CONTINENTAL DISTRIBUTION OF PUBLISHED DENTISTRY CITATIONS

by

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ABSTRACT

The objectives were to (1) determine if article-first-authors (afa) in 8 journals published in 1998 and 2002 affiliated with North America (NA), Europe (EU), Oceania (OC= SE Asia), or other regions cited references with first authors (rfa) with differing frequencies and (2) contrast the influence of journal geographic origin (NA= *JDR, JPD, OD, AJD*; EU= EJOS, DM, CR, JD) on these patterns. Articles (n=653) and references (excluding case reports, reviews and non-research items) were classified (using ISI and PubMed databases) by first author geographic affiliation. Results for both years (1998, 2002) were identical. Articles from NA and EU cited reference-first-authors from their own continent-of-origin more frequently ($p<0.001$). Pooled journals (NA versus EU) showed geographic differences. Geographic bias may affect reader impressions of the pertinent literature and distort key indexes of citations such as scientific impact factors.

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LIST OF ABBREVIATIONS

afa	article-first-author
AJD	*American Journal of Dentistry* (journal)
CR	*Caries Research* (journal)
DM	*Dental Materials* (journal)
EJOS	*European Journal of Oral Sciences* (journal)
EU	Europe
JCR	*Journal Citation Report*
JD	*Journal of Dentistry* (journal)
JDR	*Journal of Dental Research* (journal)
JPD	*Journal of Prosthetic Dentistry* (journal)
OC	Oceania
OD	*Operative Dentistry* (journal)
NA	North America
rfa	reference-first-author
SIF	scientific impact factor
SCI	*Science Citation Index*
US	United States

INTRODUCTION

Publication of research results is the final and most critical part of the scientific process. The resulting literature database is the foundation for "evidence-based dentistry." It is crucial that this database be as free of bias as possible. An important component of every scientific paper is citation of previous scientific papers to describe what is already known about the problem that a particular paper addresses. The dental literature database is cited by every author as part of each new publication. Thus, cited references within a publication should be correct in content and appropriately represent the research area.

There are indications that the selection of citations to accomplish this concise summary of what is known is biased, and that one known bias is country of origin of the author or "national bias." This bias has been shown to be present in some disciplines, but has not been examined in dentistry. The presence of this bias is important not only because the research articles may present a distorted summary of current knowledge, but also because citation selection in research articles also drives the ranking system for journal importance, the Scientific Impact Factor (SIF).

The objective of this study was to determine if differences exist among references frequencies to North American, European, and Oceania authors used as citations in published dental research articles written by American, European, and Oceania first-authors as tested in eight different dental journals (four North American and four European) in years 1998 and 2002.

LITERATURE REVIEW

A. Overview

Little is known about the presence of national bias in citations in the dental literature. The three problems that this national bias may cause are 1) presentation of less than a complete description of what is known, 2) a suggestion that the author does not have a complete understanding of the background to the study, and 3) possible biasing of the "importance rating" of journals.

B. Scientific process

Science is the process of gaining knowledge about a natural phenomenon based on making repeated observations in controlled conditions (experimentation) and attempting to explain what causes those observations (theorizing) through constructing hypotheses that can be tested experimentally. The term also refers to the organized body of knowledge that results from scientific study. Science's only purpose is to gain knowledge. Sometimes that knowledge may ultimately lead to technology that mankind finds useful. It is essential that science be international and that scientific findings be shared.

Research is an important part of scientific process. It is the careful and systematic study designed to develop or contribute to some field of knowledge undertaken to establish facts or principles. It is essential that research be presented to the scientific community either through presentation or publication. Research not presented or published does not produce information that can be applied to advance science and is considered to be of no value.

C. Bias arising from citation patterns

An important part of scientific publication is accurate and complete acknowledgment of the related scientific literature, its content, and the points of reference which they

represent. However, there are many factors which may interfere with that process. These factors include (1) publication bias, (2) language bias, (3) access bias, (4) self-citation, (5) prestige bias, (6) editor/reviewer bias, and (7) regional bias. These are reviewed as follows.

C1. Publication bias

Every day there are ~6000-7000 papers published in science (Strain *et al.*, 1999). While there are also many types of original scientific publication such as books, original articles, review articles, case reports, technique papers and short communications, scientific papers constitute the primary method of research reporting.

Distortions of the scientific record occur when some data is not published. This "publication bias" has been suggested by Dickersin (1990) to arise because scientists, authors, and editors tend to publish only positive findings, and thus, the unpublished research information (Dickersin, 1997) cannot be easily accessed or referenced by other researchers, distorting the true record of scientific knowledge. Scholey and Harrison (2003) commented that there are several reasons for publication bias that have been reported, including poor quality of research design, small sample size, external funding, negative findings, failure of authors to submit manuscripts, and rejection of manuscripts by journal editors. However, this is not always the case for all situations. Olson *et al.* (2002) reported no difference in the publication rate of manuscripts with positive versus negative findings that were submitted to the *Journal of the American Medical Assocation* for February 1996 to August 1999.

Non-publication also occurs because of scientific laziness. An often acknowledged problem is the poor rate of conversion of scientific abstracts of research presentations from meetings into *bona fide* scientific research publications. Marx et al. (1999) examined the fate of abstracts presented at two separate neuroradiologic conferences in 1993 and determined that only 33% and 37% of their abstracts were published in the next 4-5 years. Cheng *et al.* (1998) reported that the publication rate of abstracts (for different times after the conference) for randomized controlled trials for information presented at conferences on cystic fibrosis were 8.1% (1y), 29% (2y), and 40% (5y). Scholey and Harrison (2005) reported that less

than half of all the 1993 abstracts presented at the European Orthodontic Society, International Association for Dental Research, and European Organization for Caries Research had not been published within the next five years.

C2. Language bias

Probably the most common categorization of the published literature based on language is between English and non-English articles. There are two types of language bias which may arise. The first is caused by the fact that authors may not be sufficiently fluent in a language to read the article or may not take the time to have it translated. The second is authors may intentionally choose to publish in their native non-English language and indirectly decrease the visibility or impact of the article for English-speaking audiences.

Loria and Orroyo (2005) examined the global publication patterns in PubMed from 1966 to 2000 by Anglo countries (UK, Ireland, Canada, Australia, New Zealand, and US) versus non-Anglo countries (all others) and in English versus non-English journals. In 2000, 90% of all articles were published in English and 68% of all published articles appeared in journals in Anglo countries. The global rate of increasing published articles occurred linearly over this time period at about 8,142 more per year.

As special evidence of this language problem effect, Egger *et al.* (1997) examined the outcomes of reviews and meta-analyses published in English versus German. They uncovered that a greater proportion of these articles published in English appeared to detect significantly positive results than in German. At the same time, Moher *et al.* (1996) compared systematic reviews published in non-English languages (French, German, Italian, Spanish) to English ones, and they found no differences, affirming that there would be no reason to exclude these reviews on the basis of language.

C3. Access bias

At the present time, there is a remarkable shift toward accessing publications electronically. This is heightened by the ease of access to digital databases and the developing momentum of publications toward Open Access (free access to published

papers). De Groote *et al.* (2005) studied the effects of online journals on the citation patterns of a large medical faculty from 1993 to 2002. During that time period, faculty members were still accessing primarily print journals, and so the effect had not yet surfaced. This may just be beginning to have a positive impact on the breadth of literature reviewed by authors.

C4. Self-citation bias

Citations are a hallmark of academic achievement for authors and for journals. An important component of the scientific process is the subsequent use and citation of published articles by other researchers and authors. Citations complete the chain of publication and that underpins the evolution of scientific knowledge.

Analysis of citation practice has been a growing area of study in library and information science. Dimitroff and Arlitsch (1995) reported that at least 50% of the 1058 articles examined contained at least one self-citation and the overall rate of self-citation for all citations in the same articles was 6.6%.

The pertinent literature is cited by every author as part of each new publication. The cited references within a publication should be a "concise and objective representation of what is known about the problem addressed in the publication." It is crucial that this mini-database be as free of bias as possible. Selection of citations by an author may be influenced by journal accessibility, perceived journal "prestige" (impact factor) or national bias (Grange, 1999). Publications should cite the appropriated evidence from relevant studies regardless of the country or continental of origin.

The assumption that citation selection is unbiased underlies the practice of using citations for evaluating journals ("scientific impact factors") and authors ("productivity"). However, there are indications that the selection of citations to accomplish this concise summary is biased, and that one known bias is the country of origin of the author, or "national bias". This bias has been shown to be present in some disciplines, but has not been examined in dentistry. There is evidence that American authors have a tendency to cite papers from American journals and omit possibly relevant papers from journals published

elsewhere (Moller, 1990). This bias is important not only because research articles may present a distorted summary of current knowledge, but also biased citation selection in research articles will introduce distortion in the ranking system for journal "importance."

C5. Prestige bias

It is also possible that authors could choose their citations based on their own or others perceived prestige associated with a particular journal. This prestige might be connected to the scientific impact factor or to the particular audience of readers associated with the journal.

C6. Editor/reviewer bias

Editors may potentially choose articles or article reviewers based on national or regional bias and not based on a reviewer's expertise for a particular research topic. Reviewers may be more favorably inclined toward article or reference first authors who are associated with the reviewer's country or region. There also may be reviewer characteristics that could impact the disposition of a manuscript. Nylenna *et al.* (1994) examined characteristics of 180 reviewers considering the same two submissions and discovered that the more experienced and younger reviewers tended to be harsher in manuscript analysis.

C7. Regional or national bias

Citation patterns for published articles for different regions or nations are very important to understand. They can have broad ramifications for authors choosing references to use and for evaluating the impact of the literature.

In 1992, the international pattern of research and development in the area of dental materials was investigated (Garrison *et al*., 1992). Journal articles (1981-1985) and patents (1979-1988) were categorized in terms of national origin. US-based dental researchers produced approximately one-half of all dental materials journal articles published world-wide and more than half of the patents. Other countries represented with significant research were Great Britain, Japan, Canada, Sweden, Denmark, Australia and Germany.

Another study (Corry, 2000) reported similar trends in terms of dental research activity after examining the International Association for Dental Research (IADR) abstracts for the years 1996 and 1997. Most were associated with five principal countries: USA, Japan, Canada, Germany and UK. Countries of origin for authors of articles reviewed in this study were represented by USA, UK, Japan, Sweden and Germany. The country of origin of the author was not a limiting factor in the publication of research in international dental journals.

There is evidence that American authors tend to quote articles from American journals and omit possibly relevant articles from journals published elsewhere. Inhaber and Alvo (1978) indicated that authors from other countries cited US authors much more often than they were cited by their counterparts in the US.

In 1990, Campbell studied the national bias in citation practices of health professionals in the US and the United Kingdom (UK). The study showed that US authors publishing in the *New England Journal of Medicine* and UK authors publishing in *Lancet* tended to cite materials produced in their own countries more often than would be warranted by the amount of material produced by these countries. In addition, these authors cited materials produced in non-US and non-UK countries far less than the amount of material produced by these countries would indicate.

In a study determining bias by authors of different nationalities in their citation rate of selected urological journals in papers published in the *British Journal of Urology* and the *Journal of Urology*, found that there are significant differences in citation rates both with authors' nationality and between journals (Grange, 1999). Also, one study has been showed that in six medical journals, citations in both US and UK journals tended to reflect the journals' countries of origin, despite their claims to be international journals (Brice and Bligh, 2004).

Moreover, another study of potential national bias in citing material was reported by Cronin in 1982. Psychology journal editors and editorial advisory board members were

polled using a questionnaire that was created to discover the nature and possible functions of citations. One statement on the form, "national bias in references is inevitable," was particularly important in this research. A majority of those polled (65%) agreed that national bias was unavoidable, while 24% disagreed, and the other 12% were undecided. This study believed that national bias is in certain circumstances to be expected (Cronin, 1982).

D. Scientific impact factor

There is no way to measure how useful a published article is to researchers and clinicians, but one can estimate its impact on other authors by how frequently they cite it in their publications. An impact factor is defined as the frequency with which an average article in a specific journal has been cited in a given period of time. It was important because of its possibility indication of the importance of the journal. Journals that have been cited more than others might be considered more relevant in the field that they encompass. Impact factors are widely used to rank and evaluate journals. Impact factors have been published in *Journal Citation Reports* (JCR) since 1963 by *Science Citation Index* (SCI) (Garfield, 1996).

The Scientific Impact Factor (SIF) is the ratio obtained by dividing the number of current year citations to the source items published in that journal during the previous two years (see the table below).

Table 2.1 Example of calculation of a journal impact factor for 1992.

A= total cites in 1992

B= 1992 cites to articles published in 1990-91 (this is a subset of A)

C= number of articles published in 1990-91

D= B/C = 1992 impact factor

(http://www.isinet.com/essays/journalcitationreports/7.html/)

Be cautious when employing an impact factor for ranking the worth of journals, scientists, and even academic institutions (Seglen, 1997; Smith, 1998). Journal impact data have been grafted onto large scale studies of university departments and even individuals (Garfield, 1996).

The impact factor can be distorted in many ways. The number may be low for many reasons. One study showed that the impact factor of the original publishing journal, not the methodology or quality of the research, was the strongest predictor of citations per year (Callaham *et al*., 2002). That study would suggest that despite the era of accessibility due to electronic searching and retrieval, citation may be more strongly influenced by the reputation of publishing journal than by the design, merits, or quality of the study.

The use and abuse of journal impact factors has been discussed in several publications (Garfield, 1996; Seglen, 1997; Smith, 1998). Several sources of error in the impact factor have been identified (Seglen, 1997). However, there still is a desire for any 'objective' indicator of performance. Although an impact factor has obvious flaws, it is preferred over no indicator at all.

E. Statement of the problem

These observations suggest that there are important differences in citation rates that may be associated with authors' nationality. Citation patterns may be influenced publication bias, language bias, access bias, self-citation, prestige bias, editor/reviewer bias, and national or regional bias. The presence of this potential bias is important, not only because the research articles may present a distorted summary of current knowledge, but also because citation selection in research articles also drives the ranking system for journal importance. This bias has been shown to exist in some disciplines (that were just reviewed), but has not been examined for dentistry.

The objective of this study is to determine if differences exist among references frequencies to North American, European, and Asian authors used as citations in published dental research articles written by American, European, and Asian first-authors as tested in eight different dental journals (four North American and four European) in years 1998 and 2002.

MATERIALS AND METHODS

A. Overview

Journals in North America and Europe, identified primarily with operative dentistry and dental materials topics, were evaluated for two different but recent publication years. All articles within each issue of each journal which were considered scientific contributions were classified in terms of the geographic home of the (a) first authors of the articles (article-first-authors, afa's) and (b) the first authors of the citations (reference-first-authors, rfa's) occurring within the individual articles. Geographic homes were classified as North American (NA), European (EU), Oceania (OC), or Other countries. These frequencies were used to test the hypothesis that there was no difference in bias in selection of articles or choice of cited literature.

B. Selection of journals

All 1998 and 2002 issues of four NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) versus four EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*) were examined. These journals were selected because of their relative prominence in publishing information about operative dentistry and dental materials. To ensure that these journals were approximately equal in quality, it was important that they have been rated with a scientific impact factor (SIF) and that the value be above 0.500 for this analysis. The highest SIF for any dental journal is for the *Journal of Dental Research*. The characteristics of the journals to be analyzed are reported in the Table 3-1.

Table 3-1 Characteristics of the journals.

Journal Characteristics	*Journal: Classification*	*Journal Address*	*1998-2002 Editor and Address*	*2002 SIF*
J Dent Res *12 issues/yr* *96 pages/issues*	North America	IADR/AADR Alexandria, VA	Mark Herzberg University of Minnesota Minneapolis, MN 55057	2.956
J Prosthet Dent *12 issues/yr*	North America	UNC	Glen McGivney University of North Carolina Chapel Hill, NC	0.568
Oper Dent *6 issues/yr*	North America	Indiana University School of Dentistry	Michael A Cochran Indiana University Indianapolis, IN	1.168
Am J Dent *6 issues/yr*	North America	Nova Southeastern University	Franklin Garcia-Godoy Nova Southeastern University Fort Lauderdale, FL	0.961
Dent Mater *8 issues/yr*	EU	Oxford, UK	David C Watts University of Manchester Manchester, UK	1.912
Eur J Oral Sci *6 issues/yr*	EU	Göteborg, Sweden	Anders Linde Göteborg University Göteborg, Sweden	1.218
Caries Res *6 issues/yr*	EU	Switzerland	R.P. Shellis University of Bristol Dental School Bristol, UK	1.310
J Dent *8 issues/yr* *(2002)* *6 issues/yr* *(1998)*	EU	Oxford, UK	Neil Meredith (2002) Leeds Dental Institute UK Nairn Wilson (1998) University Dental Hospital of Manchester, UK	1.257

C. Selection of years for analysis

Two different years were analyzed to confirm that any frequencies or trends were real and not affected by any political, economic, or scientific events in a single year that might have distorted the publication events in the journals. The years of 1998 and 2002 were selected because they were recent and, at the same time, represented complete collections of available issues for all the journals. Not successive years were selected to avoid the possibility that they would be similarly affected by short-term world events. All issues were published and fully referenced by *PubMed* (and *MEDLINE*). For both of the years being analyzed, the locations of the journals were the same. For both of the years being analyzed, the journal editors were the same (except for *J Dent*). Therefore, the journal classification by regions as being from NA or EU in the table above would not have changed.

D. Criteria for inclusion of articles for analysis of afa's

All original articles published by the eight dental journals, except case reports, reviews and non-research items, were included in the analysis. Final determination of inclusion was based on the description by the journal (or sectional classification within the issue) of the type of work. If that was not sufficiently discriminating, then the decision was made by reading the abstract. Otherwise, articles and abstracts were not read to determine their acceptability for inclusion.

E. Process of classifying regions for afa's and rfa's

For the purposes of this analysis, bias was assumed to be related to the geographic location of the journals, first authors of included articles (article-first-authors, afa's) and first authors of cited works (reference-first-authors, rfa's). Journals were selected to produce a balanced database of articles for classification.

The afa's within the journals, as well as the rfa's associated with each article, were classified by geographical location of their host institution and described as NA, EU, OC, or Other. The general bounds of these regions are shown in the figure below. A comprehensive list of the included countries within each region is shown in the next table below.

NA = Canada, United States, Mexico, or Caribbean.
EU = Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Spain, Sweden and United Kingdom
OC = Australia, Brunei Darussalam, Burma, Cambodia, China, Indonesia, Japan, Korea, Laos, Malaysia, New Zealand, Papua New Guinea, Philippines, Singapore, Chinese Taipei, Thailand, Viet Nam

Figure 3-1 A comprehensive list of the included countries within each region.

F. Information database methods

Information about the published articles, first authors, and citations could have been collected directly from individual articles in paper journals. However, that brute-force

approach would have been extremely time intensive and impractical. Therefore, information was obtained utilizing electronic resources. This process still required several hundred hours.

ISI Web of Science was used to retrieve information about each research article published in the eight dental journals during the years 1998 and 2002. Bibliographic data, institutional address of the first author, and the entire list of cited references for each of the research articles published in each journal during each year were exported to Excel spreadsheets. The cited reference lists exported from *ISI Web of Science* did not include institutional address information for the cited reference authors. Collecting the institutional addresses by following the link to the complete *ISI Web of Science* record for each cited reference would have been very time consuming. A special Access database was obtained from ISI and was used to identify many of the cited rfa's institutional regions. However, this special database only contained information about the cited references published in journals included in *ISI Web of Science*. *PubMed* was used to determine the first author's institutional regions for the cited references published in journals not covered by *ISI Web of Science*. The collected data was stored in Excel spreadsheets for tabulation, conversion to percentages, and initial descriptive statistical analyses.

G. Normalization of rfa's

One of the first challenges in pooling data among different articles is that different authors cite more references than others. If the analytical approach had been simply to sum all rfa's from each region for all afa's from a region, the analysis would be biased by those articles with more references. To compensate for this, the percentage of rfa's for NA, EU, and OC regions was determined for each article in each journal, and these percentages were then averaged for authors from each region (Table 3.2). Therefore, results were weighted by article rather than being weighted by reference-first-authors.

Table 3.2 Example of calculation for normalization of rfa's.

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
		%	no	%	no	%	no	%	no
Dr. A	EU (England)	**60**	6	**20**	2	**10**	1	**10**	1
Dr. B	EU (Netherlands)	**50**	10	**30**	6	**10**	2	**10**	2
Dr. C	EU (Germany)	**40**	8	**40**	8	**20**	4	**0**	0
↓	Σ percentage of rfa	**150/3**		**90/3**		**40/3**		**20/3**	
Normalization of rfa (EU)		**50**		**30**		**13.3**		**6.7**	

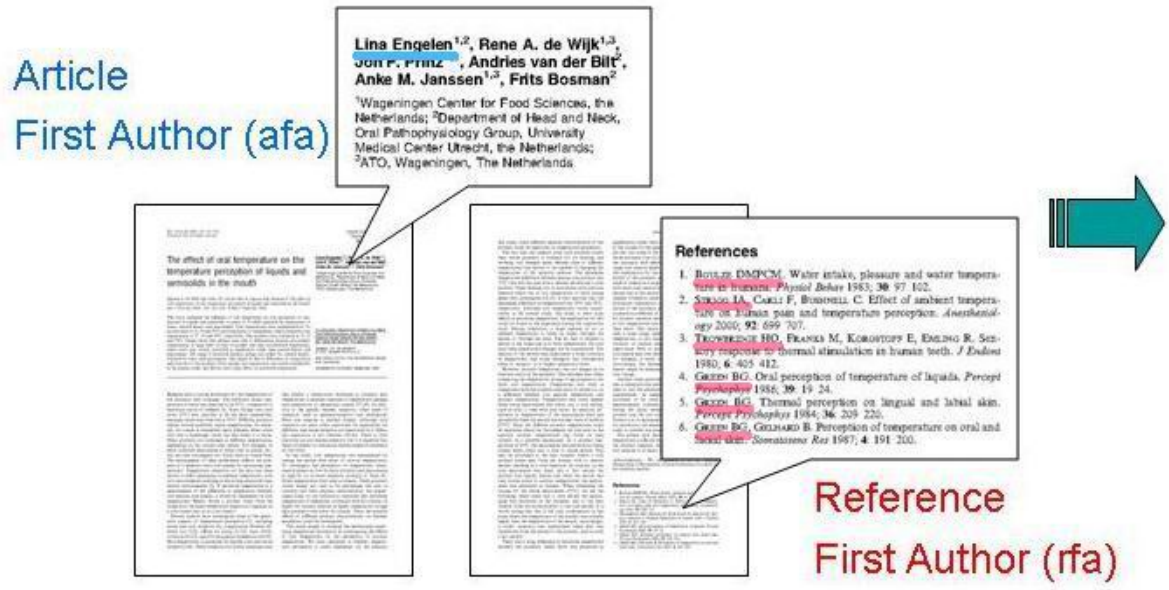
H. Criteria for inclusion of references for analysis of rfa's

All rfa's were included in the analysis if they could be identified using the electronic techniques just described. Non-English rfa's were rare and were not included in the analysis.

I. Data analysis

Tha afa's for all citations (8 journals x ~80 articles/year x 2 years) and rfa's of cited articles (~30/article) were classified as NA, EU, OC, and Other. For each article the cited references were expressed as percentages of rfa's from NA, EU, OC, and Other. Thus, each observation consisted of an afa continental designation, and four percentages representing the distribution of the continental designations of the rfa's, together with journal and journal continent designations and journal year. The entire process is illustrated in terms of an example which has already been calculated using one journal with just a few articles. This permitted evaluation of the appropriateness of the proposed methodologies. The results are shown below.

Figure 3-2 Information database methods



Articles			Number of References			
First authors			NA	EU	OC	Others
AU Engelen	netherland	EU	12	3	1	
AU Trulsson	sweden	EU	2	14	1	
AU John	germany	EU	15	12	2	
AU van der Mei	netherland	EU	3	12		
AU Matsuda	japan	OC	13	7	2	1
AU Beertsen	netherland	EU	8	5	2	
AU Akyuz	turkey	others	11	12	6	
AU Hannig	german	EU	6	2	9	1
AU Hofmann	german	EU	4	27	5	3
AU Hoek	netherland	EU	2	5		
AU Queiroz	brazil	others	12	8		3
AU Peroz	german	EU	8	7	6	
AU Papapanou	usa	NA	5	7	1	1

J. Statistical analysis

Data were evaluated by GLM procedures using SAS statistical software (Cary, NC) operations to examine effects of different publication years, main regional groups of first authors (NA or EU), groups of rfa's, and specific journals to look for key effects and interaction effects. No interaction effects were detected. Data for the two different years were compared by 1-way ANOVA separately for afa's and rfa's to determine if the same trend occurred within each year. When that was determined to show no difference, the data were pooled across both years. Two-way (afa's, rfa's) ANOVA was then used to examine journal effects for the pooled information ($p \leq 0.05$). Stages of this analysis are summarized in Appendix B. Biases were interpreted as any statistically significant differences.

RESULTS

Descriptive results are presented for EU journals (section A), and NA journals (section B). The pooled data in EU journals and NA journals, together with the result of the statistical analysis, are then presented (section C). Subsequent sections present results describing the number of afa's (section D), percentage of unidentified rfa's (section E), and self-citation analysis (section F). Results are reported in Tables 4.1 to 4.20 and Figures 4.1 to 4.20. Actual numerical counts of afa's and rfa's for all journals and years are reported in the Appendix in Tables A1 to A16.

A. EU journals

Results for EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*) in years 1998 and 2002 were almost identical. EU and NA afa's in all European journals cited rfa's from their own continent of origin more frequently except for NA afa in *Caries Res* in both years and in *J Dent* in 2002 where NA afa cited similar percents of rfa from EU and NA. OC and Other afa in EU journals tended to cite rfa from NA and EU more frequently than they cited rfa from their own continent of origin.

Table 4.1 *Caries Research*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, Caries Research**							
	Year 1998 (afa=53; rfa=1128)				**Year 2002** (afa=59; rfa=1257)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	68±22	26±19	5±8	1±3	72±18	22±14	3±6	3±5
NA(afa)	4-3±20	48±19	8±10	1±2	48±21	47±20	4±4	2±3
OC(afa)	43±18	39±22	17±17	1±1	36±26	47±20	15±9	2±3
Other(afa)	49±45	30±29	16±16	5±1	56±20	24±12	5±7	15±12

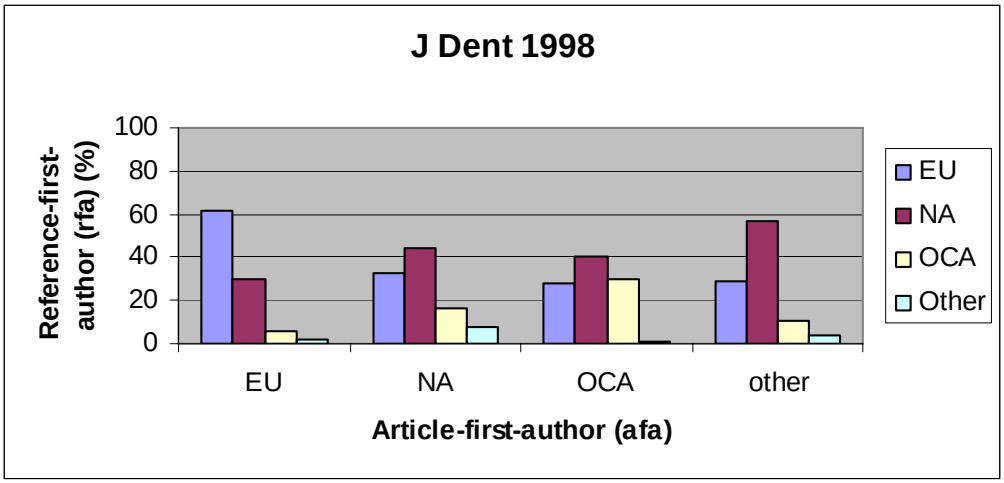


Figure 4.1 *Caries Research*, afa and rfa, 1998

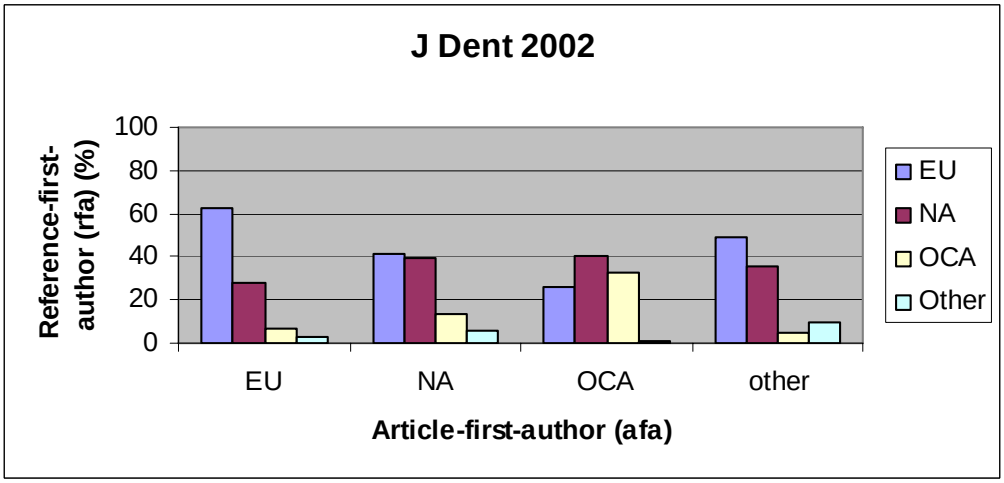


Figure 4.2 *Caries Research*, afa and rfa, 1998

Table 4.2 *Journal of Dentistry*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, Journal of Dentistry**							
	Year 1998 (afa=62; rfa=1172)				**Year 2002** (afa=42; rfa=976)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	62±21	30±18	6±11	2±3	62±21	28±19	7±7	3±4
NA(afa)	33±18	44±11	16±9	7±14	42±15	39±14	14±13	6±6
OC(afa)	29±16	41±17	30±21	1±4	26±19	40±16	33±21	1±3
Other(afa)	29±37	57±31	11±4	4±2	50±14	36±15	5±2	10±1

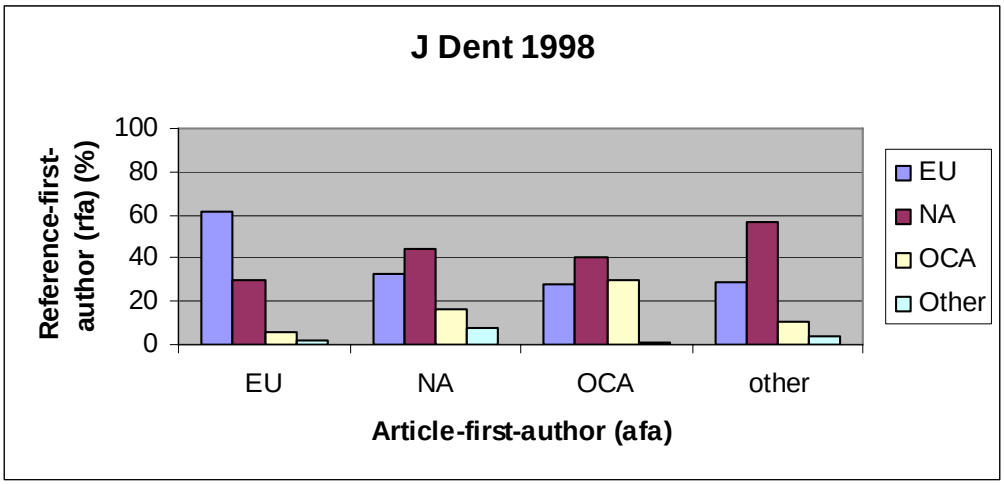


Figure 4.3 *Journal of Dentistry*, afa and rfa, 1998

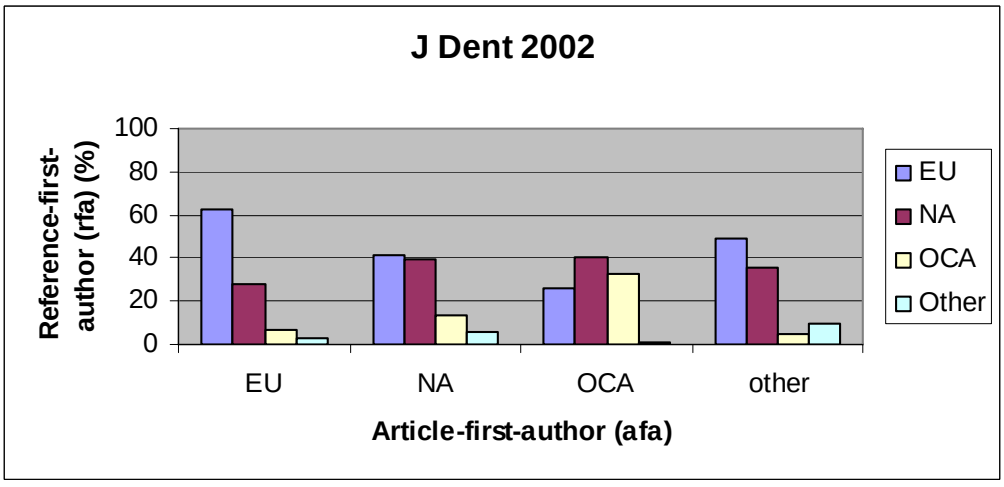


Figure 4.4 *Journal of Dentistry*, afa and rfa, 2002

Table 4.3 *Dental Materials*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, Dental materials**							
	Year 1998 (afa=55; rfa=1059)				**Year 2002** (afa=72; rfa=1599)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	50±17	38±18	10±8	2±4	46±17	40±16	11±8	3±4
NA(afa)	24±22	63±25	12±13	1±2	32±14	61±14	7±8	0
OC(afa)	36±17	36±18	26±18	3±6	29±17	39±17	30±18	3±4
Other(afa)	33±5	50±13	14±2	4±5	24±0	51±0	17±0	7±0

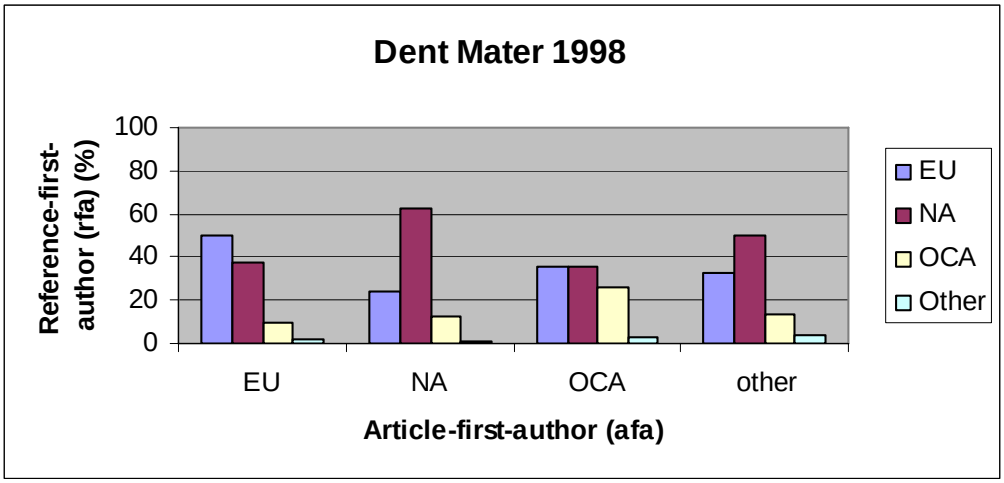


Figure 4.5 *Dental Materials*, afa and rfa, 1998

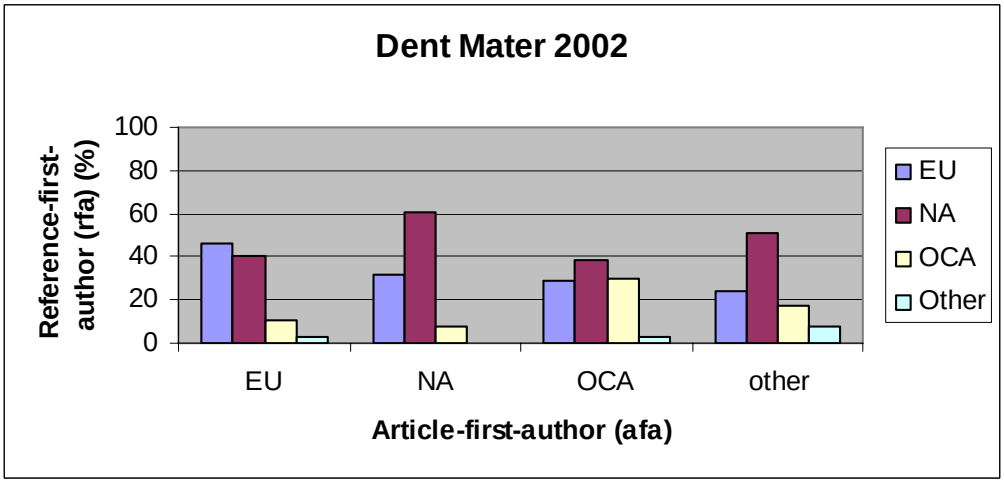


Figure 4.6 *Dental Materials*, afa and rfa, 2002

Table 4.4 *European Journal of Oral Sciences*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, European Journal of Oral Sciences**							
	Year 1998 (afa=105; rfa=2646)				**Year 2002** (afa=71; rfa=1766)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	55±18	38±16	6±7	1±2	56±19	34±17	9±11	1±2
NA(afa)	23±17	69±17	7±7	1±2	36±34	49±26	13±11	3±3
OC(afa)	31±24	29±18	36±19	5±13	33±14	43±18	23±9	1±2
Other(afa)	27±16	46±13	6±4	20±8	33±9	53±12	7±8	7±8

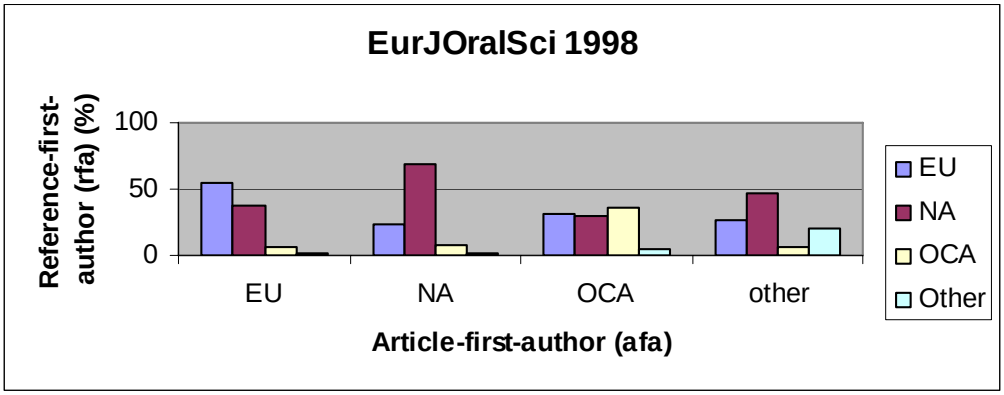


Figure 4.7 *European Journal of Oral Sciences*, afa and rfa, 1998

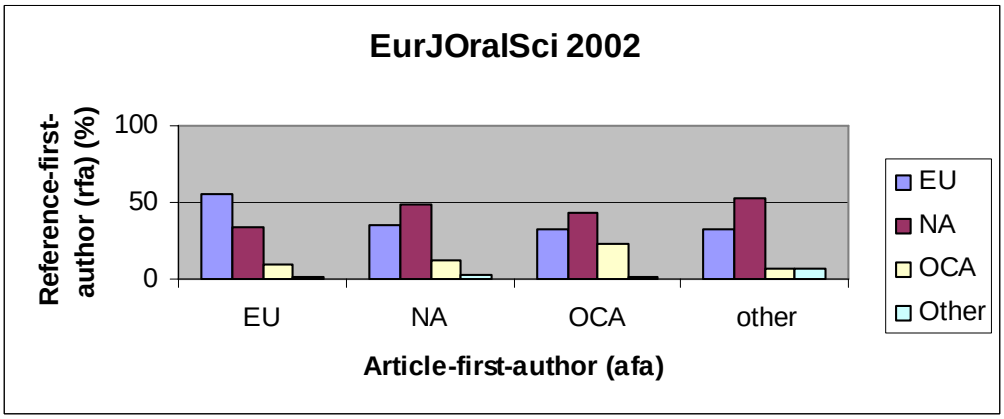


Figure 4.8 *European Journal of Oral Sciences*, afa and rfa, 1998

B. NA journals

Results for NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) in years 1998 and 2002 were almost identical. EU and NA afa in all NA journals cited reference-first-authors (rfa) from their own continent of origin more frequently except for EU afa in *Oper Dent* in 1998 and *in J Prosthet Dent* in 2002, where EU afa's cited similar percents of rfa from EU and NA. OC and Other afa's in all NA journals tended to cite rfa's from NA more frequently.

Table 4.5 *American Journal of Dentistry*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, American Journal of Dentistry**							
	Year 1998 (afa=56; rfa=1086)				**Year 2002** (afa=68; rfa=1527)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	59±27	33±21	7±8	1±2	58±20	34±15	6±8	2±3
NA(afa)	29±22	60±21	9±11	2±4	34±18	58±20	6±9	3±4
OC(afa)	21±16	52±17	23±14	4±6	31±15	34±12	33±12	3±3
Other(afa)	27±16	58±17	7±9	8±8	25±16	53±17	12±13	11±7

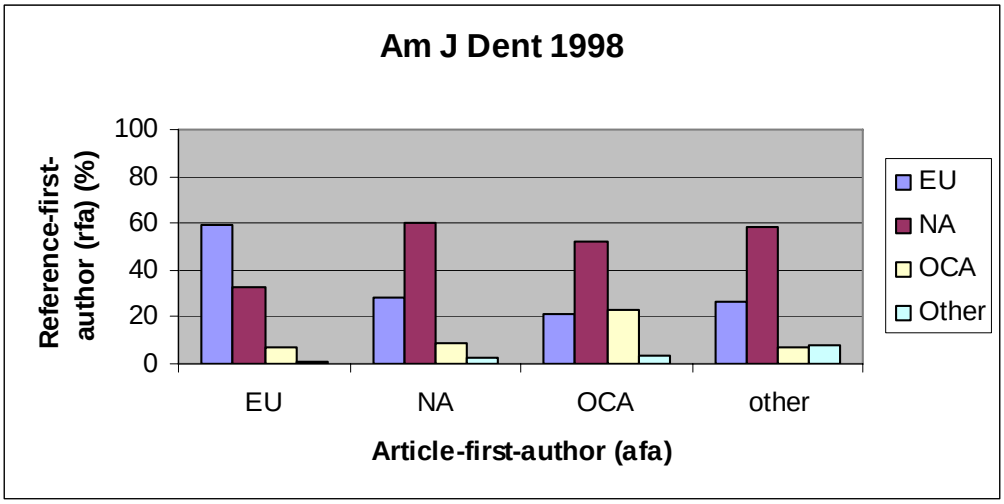


Figure 4.9 *American Journal of Dentistry*, afa and rfa, 1998

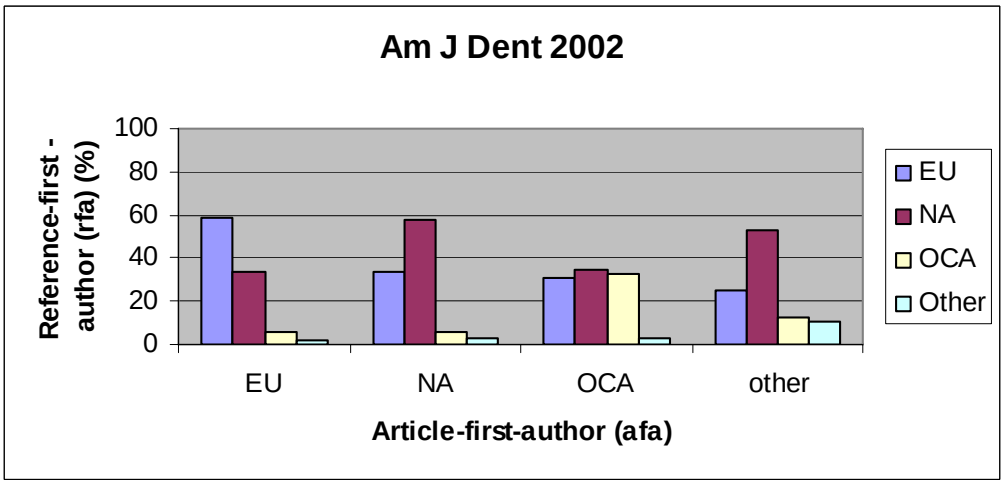


Figure 4.10 *American Journal of Dentistry*, afa and rfa, 2002

Table 4.6 *Operative Dentistry*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, Operative Dentistry**							
	Year 1998 (afa=41; rfa=625)				**Year 2002** (afa=84; rfa=1947)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	40±18	47±16	12±5	1±2	53±18	37±18	7±7	3±4
NA(afa)	26±20	60±21	12±8	2±5	31±19	57±18	8±8	5±7
OC(afa)	28±22	51±22	19±12	2±5	27±14	41±16	28±17	4±5
Other(afa)	33±0	47±0	14±0	7±0	31±15	46±17	13±12	9±5

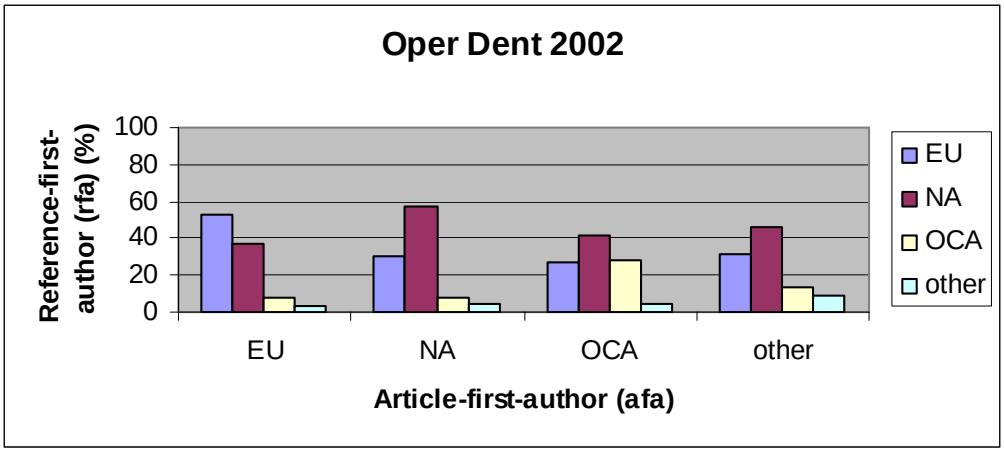


Figure 4.11 *Operative Dentistry*, afa and rfa, 1998

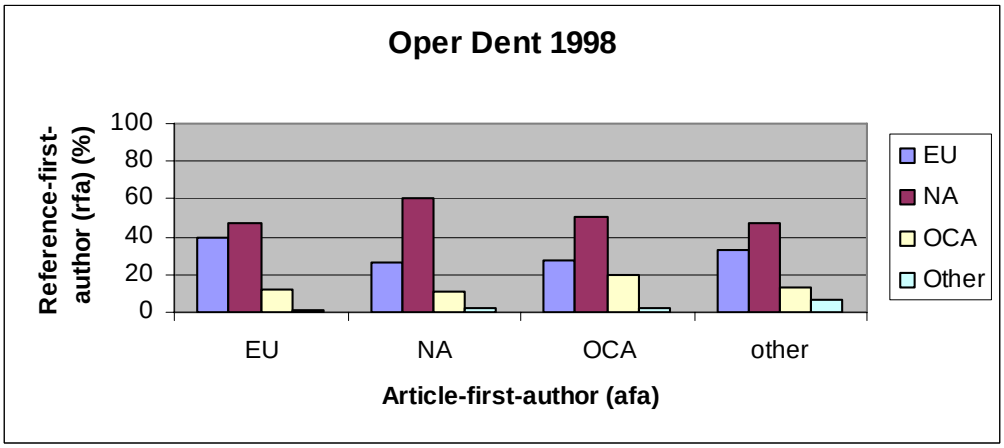


Figure 4.12 *Operative Dentistry*, afa and rfa, 2002

Table 4.7 *Journal of Prosthetic Dentistry*, afa and rfa, 1998 and 2002

Article-First-Authors	**% Reference-First-Authors, Journal of Prosthetic Dentistry**							
	Year 1998 (afa=119; rfa=2146)				**Year 2002** (afa=109; rfa=2161)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	51±21	39±20	7±8	2±3	41±20	50±19	5±8	4±5
NA(afa)	27±18	66±18	5±7	3±5	29±14	61±17	7±8	4±5
OC(afa)	24±11	53±18	21±16	2±4	33±22	43±18	23±19	2±3
Other(afa)	25±21	54±17	12±8	9±8	32±13	50±16	11±11	6±6

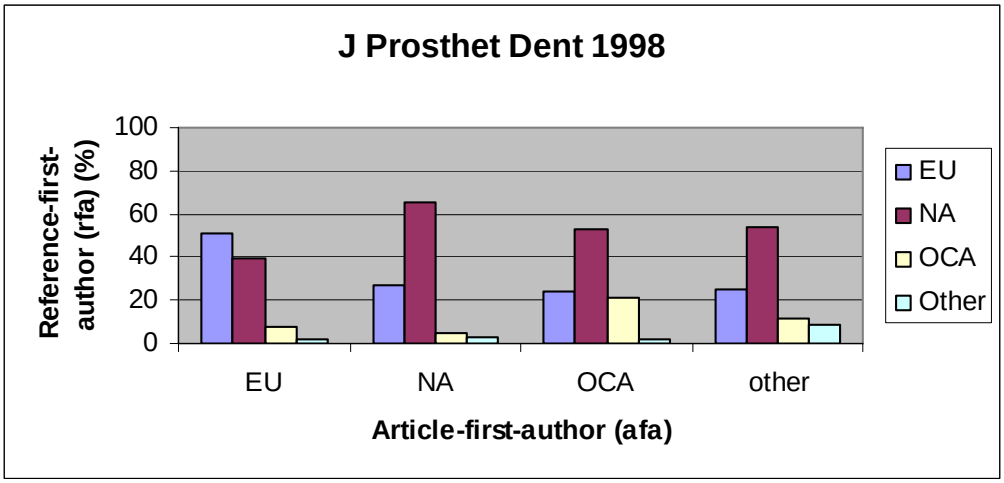


Figure 4.13 *Journal of Prosthetic Dentistry*, afa and rfa, 1998

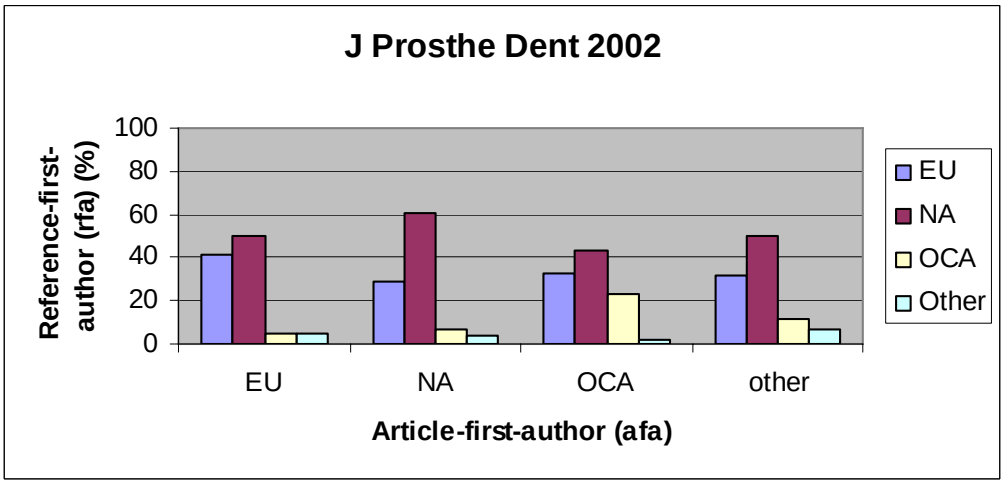


Figure 4.14 *Journal of Prosthetic Dentistry*, afa and rfa, 2002

Table 4.8 *Journal of Dental Research*, afa and rfa, 1998 and 2002

Article-First-Authors	% Reference-First-Authors, Journal of Dental Research							
	Year 1998 (afa=106; rfa=2910)				**Year 2002** (afa=141; rfa=2765)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	53±18	39±19	7±6	2±3	51±18	39±16	8±8	1±2
NA(afa)	24±17	68±18	6±8	1±4	28±17	63±18	8±9	2±4
OC(afa)	27±11	45±20	27±19	1±3	25±13	43±17	31±17	1±4
Other(afa)	0	0	0	0	27±19	49±22	13±8	11±12

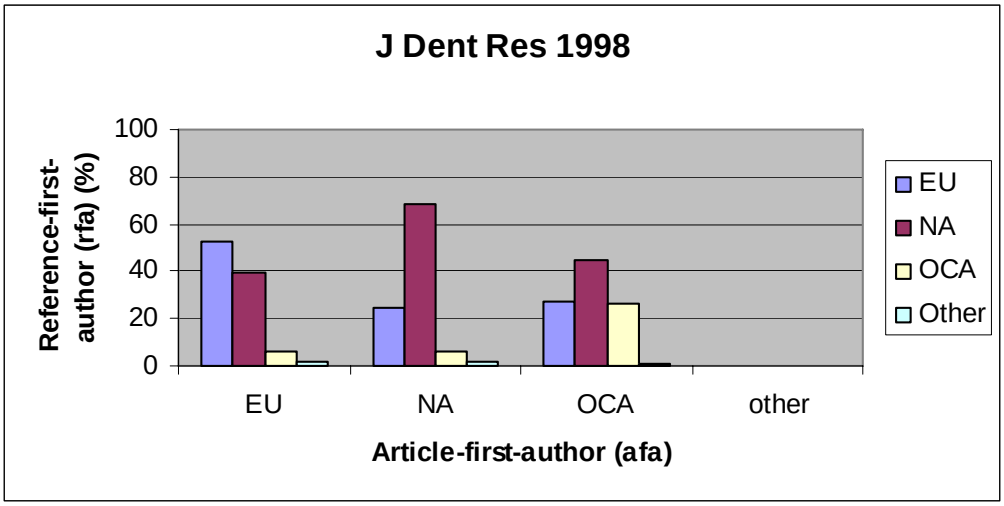


Figure 4.15 *Journal of Dental Research*, afa and rfa, 1998

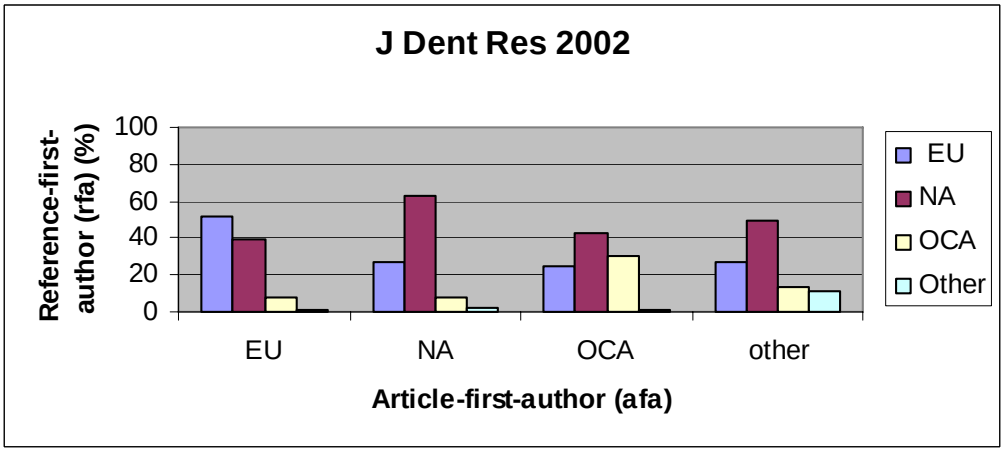


Figure 4.16 *Journal of Dental Research*, afa and rfa, 2002

C. Pooled data in EU and NA journals

The statistical analysis included the entire pools of 1251 articles and 35270 references from all 1998 and 2002 issues of four NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) versus four EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*). The total number of articles in NA journals in 1998 and 2002 were 323 and 407, respectively. The total numbers of identified references were 6767 and 8400, respectively. The total number of articles in EU journals in 1998 and 2002 were 275 and 246, respectively. The total numbers of identified references were 6005 and 5598, respectively. The complete ANOVA table appears in Appendix X. The results of the analysis are summarized in the following subsections.

C1. Citation of EU rfa's

There was a significance difference ($p<0.0001$) among NA, EU, OC and other afa's in the percent of EU rfa they cited. Post-hoc testing showed EU afa citing larger percents of EU rfa's (56%) than NA (31%), OC (30%) or other (33%) afa's. Overall, the mean percent of EU rfa's in EU journals (41%) was significantly greater ($p<0.0001$) than in NA journals (34%).

There was no significant difference in these patterns between 1998 and 2002 ($p=0.12$). This can be seen in Figs. 4-17 and 4-18.

There was no significant ($p=0.90$) difference in the mean percent of EU rfa's (33-37%) among the NA journals. However, there was a significant difference in the mean percent of EU rfa's among the EU journals ($p<0.0001$) except for *Dent Mater* (33%) and *Eur J Oral Sci* (37%) ($p=0.11$).

C2. Citation of NA rfa's

There was a significant difference ($p<0.0001$) among NA, EU, OC, and Other afa's in the percent of NA rfa they cite. Post-hoc testing showed each group of afa's was significantly different than all other groups, ($p<0.003$), with NA afa citing the largest percent of NA rfa's (59%) followed by Other (47%), OC (41%) and EU(35%) afa's.

Overall, the mean percent of NA rfa's in NA journals (49%) was significantly greater ($p<0.0001$) than in EU journals (42%).

There was a significant difference in these patterns by year ($p<0.004$). This can be seen in Figs. 4-19 and 4-20. This was the only case of differences among journals by year.

There was one significant difference in the mean percent of NA rfa's among NA journals between *Am J Dent* (47%) vs. *J Prosthet Dent* (51%) ($p=0.02$). The percent of NA rfa in EU journals was significantly different among all such journals ($p<0.002$) except between *Dent Mater* (47%) and *Eur J Oral Sci* (47%) ($p=0.67$) and between *Caries Res* and *J Dent* ($p=0.06$).

C3. Citation of OC rfa's

There was a significant difference ($p<0.0001$) among NA, EU, OC, and Other afa's in the percent of OC rfa they cited. Post-hoc testing showed OC afa and Other afa citing larger percents of OC rfa's (27% and 11% respectively) than EU (7%) and NA (8%) afa's. The OC rfa percentage for OC afa's and Other afa's were not significantly different ($p=0.42$).

Overall, there was no significant different between NA and EU journals in the mean percent of OC rfa citations ($p=0.65$). There was no difference in these patterns between 1998 and 2002 ($p=0.20$). This can be seen in Figs. 4-17 to 4-20.

There were no significant differences in the mean percentage of OC rfa's among NA journals (12-14%) ($p=0.1$). Among EU journals, articles in *Caries Res* (9)% cited OA rfa's significantly less often then all other EU journals ($p<0.002$).

Table 4.9 EU and NA journals, afa and rfa, 1998

Article-First-Authors	% Reference-First-Authors, 1998							
	Pooled EU Journals (afa=275; rfa=6005)				Pooled NA Journals (afa=323; rfa=6767)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	59±29	33±18	6±8	2±3	52±21	39±19	7±7	2±3
NA(afa)	27±20	62±21	10±11	2±4	26±19	65±19	7±8	2±5
OC(afa)	33±19	36±18	29±19	2±7	26±15	49±20	23±16	2±4
Other(afa)	33±23	46±18	10±7	11±10	26±18	56±17	10±8	9±8

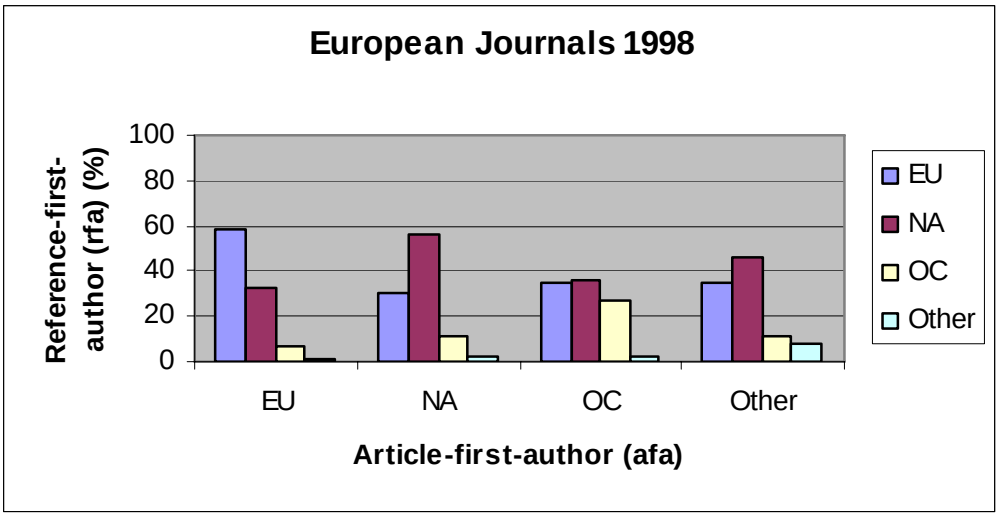


Figure 4.17 Pooled EU journals, afa and rfa, 1998

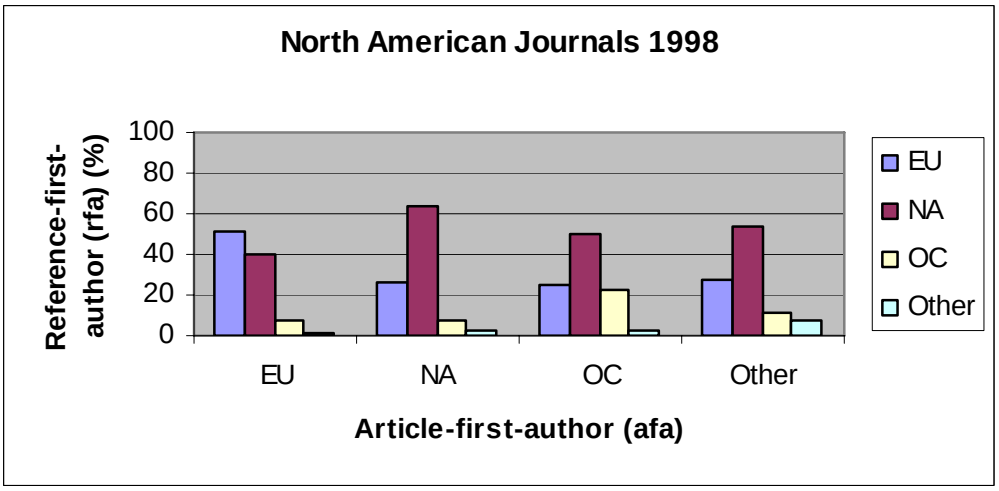


Figure 4.18 Pooled NA journals, afa and rfa, 1998

Table 4.10 EU and NA journals, afa and rfa, 2002

Article-First-Authors	% Reference-First-Authors, 2002							
	Pooled EU Journals (afa=246; rfa=5598)				Pooled NA Journals (afa=407; rfa=8400)			
	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)	EU(rfa)	NA(rfa)	OC(rfa)	Other(rfa)
EU(afa)	59±21	31±18	8±9	2±4	50±19	40±18	7±8	2±4
NA(afa)	39±20	51±19	9±10	3±4	29±17	60±18	7±9	3±5
OC(afa)	31±18	41±17	27±17	2±3	27±15	41±16	29±17	3±5
Other(afa)	45±19	37±18	7±7	11±10	30±15	49±17	13±11	9±7

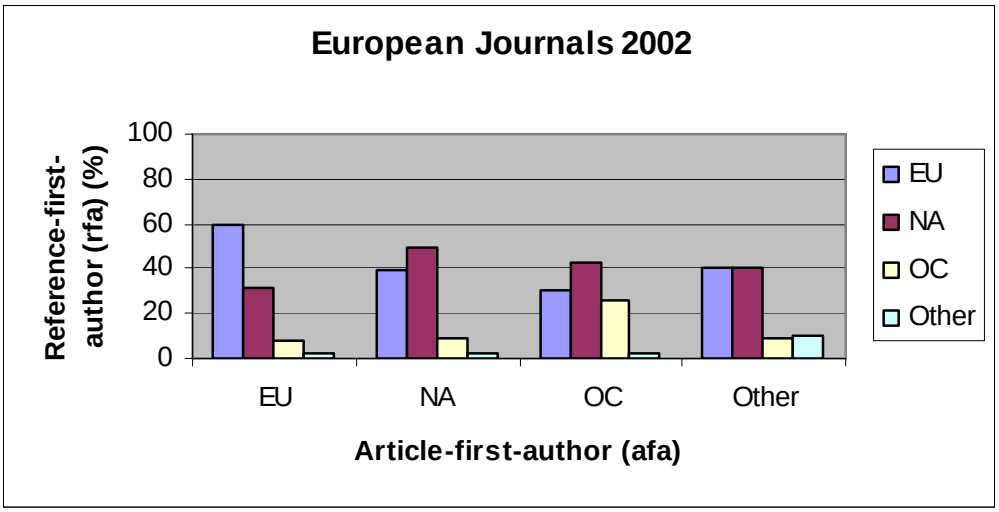


Figure 4.19 Pooled EU journals, afa and rfa, 2002

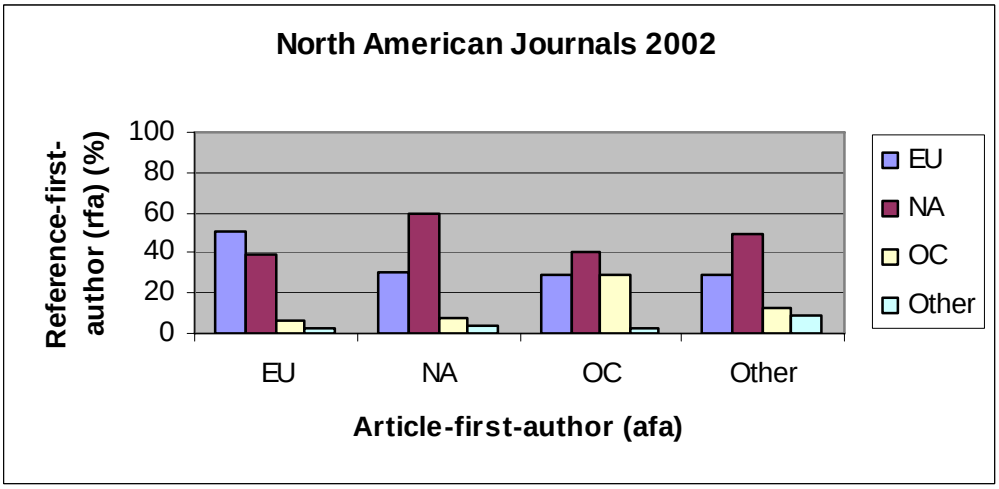


Figure 4.20 Pooled NA journals, afa and rfa, 2002

D. Distribution of afa's in each journal

The journal articles in EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*) for both 1998 and 2002 showed that the majority of afa's were from EU (more than 60%) except for *Dent Mater* which showed no significant difference of afa's from EU, NA and OC continents (see Tables 4.11, 4.12, 4.13 and 4.14). The journal articles in NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) for both in 1998 and 2002 showed no significant difference of afa's from EU, NA and OC (see Tables 4.15, 4.16, 4.17 and 4.18). There was no afa from the Other regions in the *J Dent Res* in year 1998.

Table 4.11 *Caries Research* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	37	70	36	61
NA (afa)	9	17	7	12
OC (afa)	5	9	7	12
Other (afa)	2	4	9	15
Total	53	100	59	100

Table 4.12 *Journal of Dentistry* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	41	66	27	64
NA (afa)	4	6.5	6	14
OC (afa)	15	24	7	17
Other (afa)	2	3.5	2	5
Total	62	100	42	100

Table 4.13 *Dental Materials* afa's, 1998 and 2002

Article-first-author	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	18	33	31	42
NA (afa)	23	42	15	20
OC (afa)	12	22	27	37
Other (afa)	2	3	1	1
Total	55	100	74	100

Table 4.14 *European Journal of Oral Sciences* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	64	61	49	69
NA (afa)	25	24	5	7
OC (afa)	11	10.5	10	14
Other (afa)	5	4.5	7	10
Total	105	100	71	100

Table 4.15 *American Journal of Dentistry* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	15	26	19	27
NA (afa)	22	40	30	43
OC (afa)	8	14	13	19
Other (afa)	11	20	8	11
Total	56	100	70	100

Table 4.16 *Operative Dentistry* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	7	17	15	17
NA (afa)	17	40	24	28
OC (afa)	16	38	31	35
Other (afa)	2	5	17	20
Total	42	100	87	100

Table 4.17 *Journal of Prosthetic Dentistry* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	37	31	23	21
NA (afa)	58	49	53	49
OC (afa)	12	10	15	14
Other (afa)	12	10	18	16
Total	119	100	109	100

Table 4.18 *Journal of Dental Research* afa's, 1998 and 2002

Article-first-authors	Y 1998		Y 2002	
	no.	%	no.	%
EU (afa)	44	41.5	43	30.5
NA (afa)	39	37	49	34.5
OC (afa)	23	21.5	42	30
Other (afa)	0	0	7	5
Total	106	100	141	100

E. Percentage of unidentified rfa's

The percentage of unidentified rfa's was examined for the entire pool of 1251 articles and 35270 references from all of the 1998 and 2002 issues of four NA journals and four EU journals. There were 8500 unidentified references that represented 24% of all of the references examined.

Table 4.19 Percentage of unidentified rfa's

Continental Origin of journal	Journal	Year		Average per year	Mean±sd per continent	Mean±sd overall
		1998	2002			
Europe	Caries Res	27.3	25.2	26.4	23.9 ± x2.9	24.0 ± 2.9
	Dent Mater	29	21.7	25.4		
	Eur J Oral Sci	19	21.2	20.1		
	J Dent	26	21	23.5		
North America	Am J Dent	28.8	22.5	25.6	24.2 ± 3.5	
	J Dent Res	21	17.7	19.3		
	J Prosthet Dent	31.2	23.5	27.4		
	Oper Dent	29.5	19.7	24.6		

F. Self-citation

It was not possible to evaluate the self-citation rate in every journal due to limited resources and times. However, self-citation was evaluated as a pilot study that focused on *J Dent Res* for 1998 and 2002. This journal has the highest impact factor of all eight journals studied (see Table 3.1). The self-citation rate was defined as the percentage of all references (identified and unidentified) where the rfa's was the same as afa's. Those results are shown below.

Table 4.20 Self-citation rate (%) in *J Dent Res*

Article-first-authors	Y 1998	Y 2002
EU (afa)	6.7	3.5
NA (afa)	5.1	6.4
OC (afa)	4.9	4.2
Other (afa)	0	2.8
Overall average	4.2 ± 2.9	4.2 ± 1.6

DISCUSSION

The following section is divided into five discussions that include re-examination of the experimental design, interpretation of the results, comparison of the results to dental literature, evaluation of the results, and suggestions for the future research.

A. Critique of the experimental design

A1. Critique of the extent of the analysis

All 1998 and 2002 issues of four NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) versus four EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*), identified primarily with operative dentistry and dental materials topics, were examined in this study because of their relative prominence in publishing information about operative dentistry and dental materials. These included all of the high-impact dental journals related with operative dentistry and dental materials one would expect to see. To avoid bias in overall results, it was important that these eight journals were approximately equal in quality. In fact, all of them have been rated with a SIF and their values were all above 0.500 for this analysis (see Table 3.1).

NA journals and EU journals were evaluated in this study because, at the present time, the vast majority of dental journals publishing operative dentistry and dental materials articles are located in either the US or Western Europe. There are a number of journals published in other geographic regions besides NA and Western Europe. However, journals located from the other geographic regions were not included because there was no simple method to evaluate ones published predominantly in non-English languages.

There is recent evidence that the geographic regions selected accurately represented the distribution and dominance of research documents produced for the dental research field (Gil-Montoya *et al.*, 2006). The distribution of documents across continents for 1999-2003 was EU (39.7%), NA (33.0%), Asia/ Australia/Oceania (22.6%), and all others (4.7%). This agrees very well with the distribution of articles discovered in the present study.

Journals in year 1998 and 2002 were examined in the present study in order to compare the differences in citation frequencies between two publication years. This helped to confirm that any frequencies or trends were not affected by political, economic, or scientific events in a single year that might have distorted the publication events in the journals. These years were not successive and thus were assumed not to have been similarly affected by short-term world events. These years represented the current literature and the publication records could be reasonably expected to be complete. All issues were published and fully referenced by *PubMed* (and MEDLINE) and ISI *Web of Science*. For both of these years the locations of the journals and their editors were the same except for *J Dent* (see Table 3.1).

In this study, the total numbers of articles in NA journals in 1998 and 2002 were 323 and 407, and for total number of references were 6767 and 8400 respectively. The total number of articles in EU journals in 1998 and 2002 were 275 and 246, and the total numbers of references were 6005 and 5598 respectively (see Table 4.1 and 4.2). Thus, this study included 1251 articles and 26770 references. These samples were large enough to permit evaluation of the appropriateness of the research question.

A2. Critique of approach to determining the author region

For the purposes of this study, bias was assumed to be related to the geographic location of the journals, editors, authors, and cited works. Journals and editors were selected to produce a balanced database of articles for classification. Only the first authors of qualifying articles within the journals, as well as the first authors of the references associated with each article, were classified in terms of the geographical location of the host institution,

and these were described as those based in NA, EU, OC, or Other. Authors were determined only by the location of host institution, so that the original home location of foreign authors would not obscure the results. Location was determined only for the afa's and rfa's instead of determining the team authors' locations. There might have been varying locations for the team authors. It was assumed that the first author probably was the most influential in the production of the article. However, these findings still should be interpreted with caution. First, the criteria used to identify authorship may not have always reflected accurately the host institution which was most significant in the production of the paper. The location of authorship was delivered from the host institution of the first author, who may have been a relatively junior researcher, while the senior author will often be the last name or will be the listed as the corresponding author. Since "seniority" is likely to be associated with invited authorship, it may have been additionally informative to have attempted to note the host institution of the senior author, but this was not done due to the difficulties of identifying reliably the senior author of papers. Second, looking only at first authors may introduce bias if more junior researchers are more likely to work overseas or outside their normal institution. Finally, the home institution was defined as the institution cited in the article. In some instances the author could have been on sabbatical. Thus, the home institution cited would have been incorrectly cited for that author. However, it was not possible to detect all instances of temporary reassignment.

A3. Other sources of bias

Another suspected bias is preference toward regional authors. This may occur at several levels. At the first level, the author of an article manuscript submitted for publication may include predominantly references of authors from the same geographic region as the one in which he or she lives. While these regional references could reflect the variation in thinking or philosophy of the world as a whole, these may often reflect a point of view rather than accurately reflect the current thinking within the field. This is the bias that the present

study tried to identify. Other explanations for this bias may also operate, and one may not be able to tease them apart.

A second level of bias may arise when a journal editor chooses reviewers and/or selects article authors who are strongly aligned with the local region where the editor's office exists. Moreover, other sources of bias might occur by reviewer bias. One criticism for peer review is that reviewers tend to respond more favorably to published papers from their own countries, and that all reviewers, especially those from USA, tend to respond more favorably to papers from the USA (Brice and Bligh, 2004). All of these sources of bias could impact the quality and quantity of publications of a journal.

Further still, there may be access bias due to the limits of library resources for detecting the literature. While there is not relatively easy electronic access to the literature, this is a very recent development, and not universal nor extensive before the year 2000. Thus, authors may have been biased in their selection of the literature based simply on the local access to certain journals.

There may be a regional bias for submitting authors to choose a journal which is local and potentially more visible to one's peers. In this particular case, the author bias is toward expanding the readership of the article. For related reasons, the authors may tend to select references from that journal or references authored by individuals who publish in more frequently in that journal.

There may also be a language bias. If a large part of the literature of interest is not in English and the author can not read the non-English language of publication, then those citations would not be included. In the current study, non-English references were not included in the analysis for this very reason.

Finally, there is bias that arises from the incorrect or inappropriate referencing by authors. Authors often choose references of convenience and not the best ones. Authors often choose to include many more references than are actually needed for a balanced and concise presentation of the introduction for a scientific article. Authors occasionally include

references to discussion comments rather than actual results and misrepresent them. These all contribute to an unbalanced set of references.

A4. Effects of unidentified rfa's

Some references could not be assigned a location in this study because geographic location of the host institution for these authors could not be identified. Electronic indices were used exclusively (*ISI Web of Science* and *MEDLINE via Pubmed)*, and these available resources could not provide the information about geographic location of the host institution from the authors the year earlier than 1987. Although this information might have been collected directly by examining individual paper journals, time constraints precluded such an effort.

While not all of the entire pool of rfa's could be identified for geographic location of host institution (total references for eight journals for 1998 and 2002 = 35,270), most of the pool was identified (total identified references = 26,770 = 75.9%). The total number of unidentified references from all eight journals in both years was 8500. This study also revealed that all 1998 and 2002 issues of North America journals and EU journals having similar percentages of unidentified references about 24.3% and 23.9% respectively (see Table 4.19). The total of identified afa's was well within the bounds of accepted sampling techniques.

B. Interpretation of the results

The discussion which follows parallels the presentation section of the results in the previous chapter.

B1. EU journal analysis

Results for EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*) in both years (1998 and 2002) were almost identical. Both years showed no significant difference among journals in potential geographic trends in citation bias of EU, NA and OC afa's ($p=0.1224$). However, EU and NA afa's in all EU journals cited rfa's from their own continent of origin more frequently ($p<0.0001$). The exceptions were for NA afa's in *Caries*

Res for both years and *J Dent* in 2002. Both demonstrated a parallel number of rfa's from EU and NA.

In EU journals, the afa from OC and Other regions tended to cite rfa from NA and EU more frequently than they cited rfa from their own continent of origin. This was an interesting and unpredicted trend. The EU influence actually seemed to be stronger.

B2. NA journal analysis

Results for NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) in both years (1998 and 2002) were almost identical. Both years showed no significant difference ($p=0.1224$) in potential geographic trends in citation bias of EU, NA and OC afa's. EU and NA afa's in all NA journals cited rfa's from their own continent of origin more frequently ($p<0.0001$). The only exceptions were EU afa in *Oper Dent* in 1998 and *J Prosthet Dent* in 2002. They cited parallel amount of rfa's from EU and NA.

In NA journals, the afa from OC and Other tended to cite rfa from NA more frequently. This was expected.

B3. Pooled EU and NA data analysis

Results for pooled data in EU journals and NA journals in 1998 and 2002 were almost identical. Results from both years showed that EU and NA authors (both for afa and rfa) clearly dominated. NA and EU afa's cited rfa's from their own continent-of-origin more frequently (see Tables 4.9 and 4.10). This was exactly what was anticipated and postulated. Pooled journals for NA versus EU showed geographic trends toward bias.

It was not possible to know if this trend was driven by true differences in the distribution of researchers at this time or was due to author citation preferences. However, this apparent misrepresentation of references and geographical bias certainly would have tended to reinforce the bias and affect reader impressions of the pertinent literature, distorting key citation indexes such as scientific impact factor. Furthermore, future authors will look at the references used by others and might tend to use those same ones more frequently themselves.

B4. Afa analysis

Only the afa's of qualifying articles within the journals, as well as the rfa's of the references associated with each article, were classified in terms of the geographical location of the host institution. It was assumed that the first author was the most influential in the production of the article. It was also assumed that classification of afa's should be done by continental region using the scheme of NA, EU, OC, or Other. While that classification produced significant differences, it is possible that there may be some other underlying differences within the regions that might have afforded a better or more revealing classification scheme.

B5. Unidentified reference analysis

While the number of unidentified references was relatively large (24%), there was no practical way of tracking the details necessary to make the appropriate afa and rfa assignments for the current study. Despite the relatively large number involved, one might still argue that this was within the bounds of acceptability. The lower limit for acceptability for survey data using questionnaires is 70% (Locker, 2000). So using that guideline, the results collected would be considered acceptable.

B6. Self-citation analysis

The more a journal cites itself, the more citations it receives, and the higher its impact factor becomes. Evidence that this is a strong trend is inconclusive (Brice LJ and Bligh JG, 2004). From the current analysis, it was not possible to show that self-citation rates had any specific effect on journal impact factors, although some effect would be expected. A recent report by *ISI* (Gloninger, 2004) indicated that self-citation was much higher in fields that were newer or narrower in which there were very few actual references. For journals which are multi-disciplinary there tended to be a much lower self-citation rate. In a report from *ISI*, Pringle (2004) stated that the average self-citation rate across all journals with scientific impact factors was in the range of 10-15%. There also seemed to be a strong association of increasing self-citation rate with lower impact factors. The self-citation rate of 4.2% for

Journal of Dental Research that was measured in the current study might actually be slightly lower than projected from the *ISI* reports.

Due to time limitations for the present analysis, the self citation process was evaluated only as a pilot study involving the *J Dent Res* for 1998 and 2002 (see Table 4.20). While the impact factor for *J Dent Res* had declined noticeably from 4.060 in 1998 to 2.956 in 2002, its self-citation rate remained constant at 4.2%.

B7. Effect of continental bias on impact factors of other journals

It is in the best interests of all authors to be thorough in their search for relevant papers to minimize any bias in their citation habits. It seems clear that biases in citation selection can lead to misinterpretations of the scientific impact factor. Thus, it is also in the interest of journal editors and their reviewing panels to be aware of this problem in submitted papers. If they wish the impact factor to be a valid indicator of a journal's value, they too must strive to detect and avoid any effect which compromises the validity of the impact factor. It is important for each author to be aware of parochialism or national bias. There is no excuse for failing to conduct a thorough literature search and assessing papers for their value and not their origin.

If there is bias in the citation of references, then the articles associated with the bias will either increase or decrease the impact factor for those particular journals in which the references article appeared. For example, if *Operative Dentistry* frequently reported references to four articles in the *Journal of Adhesive Dentistry*, then the *Journal of Adhesive Dentistry* would increase in its SIF.

B8. Solutions for managing bias

Ideally bias should be detected during the review process and corrected. There are several roles here which include editors, reviewers, and authors.

Editors should be alert to the possibility of strong bias in certain subject areas. They should also diligently search for expert reviewers and not just select the most responsive reviewers.

Reviewers should keenly assess the references being included for appropriateness. However, reviewers do not always view their task with the greatest dedication. There is an assumption that reviewers are always expert and know the literature so that they can quickly assess the appropriateness of the references. Because of the limited number of available reviewers, those reviewers who are volunteering often are good only at reviewing the technical construction of an article. They may not necessarily be very familiar with the literature associated with the article's focus. This leads to poor assessment of the references. Those reviewers feel harried to complete the review and simply assume that the references are correct and appropriate.

C. Comparison of the results to the literature

As noted in the Literature Review, there are several sources of potential bias in publications that include (1) publication bias, (2) language bias, (3) access bias, (4) self-citation, and (5) prestige bias, (6) editor/reviewer bias, and (7) regional bias. Only two of those (self-citation bias and regional bias) were considered in the present research analysis.

C1. Regional bias compared to previous literature

The current study revealed that pooled journals for EU and NA showed geographic trends toward bias. EU and NA afa's in pooled journals both 1998 and 2002, EU journals (n= 521) and NA journals (n=730), cited rfa's from their own continent of origin more frequently ($p<0.0001$) (see Tables 4.9 and 4.10). The current results were very similar to the results of several previously published studies. While there was nothing comparable published on the effect of continental bias on referencing patterns of authors in dentistry, it was possible to at least observe similar situations in some other disciplines. One study showing that health professionals in the US and the UK tended to cite materials produced in their own countries (Campbell, 1990). Furthermore, another study showed that the US ranked highest in the category of self-citation (Inhaber and Alvo, 1978). Another study indicated that American authors were more likely to quote papers from American journals and neglected possibly relevant from journals published elsewhere (Moller, 1990). Research

results for the present study demonstrated that afa's from OC and Other tended to cite rfa's from NA more frequently in pooled journals both years ($p<0.0001$) (see Tables 4.9 and 4.10). These results followed the same pattern of the study of Inhaber and Alvo (1978) indicating that authors from other countries cited US authors much more often than they are cited by their counterparts in the US.

C2. Self-citation bias compared to previous literature

There have been only a limited number of quantitative analyses about self-citation. In the present study, the pilot study considered the *J Dent Res* and discovered a 4.2% self-citation rate for both 1998 and 2002. This was in the same range the report for library and information science by Dimitroff and Arlitsch (1995) of 6.6%.

D. Meaning of the results

The distribution of journal articles in EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*) both 1998 and 2002 showed that the majority of afa were from EU continent (more than 60%) except *Dent Mater* showing non significant distribution of afa from EU, NA and OC continents (see Tables 4.11, 4.12, 4.13 and 4.14). On the other hand, the distribution journal articles in NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper Dent* and *Am J Dent*) both 1998 and 2002 showed no significant distribution of afa from EU, NA and OC (see Tables 4.15, 4.16, 4.17 and 4.18). These observations suggest that all NA journals tended to be more international in scope than EU journals.

Results of the current study clearly showed that there was continental distribution bias of published dentistry citations. Results in 1998 and 2002 were almost identical. Article-first-author's in eight journals published in both years affiliated with NA, EU, OC, or other regions cited rfa's with differing frequencies. EU and NA afa cited rfa from their own continent of origin more frequently ($p<0.0001$). On the other hand, OC and other afa tended to cite rfa from NA more frequently ($p<0.0001$) (see Tables 4.9 and 4.10).

The referencing patterns of EU and NA afa in pooled EU journals (*Caries Res*, *J Dent*, *Dent Mater* and *Eur J Oral Sci*) and NA journals (*J Dent Res*, *J Prosthet Dent*, *Oper*

Dent and *Am J Dent*) were distinguishable. There was contrast in the influence of journal geographic origin between NA journals versus EU journals on these citation patterns. Results in 1998 showed that cited reference patterns in EU-EU (rfa=59%) and NA-NA (rfa=56%) in pooled EU journals were significantly different from EU-EU (rfa=51%) and NA-NA (rfa=64%) in pooled NA journals ($p<0.0001$) (see Table 4.9). Year 2002 results also followed the same pattern showing that EU-EU (rfa=59%) and NA-NA (rfa=49%) in pooled EU journals were significantly different from EU-EU (rfa=51%) and NA-NA (rfa=60%) in pooled NA journals ($p<0.0001$) (see Table 4.10). This study showed that there was a "journal effect" to these distributions. This effect might have arisen if journal editors chose reviewers and/or selected article' authors who are strongly aligned with the local region where the editor's office existed. It might also be affected by reviewers who tended to respond more favorably to papers published from their own countries.

E. Proposed future research

The current research not only uncovered bias related to geographic locations but raised a number of other interesting questions. These are discussed as follows.

E1. Examine dental journals related to different content

Results of the current study clearly showed that there was continental bias on referencing patterns of authors in dental journals in publishing information about operative dentistry and dental materials. Future research should be conducted to see if the same pattern of this bias has occurred in other fields of dental research such as periodontology and oral biology.

E2. Examine other publication years

The focus of the current study included only two years (1998 and 2002). Future studies might be warranted for a year (e.g., 2007) that would have been impacted by more digital access to reference indexes and to Open Access.

E3. Examine the unidentified references more carefully

While the present study accepted the limitations of only examining 76% of the rfa's, it might be possible to decrease the size of this pool by manually looking up individual articles for a couple of journals. This would extend the present analysis and determine if there were any changes in the outcomes. If might actually be possible to examine future articles more thoroughly if the indexes included the fields of interest for afa and rfa.

E4. Extend the analysis of self citation

In the present analysis, the pilot study for the *Journal of Dental Research* that dealt with self-citation only considered afa's that cited rfa's of their own as self-citation. However, one might logically expand this group to include any article's authors who's name appeared in any order as any reference author. At the present time this would be very difficult to measure. Yet, if this information was included in the database of interest, then presumably it could be electronically searched.

E5. Examine rfa journal selection bias

Another interesting potential bias arises from journals selected for use as references. As noted earlier, authors may only have a limited access via library materials or digitally free-access articles. An interesting extension of the present type of analysis would be to examine the pattern of journals being referenced in comparison to the pattern of authors being references as was presently reported.

CONCLUSIONS

In summary, within the limitations of these studies, the following can be concluded:

(1) There was continental bias of published dentistry citations with article-first-authors from NA and EU citing reference-first-authors from their own continent-of-origin more frequently ($p<0.0001$).

(2) There was an influence of journal geographic origin between NA journals versus EU journals on these citation patterns ($p<0.0001$).

(3) Results in year 1998 and 2002 were nearly the same. Both years showed no significant difference in geographic trends of citation bias of EU and NA article-first-authors ($p>0.1224$).

APPENDICES

The following appendices contain tables describing the individual experimental sample data that was summarized in the Results section of this thesis (Appendix A) and the statistical analysis associated with these experiments (Appendix B).

A. Number of reference-first-authors

Table A1. *American Journal of Dentistry*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Opdam	EU (Netherlands)	76.67%	23	20.00%	6	3.33%	1	0.0%	0
AU van Dijken	EU (Sweden)	59.38%	19	34.38%	11	6.25%	2	0.0%	0
AU Ernst	EU (Germany)	81.82%	9	18.18%	2	0.00%	0	0.0%	0
AU Van der Weijden	EU (Netherlands)	84.62%	11	15.38%	2	0.00%	0	0.0%	0
AU Danser	EU (Netherlands)	53.33%	8	46.67%	7	0.00%	0	0.0%	0
AU Roeters	EU (Netherlands)	60.00%	12	35.00%	7	5.00%	1	0.0%	0
AU Fritz	EU (Germany)	8.82%	3	76.47%	26	8.82%	3	5.9%	2
AU Koran	EU (Germany)	70.59%	12	17.65%	3	5.88%	1	5.9%	1
AU Farik	EU (Denmark)	42.86%	6	35.71%	5	21.43%	3	0.0%	0
AU Camps	EU (France)	30.56%	11	55.56%	20	11.11%	4	2.8%	1
AU Pioch	EU (Germany)	25.00%	7	46.43%	13	28.57%	8	0.0%	0
AU Santini	EU (Scotland)	41.67%	15	50.00%	18	8.33%	3	0.0%	0
AU Opdam	EU (Netherlands)	58.82%	10	35.29%	6	5.88%	1	0.0%	0
AU Warren PR	EU (Germany)	100.00%	6	0.00%	0	0.00%	0	0.0%	0
AU Driesen GM	EU (Germany)	100.00%	4	0.00%	0	0.00%	0	0.0%	0
AU Donly	NA (USA)	25.00%	3	66.67%	8	8.33%	1	0.0%	0
AU Kanca	NA (USA)	42.86%	9	47.62%	10	9.52%	2	0.0%	0
AU Kennington	NA (USA)	9.09%	1	81.82%	9	0.00%	0	9.1%	1
AU Cronin	NA (USA)	77.78%	7	22.22%	2	0.00%	0	0.0%	0
AU Sharma	NA (Canada)	81.82%	9	18.18%	2	0.00%	0	0.0%	0
AU Wilder	NA (USA)	4.17%	1	66.67%	16	29.17%	7	0.0%	0
AU Kelsey	NA (USA)	10.00%	1	90.00%	9	0.00%	0	0.0%	0
AU Fay	NA (USA)	33.33%	2	66.67%	4	0.00%	0	0.0%	0
AU Isaacs	NA (USA)	40.00%	4	60.00%	6	0.00%	0	0.0%	0
AU Gordan	NA (USA)	5.88%	1	47.06%	8	35.29%	6	11.8%	2
AU Ferracane	NA (USA)	43.75%	7	43.75%	7	6.25%	1	6.3%	1
AU Mayhew	NA (USA)	7.69%	1	92.31%	12	0.00%	0	0.0%	0
AU MacDougall	NA (USA)	21.05%	4	52.63%	10	26.32%	5	0.0%	0
AU Cox	NA (USA)	28.13%	9	53.13%	17	15.63%	5	3.1%	1
AU Garcia-Godoy	NA (USA)	29.17%	7	66.67%	16	4.17%	1	0.0%	0
AU Fine	NA (USA)	12.00%	3	88.00%	22	0.00%	0	0.0%	0
AU Perdigao	NA (USA)	17.95%	7	71.79%	28	5.13%	2	5.1%	2
AU Perdigao	NA (USA)	26.47%	9	52.94%	18	17.65%	6	2.9%	1
AU Jacobsen	NA (USA)	10.00%	2	60.00%	12	25.00%	5	5.0%	1
AU Hosoya	NA (USA)	50.00%	8	37.50%	6	6.25%	1	6.3%	1
AU Donly	NA (USA)	45.45%	10	50.00%	11	4.55%	1	0.0%	0
AU Osborne	NA (USA)	8.33%	1	91.67%	11	0.00%	0	0.0%	0
AU Imazato	OC (Japan)	35.71%	5	35.71%	5	14.29%	2	14.3%	2
AU Miyazaki	OC (Japan)	24.00%	6	48.00%	12	24.00%	6	4.0%	1
AU Inai	OC (Japan)	6.25%	1	62.50%	10	31.25%	5	0.0%	0
AU Harada	OC (Japan)	13.64%	3	40.91%	9	45.45%	10	0.0%	0
AU Shinji	OC (Japan)	48.15%	13	37.04%	10	14.81%	4	0.0%	0
AU Terata	OC (Japan)	11.11%	1	88.89%	8	0.00%	0	0.0%	0

Table A1. *American Journal of Dentistry,* Actual afa and rfa, 1998 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Gwinnett	OC (China)	32.14%	18	46.43%	26	21.43%	12	0.0%	0
AU Wilson	OC (Australia)	0.00%	0	55.00%	11	35.00%	7	10.0%	2
AU Koo	Other (Brazil)	9.09%	1	81.82%	9	9.09%	1	0.0%	0
AU Mondelli	Other (Brazil)	14.29%	2	57.14%	8	14.29%	2	14.3%	2
AU Myaki	Other (Brazil)	33.33%	2	66.67%	4	0.00%	0	0.0%	0
AU Grande	Other (Brazil)	25.00%	7	64.29%	18	7.14%	2	3.6%	1
AU Palma	Other (Brazil)	46.67%	7	26.67%	4	26.67%	4	0.0%	0
AU Abdel-Aziz	Other (Egypt)	30.77%	4	46.15%	6	7.69%	1	15.4%	2
AU Alhadainy	Other (Egypt)	57.14%	8	35.71%	5	0.00%	0	7.1%	1
AU Johnson	Other (Brazil)	37.50%	9	54.17%	13	0.00%	0	8.3%	2
AU Demarco	Other (Brazil)	8.00%	2	60.00%	15	16.00%	4	16.0%	4
AU Smidt	Other (Israel)	7.14%	1	71.43%	10	0.00%	0	21.4%	3
AU Abdalla	Other (Egypt)	23.53%	4	76.47%	13	0.00%	0	0.0%	0

Table A2. *Operative Dentistry*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Moscovich	EU (Netherlands)	64.3%	9	21.4%	3	14.3%	2	0.0%	
AU Hannig	EU (Germany)	20.0%	3	60.0%	9	20.0%	3	0.0%	
AU Prati	EU (Italy)	23.5%	4	70.6%	12	5.9%	1	0.0%	
AU Ganss	EU (Germany)	27.3%	6	54.5%	12	13.6%	3	4.5%	1
AU Jung	EU (Germany)	38.5%	5	46.2%	6	15.4%	2	0.0%	
AU Dionysopo	EU (Greece)	57.9%	11	36.8%	7	5.3%	1	0.0%	
AU Marouf	EU (England)	50.0%	5	40.0%	4	10.0%	1	0.0%	
AU Hamilton	NA (USA)	0.0%		100.0%	3	0.0%		0.0%	
AU Gordan	NA (USA)	36.0%	9	40.0%	10	24.0%	6	0.0%	
AU Mjor	NA (USA)	50.0%	3	33.3%	2	16.7%	1	0.0%	
AU Shaffer	NA (USA)	28.6%	2	57.1%	4	14.3%	1	0.0%	
AU Schulte	NA (USA)	10.5%	2	68.4%	13	15.8%	3	5.3%	1
AU Lewis	NA (USA)	44.1%	15	52.9%	18	2.9%	1	0.0%	
AU Nystrom	NA (USA)	32.0%	8	64.0%	16	4.0%	1	0.0%	
AU Miyazaki	NA (USA)	18.2%	2	63.6%	7	18.2%	2	0.0%	
AU Wakefield	NA (USA)	6.3%	1	81.3%	13	12.5%	2	0.0%	
AU Vargas	NA (USA)	20.0%	4	60.0%	12	15.0%	3	5.0%	1
AU Parsell	NA (USA)	50.0%	5	50.0%	5	0.0%		0.0%	
AU El-Badraw	NA (Canada)	71.4%	10	21.4%	3	7.1%	1	0.0%	
AU Jessup	NA (USA)	7.7%	1	84.6%	11	7.7%	1	0.0%	
AU Meiers	NA (USA)	10.5%	2	57.9%	11	10.5%	2	21.1%	4
AU Hoelscher	NA (USA)	31.6%	6	63.2%	12	5.3%	1	0.0%	
AU Anusavi	NA (USA)	27.3%	3	36.4%	4	27.3%	3	9.1%	1
AU Robbins	NA (USA)	0.0%		86.7%	13	13.3%	2	0.0%	
AU Burrow	OC (Australia)	31.3%	5	37.5%	6	31.3%	5	0.0%	
AU Kitasako	OC (Japan)	21.1%	4	57.9%	11	21.1%	4	0.0%	
AU Hayashi	OC (Japan)	61.9%	13	28.6%	6	9.5%	2	0.0%	
AU Ng	OC (New Zealand)	33.3%	5	33.3%	5	13.3%	2	20.0%	3
AU Chen	OC (Japan)	0.0%		63.6%	7	27.3%	3	9.1%	1
AU Yap	OC (Singapore)	11.1%	1	77.8%	7	11.1%	1	0.0%	
AU Yap	OC (Singapore)	57.1%	4	28.6%	2	14.3%	1	0.0%	
AU Phrukkano	OC (Australia)	10.5%	2	68.4%	13	21.1%	4	0.0%	
AU Ng	OC (New Zealand)	52.9%	9	23.5%	4	17.6%	3	5.9%	1
AU Iwami	OC (Japan)	50.0%	10	45.0%	9	5.0%	1	0.0%	
AU Miyazaki	OC (Japan)	23.5%	4	47.1%	8	29.4%	5	0.0%	
AU Chong	OC (Malaysia)	0.0%		100.0%	6	0.0%		0.0%	
AU Tyas	OC (Australia)	55.6%	5	22.2%	2	22.2%	2	0.0%	
AU Inokoshi	OC (Japan)	8.3%	1	75.0%	9	16.7%	2	0.0%	
AU Horiguchi	OC (Japan)	0.0%		50.0%	2	50.0%	2	0.0%	
AU Neiva	Other (Brazil)	33.3%	9	51.9%	14	11.1%	3	3.7%	1
AU Demarco	Other (Brazil)	31.6%	6	42.1%	8	15.8%	3	10.5%	2

Table A3. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Aboush	EU (England)	85.7%	6	14.3%	1	0.0%	0	0.0%	0
AU Ziada	EU (Ireland)	57.1%	4	42.9%	3	0.0%	0	0.0%	0
AU Lassila	EU (Finland)	92.3%	12	7.7%	1	0.0%	0	0.0%	0
AU Martinez-	EU (Spain)	26.3%	5	52.6%	10	10.5%	2	10.5%	2
AU Yannikak	EU (Greece)	36.4%	8	50.0%	11	4.5%	1	9.1%	2
AU Taylor	EU (England)	87.5%	14	6.3%	1	6.3%	1	0.0%	0
AU Scheiben	EU (Germany)	58.3%	14	41.7%	10	0.0%	0	0.0%	0
AU Baldissar	EU (Italy)	7.7%	2	92.3%	24	0.0%	0	0.0%	0
AU Oden	EU (Sweden)	50.0%	8	50.0%	8	0.0%	0	0.0%	0
AU Emshoff	EU (Austria)	47.4%	9	31.6%	6	15.8%	3	5.3%	1
AU Rilo	EU (Spain)	33.3%	4	58.3%	7	8.3%	1	0.0%	0
AU Wassell	EU (England)	44.4%	8	55.6%	10	0.0%	0	0.0%	0
AU Opdam	EU (Netherlands)	70.6%	12	23.5%	4	5.9%	1	0.0%	0
AU Ogunyink	EU (England)	20.0%	2	70.0%	7	10.0%	1	0.0%	0
AU Setz	EU (Germany)	54.2%	13	41.7%	10	4.2%	1	0.0%	0
AU Schindle	EU (Germany)	40.0%	8	30.0%	6	30.0%	6	0.0%	0
AU Konstant	EU (Greece)	16.7%	3	61.1%	11	22.2%	4	0.0%	0
AU Attin	EU (Germany)	86.7%	13	13.3%	2	0.0%	0	0.0%	0
AU Fredrikss	EU (Sweden)	50.0%	13	46.2%	12	0.0%	0	3.8%	1
AU Hobkirk	EU (England)	55.6%	5	44.4%	4	0.0%	0	0.0%	0
AU Byrne	EU (Ireland)	56.3%	9	31.3%	5	6.3%	1	6.3%	1
AU Watson	EU (England)	63.2%	12	21.1%	4	15.8%	3	0.0%	0
AU Ottl	EU (Germany)	36.4%	4	54.5%	6	9.1%	1	0.0%	0
AU Millar	EU (England)	47.1%	8	29.4%	5	23.5%	4	0.0%	0
AU Budtz-Jor	EU (Switzerland)	60.0%	27	24.4%	11	8.9%	4	6.7%	3
AU van Dijke	EU (Sweden)	50.0%	9	33.3%	6	16.7%	3	0.0%	0
AU Rosentritt	EU (Germany)	18.8%	3	68.8%	11	12.5%	2	0.0%	0
AU Wright	EU (England)	42.9%	9	33.3%	7	23.8%	5	0.0%	0
AU McMillan	EU (England)	62.5%	10	37.5%	6	0.0%	0	0.0%	0
AU Kirveskar	EU (Finland)	50.0%	12	45.8%	11	4.2%	1	0.0%	0
AU Baysan	EU (England)	68.2%	15	18.2%	4	13.6%	3	0.0%	0
AU Ernst	EU (Germany)	64.7%	11	35.3%	6	0.0%	0	0.0%	0
AU Wu	EU (Netherlands)	30.8%	8	53.8%	14	7.7%	2	7.7%	2
AU Devlin	EU (England)	90.0%	9	0.0%	0	0.0%	0	10.0%	1
AU Vallittu	EU (Finland)	57.7%	15	26.9%	7	11.5%	3	3.8%	1
AU Ferrari	EU (Italy	46.2%	6	46.2%	6	0.0%	0	7.7%	1
AU Baysan	EU (England)	35.7%	5	64.3%	9	0.0%	0	0.0%	0
AU Okubo	NA (USA)	7.1%	1	92.9%	13	0.0%	0	0.0%	0
AU Barpal	NA (USA)	46.7%	7	26.7%	4	13.3%	2	13.3%	2
AU Son	NA (USA)	10.5%	2	73.7%	14	5.3%	1	10.5%	2
AU Eldridge	NA (USA)	0.0%	0	100.0%	17	0.0%	0	0.0%	0

Table A3. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 1998 (continued 1)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Wataha	NA (USA)	32.0%	8	68.0%	17	0.0%	0	0.0%	0
AU Leevailo	NA (USA)	25.0%	6	50.0%	12	20.8%	5	4.2%	1
AU Furukaw	NA (USA)	25.0%	2	62.5%	5	12.5%	1	0.0%	0
AU Kenney	NA (USA)	27.3%	3	72.7%	8	0.0%	0	0.0%	0
AU Mensor	NA (USA)	15.4%	2	84.6%	11	0.0%	0	0.0%	0
AU Serrano	NA (USA)	5.3%	1	89.5%	17	5.3%	1	0.0%	0
AU Tung	NA (USA)	35.3%	12	61.8%	21	0.0%	0	2.9%	1
AU Maupom	NA (Canada)	45.0%	18	52.5%	21	0.0%	0	2.5%	1
AU Duncan	NA (USA)	38.1%	8	57.1%	12	0.0%	0	4.8%	1
AU Hansen	NA (USA)	5.6%	1	94.4%	17	0.0%	0	0.0%	0
AU Cooper	NA (USA)	29.9%	20	61.2%	41	7.5%	5	1.5%	1
AU Gerrow	NA (Canada)	25.0%	2	75.0%	6	0.0%	0	0.0%	0
AU Wang	NA (USA)	50.0%	7	50.0%	7	0.0%	0	0.0%	0
AU Rosen	NA (Canada)	0.0%	0	75.0%	6	0.0%	0	25.0%	2
AU Schwart	NA (USA)	7.4%	2	70.4%	19	7.4%	2	14.8%	4
AU Cohen	NA (USA)	13.3%	2	66.7%	10	13.3%	2	6.7%	1
AU Freilich	NA (USA)	40.0%	8	50.0%	10	10.0%	2	0.0%	0
AU Willer	NA (USA)	20.6%	7	67.6%	23	5.9%	2	5.9%	2
AU NaBadal	NA (USA)	13.3%	2	66.7%	10	20.0%	3	0.0%	0
AU Ireland	NA (USA)	0.0%	0	80.0%	4	0.0%	0	20.0%	1
AU Korioth	NA (USA)	7.1%	1	78.6%	11	7.1%	1	7.1%	1
AU Frank	NA (USA)	42.9%	6	42.9%	6	14.3%	2	0.0%	0
AU Morton	NA (USA)	33.3%	11	63.6%	21	0.0%	0	3.0%	1
AU Corso	NA (USA)	71.4%	5	14.3%	1	14.3%	1	0.0%	0
AU Garrett	NA (USA)	36.4%	4	63.6%	7	0.0%	0	0.0%	0
AU Nishimu	NA (USA)	24.0%	6	76.0%	19	0.0%	0	0.0%	0
AU May	NA (USA)	60.0%	6	40.0%	4	0.0%	0	0.0%	0
AU Kahn	NA (USA)	26.9%	7	73.1%	19	0.0%	0	0.0%	0
AU Johnson	NA (USA)	22.2%	2	66.7%	6	11.1%	1	0.0%	0
AU Chaves	NA (USA)	11.1%	2	88.9%	16	0.0%	0	0.0%	0
AU Chang	NA (USA)	25.0%	3	75.0%	9	0.0%	0	0.0%	0
AU Papazog	NA (USA)	30.4%	7	56.5%	13	13.0%	3	0.0%	0
AU Cohen	NA (USA)	8.3%	3	86.1%	31	2.8%	1	2.8%	1
AU Kapur	NA (USA)	55.6%	15	44.4%	12	0.0%	0	0.0%	0
AU William	NA (USA)	20.0%	5	76.0%	19	4.0%	1	0.0%	0
AU Feine	NA (Canada)	10.0%	2	90.0%	18	0.0%	0	0.0%	0
AU Maupom	NA (Canada)	51.4%	19	37.8%	14	5.4%	2	5.4%	2

Table A3. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 1998 (continued 2)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Uchida	NA (USA)	11.1%	1	88.9%	8	0.0%	0	0.0%	0
AU Thomp	NA (USA)	25.0%	3	66.7%	8	8.3%	1	0.0%	0
AU Khami	NA (USA)	36.0%	9	64.0%	16	0.0%	0	0.0%	0
AU Binon	NA (USA)	44.4%	4	55.6%	5	0.0%	0	0.0%	0
AU Johnso	NA (USA)	16.7%	3	72.2%	13	11.1%	2	0.0%	0
AU Scurria	NA (USA)	85.2%	23	11.1%	3	3.7%	1	0.0%	0
AU Chai	NA (USA)	50.0%	6	50.0%	6	0.0%	0	0.0%	0
AU Bracke	NA (USA)	25.0%	3	66.7%	8	8.3%	1	0.0%	0
AU Rothfu	NA (USA)	22.2%	2	77.8%	7	0.0%	0	0.0%	0
AU Taylor	NA (Canada)	30.0%	12	52.5%	21	17.5%	7	0.0%	0
AU Carl	NA (USA)	11.1%	1	88.9%	8	0.0%	0	0.0%	0
AU Wang	NA (USA)	20.0%	2	70.0%	7	10.0%	1	0.0%	0
AU Lyttle	NA (Canada)	37.5%	3	62.5%	5	0.0%	0	0.0%	0
AU Ogle	NA (USA)	8.3%	1	58.3%	7	25.0%	3	8.3%	1
AU Hirano	NA (USA)	35.3%	6	52.9%	9	11.8%	2	0.0%	0
AU Petteng	NA (USA)	7.7%	1	69.2%	9	15.4%	2	7.7%	1
AU Heersc	NA (Canada)	31.6%	6	68.4%	13	0.0%	0	0.0%	0
AU Murata	OC (Japan)	33.3%	4	33.3%	4	33.3%	4	0.0%	0
AU Akaga	OC (Japan)	30.4%	7	43.5%	10	26.1%	6	0.0%	0
AU Pow	OC (Japan)	8.3%	1	75.0%	9	8.3%	1	8.3%	1
AU Iwami	OC (Japan)	15.0%	3	65.0%	13	20.0%	4	0.0%	0
AU Ogawa	OC (Japan)	32.1%	9	32.1%	9	32.1%	9	3.6%	1
AU Tanaka	OC (Japan)	25.9%	7	63.0%	17	11.1%	3	0.0%	0
AU Kamad	OC (Japan)	5.0%	1	85.0%	17	10.0%	2	0.0%	0
AU Yoshid	OC (Japan)	33.3%	4	58.3%	7	8.3%	1	0.0%	0
AU Taira	OC (Japan)	15.8%	3	26.3%	5	57.9%	11	0.0%	0
AU Hoshia	OC (Japan)	25.0%	2	62.5%	5	0.0%	0	12.5%	1
AU Komiy	OC (Japan)	25.0%	2	50.0%	4	25.0%	2	0.0%	0
AU Murata	OC (Japan)	40.0%	6	40.0%	6	20.0%	3	0.0%	0
AU Gemal	Other (Turkey)	0.0%	0	77.8%	14	0.0%	0	22.2%	4
AU Zalkin	Other (Israel)	10.0%	1	60.0%	6	10.0%	1	20.0%	2
AU Bezzon	Other (Brazil)	16.7%	2	66.7%	8	8.3%	1	8.3%	1
AU Cucci	Other (Brazil)	16.7%	2	58.3%	7	16.7%	2	8.3%	1
AU Gemal	Other (Turkey)	73.3%	11	13.3%	2	13.3%	2	0.0%	0
AU Abdull	Other (Saudi)	28.6%	2	42.9%	3	28.6%	2	0.0%	0

Table A3. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 1998 (continued 3)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Rubo	Other (Brazil)	13.3%	2	46.7%	7	20.0%	3	20.0%	3
AU Pilo	Other (Israel)	9.1%	2	63.6%	14	13.6%	3	13.6%	3
AU Zalkin	Other (Israel)	20.0%	3	60.0%	9	13.3%	2	6.7%	1
AU Stipho	Other (Saudi)	53.8%	7	38.5%	5	7.7%	1	0.0%	0
AU Brosh	Other (Israel)	40.0%	6	53.3%	8	6.7%	1	0.0%	0
AU Sabbak	Other (Saudi)	15.0%	3	70.0%	14	5.0%	1	10.0%	2

Table A4. *Journal of Dental Research*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Macaluso	EU (Belgium)	83.3%	10	0.0%	0	16.7%	2	0.0%	0
AU McDermott	EU (England)	20.0%	2	70.0%	7	10.0%	1	0.0%	0
AU De Maeyer	EU (Belgium)	88.2%	15	5.9%	1	5.9%	1	0.0%	0
AU Geurtsen	EU (Germany)	53.1%	17	31.3%	10	6.3%	2	9.4%	3
AU McCabe	EU (England)	57.1%	4	14.3%	1	28.6%	2	0.0%	0
AU Nilsson	EU (Sweden)	60.9%	14	34.8%	8	4.3%	1	0.0%	0
AU van Loon	EU (Netherlands)	47.1%	8	47.1%	8	5.9%	1	0.0%	0
AU Schmalz	EU (Germany)	73.3%	11	26.7%	4	0.0%	0	0.0%	0
AU Nordgarden	EU (Norway)	13.3%	2	86.7%	13	0.0%	0	0.0%	0
AU Turkawski	EU (Netherlands)	46.2%	12	53.8%	14	0.0%	0	0.0%	0
AU Fontijn-Tek	EU (Netherlands)	69.6%	16	30.4%	7	0.0%	0	0.0%	0
AU Straetemans	EU (Netherlands)	66.7%	14	23.8%	5	9.5%	2	0.0%	0
AU Slager	EU (Netherlands)	80.0%	16	15.0%	3	5.0%	1	0.0%	0
AU Lorimier	EU (France)	41.3%	19	47.8%	22	10.9%	5	0.0%	0
AU Sidhu	EU (England)	64.7%	11	23.5%	4	5.9%	1	5.9%	1
AU Sahlberg	EU (Finland)	50.0%	15	43.3%	13	6.7%	2	0.0%	0
AU Bosi	EU (Italy)	32.4%	12	64.9%	24	2.7%	1	0.0%	0
AU Fure	EU (Sweden)	61.3%	19	38.7%	12	0.0%	0	0.0%	0
AU Robin	EU (France)	59.1%	13	31.8%	7	0.0%	0	9.1%	2
AU Stojic	EU (Yugoslavia)	42.1%	8	52.6%	10	5.3%	1	0.0%	0
AU Wiesmann	EU (Germany)	73.7%	14	26.3%	5	0.0%	0	0.0%	0
AU de Gee	EU (Netherlands)	70.0%	14	10.0%	2	20.0%	4	0.0%	0
AU Hormia	EU (Finland)	51.5%	17	45.5%	15	3.0%	1	0.0%	0
AU Tjaderhane	EU (Finland)	51.5%	17	30.3%	10	15.2%	5	3.0%	1
AU Gallo	EU (Switzerland)	36.8%	7	36.8%	7	15.8%	3	10.5%	2
AU Scheie	EU (Norway)	58.5%	24	39.0%	16	2.4%	1	0.0%	0
AU Hietala	EU (Finland)	38.5%	5	38.5%	5	15.4%	2	7.7%	1
AU Hultman	EU (Denmark)	77.8%	35	17.8%	8	4.4%	2	0.0%	0
AU Gomez	EU (Spain)	31.1%	14	57.8%	26	8.9%	4	2.2%	1
AU Helder	EU (Netherlands)	23.8%	10	57.1%	24	11.9%	5	7.1%	3
AU Kuru	EU (England)	46.8%	22	42.6%	20	10.6%	5	0.0%	0
AU Macaluso	EU (Italy)	61.5%	16	26.9%	7	7.7%	2	3.8%	1
AU Trulsson	EU (Sweden)	61.9%	13	28.6%	6	9.5%	2	0.0%	0
AU De Kanter	EU (Netherlands)	65.2%	15	30.4%	7	4.3%	1	0.0%	0
AU Sandborgh-En	EU (Sweden)	82.8%	24	17.2%	5	0.0%	0	0.0%	0
AU Plasmans	EU (Netherlands)	46.4%	13	46.4%	13	7.1%	2	0.0%	0
AU Kleter	EU (Netherlands)	21.2%	7	66.7%	22	9.1%	3	3.0%	1
AU Lang	EU (Germany)	45.5%	15	51.5%	17	0.0%	0	3.0%	1
AU Fricain	EU (France)	46.4%	13	53.6%	15	0.0%	0	0.0%	0
AU Van Meerbeek	EU (Belgium)	25.0%	6	70.8%	17	4.2%	1	0.0%	0
AU Hansel	EU (Germany)	57.1%	12	33.3%	7	9.5%	2	0.0%	0
AU Bottenberg	EU (Belgium)	46.7%	7	53.3%	8	0.0%	0	0.0%	0

Table A4. *Journal of Dental Research*, Actual afa and rfa, 1998 (continued 1)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Kirstila	EU (Finland)	46.0%	23	52.0%	26	2.0%	1	0.0%	0
AU Carlen	EU (Sweden)	38.2%	21	58.2%	32	1.8%	1	1.8%	1
AU MacDougall	NA (USA)	8.0%	2	68.0%	17	4.0%	1	20.0%	5
AU Wang	NA (USA)	17.6%	3	76.5%	13	5.9%	1	0.0%	0
AU Xu	NA (USA)	31.3%	10	68.8%	22	0.0%	0	0.0%	0
AU Hujoel	NA (USA)	31.8%	7	63.6%	14	4.5%	1	0.0%	0
AU Baran	NA (USA)	45.0%	9	45.0%	9	10.0%	2	0.0%	0
AU Lawrence	NA (USA)	6.3%	1	93.8%	15	0.0%	0	0.0%	0
AU Margolis	NA (USA)	0.0%	0	100.0%	30	0.0%	0	0.0%	0
AU Brady	NA (USA)	11.9%	5	61.9%	26	21.4%	9	4.8%	2
AU Oates	NA (USA)	6.1%	2	87.9%	29	6.1%	2	0.0%	0
AU Ohrbach	NA (USA)	11.3%	6	83.0%	44	5.7%	3	0.0%	0
AU Osborn	NA (Canada)	50.0%	6	41.7%	5	0.0%	0	8.3%	1
AU Phipps	NA (USA)	17.2%	5	82.8%	24	0.0%	0	0.0%	0
AU Wise	NA (USA)	5.9%	1	88.2%	15	5.9%	1	0.0%	0
AU Fukae	NA (USA)	17.1%	6	51.4%	18	28.6%	10	2.9%	1
AU Grzesik	NA (USA)	6.5%	2	93.5%	29	0.0%	0	0.0%	0
AU Tjaderhane	NA (Canada)	48.4%	15	45.2%	14	6.5%	2	0.0%	0
AU Broverman	NA (USA)	5.9%	2	91.2%	31	2.9%	1	0.0%	0
AU Kennedy	NA (USA)	5.0%	1	95.0%	19	0.0%	0	0.0%	0
AU Mao	NA (USA)	32.6%	15	60.9%	28	6.5%	3	0.0%	0
AU Gift	NA (USA)	9.1%	3	87.9%	29	0.0%	0	3.0%	1
AU Tan	NA (USA)	15.6%	5	75.0%	24	9.4%	3	0.0%	0
AU Featherstone	NA (USA)	13.6%	3	77.3%	17	9.1%	2	0.0%	0
AU Versluis	NA (USA)	52.6%	10	47.4%	9	0.0%	0	0.0%	0
AU Turp	NA (USA)	52.6%	20	39.5%	15	7.9%	3	0.0%	0
AU Denry	NA (USA)	37.5%	3	62.5%	5	0.0%	0	0.0%	0
AU Peterson	NA (USA)	6.4%	3	89.4%	42	4.3%	2	0.0%	0
AU Millich	NA (USA)	20.0%	2	70.0%	7	10.0%	1	0.0%	0
AU Kingman	NA (USA)	39.4%	13	57.6%	19	3.0%	1	0.0%	0
AU Xu	NA (USA)	23.1%	3	76.9%	10	0.0%	0	0.0%	0
AU Paine	NA (USA)	20.6%	7	67.6%	23	5.9%	2	5.9%	2
AU Vogel	NA (USA)	25.0%	8	71.9%	23	3.1%	1	0.0%	0
AU Guo	NA (USA)	63.0%	17	37.0%	10	0.0%	0	0.0%	0
AU Liu	NA (USA)	24.1%	7	55.2%	16	20.7%	6	0.0%	0
AU Simmer	NA (USA)	23.7%	9	34.2%	13	39.5%	15	2.6%	1
AU Kashket	NA (USA)	20.0%	5	72.0%	18	4.0%	1	4.0%	1
AU Hsu	NA (USA)	54.1%	20	40.5%	15	0.0%	0	5.4%	2
AU Loza-Herrero	NA (USA)	40.0%	6	60.0%	9	0.0%	0	0.0%	0
AU Grier	NA (USA)	40.7%	11	55.6%	15	3.7%	1	0.0%	0
AU Ghorayeb	NA (USA)	11.1%	1	77.8%	7	11.1%	1	0.0%	0

Table A4. *Journal of Dental Research*, Actual afa and rfa, 1998 (continued 2)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Kimoto	OC (Japan)	26.1%	6	43.5%	10	30.4%	7	0.0%	0
AU Kaidonis	OC (Australia)	57.9%	11	36.8%	7	5.3%	1	0.0%	0
AU Suzuki	OC (Japan)	25.0%	2	0.0%	0	75.0%	6	0.0%	0
AU Ohtsuka	OC (Japan)	25.0%	3	25.0%	3	50.0%	6	0.0%	0
AU Abe	OC (Japan)	15.0%	6	17.5%	7	67.5%	27	0.0%	0
AU Yamashiro	OC (Japan)	26.5%	9	41.2%	14	29.4%	10	2.9%	1
AU Sato	OC (Japan)	35.7%	5	28.6%	4	28.6%	4	7.1%	1
AU Agrawal	OC (China)	52.4%	11	9.5%	2	38.1%	8	0.0%	0
AU Suzuki	OC (Japan)	9.1%	2	68.2%	15	22.7%	5	0.0%	0
AU Yamaki	OC (Japan)	31.6%	18	42.1%	24	24.6%	14	1.8%	1
AU Duarte	OC (Japan)	20.7%	6	58.6%	17	20.7%	6	0.0%	0
AU Abe	OC (Japan)	35.3%	12	52.9%	18	11.8%	4	0.0%	0
AU Gao	OC (Australia)	28.1%	9	65.6%	21	6.3%	2	0.0%	0
AU Sakuta	OC (Japan)	15.8%	6	55.3%	21	26.3%	10	2.6%	1
AU Teraoka	OC (Japan)	27.8%	5	44.4%	8	27.8%	5	0.0%	0
AU Aoki	OC (Japan)	24.1%	7	44.8%	13	31.0%	9	0.0%	0
AU Ogiso	OC (Japan)	25.0%	8	43.8%	14	31.3%	10	0.0%	0
AU Okamoto	OC (Japan)	18.2%	4	72.7%	16	4.5%	1	4.5%	1
AU Kobayashi	OC (Japan)	31.3%	20	42.2%	27	26.6%	17	0.0%	0
AU Ono	OC (Japan)	28.6%	6	33.3%	7	28.6%	6	9.5%	2
AU Kurita	OC (Japan)	33.3%	3	66.7%	6	0.0%	0	0.0%	0
AU Gemmell	OC (Australia)	24.6%	14	52.6%	30	22.8%	13	0.0%	0
AU Seow	OC (Australia)	10.5%	2	84.2%	16	5.3%	1	0.0%	0

Table A5. *Caries Research*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Hiller	EU (Germany)	23.8%	5	71.4%	15	4.8%	1	0.0%	0
AU Twetman	EU (Sweden)	100.0%	9	0.0%	0	0.0%	0	0.0%	0
AU Duckworth	EU (England)	53.8%	7	46.2%	6	0.0%	0	0.0%	0
AU Kashani	EU (Sweden)	94.7%	18	0.0%	0	5.3%	1	0.0%	0
AU Morgan	EU (England)	38.5%	5	46.2%	6	15.4%	2	0.0%	0
AU Damen	EU (Netherlands)	80.0%	12	13.3%	2	6.7%	1	0.0%	0
AU Amaechi	EU (England)	35.0%	7	35.0%	7	30.0%	6	0.0%	0
AU Carlen	EU (Sweden)	24.2%	8	69.7%	23	6.1%	2	0.0%	0
AU Bradshaw	EU (England)	65.7%	23	34.3%	12	0.0%	0	0.0%	0
AU Huysmans	EU (Netherlands)	92.3%	12	7.7%	1	0.0%	0	0.0%	0
AU Huysmans	EU (Netherlands)	90.0%	9	10.0%	1	0.0%	0	0.0%	0
AU Rugg-Gunn	EU (England)	58.8%	10	29.4%	5	0.0%	0	11.8%	2
AU Attin	EU (Germany)	92.9%	39	4.8%	2	2.4%	1	0.0%	0
AU Amaechi	EU (England)	84.2%	16	15.8%	3	0.0%	0	0.0%	0
AU Ekstrand	EU (Denmark)	93.1%	27	3.4%	1	3.4%	1	0.0%	0
AU Assinder	EU (England)	59.1%	13	36.4%	8	4.5%	1	0.0%	0
AU Fure	EU (Sweden)	55.9%	19	41.2%	14	0.0%	0	2.9%	1
AU Rugg-Gunn	EU (England)	44.4%	12	29.6%	8	18.5%	5	7.4%	2
AU Robinson	EU (England)	70.0%	7	20.0%	2	10.0%	1	0.0%	0
AU Kahama	EU (Netherlands)	66.7%	4	33.3%	2	0.0%	0	0.0%	0
AU Hintze	EU (Denmark)	86.7%	13	6.7%	1	0.0%	0	6.7%	1
AU Banerjee	EU (England)	75.0%	15	20.0%	4	0.0%	0	5.0%	1
AU Rose	EU (England)	76.5%	13	23.5%	4	0.0%	0	0.0%	0
AU van Rijkom	EU (Netherlands)	39.4%	13	57.6%	19	0.0%	0	3.0%	1
AU Lundgren	EU (Sweden)	58.6%	17	34.5%	10	6.9%	2	0.0%	0
AU Brailsford	EU (England)	59.1%	13	36.4%	8	4.5%	1	0.0%	0
AU Twetman	EU (Sweden)	85.7%	18	14.3%	3	0.0%	0	0.0%	0
AU Frencken	EU (Netherlands)	35.3%	6	23.5%	4	29.4%	5	11.8%	2
AU Firestone	EU (Switzerland)	41.7%	10	45.8%	11	12.5%	3	0.0%	0
AU Tucker	EU (England)	81.3%	26	18.8%	6	0.0%	0	0.0%	0
AU ten Cate	EU (Netherlands)	92.9%	13	7.1%	1	0.0%	0	0.0%	0
AU Truin	EU (Netherlands)	100.0%	6	0.0%	0	0.0%	0	0.0%	0
AU Narhi	EU (Netherlands)	59.1%	13	40.9%	9	0.0%	0	0.0%	0
AU Mejare	EU (Sweden)	72.7%	16	22.7%	5	4.5%	1	0.0%	0
AU Wenzel	EU (Denmark)	87.5%	21	12.5%	3	0.0%	0	0.0%	0
AU Babaahmady	EU (England)	62.5%	20	34.4%	11	0.0%	0	3.1%	1
AU Bjorndal	EU (Denmark)	77.8%	21	11.1%	3	11.1%	3	0.0%	0
AU Clarkson	NA (USA)	12.5%	3	83.3%	20	0.0%	0	4.2%	1
AU Martin	NA (USA)	33.3%	12	55.6%	20	11.1%	4	0.0%	0
AU Gonzalez-Ca	NA (USA)	58.3%	7	41.7%	5	0.0%	0	0.0%	0
AU Zandona	NA (USA)	79.2%	19	16.7%	4	4.2%	1	0.0%	0

Table A5. *Caries Research*, Actual afa and rfa, 1998 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Zhang	NA (USA)	18.2%	4	54.5%	12	22.7%	5	4.5%	1
AU Maupome	NA (Canada)	50.0%	13	42.3%	11	3.8%	1	3.8%	1
AU Nair	NA (USA)	42.3%	11	57.7%	15	0.0%	0	0.0%	0
AU Zandona	NA (USA)	45.5%	10	50.0%	11	4.5%	1	0.0%	0
AU Dibdin	NA (Canada)	46.7%	7	26.7%	4	26.7%	4	0.0%	0
AU Kawai	OC (Japan)	27.8%	5	50.0%	9	22.2%	4	0.0%	0
AU Iijima	OC (Japan	70.6%	12	29.4%	5	0.0%	0	0.0%	0
AU Shu	OC (New Zealand)	39.0%	16	31.7%	13	26.8%	11	2.4%	1
AU Suzuki	OC (Japan)	50.0%	4	12.5%	1	37.5%	3	0.0%	0
AU Ooshima	OC (Japan)	28.6%	4	71.4%	10	0.0%	0	0.0%	0
AU Grobler	Other (S.Africa)	16.7%	3	50.0%	9	27.8%	5	5.6%	1
AU Mattos-Gr	Other (Brazil)	81.0%	17	9.5%	2	4.8%	1	4.8%	1

Table A6. *Journal of Dentistry*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Kreulen	EU (Netherlands)	48.6%	17	34.3%	12	14.3%	5	2.9%	1
AU Clerehugh	EU (England)	78.6%	11	21.4%	3	0.0%	0	0.0%	0
AU Cross	EU (Scotland)	89.5%	17	10.5%	2	0.0%	0	0.0%	0
AU Manning	EU (England)	63.6%	7	36.4%	4	0.0%	0	0.0%	0
AU Benson	EU (England)	55.6%	10	22.2%	4	11.1%	2	11.1%	2
AU Shahdad	EU (N.Ireland)	20.0%	4	70.0%	14	5.0%	1	5.0%	1
AU Kanchanava	EU (England)	56.3%	9	31.3%	5	6.3%	1	6.3%	1
AU Davis	EU (England)	61.5%	8	30.8%	4	7.7%	1	0.0%	0
AU Opdam	EU (Netherlands)	76.2%	16	23.8%	5	0.0%	0	0.0%	0
AU Meijering	EU (Netherlands)	46.2%	6	38.5%	5	15.4%	2	0.0%	0
AU Meijering	EU (Netherlands)	50.0%	8	50.0%	8	0.0%	0	0.0%	0
AU Radford	EU (England)	52.6%	10	26.3%	5	21.1%	4	0.0%	0
AU Wu	EU (Netherlands)	33.3%	7	47.6%	10	9.5%	2	9.5%	2
AU Rothwell	EU (England)	75.0%	15	15.0%	3	5.0%	1	5.0%	1
AU Fuzzi	EU (Italy)	90.0%	9	10.0%	1	0.0%	0	0.0%	0
AU Creugers	EU (Netherlands)	68.4%	13	26.3%	5	5.3%	1	0.0%	0
AU Fennis-Ie	EU (Netherlands)	85.7%	24	14.3%	4	0.0%	0	0.0%	0
AU Robertson	EU (Sweden)	84.0%	21	16.0%	4	0.0%	0	0.0%	0
AU Meechan	EU (England)	33.3%	2	66.7%	4	0.0%	0	0.0%	0
AU Orchardson	EU (Scotland)	50.0%	7	42.9%	6	7.1%	1	0.0%	0
AU Osborne-S	EU (England)	21.4%	3	78.6%	11	0.0%	0	0.0%	0
AU Lussi	EU (Switzerland)	81.8%	9	9.1%	1	9.1%	1	0.0%	0
AU Allaker	EU (England)	28.6%	2	14.3%	1	57.1%	4	0.0%	0
AU Boening	EU (Germany)	33.3%	4	33.3%	4	33.3%	4	0.0%	0
AU Moscovich	EU (Netherlands)	75.0%	6	12.5%	1	12.5%	1	0.0%	0
AU Abou Hashi	EU (France)	38.5%	5	61.5%	8	0.0%	0	0.0%	0
AU Al-Hiyasat	EU (Scotland)	36.8%	7	57.9%	11	5.3%	1	0.0%	0
AU Creanor	EU (Scotland)	50.0%	8	37.5%	6	6.3%	1	6.3%	1
AU Chung	EU (Scotland)	59.4%	19	34.4%	11	0.0%	0	6.3%	2
AU Opdam	EU (Netherlands)	81.3%	13	12.5%	2	0.0%	0	6.3%	1
AU Kreulen	EU (Netherlands)	53.6%	15	35.7%	10	10.7%	3	0.0%	0
AU Shaw	EU (England)	76.0%	19	20.0%	5	0.0%	0	4.0%	1
AU Fennis-Le	EU (Netherlands)	87.0%	20	13.0%	3	0.0%	0	0.0%	0
AU Ashley	EU (England)	71.4%	5	28.6%	2	0.0%	0	0.0%	0
AU Ricketts	EU (England)	89.5%	17	10.5%	2	0.0%	0	0.0%	0
AU Millar	EU (England)	62.5%	10	25.0%	4	0.0%	0	12.5%	2
AU Spahl	EU (Germany)	50.0%	13	38.5%	10	11.5%	3	0.0%	0
AU Azillah	EU (England)	93.3%	14	6.7%	1	0.0%	0	0.0%	0
AU Moscovich	EU (Netherlands)	66.7%	12	33.3%	6	0.0%	0	0.0%	0
AU Wallman	EU (Sweden)	77.3%	17	22.7%	5	0.0%	0	0.0%	0
AU Mitchell	EU (N. Ireland)	87.5%	7	12.5%	1	0.0%	0	0.0%	0

Table A6. *Journal of Dentistry*, Actual afa and rfa, 1998 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Sakaguc	NA (USA)	27.3%	3	54.5%	6	18.2%	2	0.0%	0
AU Gordan	NA (USA)	58.8%	10	35.3%	6	5.9%	1	0.0%	0
AU Kalin	NA (USA)	24.5%	12	34.7%	17	12.2%	6	28.6%	14
AU Wilder	NA (USA)	19.0%	4	52.4%	11	28.6%	6	0.0%	0
AU Ogawa	OC (Japan)	33.3%	6	22.2%	4	44.4%	8	0.0%	0
AU Love	OC (New Zealand)	37.5%	3	37.5%	3	25.0%	2	0.0%	0
AU Taira	OC (Japan)	0.0%	0	29.4%	5	70.6%	12	0.0%	0
AU Yoshiya	OC (Japan)	16.7%	3	61.1%	11	22.2%	4	0.0%	0
AU Yamashi	OC (Japan)	33.3%	2	33.3%	2	16.7%	1	16.7%	1
AU Pereira	OC (Japan)	32.1%	9	46.4%	13	17.9%	5	3.6%	1
AU Pereira	OC (Japan)	45.0%	9	30.0%	6	25.0%	5	0.0%	0
AU Collins	OC (Australia)	36.4%	8	50.0%	11	13.6%	3	0.0%	0
AU Nakabay	OC (Japan)	10.5%	2	31.6%	6	57.9%	11	0.0%	0
AU Imazato	OC (Japan)	37.5%	6	31.3%	5	31.3%	5	0.0%	0
AU Tsai	OC (Taiwan)	15.6%	5	75.0%	24	9.4%	3	0.0%	0
AU Sawase	OC (Japan)	60.0%	6	40.0%	4	0.0%	0	0.0%	0
AU Chigira	OC (Japan)	23.5%	4	11.8%	2	64.7%	11	0.0%	0
AU Nikawa	OC (Japan)	36.8%	14	36.8%	14	26.3%	10	0.0%	0
AU Chen	OC (Japan)	5.9%	1	70.6%	12	23.5%	4	0.0%	0
AU Pilo	Other (Israel)	2.7%	1	78.4%	29	13.5%	5	5.4%	2
AU Grobler	Other (S.Africa)	55.3%	21	34.2%	13	7.9%	3	2.6%	1

Table A7. *Dental Materials*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Johnson	EU (England)	37.5%	3	50.0%	4	0.0%	0	12.5%	1
AU Tolidis	EU (England)	60.7%	17	25.0%	7	10.7%	3	3.6%	1
AU Levallois	EU (France)	54.2%	13	29.2%	7	12.5%	3	4.2%	1
AU Wolf	EU (Germany)	33.3%	5	60.0%	9	6.7%	1	0.0%	0
AU Abou Has	EU (France)	29.6%	8	48.1%	13	22.2%	6	0.0%	0
AU Scherrer	EU (Switzerland)	23.3%	7	60.0%	18	16.7%	5	0.0%	0
AU De Moor	EU (Belgium)	72.7%	16	9.1%	2	9.1%	2	9.1%	2
AU Spears	EU (Germany)	52.0%	13	40.0%	10	8.0%	2	0.0%	0
AU Gladys	EU (Belgium)	51.9%	14	33.3%	9	11.1%	3	3.7%	1
AU Armstrong	EU (Austria)	35.3%	12	47.1%	16	17.6%	6	0.0%	0
AU Trimpenee	EU (Belgium)	55.6%	15	37.0%	10	0.0%	0	7.4%	2
AU Morrier	EU (France)	55.0%	22	42.5%	17	0.0%	0	2.5%	1
AU Folwaczny	EU (Germany)	35.7%	5	57.1%	8	7.1%	1	0.0%	0
AU Tobi	EU (Netherlands)	36.4%	4	63.6%	7	0.0%	0	0.0%	0
AU Asmussen	EU (Denmark)	52.6%	10	15.8%	3	31.6%	6	0.0%	0
AU Asmussen	EU (Denmark)	69.6%	16	26.1%	6	4.3%	1	0.0%	0
AU Eliades	EU (Greece)	90.0%	9	0.0%	0	10.0%	1	0.0%	0
AU Kern	EU (Germany)	52.6%	10	36.8%	7	10.5%	2	0.0%	0
AU Park	NA (USA)	34.2%	13	28.9%	11	36.8%	14	0.0%	0
AU Gelskey	NA (Canada)	0.0%	0	71.4%	10	28.6%	4	0.0%	0
AU Miller	NA (USA)	3.4%	1	72.4%	21	20.7%	6	3.4%	1
AU O'Brien	NA (USA)	33.3%	2	66.7%	4	0.0%	0	0.0%	0
AU Jestel	NA (USA)	33.3%	7	61.9%	13	0.0%	0	4.8%	1
AU DeHoff	NA (USA)	0.0%	0	100.0%	9	0.0%	0	0.0%	0
AU Condon	NA (USA)	75.0%	9	8.3%	1	8.3%	1	8.3%	1
AU Sakaguchi	NA (USA)	75.0%	6	12.5%	1	12.5%	1	0.0%	0
AU Papazoglo	NA (USA)	16.0%	4	80.0%	20	4.0%	1	0.0%	0
AU Strother	NA (USA)	45.8%	11	45.8%	11	4.2%	1	4.2%	1
AU Park	NA (USA)	0.0%	0	71.4%	5	28.6%	2	0.0%	0
AU Wataha	NA (USA)	38.9%	7	61.1%	11	0.0%	0	0.0%	0
AU Venugopal	NA (USA)	51.6%	16	48.4%	15	0.0%	0	0.0%	0
AU Venugopal	NA (USA)	31.3%	5	56.3%	9	12.5%	2	0.0%	0
AU Schreiner	NA (USA)	0.0%	0	83.3%	5	16.7%	1	0.0%	0
AU Rasmusse	NA (USA)	7.7%	1	76.9%	10	15.4%	2	0.0%	0
AU Zhang	NA (USA)	30.8%	4	53.8%	7	15.4%	2	0.0%	0
AU Pashley	NA (USA)	10.0%	1	80.0%	8	10.0%	1	0.0%	0
AU Xu	NA (USA)	8.0%	2	84.0%	21	4.0%	1	4.0%	1
AU Luo	NA (USA)	10.0%	2	90.0%	18	0.0%	0	0.0%	0
AU Armstrong	NA (USA)	12.0%	3	72.0%	18	12.0%	3	4.0%	1
AU McCrory	NA (USA)	25.0%	2	25.0%	2	50.0%	4	0.0%	0
AU Peterson	NA (USA)	10.0%	2	85.0%	17	5.0%	1	0.0%	0

Table A7. *Dental Materials*, Actual afa and rfa, 1998 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Arikawa	OC (Japan)	41.7%	5	33.3%	4	25.0%	3	0.0%	0
AU Tyas	OC (Australia)	66.7%	4	33.3%	2	0.0%	0	0.0%	0
AU Schedle	OC (Australia)	52.9%	18	32.4%	11	14.7%	5	0.0%	0
AU Kawash	OC (Japan)	40.0%	2	0.0%	0	40.0%	2	20.0%	1
AU Taira	OC (Japan)	16.7%	3	22.2%	4	61.1%	11	0.0%	0
AU Tay	OC (China)	36.0%	9	52.0%	13	12.0%	3	0.0%	0
AU Hsu	OC (Taiwan)	12.5%	2	68.8%	11	18.8%	3	0.0%	0
AU Nakanu	OC (Japan)	36.8%	7	31.6%	6	31.6%	6	0.0%	0
AU Hayaka	OC (Japan)	21.1%	4	26.3%	5	52.6%	10	0.0%	0
AU Phrukka	OC (Australia)	25.0%	4	50.0%	8	25.0%	4	0.0%	0
AU Pereira	OC (Japan)	57.7%	15	30.8%	8	7.7%	2	3.8%	1
AU Phrukka	OC (Australia)	22.2%	4	50.0%	9	22.2%	4	5.6%	1
AU Cardoso	Other (Brazil)	29.4%	5	58.8%	10	11.8%	2	0.0%	0
AU Toparli	Other (Turkey)	37.0%	10	40.7%	11	14.8%	4	7.4%	2

Table A8. *European Journal of Oral Sciences*, Actual afa and rfa, 1998

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Laahteenoja	EU (Finland)	84.2%	16	15.8%	3	0.0%	0	0.0%	0
AU Marklund	EU (Sweden)	27.6%	8	65.5%	19	6.9%	2	0.0%	0
AU Astrom	EU (Norway)	50.0%	8	50.0%	8	0.0%	0	0.0%	0
AU Andersson	EU (Sweden)	90.0%	9	10.0%	1	0.0%	0	0.0%	0
AU Huard-Del	EU (France)	24.2%	8	45.5%	15	30.3%	10	0.0%	0
AU Muller	EU (Germany)	45.5%	10	50.0%	11	4.5%	1	0.0%	0
AU Persson	EU (Sweden)	58.8%	10	29.4%	5	11.8%	2	0.0%	0
AU Mojon	EU (Switzerland)	62.2%	23	35.1%	13	2.7%	1	0.0%	0
AU Skaret	EU (Norway)	65.7%	23	25.7%	9	5.7%	2	2.9%	1
AU Breivik	EU (Norway)	57.9%	22	42.1%	16	0.0%	0	0.0%	0
AU Kirby	EU (England)	65.4%	17	19.2%	5	15.4%	4	0.0%	0
AU Johansson	EU (Sweden)	51.0%	25	42.9%	21	4.1%	2	2.0%	1
AU Sjogren	EU (Sweden)	41.7%	10	45.8%	11	8.3%	2	4.2%	1
AU Asmussen	EU (Denmark)	75.0%	6	25.0%	2	0.0%	0	0.0%	0
AU Jensen	EU (Norway)	50.0%	6	50.0%	6	0.0%	0	0.0%	0
AU O'Sullivan	EU (England)	68.4%	13	31.6%	6	0.0%	0	0.0%	0
AU Lerner	EU (Sweden)	42.9%	12	39.3%	11	17.9%	5	0.0%	0
AU Emanuelsson	EU (Sweden)	31.6%	6	52.6%	10	15.8%	3	0.0%	0
AU Bronckers	EU (Netherlands)	21.7%	5	78.3%	18	0.0%	0	0.0%	0
AU Labella	EU (Belgium)	56.3%	9	43.8%	7	0.0%	0	0.0%	0
AU Petti	EU (Italy)	79.4%	27	20.6%	7	0.0%	0	0.0%	0
AU Petersson	EU (Sweden)	86.4%	19	13.6%	3	0.0%	0	0.0%	0
AU Mustafa	EU (Sweden)	56.5%	13	34.8%	8	8.7%	2	0.0%	0
AU Eriksson	EU (Sweden)	60.0%	6	40.0%	4	0.0%	0	0.0%	0
AU Peterkova	EU (Czech)	77.8%	14	16.7%	3	0.0%	0	5.6%	1
AU Berglund	EU (Sweden)	73.3%	11	26.7%	4	0.0%	0	0.0%	0
AU Ekstrand	EU (Sweden)	70.2%	33	29.8%	14	0.0%	0	0.0%	0
AU Geurtsen	EU (Germany)	62.3%	33	26.4%	14	9.4%	5	1.9%	1
AU Schmalz	EU (Germany)	56.2%	41	32.9%	24	5.5%	4	5.5%	4
AU Hensten-Pette	EU (Norway)	83.3%	15	11.1%	2	5.6%	1	0.0%	0
AU Hunt	EU (England)	57.6%	19	30.3%	10	12.1%	4	0.0%	0
AU Mark	EU (France)	62.5%	15	33.3%	8	4.2%	1	0.0%	0
AU Peters	EU (Germany)	72.7%	32	25.0%	11	2.3%	1	0.0%	0
AU Thomas	EU (England)	60.0%	12	35.0%	7	5.0%	1	0.0%	0
AU Lesot	EU (France)	76.5%	13	17.6%	3	5.9%	1	0.0%	0
AU Nosrat	EU (Sweden)	42.3%	11	53.8%	14	3.8%	1	0.0%	0
AU Bloch-Zupan	EU (France)	40.0%	22	52.7%	29	7.3%	4	0.0%	0
AU Mitsiadis	EU (France)	52.6%	10	36.8%	7	10.5%	2	0.0%	0
AU Martin	EU (Spain)	50.0%	14	28.6%	8	21.4%	6	0.0%	0
AU Terling	EU (Sweden)	51.5%	17	30.3%	10	18.2%	6	0.0%	0
AU Webb	EU (Wales)	35.0%	14	55.0%	22	5.0%	2	5.0%	2

Table A8. *European Journal of Oral Sciences*, Actual afa and rfa, 1998 (continued 1)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Woltgens	EU (Netherlands)	73.7%	14	21.1%	4	5.3%	1	0.0%	0
AU Heikinheimo	EU (Finland)	39.7%	23	56.9%	33	3.4%	2	0.0%	0
AU Cheifetz	EU (Canada)	31.8%	7	63.6%	14	4.5%	1	0.0%	0
AU Smith	EU (England)	42.3%	11	57.7%	15	0.0%	0	0.0%	0
AU Tziafas	EU (Greece)	41.7%	10	58.3%	14	0.0%	0	0.0%	0
AU Dahlin	EU (Sweden)	22.5%	9	67.5%	27	7.5%	3	2.5%	1
AU Embery	EU (Wales)	52.9%	9	41.2%	7	5.9%	1	0.0%	0
AU Robinson	EU (England)	22.2%	10	55.6%	25	20.0%	9	2.2%	1
AU Lyaruu	EU (Netherlands)	30.0%	9	63.3%	19	6.7%	2	0.0%	0
AU Fong	EU (Sweden)	66.7%	14	28.6%	6	0.0%	0	4.8%	1
AU Beertsen	EU (Netherlands)	52.6%	10	42.1%	8	5.3%	1	0.0%	0
AU Moxham	EU (Wales)	72.7%	24	21.2%	7	3.0%	1	3.0%	1
AU Franquin	EU (France)	60.0%	9	26.7%	4	0.0%	0	13.3%	2
AU Liao	EU (Sweden)	53.3%	8	40.0%	6	6.7%	1	0.0%	0
AU Nefussi	EU (France)	50.0%	7	50.0%	7	0.0%	0	0.0%	0
AU Girondot	EU (France)	19.5%	8	56.1%	23	19.5%	8	4.9%	2
AU Sappey-Mar	EU (France)	50.0%	14	46.4%	13	3.6%	1	0.0%	0
AU Nordahl	EU (Sweden)	56.3%	18	40.6%	13	0.0%	0	3.1%	1
AU Kashani	EU (Sweden)	75.0%	12	25.0%	4	0.0%	0	0.0%	0
AU Skold	EU (Sweden)	66.7%	12	27.8%	5	0.0%	0	5.6%	1
AU Blix	EU (Norway)	32.1%	9	64.3%	18	3.6%	1	0.0%	0
AU Forsell	EU (Sweden)	76.2%	16	19.0%	4	4.8%	1	0.0%	0
AU Vallittu	EU (Finland)	70.8%	17	0.0%	0	20.8%	5	8.3%	2
AU Begue-Kirn	NA (USA)	29.5%	13	63.6%	28	6.8%	3	0.0%	0
AU Grier	NA (USA)	10.3%	3	69.0%	20	20.7%	6	0.0%	0
AU Zuckerbraun	NA (USA)	43.3%	13	50.0%	15	6.7%	2	0.0%	0
AU Drummond	NA (USA)	33.3%	2	50.0%	3	16.7%	1	0.0%	0
AU Philbrick	NA (USA)	0.0%	0	84.6%	22	15.4%	4	0.0%	0
AU Weiss	NA (USA)	43.8%	14	53.1%	17	3.1%	1	0.0%	0
AU Wang	NA (USA)	57.1%	12	42.9%	9	0.0%	0	0.0%	0
AU Wozney	NA (USA)	5.3%	2	94.7%	36	0.0%	0	0.0%	0
AU D'Souza	NA (USA)	38.5%	5	61.5%	8	0.0%	0	0.0%	0
AU Butler	NA (USA)	7.1%	2	89.3%	25	3.6%	1	0.0%	0
AU Ritchie	NA (USA)	18.5%	5	77.8%	21	0.0%	0	3.7%	1
AU George	NA (USA)	14.3%	3	76.2%	16	0.0%	0	9.5%	2
AU MacDougall	NA (USA)	39.1%	9	60.9%	14	0.0%	0	0.0%	0
AU Veis	NA (USA)	0.0%	0	100.0%	7	0.0%	0	0.0%	0
AU Begue-Kirn	NA (USA)	58.8%	10	29.4%	5	11.8%	2	0.0%	0
AU Hanks	NA (USA)	9.1%	2	77.3%	17	13.6%	3	0.0%	0
AU Gibson	NA (USA)	18.0%	9	72.0%	36	10.0%	5	0.0%	0
AU Chen	NA (USA)	36.4%	8	63.6%	14	0.0%	0	0.0%	0

Table A8. *European Journal of Oral Sciences*, Actual afa and rfa, 1998 (continued 2)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Ryu	NA (USA)	12.0%	3	60.0%	15	24.0%	6	4.0%	1
AU Den Besten	NA (USA)	15.8%	3	63.2%	12	15.8%	3	5.3%	1
AU MacNeil	NA (USA)	16.3%	8	73.5%	36	10.2%	5	0.0%	0
AU Wise	NA (USA)	13.0%	3	78.3%	18	8.7%	2	0.0%	0
AU Zohar	NA (Canada)	17.6%	3	82.4%	14	0.0%	0	0.0%	0
AU Li	NA (Canada)	11.1%	3	85.2%	23	3.7%	1	0.0%	0
AU Dewji	NA (USA)	25.0%	4	62.5%	10	12.5%	2	0.0%	0
AU Taira	OC (Japan)	28.6%	4	28.6%	4	42.9%	6	0.0%	0
AU Imai	OC (Japan)	47.4%	9	42.1%	8	10.5%	2	0.0%	0
AU Sawada	OC (Japan)	50.0%	7	28.6%	4	21.4%	3	0.0%	0
AU Liu	OC (Japan)	0.0%	0	63.2%	12	36.8%	7	0.0%	0
AU Kuboki	OC (Japan)	0.0%	0	8.3%	1	50.0%	6	41.7%	5
AU Fujisawa	OC (Japan)	3.8%	1	42.3%	11	46.2%	12	7.7%	2
AU Takano	OC (Japan)	27.3%	6	36.4%	8	36.4%	8	0.0%	0
AU Uchida	OC (Japan)	18.2%	2	27.3%	3	54.5%	6	0.0%	0
AU Tabata	OC (Japan)	60.0%	6	10.0%	1	30.0%	3	0.0%	0
AU Mishima	OC (Japan)	37.5%	3	0.0%	0	62.5%	5	0.0%	0
AU Tadokoro	OC (Japan)	66.7%	4	33.3%	2	0.0%	0	0.0%	0
AU Baral	Other (India)	22.2%	4	38.9%	7	5.6%	1	33.3%	6
AU van der Bijl	Other (S.Africa)	37.5%	6	37.5%	6	6.3%	1	18.8%	3
AU Arana-Chavez	Other (Brazil)	50.0%	7	35.7%	5	0.0%	0	14.3%	2
AU Deutsch	Other (Israel)	16.7%	6	55.6%	20	11.1%	4	16.7%	6
AU Bar-Kana	Other (Israel)	9.7%	3	64.5%	20	9.7%	3	16.1%	5

Table A9. *American Journal of Dentistry*, Actual afa and rfa, 2002

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Gatti	EU (Italy)	80.0%	8	20.0%	2	0.0%		0.0%	
AU Camps	EU (France)	33.3%	9	59.3%	16	7.4%	2	0.0%	
AU Opdam	EU (Netherlands)	81.8%	9	18.2%	2	0.0%		0.0%	
AU Dall'Orologio	EU (Germany)	60.0%	9	26.7%	4	13.3%	2	0.0%	
AU Hope	EU (England)	61.9%	13	38.1%	8	0.0%		0.0%	
AU Uctasli	EU (England)	73.2%	30	22.0%	9	4.9%	2	0.0%	
AU Ferrari	EU (Italy)	71.4%	10	28.6%	4	0.0%		0.0%	
AU Toledano	EU (Spain)	26.5%	9	44.1%	15	23.5%	8	5.9%	2
AU Morrow	EU (England)	36.1%	13	50.0%	18	2.8%	1	11.1%	4
AU Finger	EU (Germany)	66.7%	10	33.3%	5	0.0%		0.0%	
AU Moll	EU (Germany)	31.4%	11	57.1%	20	8.6%	3	2.9%	1
AU Fleming	EU (UK)	31.6%	6	57.9%	11	10.5%	2	0.0%	
AU Heintze	EU (Sweden)	79.3%	23	20.7%	6	0.0%		0.0%	
AU Sidhu	EU (England)	81.8%	9	18.2%	2	0.0%		0.0%	
AU Zimmer	EU (Germany)	75.0%	15	20.0%	4	5.0%	1	0.0%	
AU Wicht	EU (Germany)	60.0%	9	13.3%	2	26.7%	4	0.0%	
AU Schmidlin	EU (Switzerland)	41.9%	18	44.2%	19	7.0%	3	7.0%	3
AU Gohring	EU (Switzerland)	60.0%	6	40.0%	4	0.0%		0.0%	
AU Sharma	NA (USA)	22.2%	4	72.2%	13	5.6%	1	0.0%	
AU Hicks	NA (USA)	36.1%	13	44.4%	16	2.8%	1	16.7%	6
AU Cronin	NA (USA)	36.4%	4	63.6%	7	0.0%		0.0%	
AU Hagge	NA (USA)	16.7%	3	61.1%	11	16.7%	3	5.6%	1
AU Guelmann	NA (USA)	43.5%	10	52.2%	12	0.0%		4.3%	1
AU El-Din	NA (USA)	33.3%	4	58.3%	7	8.3%	1	0.0%	
AU Somphone	NA (USA)	26.7%	8	26.7%	8	40.0%	12	6.7%	2
AU Putt	NA (USA)	35.7%	5	64.3%	9	0.0%		0.0%	
AU Adams	NA (USA)	33.3%	5	66.7%	10	0.0%		0.0%	
AU Platt	NA (USA)	9.1%	1	90.9%	10	0.0%		0.0%	
AU Sorensen	NA (USA)	72.7%	8	27.3%	3	0.0%		0.0%	
AU Goldstein	NA (USA)	47.6%	10	47.6%	10	0.0%		4.8%	1
AU Xie	NA (USA)	16.0%	4	64.0%	16	20.0%	5	0.0%	
AU Dickens	NA (USA)	26.5%	9	67.6%	23	5.9%	2	0.0%	
AU Sintes	NA (USA)	57.9%	11	36.8%	7	5.3%	1	0.0%	
AU Murray	NA (USA)	42.4%	14	39.4%	13	12.1%	4	6.1%	2
AU St-Georges	NA (USA)	32.3%	10	54.8%	17	3.2%	1	9.7%	3
AU Gonzalez	NA (USA)	37.5%	9	41.7%	10	16.7%	4	4.2%	1
AU Tonioli	NA (USA)	76.9%	20	23.1%	6	0.0%		0.0%	
AU Garcia-Godoy	NA (USA)	0.0%		100.0%	4	0.0%		0.0%	
AU Sharma	NA (Canada)	50.0%	10	50.0%	10	0.0%		0.0%	
AU Biesbrock	NA (USA)	42.9%	9	57.1%	12	0.0%		0.0%	
AU Pashley	NA (USA)	40.9%	9	45.5%	10	9.1%	2	4.5%	1

Table A9. *American Journal of Dentistry*, Actual afa and rfa, 2002 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Wahl	NA (USA)	20.0%	2	70.0%	7	10.0%	1	0.0%	
AU Gerlach	NA (USA)	0.0%		100.0%	16	0.0%		0.0%	
AU Donly	NA (USA)	34.8%	8	65.2%	15	0.0%		0.0%	
AU Primosch	NA (USA)	11.1%	3	88.9%	24	0.0%		0.0%	
AU Murray	NA (USA)	41.4%	12	48.3%	14	6.9%	2	3.4%	1
AU Price	NA (Canada)	33.3%	18	46.3%	25	11.1%	6	9.3%	5
AU Shimada	OC (Japan)	33.3%	5	20.0%	3	46.7%	7	0.0%	
AU Akagawa	OC (Japan)	22.7%	5	22.7%	5	54.5%	12	0.0%	
AU Fujitani	OC (Japan)	27.3%	9	45.5%	15	24.2%	8	3.0%	1
AU Luo	OC (China)	38.5%	10	30.8%	8	26.9%	7	3.8%	1
AU Miyazaki	OC (Japan)	24.1%	7	55.2%	16	20.7%	6	0.0%	
AU Botelho	OC (China)	66.7%	16	20.8%	5	12.5%	3	0.0%	
AU Torii	OC (Japan)	15.8%	3	47.4%	9	36.8%	7	0.0%	
AU Tyas	OC (Australia)	20.0%	3	33.3%	5	40.0%	6	6.7%	1
AU Kawai	OC (Japan)	52.2%	12	17.4%	4	21.7%	5	8.7%	2
AU Koike	OC (Japan)	26.7%	4	40.0%	6	33.3%	5	0.0%	
AU Suge	OC (Japan)	10.5%	2	42.1%	8	42.1%	8	5.3%	1
AU Ikeda	OC (Japan)	34.8%	8	34.8%	8	30.4%	7	0.0%	
AU Imazato	OC (Japan)	24.0%	6	36.0%	9	32.0%	8	8.0%	2
AU Dalpino	Other (Brazil)	16.7%	3	72.2%	13	0.0%		11.1%	2
AU Demirci	Other (Turkey)	50.0%	17	23.5%	8	17.6%	6	8.8%	3
AU Cardoso	Other (Brazil)	23.5%	8	50.0%	17	23.5%	8	2.9%	1
AU Delbem	Other (Brazil)	9.1%	1	72.7%	8	0.0%		18.2%	2
AU Briso	Other (Brazil)	0.0%		44.4%	4	33.3%	3	22.2%	2
AU Reis	Other (Brazil)	26.7%	8	66.7%	20	3.3%	1	3.3%	1
AU Wucher	Other (S.Africa)	41.0%	16	51.3%	20	2.6%	1	5.1%	2
AU Abdalla	Other (Egypt)	30.4%	7	39.1%	9	17.4%	4	13.0%	3

Table A10. *Operative Dentistry*, Actual afa and rfa, 2002

Article-First-Authors (afa)			Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin		EU		NA		OC		Other	
Szep S	EU		56.3%	9	18.8%	3	18.8%	3	6.3%	1
Kispelyi B	EU		38.1%	8	61.9%	13	0.0%		0.0%	
Peutzfeldt A	EU		37.8%	14	37.8%	14	16.2%	6	8.1%	3
Morrow LA	EU		26.9%	7	61.5%	16	3.8%	1	7.7%	2
Hofmann N	EU		50.0%	10	40.0%	8	5.0%	1	5.0%	1
Dietschi D	EU		60.9%	28	28.3%	13	8.7%	4	2.2%	1
Edelhoff D	EU		94.4%	17	0.0%		5.6%	1	0.0%	
Wilson MA	EU		53.8%	7	30.8%	4	15.4%	2	0.0%	
Ivanyi I	EU	(Hungary)	44.8%	13	34.5%	10	10.3%	3	10.3%	3
Fazekas	EU	(Hungary)	33.3%	3	66.7%	6	0.0%		0.0%	
Ricketts DN	EU	(Scottland)	71.4%	10	28.6%	4	0.0%		0.0%	
Jung M	EU	(Germany)	52.9%	9	29.4%	5	17.6%	3	0.0%	
Ozcan M	EU	(Turkey)	44.4%	8	50.0%	9	5.6%	1	0.0%	
Baca P	EU	(Spain)	70.6%	12	23.5%	4	0.0%		5.9%	1
Williams PT	NA	(Canada)	45.5%	15	36.4%	12	9.1%	3	16.7%	3
Neme AM	NA	(USA)	45.0%	9	40.0%	8	5.0%	1	18.2%	2
Hackman ST	NA	(USA)	27.8%	5	55.6%	10	16.7%	3	0.0%	
Gordan VV	NA	(USA)	30.6%	11	61.1%	22	5.6%	2	4.0%	1
Molinaro JD	NA	(USA)	15.4%	8	59.6%	31	15.4%	8	11.4%	5
Bogacki RE	NA	(USA)	57.1%	4	42.9%	3	0.0%		0.0%	
McComb D	NA	(Canada)	36.4%	8	54.5%	12	9.1%	2	0.0%	
St-Georges AJ	NA	(Canada)	20.6%	7	73.5%	25	5.9%	2	0.0%	
Malmstrom H	NA	(USA)	67.9%	19	25.0%	7	3.6%	1	11.1%	1
Autio-Gold JT	NA	(USA)	21.2%	7	66.7%	22	3.0%	1	11.5%	3
Brackett WW	NA	(USA)	60.0%	6	40.0%	4	0.0%		0.0%	
Matis BA	NA	(USA)	11.8%	2	82.4%	14	5.9%	1	0.0%	
Stockton LW	NA	(Canada)	31.6%	6	63.2%	12	5.3%	1	0.0%	
Hachmeister	NA	(USA)	8.3%	2	83.3%	20	8.3%	2	0.0%	
Moon PC	NA	(USA)	42.9%	3	28.6%	2	28.6%	2	0.0%	
Ryba TM	NA	(USA)	22.2%	2	66.7%	6	11.1%	1	0.0%	
Kazemi RB	NA	(USA)	10.0%	1	40.0%	4	30.0%	3	20.0%	2
Mjor IA	NA	(USA)	58.8%	10	41.2%	7	0.0%		0.0%	
Brackett MG	NA	(USA)	16.7%	2	58.3%	7	0.0%		25.0%	3
Neme AL	NA	(USA)	22.2%	6	77.8%	21	0.0%		0.0%	
Neme AL	NA	(USA)	5.3%	1	84.2%	16	10.5%	2	0.0%	
Matis BA	NA	(USA)	12.5%	1	75.0%	6	0.0%		12.5%	1
Iwami Y	OCEA	(Japan)	40.0%	10	28.0%	7	8.0%	2	24.0%	6
Yap AU	OCEA	(Singapore)	14.3%	2	57.1%	8	14.3%	2	14.3%	2
Nakaoki Y	OCEA	(Japan)	4.3%	1	52.2%	12	39.1%	9	4.3%	1
Sakoolnamar	OCEA	(Australia)	25.6%	11	23.3%	10	48.8%	21	2.3%	1
Yap AU	OCEA	(Singapore)	32.3%	10	41.9%	13	22.6%	7	3.2%	1

Table A10. *Operative Dentistry*, Actual afa and rfa, 2002 (continued)

Article-First-Authors (afa)			Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin		EU		NA		OC		Other	
Yap AU	OCEA	(Singapore)	21.1%	4	36.8%	7	42.1%	8	0.0%	
Ogata M	OCEA	(Japan)	12.5%	2	18.8%	3	68.8%	11	0.0%	
Smales RJ	OCEA	(Japan)	27.3%	3	72.7%	8	0.0%		0.0%	
Tyas MJ	OCEA	(Japan)	13.3%	2	46.7%	7	40.0%	6	0.0%	
Shimada Y	OCEA	(Japan)	20.0%	3	20.0%	3	53.3%	8	6.7%	1
Kubo S	OCEA	(Japan)	33.3%	12	30.6%	11	33.3%	12	2.8%	1
Yap AU	OCEA	(Singapore)	21.4%	3	64.3%	9	7.1%	1	7.1%	1
Kitasako Y et	OCEA	(Japan)	13.3%	2	40.0%	6	40.0%	6	6.7%	1
Medina VO	OCEA	(Philippines	15.4%	8	42.3%	22	30.8%	16	11.5%	6
Soeno K	OCEA	(Japan)	16.7%	4	62.5%	15	12.5%	3	8.3%	2
Cho BH	OCEA	(S.Korea)	45.5%	15	48.5%	16	6.1%	2	0.0%	
Okuda M	OCEA	(Japan)	6.3%	1	37.5%	6	50.0%	8	6.3%	1
Miyazaki M	OCEA	(Japan)	23.5%	8	35.3%	12	41.2%	14	0.0%	
Yap AU	OCEA	(Singapore)	22.2%	6	44.4%	12	33.3%	9	0.0%	
Yap AU	OCEA	(Singapore)	48.6%	17	34.3%	12	17.1%	6	0.0%	
Yap AU	OCEA	(Singapore)	47.8%	11	17.4%	4	30.4%	7	4.3%	1
Yap AU	OCEA	(Singapore)	11.1%	2	72.2%	13	11.1%	2	5.6%	1
Yap AU	OCEA	(Singapore)	46.7%	14	30.0%	9	23.3%	7	0.0%	
Yap AU	OCEA	(Singapore)	33.3%	10	46.7%	14	13.3%	4	6.7%	2
Yap AU	OCEA	(Singapore)	28.6%	6	33.3%	7	33.3%	7	4.8%	1
Miyazaki M	OCEA	(Japan)	34.2%	13	34.2%	13	31.6%	12	0.0%	
Shin DH	OCEA	(S.Korea)	14.3%	2	71.4%	10	7.1%	1	7.1%	1
Irie M	OCEA	(Japan)	56.0%	14	16.0%	4	28.0%	7	0.0%	
Park SH	OCEA	(S.Korea)	45.0%	9	50.0%	10	5.0%	1	0.0%	
Erhardt MC	Other	(Brazil)	35.5%	11	45.2%	14	6.5%	2	12.9%	4
Yazici AR	Other	(Turkey)	44.1%	15	32.4%	11	14.7%	5	8.8%	3
Dias de Souza	Other	(Brazil)	7.4%	2	66.7%	18	14.8%	4	11.1%	3
Baratieri LN	Other	(Brazil)	11.1%	3	81.5%	22	0.0%		7.4%	2
Demirci M	Other	(Turkey)	38.6%	17	25.0%	11	22.7%	10	13.6%	6
Obici AC	Other	(Brazil)	58.1%	18	25.8%	8	9.7%	3	6.5%	2
Seara SF	Other	(Brazil)	22.2%	4	66.7%	12	11.1%	2	0.0%	
Ozer F	Other	(Turkey)	10.0%	1	70.0%	7	0.0%		20.0%	2
Ellakwa AE	Other	(Egypt)	40.0%	4	30.0%	3	30.0%	3	0.0%	
Al-Turki M	Other	(Saudi A)	29.4%	5	29.4%	5	29.4%	5	11.8%	2
Saboia Vde P	Other	(Brazil)	15.0%	3	35.0%	7	45.0%	9	5.0%	1
Alavi AA	Other	(Iran)	33.3%	5	53.3%	8	6.7%	1	6.7%	1
Reis A	Other	(Brazil)	44.1%	15	41.2%	14	2.9%	1	11.8%	4
Gagliardi RM	Other	(Brazil)	37.5%	9	45.8%	11	8.3%	2	8.3%	2
Aguiar FH	Other	(Brazil)	34.5%	10	48.3%	14	3.4%	1	13.8%	4
Hara AT	Other	(Brazil)	50.0%	10	35.0%	7	10.0%	2	5.0%	1
Aguiar FH	Other	(Brazil)	20.0%	5	52.0%	13	12.0%	3	16.0%	4

Table A11. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 2002

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Ellakwa	EU (England)	38.9%	7	50.0%	9	0.0%		11.1%	2
AU Rominu	EU (Romania)	21.1%	4	52.6%	10	21.1%	4	53.0%	1
AU Akisli	EU (Germany)	30.2%	16	56.6%	30	7.5%	4	5.7%	3
AU Prombonas	EU (Greece)	80.0%	8	10.0%	1	0.0%		10.0%	1
AU Smith	EU (England)	37.5%	3	37.5%	3	25.0%	2	0.0%	
AU Pierrisnard	EU (France)	20.7%	6	58.6%	17	6.9%	2	13.8%	4
AU Mannocci	EU (Italy)	47.6%	10	38.1%	8	9.5%	2	4.8%	1
AU Zoellner	EU (Germany)	87.0%	20	13.0%	3	0.0%		0.0%	
AU Mitchell	EU (N.Ireland)	38.9%	7	61.1%	11	0.0%		0.0%	
AU Heffernan	EU (England)	8.3%	1	83.3%	10	0.0%		8.3%	1
AU Reich	EU (Germany)	36.4%	4	54.5%	6	0.0%		9.1%	1
AU Zoellner	EU (Germany)	53.6%	15	42.9%	12	0.0%		3.6%	1
AU Yannikakis	EU (Greece)	33.3%	3	55.6%	5	0.0%		11.1%	1
AU Gregoire	EU (France)	34.8%	8	39.1%	9	26.1%	6	0.0%	
AU Edelhoff	EU (Germany)	63.0%	17	37.0%	10	0.0%		0.0%	
AU Magne	EU (Switzerland)	53.1%	17	43.8%	14	0.0%		3.1%	1
AU Rilo	EU (Spain)	31.0%	9	58.6%	17	6.9%	2	3.4%	1
AU Heydecke	EU (Germany)	51.7%	15	41.4%	12	0.0%		6.9%	2
AU Buchalla	EU (Germany)	21.4%	3	71.4%	10	7.1%	1	0.0%	
AU Reitemeier	EU (Germany)	10.0%	1	80.0%	8	0.0%		10.0%	1
AU Reitemeier	EU (Germany)	36.4%	4	54.5%	6	9.1%	1	0.0%	
AU Ferrario	EU (Italy)	53.8%	7	38.5%	5	7.7%	1	0.0%	
AU Kopac	EU (Slovenia)	21.4%	3	78.6%	11	0.0%		0.0%	
AU Parr	NA (USA)	37.5%	3	12.5%	1	37.5%	3	12.5%	1
AU Schneider	NA (USA)	26.7%	4	46.7%	7	13.3%	2	13.3%	2
AU Lakhani	NA (USA)	20.0%	7	62.9%	22	5.7%	2	11.4%	4
AU Al Rafee	NA (USA)	47.6%	10	47.6%	10	4.8%	1	0.0%	
AU Yacoub	NA (USA)	20.0%	5	76.0%	19	4.0%	1	0.0%	
AU Tung	NA (USA)	4.5%	1	81.8%	18	13.6%	3	0.0%	
AU Barrett	NA (USA)	37.5%	3	62.5%	5	0.0%		0.0%	
AU Oh	NA (USA)	58.8%	10	23.5%	4	5.9%	1	11.8%	2
AU DeLong	NA (USA)	11.1%	2	50.0%	9	16.7%	3	22.2%	4
AU Gibbs	NA (USA)	50.0%	5	30.0%	3	10.0%	1	10.0%	1
AU Pecora	NA (USA)	28.6%	2	57.1%	4	14.3%	1	0.0%	
AU Nishimura	NA (USA)	41.2%	7	52.9%	9	0.0%		5.9%	1
AU Suzuki	NA (USA)	30.3%	10	63.6%	21	6.1%	2	0.0%	
AU Grasso	NA (USA)	21.4%	3	42.9%	6	21.4%	3	14.3%	2
AU Lepe	NA (USA)	13.6%	3	68.2%	15	13.6%	3	4.5%	1
AU Stewart	NA (USA)	18.2%	2	45.5%	5	18.2%	2	18.2%	2
AU Knobloch	NA (USA)	21.7%	10	56.5%	26	19.6%	9	2.2%	1
AU De la Cruz	NA (USA)	12.8%	5	76.9%	30	5.1%	2	5.1%	2

Table A11. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 2002 (continued 1)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Guckes	NA (USA)	38.5%	5	61.5%	8	0.0%		0.0%	
AU Heshmati	NA (USA)	30.8%	4	69.2%	9	0.0%		0.0%	
AU Hummel	NA (USA)	33.3%	3	66.7%	6	0.0%		0.0%	
AU Sensat	NA (USA)	35.7%	5	57.1%	8	7.1%	1	0.0%	
AU Taylor	NA (USA)	45.1%	23	49.0%	25	3.9%	2	2.0%	1
AU Larson	NA (USA)	16.7%	1	83.3%	5	0.0%		0.0%	
AU Sung	NA (USA)	22.2%	2	66.7%	6	0.0%		11.1%	1
AU Wee	NA (USA)	19.5%	8	75.6%	31	4.9%	2	0.0%	
AU Kammeyer	NA (USA)	38.5%	10	57.7%	15	3.8%	1	0.0%	
AU Shinkai	NA (USA)	25.0%	8	71.9%	23	0.0%		3.1%	1
AU Guichet	NA (USA)	36.7%	11	50.0%	15	13.3%	4	0.0%	
AU Oh	NA (USA)	19.2%	5	80.8%	21	0.0%		0.0%	
AU Nagy	NA (USA)	35.0%	7	60.0%	12	0.0%		5.0%	1
AU Aquilino	NA (USA)	36.7%	11	53.3%	16	6.7%	2	3.3%	1
AU Chang	NA (USA)	7.1%	1	71.4%	10	14.3%	2	7.1%	1
AU Cecconi	NA (USA)	22.2%	2	66.7%	6	11.1%	1	0.0%	
AU Pullinger	NA (USA)	26.7%	8	70.0%	21	3.3%	1	0.0%	
AU Pullinger	NA (USA)	38.7%	12	48.4%	15	9.7%	3	3.2%	1
AU Pesun	NA (USA)	50.0%	4	50.0%	4	0.0%		0.0%	
AU Lindquist	NA (USA)	0.0%		100.0%	4	0.0%		0.0%	
AU Jahangiri	NA (USA)	16.7%	2	75.0%	9	8.3%	1	0.0%	
AU Malmstrom	NA (USA)	11.8%	2	52.9%	9	29.4%	5	5.9%	1
AU Rungchara	NA (USA)	60.0%	21	31.4%	11	8.6%	3	0.0%	
AU John	NA (USA)	44.0%	11	44.0%	11	4.0%	1	8.0%	2
AU Brosky	NA (USA)	21.1%	4	78.9%	15	0.0%		0.0%	
AU Haselton	NA (USA)	8.3%	1	75.0%	9	16.7%	2	0.0%	
AU Wee	NA (USA)	16.0%	4	72.0%	18	8.0%	2	4.0%	1
AU Rambhia	NA (USA)	33.3%	5	66.7%	10	0.0%		0.0%	
AU Chaffee	NA (USA)	64.3%	9	35.7%	5	0.0%		0.0%	
AU Tallents	NA (USA)	32.0%	16	48.0%	24	18.0%	9	2.0%	1
AU Ito	NA (USA)	20.0%	1	80.0%	4	0.0%		0.0%	
AU Roumanas	NA (USA)	31.6%	6	68.4%	13	0.0%		0.0%	
AU Tufekci	NA (USA)	12.5%	2	87.5%	14	0.0%		0.0%	
AU Sun	NA (USA)	32.0%	8	68.0%	17	0.0%		0.0%	
AU Wataha	NA (USA)	22.2%	4	77.8%	14	0.0%		0.0%	
AU Baltag	OC (Japan)	15.4%	2	38.5%	5	38.5%	5	7.7%	1
AU Ku	OC (S.Korea)	50.0%	8	43.8%	7	0.0%		6.3%	1
AU Piemjai	OC (Thailand)	11.5%	3	53.8%	14	34.6%	9	0.0%	
AU Khraisat	OC (Japan)	65.2%	15	30.4%	7	4.3%	1	0.0%	
AU Matsumura	OC (Japan)	20.0%	3	6.7%	1	73.3%	11	0.0%	
AU Yap	OC (Singapore)	15.0%	3	75.0%	15	10.0%	2	0.0%	

Table A11. *Journal of Prosthetic Dentistry*, Actual afa and rfa, 2002 (continued 2)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Itota	OC (Japan)	15.8%	3	52.6%	10	31.6%	6	0.0%	
AU Cho	OC (S.Korea)	56.7%	17	36.7%	11	6.7%	2	0.0%	
AU Kwon	OC (S.Korea)	29.2%	7	41.7%	10	25.0%	6	4.2%	1
AU Murata	OC (Japan)	52.2%	12	30.4%	7	17.4%	4	0.0%	
AU Nikawa	OC (Japan)	4.8%	1	57.1%	12	38.1%	8	0.0%	
AU Kim	OC (S.Korea)	22.7%	5	50.0%	11	27.3%	6	0.0%	
AU Shabanian	OC (Australia)	50.0%	9	27.8%	5	16.7%	3	5.6%	1
AU Cox	OC (Australia)	9.1%	1	72.7%	8	18.2%	2	0.0%	
AU Mou	OC (Taiwan)	69.6%	16	30.4%	7	0.0%		0.0%	
AU Sen	Other (Turkey)	11.8%	2	82.4%	14	0.0%		5.9%	1
AU Cavalcanti	Other (Brazil)	25.0%	2	37.5%	3	37.5%	3	0.0%	
AU Ayad	Other (Egypt)	33.3%	5	66.7%	10	0.0%		0.0%	
AU Berksun	Other (Turkey)	33.3%	3	55.6%	5	0.0%		11.1%	1
AU Machado	Other (Brazil)	26.3%	5	36.8%	7	21.1%	4	15.8%	3
AU Cehreli	Other (Turkey)	52.6%	10	31.6%	6	15.8%	3	0.0%	
AU Contreras	Other (Brazil)	45.8%	11	33.3%	8	8.3%	2	12.5%	3
AU Ergin	Other (Turkey)	50.0%	14	50.0%	14	0.0%		0.0%	
AU Pinto	Other (Brazil)	44.4%	4	33.3%	3	22.2%	2	0.0%	
AU Saracoglu	Other (Turkey)	45.5%	5	45.5%	5	0.0%		9.1%	1
AU Brosh	Other (Israel)	45.8%	11	25.0%	6	16.7%	4	12.5%	3
AU Rodrigues	Other (Brazil)	23.1%	3	53.8%	7	15.4%	2	7.7%	1
AU Pilo	Other (Israel)	11.1%	2	66.7%	12	11.1%	2	11.1%	2
AU Lopes	Other (Brazil)	30.8%	8	46.2%	12	19.2%	5	3.8%	1
AU Sen	Other (Turkey)	54.5%	6	36.4%	4	9.1%	1	0%	0
AU Hersek	Other (Turkey)	28.6%	2	57.1%	4	0.0%		14.3%	1
AU Akkayan	Other (Turkey)	26.9%	7	65.4%	17	3.8%	1	3.8%	1
AU Segovic	Other (Croatia)	19.0%	4	66.7%	14	14.3%	3	0.0%	

Table A12. *Journal of Dental Research*, Actual afa and rfa, 2002

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Tenovuo	EU (Finland)	43.3%	13	56.7%	17	0.0%		0.0%	
AU Brown	EU (England)	38.5%	5	53.8%	7	7.7%	1	0.0%	
AU Nyberg	EU (Finland)	48.0%	12	24.0%	6	24.0%	6	4.0%	1
AU Visch	EU (Netherlands)	52.9%	9	47.1%	8	0.0%		0.0%	
AU Montenegro	EU (England)	42.9%	6	57.1%	8	0.0%		0.0%	
AU Ozok	EU (Netherlands)	50.0%	10	45.0%	9	5.0%	1	0.0%	
AU Haggman-Hen	EU (Sweden)	51.9%	14	44.4%	12	3.7%	1	0.0%	
AU Munson	EU (England)	47.8%	11	43.5%	10	8.7%	2	0.0%	
AU Brett EU	EU (England)	45.5%	10	50.0%	11	4.5%	1	0.0%	
AU Das	EU (England)	45.5%	10	45.5%	10	4.5%	1	4.5%	1
AU van Ruijven	EU (Netherlands)	65.2%	15	34.8%	8	0.0%		0.0%	
AU Tu	EU (England)	47.8%	11	47.8%	11	4.3%	1	0.0%	
AU Sulkala	EU (Finland)	52.0%	13	40.0%	10	4.0%	1	4.0%	1
AU Sandberg	EU (Sweden)	66.7%	12	16.7%	3	11.1%	2	5.6%	1
AU Chesters	EU (England)	33.3%	4	50.0%	6	16.7%	2	0.0%	
AU Wang	EU (Denmark)	70.8%	17	12.5%	3	16.7%	4	0.0%	
AU Goldberg	EU (France)	41.5%	17	53.7%	22	2.4%	1	2.4%	1
AU Heikinheimo	EU (Finland)	39.1%	9	39.1%	9	17.4%	4	4.3%	1
AU Pekkala	EU (Finland)	77.3%	17	18.2%	4	0.0%		4.5%	1
AU Fischer	EU (Germany)	43.8%	7	37.5%	6	18.8%	3	0.0%	
AU De Maeyer	EU (Belgium)	63.6%	7	18.2%	2	9.1%	1	9.1%	1
AU Zaura	EU (Netherlands)	69.2%	9	23.1%	3	7.7%	1	0.0%	
AU Paul	EU (Switzerland)	20.0%	1	80.0%	4	0.0%		0.0%	
AU Parner	EU (Denmark)	58.3%	7	33.3%	4	8.3%	1	0.0%	
AU Stenlund	EU (Sweden)	84.6%	11	15.4%	2	0.0%		0.0%	
AU Proeschel	EU (Germany)	50.0%	9	38.9%	7	5.6%	1	5.6%	1
AU Luthardt	EU (Germany)	50.0%	3	33.3%	2	16.7%	1	0.0%	
AU Ceballos	EU (Spain)	27.8%	5	50.0%	9	22.2%	4	0.0%	
AU Bikker	EU (Netherlands)	46.7%	14	33.3%	10	20.0%	6	0.0%	
AU Harkanen	EU (Finland)	81.8%	9	18.2%	2	0.0%		0.0%	
AU van Kampen	EU (Netherlands)	90.9%	10	9.1%	1	0.0%		0.0%	
AU Soell	EU (France)	66.7%	14	28.6%	6	4.8%	1	0.0%	
AU Valimaa	EU (Finland)	42.9%	9	42.9%	9	9.5%	2	4.8%	1
AU Silwood	EU (England)	46.7%	7	40.0%	6	13.3%	2	0.0%	
AU Davenport	EU (England)	42.9%	9	47.6%	10	9.5%	2	0.0%	
AU Dailey	EU (England)	63.2%	12	36.8%	7	0.0%		0.0%	
AU Buchalla	EU (Germany)	75.0%	9	25.0%	3	0.0%		0.0%	
AU Hegedus	EU (Hungary)	12.5%	1	62.5%	5	25.0%	2	0.0%	
AU Meisel	EU (Germany)	54.5%	12	31.8%	7	13.6%	3	0.0%	
AU Palosaari	EU (Finland)	63.0%	17	29.6%	8	7.4%	2	0.0%	
AU Hofman	EU (France)	63.9%	23	30.6%	11	5.6%	2	0.0%	

Table A12. *Journal of Dental Research*, Actual afa and rfa, 2002 (continued 1)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Korszun	EU (England)	20.0%	3	80.0%	12	0.0%		0.0%	
AU Abraham	EU (Netherlands)	14.3%	1	57.1%	4	28.6%	2	0.0%	
AU Yang	NA (USA)	39.1%	9	60.9%	14	0.0%		0.0%	
AU Murakami	NA (USA)	28.1%	9	65.6%	21	6.3%	2	0.0%	
AU Chuang	NA (USA)	42.1%	8	57.9%	11	0.0%		0.0%	
AU Gilbert	NA (USA)	8.7%	2	91.3%	21	0.0%		0.0%	
AU Everett	NA (USA)	38.5%	5	38.5%	5	23.1%	3	0.0%	
AU Wang L	NA (USA)	5.9%	1	82.4%	14	11.8%	2	0.0%	
AU Young	NA (USA)	20.8%	5	75.0%	18	4.2%	1	0.0%	
AU Wang	NA (USA)	66.7%	8	33.3%	4	0.0%		0.0%	
AU Buchmann	NA (USA)	62.5%	10	18.8%	3	12.5%	2	6.3%	1
AU Oberheim	NA (USA)	16.7%	3	72.2%	13	11.1%	2	0.0%	
AU Schwartz-Dab	NA (USA)	47.1%	8	35.3%	6	17.6%	3	0.0%	
AU Oh	NA (USA)	35.3%	6	64.7%	11	0.0%		0.0%	
AU Griffin	NA (USA)	9.1%	1	90.9%	10	0.0%		0.0%	
AU Chung	NA (USA)	40.9%	9	59.1%	13	0.0%		0.0%	
AU Gronthos	NA (USA)	20.8%	5	58.3%	14	20.8%	5	0.0%	
AU Arzate	NA (Mexico)	7.1%	2	75.0%	21	3.6%	1	14.3%	4
AU Yoshiyama	NA (USA)	31.3%	5	50.0%	8	18.8%	3	0.0%	
AU Li	NA (USA)	42.9%	9	38.1%	8	19.0%	4	0.0%	
AU Chuang	NA (USA)	26.3%	5	73.7%	14	0.0%		0.0%	
AU Jokovic	NA (Canada)	25.0%	3	58.3%	7	16.7%	2	0.0%	
AU Arquitt	NA (USA)	14.3%	2	78.6%	11	7.1%	1	0.0%	
AU Hoang	NA (USA)	5.9%	1	94.1%	16	0.0%		0.0%	
AU Tao	NA (USA)	16.1%	5	64.5%	20	19.4%	6	0.0%	
AU Feng	NA (USA)	25.0%	5	75.0%	15	0.0%		0.0%	
AU Widmer	NA (USA)	55.6%	15	44.4%	12	0.0%		0.0%	
AU Orellana	NA (USA)	10.0%	2	80.0%	16	5.0%	1	5.0%	1
AU Childers	NA (USA)	8.3%	1	58.3%	7	33.3%	4	0.0%	
AU Tanner	NA (USA)	37.9%	11	44.8%	13	13.8%	4	3.4%	1
AU Chen	NA (USA)	0.0%		90.9%	20	4.5%	1	4.5%	1
AU Braga	NA (USA)	55.6%	10	44.4%	8	0.0%		0.0%	
AU Frazier-Bowe	NA (USA)	40.0%	4	60.0%	6	0.0%		0.0%	
AU Furne	NA (USA)	0.0%		72.7%	8	9.1%	1	18.2%	2
AU John	NA (USA)	20.0%	4	70.0%	14	5.0%	1	5.0%	1
AU Hujoel	NA (USA)	22.2%	4	66.7%	12	5.6%	1	5.6%	1
AU Pitiphat	NA (USA)	55.0%	11	35.0%	7	0.0%		10.0%	2
AU Brock	NA (USA)	16.7%	4	75.0%	18	0.0%		8.3%	2
AU Xu	NA (USA)	19.0%	4	66.7%	14	14.3%	3	0.0%	
AU Benchabane	NA (Canada)	28.0%	7	72.0%	18	0.0%		0.0%	
AU Qin	NA (USA)	13.3%	2	86.7%	13	0.0%		0.0%	

Table A12. *Journal of Dental Research*, Actual afa and rfa, 2002 (continued 2)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Han	NA (USA)	28.6%	8	46.4%	13	25.0%	7	0.0%	
AU Goto	NA (USA)	44.4%	12	44.4%	12	11.1%	3	0.0%	
AU Lawn	NA (USA)	13.0%	3	78.3%	18	0.0%		8.7%	2
AU DeLong	NA (USA)	63.2%	12	31.6%	6	5.3%	1	0.0%	
AU Sukotjo	NA (USA)	20.0%	5	76.0%	19	4.0%	1	0.0%	
AU Uitto	NA (Canada)	21.4%	6	78.6%	22	0.0%		0.0%	
AU Ta	NA (USA)	20.6%	7	55.9%	19	20.6%	7	2.9%	1
AU Leonora	NA (USA)	36.0%	9	52.0%	13	12.0%	3	0.0%	
AU Lidral	NA (USA)	28.6%	8	64.3%	18	0.0%		7.1%	2
AU Huang	NA (USA)	14.3%	3	71.4%	15	9.5%	2	4.8%	1
AU Ohno s	OC (Japan)	12.5%	2	43.8%	7	43.8%	7	0.0%	
AU Shibata	OC (Japan)	44.4%	4	44.4%	4	11.1%	1	0.0%	
AU Kida	OC (Japan)	43.8%	7	43.8%	7	12.5%	2	0.0%	
AU Onozuka	OC (Japan)	37.5%	6	37.5%	6	25.0%	4	0.0%	
AU Kitai N	OC (Japan)	44.4%	8	38.9%	7	16.7%	3	0.0%	
AU Chu CH	OC (China)	15.4%	2	7.7%	1	76.9%	10	0.0%	
AU Tsuruga	OC (Japan)	17.4%	4	69.6%	16	13.0%	3	0.0%	
AU Fan MW	OC (China)	7.1%	1	64.3%	9	28.6%	4	0.0%	
AU Kim YJ	OC (S.Korea)	31.0%	9	58.6%	17	10.3%	3	0.0%	
AU Fukae	OC (Japan)	13.0%	3	52.2%	12	34.8%	8	0.0%	
AU Tsubota	OC (Japan)	36.8%	7	26.3%	5	36.8%	7	0.0%	
AU Hiratsuka	OC (Japan)	22.2%	2	66.7%	6	11.1%	1	0.0%	
AU Kohama	OC (Japan)	16.7%	5	73.3%	22	10.0%	3	0.0%	
AU Yamada	OC (Japan)	23.8%	5	28.6%	6	38.1%	8	9.5%	2
AU Kobayash	OC (Japan)	0.0%		41.7%	5	58.3%	7	0.0%	
AU Mori	OC (Japan)	26.1%	6	43.5%	10	30.4%	7	0.0%	
AU Tanaka	OC (Japan)	17.4%	4	34.8%	8	47.8%	11	0.0%	
AU Yiu	OC (China)	28.6%	8	25.0%	7	39.3%	11	7.1%	2
AU Nishiyam	OC (Japan)	14.3%	1	14.3%	1	71.4%	5	0.0%	
AU Tay	OC (China)	16.7%	4	29.2%	7	54.2%	13	0.0%	
AU Lai	OC (China)	11.5%	3	50.0%	13	15.4%	4	23.1%	6
AU Nihei	OC (Japan)	25.0%	2	50.0%	4	25.0%	2	0.0%	
AU Dohmo	OC (Japan)	42.9%	6	35.7%	5	21.4%	3	0.0%	
AU Kubota	OC (Japan)	33.3%	8	16.7%	4	50.0%	12	0.0%	
AU Holmes	OC (New Zealand)	37.9%	11	24.1%	7	37.9%	11	0.0%	
AU Zeredo	OC (Japan)	54.5%	12	27.3%	6	18.2%	4	0.0%	
AU Iijima	OC (Japan)	0.0%		86.7%	13	13.3%	2	0.0%	
AU Hashimot	OC (Japan)	21.4%	3	28.6%	4	50.0%	7	0.0%	
AU Oida	OC (Japan)	31.3%	10	50.0%	16	18.8%	6	0.0%	
AU Fujiwara	OC (Japan)	15.8%	3	52.6%	10	31.6%	6	0.0%	
AU Murata	OC (Japan)	50.0%	5	20.0%	2	30.0%	3	0.0%	

Table A12. *Journal of Dental Research*, Actual afa and rfa, 2002 (continued 3)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Tsuruga	OC (Japan)	17.4%	4	60.9%	14	17.4%	4	4.3%	1
AU Huang	OC (China)	26.7%	4	53.3%	8	20.0%	3	0.0%	
AU Nakano	OC (Japan)	17.6%	3	35.3%	6	47.1%	8	0.0%	
AU Iwata	OC (Japan)	11.1%	3	63.0%	17	25.9%	7	0.0%	
AU Haruyama	OC (Japan)	25.0%	3	41.7%	5	25.0%	3	8.3%	1
AU Ahn	OC (S.Korea)	33.3%	7	52.4%	11	4.8%	1	9.5%	2
AU Gemmell	OC (Australia)	26.3%	5	26.3%	5	47.4%	9	0.0%	
AU Choi	OC (S.Korea)	13.3%	2	40.0%	6	46.7%	7	0.0%	
AU Murakami	OC (Japan)	20.8%	5	54.2%	13	25.0%	6	0.0%	
AU Noda	OC (Japan)	43.5%	10	47.8%	11	8.7%	2	0.0%	
AU Yoshida	OC (Japan)	11.1%	1	44.4%	4	44.4%	4	0.0%	
AU Sterer	Other (Israel)	38.5%	5	23.1%	3	7.7%	1	30.8%	4
AU Houri-Hadd	Other (Israel)	0.0%		62.5%	10	12.5%	2	25.0%	4
AU Chaushu	Other (Israel)	54.2%	13	29.2%	7	12.5%	3	4.2%	1
AU Nociti FH	Other (Brazil)	27.6%	8	58.6%	17	13.8%	4	0.0%	
AU Barreto	Other (Brazil)	22.2%	4	44.4%	8	22.2%	4	11.1%	2
AU Gervasio	Other (Brazil)	36.4%	8	36.4%	8	22.7%	5	4.5%	1
AU Lopez	Other (Chile)	8.3%	2	87.5%	21	0.0%		4.2%	1

Table A13. *Caries Research*, Actual afa and rfa, 2002

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Rousseau	EU (Scotland)	69.2%	9	30.8%	4	0.0%		0.0%	
AU Schulte	EU (Germany)	68.8%	11	18.8%	3	0.0%		12.5%	2
AU Behrendt	EU (Germany)	68.8%	11	25.0%	4	6.3%	1	0.0%	
AU Steinberg	EU (Israel)	64.3%	18	17.9%	5	0.0%		17.9%	5
AU Taifour	EU (Netherlands)	53.8%	7	0.0%		23.1%	3	23.1%	3
AU de Soet	EU (Netherlands)	80.0%	28	20.0%	7	0.0%		0.0%	
AU Machiulskie	EU (Lithonia)	90.9%	20	9.1%	2	0.0%		0.0%	
AU Seppa	EU (Finland)	71.4%	15	23.8%	5	4.8%	1	0.0%	
AU Lennon	EU (Germany)	71.4%	10	21.4%	3	7.1%	1	0.0%	
AU Buchalla	EU (Germany)	78.6%	11	21.4%	3	0.0%		0.0%	
AU Petersson	EU (Sweden)	60.0%	21	34.3%	12	5.7%	2	0.0%	
AU Larsen	EU (Denmark)	50.0%	5	30.0%	3	10.0%	1	10.0%	1
AU Wright	EU (England)	37.8%	14	37.8%	14	18.9%	7	5.4%	2
AU Wallman	EU (Sweden)	87.5%	21	12.5%	3	0.0%		0.0%	
AU Gripp	EU (Germany)	47.8%	11	43.5%	10	8.7%	2	0.0%	
AU Wicht	EU (Germany)	84.6%	22	11.5%	3	3.8%	1	0.0%	
AU Haak	EU (Germany)	70.8%	17	20.8%	5	0.0%		8.3%	2
AU Lagerweij	EU (Netherlands)	69.2%	9	30.8%	4	0.0%		0.0%	
AU Curnow	EU (England)	88.9%	8	11.1%	1	0.0%		0.0%	
AU Bradshawa	EU (England)	50.0%	9	44.4%	8	5.6%	1	0.0%	
AU Shapiro	EU (Switzerland)	64.3%	18	35.7%	10	0.0%		0.0%	
AU Boeckh	EU (Germany)	56.7%	17	23.3%	7	13.3%	4	6.7%	2
AU Korpela	EU (Finland)	14.7%	5	73.5%	25	8.8%	3	2.9%	1
AU Madlena	EU (Hungary)	90.0%	18	10.0%	2	0.0%		0.0%	
AU van Rijkom	EU (Netherlands)	85.7%	18	14.3%	3	0.0%		0.0%	
AU Meyer-Luec	EU (Germany)	75.0%	12	25.0%	4	0.0%		0.0%	
AU Tranaeus	EU (Sweden)	91.7%	11	8.3%	1	0.0%		0.0%	
AU van der Vee	EU (Netherlands)	71.4%	10	28.6%	4	0.0%		0.0%	
AU Al-Khateeb	EU (Netherlands)	100.0%	10	0.0%		0.0%		0.0%	
AU Twetman	EU (Sweden)	81.8%	9	18.2%	2	0.0%		0.0%	
AU Jannesson	EU (Sweden)	77.8%	14	22.2%	4	0.0%		0.0%	
AU Petersson	EU (Sweden)	90.0%	9	10.0%	1	0.0%		0.0%	
AU Damen	EU (Netherlands)	77.8%	14	22.2%	4	0.0%		0.0%	
AU Sjogren	EU (Sweden)	72.2%	13	27.8%	5	0.0%		0.0%	
AU Hughes	EU (England)	92.3%	12	7.7%	1	0.0%		0.0%	
AU Larsen	EU (Denmark)	92.9%	13	7.1%	1	0.0%		0.0%	
AU Whitford	NA (USA)	63.6%	21	30.3%	10	6.1%	2	0.0%	
AU Mathew	NA (USA)	77.8%	28	8.3%	3	5.6%	2	8.3%	3
AU Dasanayake	NA (USA)	48.3%	14	51.7%	15	0.0%		0.0%	
AU Kopec	NA (USA)	23.3%	7	63.3%	19	10.0%	3	3.3%	1
AU Fontana	NA (USA)	63.3%	19	36.7%	11	0.0%		0.0%	

Table A13. *Caries Research*, Actual afa and rfa, 2002 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Chow	NA (USA)	30.4%	7	69.6%	16	0.0%		0.0%	
AU Vogel	NA (USA)	27.6%	8	69.0%	20	3.4%	1	0.0%	
AU Muraka	OC (Japan)	11.1%	2	72.2%	13	16.7%	3	0.0%	
AU Tsai	OC (Taiwan)	4.0%	1	64.0%	16	28.0%	7	4.0%	1
AU Mukai	OC (Japan)	65.0%	13	30.0%	6	5.0%	1	0.0%	
AU Pearce	OC (New Zealand)	50.0%	16	21.9%	7	21.9%	7	6.3%	2
AU Hirasawa	OC (Japan)	27.8%	5	55.6%	10	16.7%	3	0.0%	
AU Nie	OC (China)	25.9%	7	59.3%	16	14.8%	4	0.0%	
AU Kato	OC (Japan)	69.2%	18	26.9%	7	3.8%	1	0.0%	
AU Ekanaya	OC (Srilanka)	68.4%	13	15.8%	3	0.0%		15.8%	3
AU Vieira	Other (Brazil)	64.7%	11	23.5%	4	0.0%		11.8%	2
AU Massara	Other (Brazil)	41.9%	13	25.8%	8	19.4%	6	12.9%	4
AU Koo	Other (Brazil)	27.3%	3	18.2%	2	9.1%	1	45.5%	5
AU dos Sant	Other (Brazil)	35.3%	12	32.4%	11	14.7%	5	17.6%	6
AU Araujo	Other (Brazil)	70.4%	19	22.2%	6	3.7%	1	3.7%	1
AU Rosin-Gr	Other (Croatia)	75.0%	15	15.0%	3	0.0%		10.0%	2
AU Aires	Other (Brazil)	37.5%	3	50.0%	4	0.0%		12.5%	1
AU Pinelli	Other (Brazil)	81.3%	13	12.5%	2	0.0%		6.3%	1

Table A14. *Journal of Dentistry*, Actual afa and rfa, 2002

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Schmidlin	EU (Switzerland)	71.0%	22	25.8%	8	3.2%	1	0.0%	
AU Cairns	EU (Scotland)	84.6%	22	3.8%	1	0.0%		11.5%	3
AU Brailsford	EU (England)	87.5%	14	12.5%	2	0.0%		0.0%	
AU Radcliffe	EU (England)	77.8%	7	11.1%	1	0.0%		11.1%	1
AU Eisenburger	EU (England)	77.8%	14	11.1%	2	11.1%	2	0.0%	
AU Reichl	EU (Germany)	64.3%	9	14.3%	2	14.3%	2	7.1%	1
AU Banerjee	EU (England)	47.1%	8	35.3%	6	17.6%	3	0.0%	
AU Sheen	EU (England)	96.2%	25	3.8%	1	0.0%		0.0%	
AU Hofmann	EU (Germany)	55.6%	15	37.0%	10	3.7%	1	3.7%	1
AU Boyle	EU (England)	78.6%	11	21.4%	3	0.0%		0.0%	
AU Sweeney	EU (Scotland)	47.6%	10	42.9%	9	9.5%	2	0.0%	
AU Pradelle-Plas	EU (France)	35.9%	14	51.3%	20	10.3%	4	2.6%	1
AU Dietschi	EU (Switzerland)	55.6%	25	28.9%	13	13.3%	6	2.2%	1
AU Fenlon	EU (England)	70.0%	7	20.0%	2	0.0%		10.0%	1
AU Lea	EU (England)	77.8%	7	22.2%	2	0.0%		0.0%	
AU Bhamra	EU (England)	43.5%	10	52.2%	12	4.3%	1	0.0%	
AU Cattell	EU (England)	50.0%	12	50.0%	12	0.0%		0.0%	
AU Arvidsson	EU (Sweden)	50.0%	6	41.7%	5	8.3%	1	0.0%	
AU Milsom	EU (England)	100.0%	6	0.0%		0.0%		0.0%	
AU Ozok	EU (Netherlands)	20.0%	6	66.7%	20	13.3%	4	0.0%	
AU Gohring	EU (Switzerland)	70.0%	14	25.0%	5	5.0%	1	0.0%	
AU Attal	EU (France)	37.5%	12	43.8%	14	15.6%	5	3.1%	1
AU Emmanouil	EU (Greece)	62.5%	5	0.0%		25.0%	2	12.5%	1
AU Murray	EU (England)	38.9%	14	52.8%	19	5.6%	2	2.8%	1
AU Carmona	EU (Spain)	44.8%	13	48.3%	14	6.9%	2	0.0%	
AU Addi	EU (Sweden)	90.0%	18	5.0%	1	5.0%	1	0.0%	
AU Dammaschke	EU (Germany)	47.1%	8	35.3%	6	17.6%	3	0.0%	
AU Murray	NA (USA)	48.8%	20	29.3%	12	19.5%	8	2.4%	1
AU Murray	NA (USA)	50.0%	23	43.5%	20	4.3%	2	2.2%	1
AU Quo	NA (USA)	20.8%	5	50.0%	12	12.5%	3	16.7%	4
AU Horner	NA (USA)	61.5%	8	23.1%	3	7.7%	1	7.7%	1
AU Randall	NA (USA)	41.2%	7	58.8%	10	0.0%		0.0%	
AU Guzman-Armst	NA (USA)	26.3%	5	31.6%	6	36.8%	7	5.3%	1
AU Lee	OC (Taiwan)	33.3%	5	53.3%	8	6.7%	1	6.7%	1
AU Srimaneepong	OC (Australia)	13.3%	2	66.7%	10	20.0%	3	0.0%	
AU Tay	OC (China)	15.6%	5	43.8%	14	40.6%	13	0.0%	
AU Pashley	OC (China)	34.6%	9	38.5%	10	23.1%	6	3.8%	1
AU Kusunoki	OC (Japan)	12.0%	3	28.0%	7	60.0%	15	0.0%	
AU Hashimoto	OC (Japan)	9.5%	2	28.6%	6	61.9%	13	0.0%	
AU Huang	OC (China)	62.8%	27	20.9%	9	16.3%	7	0.0%	
AU Braga	Other (Brazil)	59.4%	19	25.0%	8	6.3%	2	9.4%	3
AU Steinberg	Other (Israel)	39.3%	11	46.4%	13	3.6%	1	10.7%	3

Table A15. *Dental Materials*, Actual afa and rfa, 2002

Article-First-Authors (afa)			Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin		EU		NA		OC		Other	
AU Papagiannou	EU	(Greece)	50.0%	9	38.9%	7	5.6%	1	5.6%	1
AU Reichl	EU	(Germany)	58.8%	10	17.6%	3	17.6%	3	5.9%	1
AU Ardlin	EU	(Sweden)	73.3%	11	13.3%	2	13.3%	2	0.0%	
AU Vichi	EU	(Italy)	72.7%	8	27.3%	3	0.0%		0.0%	
AU Hitmi	EU	(France)	9.7%	3	67.7%	21	22.6%	7	0.0%	
AU Rosin	EU	(Germany)	52.6%	10	36.8%	7	10.5%	2	0.0%	
AU Elfersi	EU	(France)	46.7%	7	40.0%	6	13.3%	2	0.0%	
AU Jandt	EU	(England)	30.0%	9	43.3%	13	20.0%	6	6.7%	2
AU Murray	EU	(England)	54.3%	19	42.9%	15	2.9%	1	0.0%	
AU De Moor	EU	(Belgium)	64.7%	11	29.4%	5	5.9%	1	0.0%	
AU Williams	EU	(England)	80.0%	4	0.0%		20.0%	1	0.0%	
AU Robin	EU	(Switz)	43.8%	7	43.8%	7	0.0%		12.5%	2
AU Ausiello	EU	(Italy)	48.1%	13	33.3%	9	11.1%	3	7.4%	2
AU Dagostin	EU	(Italy)	14.7%	5	61.8%	21	23.5%	8	0.0%	
AU Mockers	EU	(France)	40.0%	8	50.0%	10	5.0%	1	5.0%	1
AU Thonemann	EU	(Germany)	32.0%	8	60.0%	15	4.0%	1	4.0%	1
AU Fischer	EU	(Switz)	44.4%	4	33.3%	3	22.2%	2	0.0%	
AU Schmidlin	EU	(Switz)	69.2%	9	23.1%	3	7.7%	1	0.0%	
AU Ernst	EU	(Germany)	34.7%	17	57.1%	28	8.2%	4	0.0%	
AU Luo	EU	(England)	38.1%	8	52.4%	11	9.5%	2	0.0%	
AU Frankenberg	EU	(Germany)	45.0%	18	37.5%	15	12.5%	5	5.0%	2
AU Shortall	EU	(England)	55.6%	15	33.3%	9	3.7%	1	7.4%	2
AU Taylor	EU	(England)	16.0%	4	68.0%	17	8.0%	2	8.0%	2
AU Dietrich	EU	(Germany)	38.5%	5	38.5%	5	15.4%	2	7.7%	1
AU Hooshmand	EU	(England)	33.3%	9	48.1%	13	18.5%	5	0.0%	
AU Fischer	EU	(Germany)	41.7%	5	33.3%	4	25.0%	3	0.0%	
AU Persson-Sjog	EU	(Sweden)	40.0%	4	60.0%	6	0.0%		0.0%	
AU Breschi	EU	(Italy)	23.6%	13	58.2%	32	16.4%	9	1.8%	1
AU Arcis	EU	(Spain)	57.7%	15	23.1%	6	15.4%	4	3.8%	1
AU Opdam	EU	(Netherland	73.3%	11	26.7%	4	0.0%		0.0%	
AU Sabbagh	EU	(Belgium)	45.0%	9	50.0%	10	5.0%	1	0.0%	
AU Konishi	NA	(USA)	23.8%	5	66.7%	14	9.5%	2	0.0%	
AU Lim	NA	(USA)	45.7%	16	54.3%	19	0.0%		0.0%	
AU Glasspoole	NA	(USA)	50.0%	13	34.6%	9	15.4%	4	0.0%	
AU Halvorson	NA	(USA)	27.8%	5	50.0%	9	22.2%	4	0.0%	
AU Gegauff	NA	(USA)	14.3%	3	85.7%	18	0.0%		0.0%	
AU Mahler	NA	(USA)	45.0%	9	55.0%	11	0.0%		0.0%	
AU Eick	NA	(USA)	23.1%	3	76.9%	10	0.0%		0.0%	
AU Fogleman	NA	(USA)	50.0%	8	43.8%	7	6.3%	1	0.0%	
AU Sakaguchi	NA	(USA)	44.4%	4	55.6%	5	0.0%		0.0%	
AU Pradhan	NA	(USA)	11.1%	1	66.7%	6	22.2%	2	0.0%	

Table A15. *Dental Materials*, Actual afa and rfa, 2002 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Atkinson	NA (USA)	31.6%	6	57.9%	11	10.5%	2	0.0%	
AU Lim	NA (USA)	33.3%	7	66.7%	14	0.0%		0.0%	
AU Ruddell	NA (USA)	18.2%	2	72.7%	8	9.1%	1	0.0%	
AU Miyazaki	OC (Japan)	19.2%	5	46.2%	12	34.6%	9	0.0%	
AU Nakajima	OC (Japan)	5.6%	1	72.2%	13	22.2%	4	0.0%	
AU Mak	OC (China)	51.2%	22	25.6%	11	23.3%	10	0.0%	
AU Yau	OC (China)	38.9%	7	38.9%	7	16.7%	3	5.6%	1
AU Luo	OC (China)	10.0%	1	20.0%	2	70.0%	7	0.0%	
AU Sunico	OC (Japan)	32.0%	8	48.0%	12	8.0%	2	12.0%	3
AU Hibino	OC (Japan)	40.0%	6	46.7%	7	13.3%	2	0.0%	
AU Jantarat	OC (Australia)	25.7%	9	48.6%	17	17.1%	6	8.6%	3
AU Kwong	OC (China)	15.4%	8	44.2%	23	40.4%	21	0.0%	
AU Shimada	OC (Japan)	20.0%	4	60.0%	12	20.0%	4	0.0%	
AU Yamamot	OC (Japan)	9.1%	1	72.7%	8	18.2%	2	0.0%	
AU Li	OC (Australia)	21.9%	7	46.9%	15	25.0%	8	6.3%	2
AU Irie	OC (Japan)	73.7%	14	0.0%		26.3%	5	0.0%	
AU Low	OC (China)	30.8%	4	23.1%	3	46.2%	6	0.0%	
AU Burrow	OC (Australia)	12.5%	2	43.8%	7	37.5%	6	6.3%	1
AU Takahash	OC (Japan)	11.1%	3	22.2%	6	63.0%	17	3.7%	1
AU Nikaido	OC (Japan)	31.3%	5	18.8%	3	50.0%	8	0.0%	
AU Kitasako	OC (Japan)	15.4%	2	15.4%	2	69.2%	9	0.0%	
AU Hashimot	OC (Japan)	20.0%	6	36.7%	11	43.3%	13	0.0%	
AU Li	OC (Australia)	48.3%	14	24.1%	7	24.1%	7	3.4%	1
AU Kim	OC (S.Korea)	25.0%	9	55.6%	20	11.1%	4	8.3%	3
AU Furukawa	OC (Japan)	37.5%	6	50.0%	8	12.5%	2	0.0%	
AU Yap	OC (Singapore)	41.7%	10	41.7%	10	16.7%	4	0.0%	
AU Chung	OC (S.Korea)	20.0%	2	40.0%	4	40.0%	4	0.0%	
AU Luo	OC (China)	61.0%	25	31.7%	13	4.9%	2	2.4%	1
AU Nakabo	OC (Japan)	35.7%	5	42.9%	6	14.3%	2	7.1%	1
AU Iijima	OC (Japan)	23.1%	3	30.8%	4	38.5%	5	7.7%	1
AU Costa	Other (Brazil)	24.4%	10	51.2%	21	17.1%	7	7.3%	3

Table A16. *European Journal of Oral Sciences*, Actual afa and rfa, 2002

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Turp	EU (Germany)	59.4%	19	31.3%	10	6.3%	2	3.1%	1
AU Engelen	EU (Netherlands)	18.8%	3	75.0%	12	6.3%	1	0.0%	
AU Trulsson	EU (Sweden)	82.4%	14	11.8%	2	5.9%	1	0.0%	
AU John	EU (Germany)	41.4%	12	51.7%	15	6.9%	2	0.0%	
AU van der Mei	EU (Netherlands)	80.0%	12	20.0%	3	0.0%		0.0%	
AU Beertsen	EU (Netherlands)	33.3%	5	53.3%	8	13.3%	2	0.0%	
AU Hannig	EU (Germany)	11.1%	2	33.3%	6	50.0%	9	5.6%	1
AU Hofmann	EU (Germany)	69.2%	27	10.3%	4	12.8%	5	7.7%	3
AU Hoek	EU (Netherlands)	71.4%	5	28.6%	2	0.0%		0.0%	
AU Peroz	EU (Germany)	33.3%	7	38.1%	8	28.6%	6	0.0%	
AU Gusman	EU (Denmark)	37.5%	6	56.3%	9	6.3%	1	0.0%	
AU Belibasakis	EU (Sweden)	40.0%	16	52.5%	21	7.5%	3	0.0%	
AU McCabe	EU (England)	53.3%	8	40.0%	6	0.0%		6.7%	1
AU Ferrari	EU (Italy)	13.6%	3	59.1%	13	22.7%	5	4.5%	1
AU Shellis	EU (England)	44.4%	4	22.2%	2	33.3%	3	0.0%	
AU Farella	EU (Italy)	50.0%	7	50.0%	7	0.0%		0.0%	
AU Haak	EU (Germany)	59.3%	16	33.3%	9	7.4%	2	0.0%	
AU Moore	EU (Denmark)	88.2%	15	11.8%	2	0.0%		0.0%	
AU Knoll-Kohler	EU (Germany)	80.0%	16	5.0%	1	5.0%	1	10.0%	2
AU Domeij	EU (Sweden)	36.8%	14	47.4%	18	13.2%	5	2.6%	1
AU De Munck	EU (Belgium)	30.8%	8	23.1%	6	42.3%	11	3.8%	1
AU Awawdeh	EU (N.Ireland)	60.0%	15	36.0%	9	4.0%	1	0.0%	
AU Ogmundsdot	EU (Iceland)	72.5%	29	20.0%	8	7.5%	3	0.0%	
AU Wenzel	EU (Denmark)	52.9%	9	29.4%	5	17.6%	3	0.0%	
AU Johansson	EU (Sweden)	74.1%	20	22.2%	6	0.0%		3.7%	1
AU Lakio L	EU (Finland)	64.5%	20	29.0%	9	6.5%	2	0.0%	
AU Ekstrom	EU (Sweden)	63.6%	7	27.3%	3	9.1%	1	0.0%	
AU Andersson	EU (Sweden)	75.7%	28	16.2%	6	5.4%	2	2.7%	1
AU Kvale	EU (Norway)	65.6%	21	34.4%	11	0.0%		0.0%	
AU Arnrup	EU (Sweden)	76.2%	16	19.0%	4	4.8%	1	0.0%	
AU Turp	EU (Germany)	62.2%	23	35.1%	13	2.7%	1	0.0%	
AU Bergius	EU (Sweden)	40.0%	10	52.0%	13	8.0%	2	0.0%	
AU Rose	EU (Germany)	46.4%	13	53.6%	15	0.0%		0.0%	
AU Luder	EU (Switzerland)	75.9%	22	17.2%	5	6.9%	2	0.0%	
AU Dunsche	EU (Germany)	33.3%	10	63.3%	19	3.3%	1	0.0%	
AU Gaspersic	EU (Slovenia)	61.5%	16	26.9%	7	11.5%	3	0.0%	
AU Becker	EU (Germany)	62.9%	22	28.6%	10	8.6%	3	0.0%	
AU Muhonen	EU (Finland)	27.8%	5	66.7%	12	5.6%	1	0.0%	
AU Bolscher	EU (Netherlands)	35.1%	13	56.8%	21	5.4%	2	2.7%	1
AU Sunnegardh	EU (Sweden)	58.8%	10	35.3%	6	5.9%	1	0.0%	
AU van der Sanden	EU (Netherlands)	66.7%	14	28.6%	6	0.0%		4.8%	1

Table A16. *European Journal of Oral Sciences*, Actual afa and rfa, 2002 (continued)

Article-First-Authors (afa)		Number of Reference-First-Authors (rfa)							
Authors	Continent-of-Origin	EU		NA		OC		Other	
AU Farella	EU (Italy)	63.6%	14	27.3%	6	4.5%	1	4.5%	1
AU Lepekhin	EU (Denmark)	62.9%	22	34.3%	12	2.9%	1	0.0%	
AU Dimitriou	EU (Greece)	51.5%	17	36.4%	12	12.1%	4	0.0%	
AU Young	EU (Norway)	50.0%	2	25.0%	1	25.0%	1	0.0%	
AU Cam	EU (France)	77.4%	24	3.2%	1	19.4%	6	0.0%	
AU Auschill	EU (Germany)	78.6%	33	21.4%	9	0.0%		0.0%	
AU Ganss	EU (Germany)	82.6%	19	17.4%	4	0.0%		0.0%	
AU Wiskott	EU (Switzerland)	60.0%	12	35.0%	7	5.0%	1	0.0%	
AU Papapano	NA (USA)	50.0%	7	35.7%	5	7.1%	1	7.1%	1
AU Ryu	NA (USA)	0.0%		66.7%	16	29.2%	7	4.2%	1
AU Hu	NA (USA)	7.1%	2	75.0%	21	17.9%	5	0.0%	
AU Bapna	NA (USA)	36.4%	4	54.5%	6	9.1%	1	0.0%	
AU Comelli	NA (USA)	84.2%	16	10.5%	2	0.0%		5.3%	1
AU Matsuda	OC (Japan)	30.4%	7	56.5%	13	8.7%	2	4.3%	1
AU Sato	OC (Japan)	3.3%	1	73.3%	22	23.3%	7	0.0%	
AU Tanabe	OC (Japan)	43.2%	16	27.0%	10	27.0%	10	2.7%	1
AU Lin	OC (Taiwan)	33.3%	11	36.4%	12	30.3%	10	0.0%	
AU Jayaward	OC (Japan)	37.0%	10	29.6%	8	33.3%	9	0.0%	
AU Tabata	OC (Japan)	43.8%	14	34.4%	11	21.9%	7	0.0%	
AU Ohshima	OC (Japan)	20.0%	8	67.5%	27	7.5%	3	5.0%	2
AU Murakam	OC (Japan)	24.1%	7	51.7%	15	24.1%	7	0.0%	
AU Imazato	OC (Japan)	40.0%	10	24.0%	6	36.0%	9	0.0%	
AU Lee	OC (Taiwan)	50.0%	12	29.2%	7	20.8%	5	0.0%	
AU Akyuz	Other (Turkey)	41.4%	12	37.9%	11	20.7%	6	0.0%	
AU Queiroz	Other (Brazil)	34.8%	8	52.2%	12	0.0%		13.0%	3
AU Steinberg	Other (Israel)	26.1%	6	56.5%	13	4.3%	1	13.0%	3
AU Martins	Other (Brazil)	32.1%	9	42.9%	12	7.1%	2	17.9%	5
AU Shai	Other (Israel)	16.7%	4	75.0%	18	4.2%	1	4.2%	1
AU Al-Hiyas	Other (Jordan)	36.4%	8	50.0%	11	13.6%	3	0.0%	
AU Al-Hiyas	Other (Jordan)	42.9%	6	57.1%	8	0.0%		0.0%	

B. Statistical Analysis

The following statistical analysis was performed on the individual data collected for afa's and rfa's for all the journals.

Continental Distribution of Published Dentistry Citations
Roongkit Leehacharoenkul 27
11:11 Wednesday, March 22, 2006

The GLM Procedure
Class Level Information

Class	Levels	Values
jgroup	2	1 2
jyear	2	1 2
firstauthor	4	EU NA OC OTH
Journal	8	1 2 3 4 5 6 7 8

Number of Observations Read 1243
Number of Observations Used 1243
THERE WERE NO INTERACTIONS AMONG THE VARIABLES

Factorial ANOVA with nested effect of journal within origin of journal

Codes for Analysis:

Journal groups:
1- pooled NA journals
2- pooled EU journals

Journals:
1-AJD
2-OD NA journals
3-JPD
4-JDR

5-CR
6-JD
7-DM EU journals
8-EJOS

Year:
1-1998
2-2002

The GLM Procedure

Dependent Variable: **EUPERCENT** european percent

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	256764.3606	23342.2146	70.12	<.0001
Error	1231	409794.7575	332.8958		
Corrected Total	1242	666559.1181			

R-Square	Coeff Var	Root MSE	eupercent Mean
0.385209	45.61596	18.24543	39.99792

Source	DF	Type III SS	Mean Square	F Value	Pr > F
jgroup	1	11771.0260	11771.0260	35.36	<.0001
Journal(jgroup)	6	25603.2635	4267.2106	12.82	<.0001
jyear	1	795.6116	795.6116	2.39	0.1224
firstauthor	3	156445.7432	52148.5811	156.65	<.0001

The GLM Procedure
Least Squares Means

jgroup	eupercent LSMEAN	H0:LSMean1= LSMean2 Pr > |t|
1	34.0622753	<.0001
2	40.9130252	

Journal	jgroup	eupercent LSMEAN	LSMEAN Number
1	1	36.7738264	1
2	1	33.7648799	2
3	1	32.8665042	3
4	1	32.8438905	4
5	2	51.8936604	5
6	2	42.1401479	6
7	2	33.0972229	7
8	2	36.5210696	8

Least Squares Means for effect Journal(jgroup)
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: eupercent

i/j	1	2	3	4	5	6	7	8
1		0.1971	0.0556	0.0527	**<.0001**	**0.0309**	0.1144	0.9081
2	0.1971		0.6642	0.6495	**<.0001**	**0.0008**	0.7736	0.2145
3	0.0556	0.6642		0.9894	**<.0001**	**<.0001**	0.9107	0.0537
4	0.0527	0.6495	0.9894		**<.0001**	**<.0001**	0.8989	**0.0464**
5	<.0001	<.0001	<.0001	<.0001		**<.0001**	**<.0001**	**<.0001**
6	0.0309	0.0008	<.0001	<.0001	<.0001		**0.0002**	**0.0131**
7	0.1144	0.7736	0.9107	0.8989	<.0001	0.0002		0.1130
8	0.9081	0.2145	0.0537	0.0464	<.0001	0.0131	0.1130	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

firstauthor	eupercent LSMEAN	LSMEAN Number
EU	55.5971151	1
NA	31.2804627	2
OC	30.4258066	3
OTH	32.6472165	4

Least Squares Means for effect firstauthor
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: eupercent

i/j	1	2	3	4
1		**<.0001**	**<.0001**	**<.0001**
2	<.0001		0.5731	0.5049
3	<.0001	0.5731		0.3064
4	<.0001	0.5049	0.3064	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

The GLM Procedure

Dependent Variable: **NAPERCENT** north american percent

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	183454.6113	16677.6919	51.52	<.0001
Error	1231	398471.5944	323.6975		
Corrected Total	1242	581926.2057			

R-Square	Coeff Var	Root MSE	napercent Mean
0.315254	39.37368	17.99159	45.69447

Source	DF	Type III SS	Mean Square	F Value	Pr > F
jgroup	1	12312.3694	12312.3694	38.04	<.0001
Journal(jgroup)	6	15379.6502	2563.2750	7.92	<.0001
jyear	1	2680.5260	2680.5260	8.28	0.0041
firstauthor	3	107876.4370	35958.8123	111.09	<.0001

Least Squares Means

jgroup	napercent LSMEAN	H0:LSMean1= LSMean2 Pr > |t|
1	48.9557297	<.0001
2	41.9492192	

Journal	jgroup	napercent LSMEAN	LSMEAN Number
1	1	46.5346126	1
2	1	47.8937646	2
3	1	51.2108286	3
4	1	50.1837127	4
5	2	34.7006660	5
6	2	39.4193402	6
7	2	47.2930290	7
8	2	46.3838415	8

Least Squares Means for effect Journal(jgroup)
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: napercent

i/j	1	2	3	4	5	6	7	8
1		0.5545	**0.0202**	0.0681	**<.0001**	**0.0037**	0.7411	0.9443
2	0.5545		0.1042	0.2520	**<.0001**	**0.0006**	0.7929	0.4903
3	0.0202	0.1042		0.5413	**<.0001**	**<.0001**	0.0536	**0.0098**
4	0.0681	0.2520	0.5413		**<.0001**	**<.0001**	0.1419	**0.0369**
5	<.0001	<.0001	<.0001	<.0001		0.0552	**<.0001**	**<.0001**
6	0.0037	0.0006	<.0001	<.0001	0.0552		**0.0011**	**0.0018**
7	0.7411	0.7929	0.0536	0.1419	<.0001	0.0011		0.6694
8	0.9443	0.4903	0.0098	0.0369	<.0001	0.0018	0.6694	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

Least Squares Means

jyear	napercent LSMEAN	H0:LSMean1= LSMean2 Pr > |t|
1	46.9510047	0.0041
2	43.9539441	

firstauthor	napercent LSMEAN	LSMEAN Number
EU	35.3764971	1
NA	58.5403028	2
OC	40.7351500	3
OTH	47.1579479	4

Least Squares Means for effect firstauthor
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: napercent

i/j	1	2	3	4
1		**<.0001**	**0.0002**	**<.0001**
2	<.0001		**<.0001**	**<.0001**
3	0.0002	<.0001		**0.0028**
4	<.0001	<.0001	0.0028	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

The GLM Procedure

Dependent Variable: **OCPERCENT** oceanic percent

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	81522.5134	7411.1376	63.08	<.0001
Error	1231	144623.3381	117.4844		
Corrected Total	1242	226145.8514			

R-Square	Coeff Var	Root MSE	ocpercent Mean
0.360486	93.59539	10.83902	11.58072

Source	DF	Type III SS	Mean Square	F Value	Pr > F
jgroup	1	23.48064	23.48064	0.20	0.6549
Journal(jgroup)	6	3117.28037	519.54673	4.42	0.0002
jyear	1	192.40531	192.40531	1.64	0.2009
firstauthor	3	69204.11554	23068.03851	196.35	<.0001

The GLM Procedure
Least Squares Means

Journal	jgroup	ocpercent LSMEAN	LSMEAN Number
1	1	12.8446648	1
2	1	13.5056177	2
3	1	11.7379210	3
4	1	13.6562024	4
5	2	9.3500974	5
6	2	14.2303971	6
7	2	15.9318872	7
8	2	13.4559241	8

Least Squares Means for effect Journal(jgroup)
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: ocpercent

i/j	1	2	3	4	5	6	7	8
1		0.6333	0.3612	0.5004	**0.0152**	0.3479	**0.0257**	0.6384
2	0.6333		0.1506	0.9005	**0.0043**	0.6253	0.0786	0.9699
3	0.3612	0.1506		0.0584	0.0632	0.0603	**0.0006**	0.1267
4	0.5004	0.9005	0.0584		**0.0006**	0.6565	0.0550	0.8550
5	0.0152	0.0043	0.0632	0.0006		**0.0010**	**<.0001**	**0.0018**
6	0.3479	0.6253	0.0603	0.6565	0.0010		0.2408	0.5643
7	0.0257	0.0786	0.0006	0.0550	<.0001	0.2408		0.0537
8	0.6384	0.9699	0.1267	0.8550	0.0018	0.5643	0.0537	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

firstauthor	ocpercent LSMEAN	LSMEAN Number
EU	7.0713775	1
NA	7.7064374	2
OC	26.5838388	3
OTH	10.9947022	4

Least Squares Means for effect firstauthor
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: ocpercent

i/j	1	2	3	4
1		0.4181	**<.0001**	**0.0012**
2	0.4181		**<.0001**	**0.0070**
3	<.0001	<.0001		**<.0001**
4	0.0012	0.0070	<.0001	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

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