions of acknowledgment (neutral, positive, or negative); functions of analysis (empirical, theoretical); functions of application (explanatory, proposed); functions of assimilation (existing, novel)	Unknown	Functional	Citation theory	Empirical	Citation analysis, citation context interviews and surveys	Archives and ISI	1,280 documents and their references	1975–1999	Interdisciplinary
Krampen et al. (2007)	Function in the text; perfunctory; self-citations	Multidimensional	Functional	Citation utility	Empirical	Descriptive	High-impact Anglo-American and German psychology material	118 units (90 articles, 12 textbooks, 6 encyclopedias and 10 test-manuals)	1985–2003	Psychology
Harwood (2008)	Stylistic elegance, stylistic variation and informality, other stylistic preferences: Integral and nonintegral citations, making the text accessible, revealing the citer's politics, marking the relationship between the citer and citee, alerting readers to (unknown) source, acknowledging seminal sources, responding to reviewers' request, unconscious, arbitrary, and/or inexplicable motivations: Accident, not design	Multidimensional	Functional	Citation behavior	Empirical	Descriptive	Discourse-based interview approach, examples	6 informants from computer science and sociology discipline working at a British university	2007	Interdisciplinary

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