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# The Ripple Effect of Women's Name Changes in Indexing, Citation, and Authority Control

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# The Ripple Effect of Women's Name Changes in Indexing, Citation, and Authority Control

## Abstract

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## Disciplines

Library and Information Science

## Comments

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## *The Ripple Effect of Women's Name Changes in Indexing, Citation, and Authority Control*

### Abstract

This study investigated name changes of women authors to determine how they were represented in indexes and cited references, and identify problem areas. A secondary purpose of the study was to investigate whether or not indexing services were using authority control and how this influenced the search results. The works of eight library science authors who had published under multiple names were examined. The researchers compared author names as they appeared on title pages of publications versus in four online databases and in bibliographies, by checking 380 publications and 1159 citations. Author names were correctly provided 81.22% of the time in indexing services and 90.94% in citation lists. The lowest accuracy (54.55%) occurred when limiting to publications found in *Library Literature*. The highest accuracy (94.18%) occurred with works published before a surname changed. Author names in indexes and citations correctly matched names on journal articles more often than for any other type of publication. Indexes and citation style manuals treated author names in multiple ways, often altering names substantially from how they appear on the title page. Recommendations were made for changes in editorial styles, by indexing services and by the authors themselves to help alleviate future confusion in author name searching.

### Introduction

One of the dilemmas that women (and sometimes men) face when they contemplate marriage is whether or not to change their surnames. For women who have authored publications, changing their names can have consequences for how their works will be indexed and cited. It can affect the ability of researchers to find their publications and the ease of assessing the impact of their total work for promotion and tenure.

Author name changes can have a ripple effect starting with how the name appears on the title page, then how it may be modified by an indexing service, and frequently modified again when it is cited. The term “ripple effect” can mean many different things. For the purposes of this paper, ripple effect is used “to describe a situation where, like the ever expanding ripples across water when an object is dropped into it, an effect from an initial state can be followed outwards incrementally” (Wikipedia, 2009). Other circumstances can muddy the waters even further. For example, previous names will continue to exist on publications and in databases simultaneously with the new name.

There are numerous reasons for name inconsistencies. When authors change their names, they cast a stone into the pond but do not have a great deal of control over the resulting ripples. They have a role in deciding how their new names should appear on their publications, but their preferences and attempts to be consistent may be restricted by editorial requirements. Journal editors dictate how their articles – including the list of references – should be formatted, usually according to a specific style manual such as the *Publication Manual of the American Psychological Association* or the *Chicago Manual of Style*. An author may want to be known by her middle name instead of her first name, or not use a middle name at all, but university stipulations for dissertations may mandate the full form of author name.<sup>1</sup>

The form of name mandated by editorial practices is then manipulated in indexing services and library catalogs. Library catalogs use rules for names to try to bring together name variations under one form, a practice called authority control, with cross-references from variations. Indexing services do not generally link old and new names, and treat names according to their own guidelines that are usually different from library cataloging rules. For example, *Web of Science* has for many years shortened author names to surname plus first and middle initials.

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<sup>1</sup> For example, the University of Texas mandates that “doctoral candidates must represent their full name as it is officially recorded at the University of Texas at Austin (first name, middle name, last name). This official name must be used in dissertations... (University of Texas at Austin, Graduate School, 2010).”

Traditionally, when the work of an author is cited, it should be cited according to the name on the publication, but citations based on indexes may not match that form. Some authors also have names in which it can be difficult to distinguish the surname from the given name and these are cited incorrectly as a result. Old and new names are rarely linked in reference lists and there are differences in how author names are treated in journals versus books or other publications. The *Chicago Manual of Style*, 15<sup>th</sup> edition, 17.40, calls for making references between old and new names in a book index, but not in the list of references at the end of a journal article, or in a book bibliography.

While from this, one can speculate on the overall impact of name changes, little research has been done on real name changes in order to quantify the results of all of these factors on access to an author's work. Looking at the indexing, citation and authority control of particular name changes can provide a 360-degree view of this ripple effect in indexes, catalogs, and cited scholarship. This article will examine how the works of several women who have changed their names are indexed in four online databases. It will also study how the works of these women are being cited. This research will help demonstrate how indexes have treated the works of an author who has changed names, how authors can improve consistency for citation analysis of their works, the impact of authority control, and the potential effect this might have on researcher abilities to locate these publications.

### Literature Review

The literature regarding access to name changes is limited, with little focusing on women's name changes specifically. The authors found six earlier articles that examined how names appeared in databases (Bennett & Williams, 2006; Leslie, 1993; Peñas & Willett, 2006; Ruiz-Perez et al, 2002; Scoville et al, 2003; and Tescione, 1988). The number of names studied in these articles ranged from one to 500. Only two of the articles (Bennett & Williams, 2006; Tescione, 1988) were interested in the impact of name changes. Bennett & Williams used three

names that had experienced changes among their examples, but showed the results of searching only one of those names in more than one database. Tescione was the only author who wrote specifically about women's name changes, but she did not show the results of searching any real names. Instead she made up a name to illustrate how it could potentially be indexed in the ISI citation indexes available through DIALOG in 1988. In none of the six articles did the authors systematically search for changed names in multiple databases or check the publications to see how the names appeared there. Also, they did not check the citations that appeared in the indexes to observe how well they matched the items cited.

Women are more likely to change their names than men, mainly due to marriage. Even though women's name changes have the potential to affect a large portion of the population, the way in which indexing services and citation methods deal with this is not well-documented. An understanding of women's name changes is important because it can have an effect on other research results. For example, articles that compare research done by gender (e.g., Peñas & Willett, 2006) may be flawed if they don't take into account that women authors may publish under multiple names. Articles comparing productivity of faculty at different institutions may also be flawed if the researcher did not realize that some of the faculty members may have published under more than one name.

### Library Cataloging Rules

The current cataloging rule governing name changes is:

If a person (other than one using a pseudonym or pseudonyms) has changed his or her name, choose the latest name or form of name unless there is reason to believe that the earlier name will persist as the name by which the person is better known (AACR2, 2005, Rule 22.2C1).

This was little changed from the first edition of the *Anglo-American Cataloging Rules* in 1967. The *A.L.A. Cataloging Rules* published in 1949 had one rule for changed names, and a separate rule for married women.

Rule 45. Changed names.

Enter under the adopted name a person who in civil life has changed his name unless the original one is decidedly better known. ... This includes legal changes of name, assumed names such as pseudonyms and professional names that have been adopted for general use, also in cases in which merely the spelling of the name has been altered.

Rule 46. Married women.

Enter a married woman under her latest name unless, as specified below, she has consistently written under another name.

The new cataloging rules, *RDA: Resource Description and Access* (RDA, 2010), will not make any significant difference in how name changes are handled. Rule 9.2.2.7. for “Change of Name” states: “If a person other than one who has more than one identity...has changed his or her name, choose the latest name or form of name as the preferred name. ... Exception. If there is reason to believe that an earlier name will persist as the name by which the person is better known, choose that name as the preferred name.” One of the examples of this is to use Caroline Kennedy, not Caroline Kennedy Schlossberg. In contrast, Jacqueline Kennedy Onassis is to be used instead of Jacqueline Bouvier Kennedy or Jacqueline Bouvier.

### Style Manuals

Style manuals vary in their bibliography requirements related to forms of author names, writers with alternative real names, and married women’s names. The *Chicago Manual of Style* (*Chicago Manual*, 2003, section 17.20 and 17.40) specifies that authors’ names should be given

as they appear on the title page of their books, even for authors who have “published under different forms of his or her name.” The *MLA Style Manual and Guide to Scholarly Publishing* also advocates “apart from reversing the order, give the author’s name as it appears on the title page” and author names should be “spelled out completely, not abbreviated” (MLA, 2008, section 6.6.2). The APA style manual (*Publication Manual*, 2009, section 6.27) does not specify whether the author’s name should come from the title page, rather it only requires the author’s name be inverted and citations should use only author first and middle initials instead of spelling out first and middle names. There is no mention of cross-references or how to handle authors publishing under more than one name. *MLA* recommends the use of cross-references within bibliographies stipulating that “if works by a woman are published under both her natal and her married names, list them separately, with cross-references at both names” (MLA, 2008, section 6.4.3). This seems noble but it requires the person citing the work to know that two separate articles with different author names were actually written by the same person. The *Chicago Manual of Style* (*Chicago Manual*, 2003, section 17.20 and 17.40) discusses cross-references for book indexes but not for bibliographies in journal articles.

### Indexing and Abstracting Services

Indexing and abstracting services handle author name changes in a variety of ways; however, many simply display author names exactly as listed on the article without providing any sort of authority control. A formal definition of authority control is, “the result of the process of maintaining consistency in the verbal form used to represent an access point and the further process of showing the relationships among names, works, and subjects” (Taylor, 2006, p.527). For the purposes of this study, access points are the names of women authors, and authority control would be a method to assure consistent forms of the same name or at least to show the relationships between names used by the same person.

Bennett and Williams (2006) provided an analysis of name authority control practices in 23 databases, including both traditional library-subscribed databases and free databases. Only two of the library-subscribed databases in their study provided any sort of authority control at all – *Library Literature* which “changes some author names to current version” (Bennett and Williams, 2006, Appendix B) and *MathSciNet* which provides likely name variants from which searchers may select. Surprisingly, five of the databases in their study did not provide any sort of author index.

Library science indexes are not immune from these author name problems, in spite of the professional emphasis on authority control. Stieg and Atkinson (1988) provided a detailed comparative analysis of searching in *ERIC*, *Library and Information Science Abstracts (LISA)*, and *Library Literature*. They specifically noted that author searching for:

women’s names caused particular difficulties...Though *Library Literature* maintains authority control of names, it standardizes some mistakes as in the case of “Chelton, Mary Kay,” who responds, “Kay is not my name, nor do I ever use it”...A woman who signs an article with her full maiden as well as married name, e.g., Pauline Atherton Cochrane, may be endowed by the *LISA* system with an English-style double-barreled surname, Atherton Cochrane. Because Pauline Atherton Cochrane published extensively as Atherton, an expand should reveal this additional entry, but other women who have not published under both names are likely to be lost. This same potential exists if a man signs himself using his full middle name, although men do this less commonly than women use their full maiden names...the databases of the information profession should serve as models; instead they are examples of positive and negative elements. We have not taken advantage of the technology to control the literature of our own profession (p.50-51).

Scoville et al. (2003) detailed the problems of author searching as part of creating a database of publications authored by individuals at their institution. As a result of their research, they decided to publish information and search syntax solutions to assist future researchers in retrieving problematic author names such as hyphenated names, name prefixes, possible name transliterations, and authors with seemingly identical names. Piternick (1992) provided an overview of problems associated with citing authors' names in indexes and references. She also went into detail about the treatment of pseudonyms, ghost writers, co-authorship, and scientific team names.

Names in non-English languages offer unique challenges. *The Indexer* published a series of Centrepiece articles about indexing personal names in a variety of languages: Chinese, French, Dutch, German, Austrian, Flemish, Afrikaans, Italian, Australian Aboriginal, Turkish, Arabic, Khoe-San, Spanish, Ethiopian, Tibetan, Asian, and Japanese (Indexing personal names, 2006-2008). Ruiz-Perez et al. (2002) studied compound Spanish personal names in more depth, showing how the names of Spanish authors of a sample of 172 articles were indexed in three national and international databases. They searched name permutations in each database and recorded variations and occurrences of each.

The literature of authority control covers much more than name changes, but some of the solutions provided by authority control also apply to women's name changes. Susan Tescione (1988) put the burden of "optimizing the likelihood researchers will find their articles" squarely on the shoulders of the women authors. She asserted that "every author should publish under one standard name only, and hyphenation should be avoided" (p.41). While it is true that this potentially would help, it is not always possible or practical. Authors cannot control indexing services or journal editorial styles – both of which can alter the way an author name appears. Authors who are aware of indexing service practices and/or citation practices with author names can deliberately take advantage of this by attempting to ensure their articles are cross-referenced under multiple names.

Standard practice in many disciplines is for researchers to cite their own publications (also known as self-citation). For an overview of self-citation pros and cons, see Pichappan and Sarasvady (2002). Among the many reasons they list for self-citation are: to increase the visibility of an earlier work, to establish ‘mastery’ in an area, to market an uncited work, and to inflate one’s own citation rate. Fowler and Aksnes (2007) also examined the incentives for self-citation and proposed that “self-citation advertises not only the *article* in question, but the *authors* in question” (p.433). Self-citing will allow later researchers to more easily discover works an author has published regardless of what name the author was using at the time; however, it can also be viewed negatively since it can inflate one’s own citation rate.

As long ago as 1984, catalogers were suggesting that library catalog search engines be modified to include spell checkers for names, or to search for alternative segments of names if the original search yielded nothing, or have programs that would search for a forename as an initial if the full name yielded nothing (Dickson, 1984). Modern day search engines such as Google have begun to provide many of these possibilities.

There are also other solutions gaining momentum such as name disambiguation. Bennett and Williams (2006) defined this as “an automated method of examining more than the author name to determine the likelihood that any two papers with similar author names i.e., last name and first initial, have been written by the same person” (p.47). At the conclusion of their study, they suggested several alternative methods for managing author name changes and predicted that “name disambiguation rather than name authority control may become an attractive option for catalogues, I&A databases, and digital library collections” (p.49).

Many of the name disambiguation systems are designed with the aim of assisting authors with common names to be able to differentiate their own works from those of someone else with a similar/identical name, rather than ways to bring together the works of an author who has published under different names. Enserink (2009) provided an excellent overview of author

identification issues and programs. One problem with name changes, however, is that they may not be similar enough to each other to allow automatic linking via a software program.

*Scopus Author Identifier* (Elsevier, 2006) and the *Web of Science* author disambiguation project (Thomson Reuters, 2006) both use algorithms to analyze author name variants and additional data elements such as institution, co-authors, subject areas, and journal names in an attempt to group author names accurately. Automation can reduce the amount of maintenance needed in authority control but it can also introduce unintentional errors in linking names that seem similar but, in fact, are not the same person. In April 2008, the Association for Computing Machinery (ACM) announced the *ACM Digital Library* beta test of a feature they call Author Profile Pages which attempts to “identify all the works, and only those works, by a unique individual.” They are also among the first in the industry to provide an Author Edit Screen where “authors or members of the community will be able to indicate works in their profile that do not belong there and merge others that do belong but are currently missing” (Association for Computing Machinery, 2008).

In another project, the RLG Partners Networking Names Advisory Group was convened “to address and identify components of a ‘Cooperative Identities Hub’ to link to or merge author identities across databases, systems, and domains” (Smith-Yoshimura, 2009). One of their goals is to help researchers to successfully identify the name and receive additional information about the “creative works produced by the entity.” The impact of this would be to streamline the researcher’s information gathering process.

### Methodology

The current study was undertaken to investigate how the works of women who have changed their names were being indexed and cited. A secondary purpose was to see whether or not any indexing services were using authority control and if it helped or hindered the search results. At a time when many people doing quick searches seem satisfied with the results of *Google*, authority

control may seem less important. Indexing services are instituting new techniques for disambiguating similar names, but this would not necessarily bring together the works of authors whose names have changed. To avoid confusion in referring to the authors that conducted the research and the authors that were studied, the writers of this article will refer to themselves as “the researchers” in this section. The researchers developed their own methodology because no research quite like this had been previously undertaken.

First the researchers needed to identify a group of women who had published under more than one surname. Ideally the names to be studied would be some kind of random sample, but the researchers had no overall list of people who had published under different names to sample. The researchers assumed that what they would find for a small group of names would be generally applicable to all names with the same characteristics. They chose to limit the pool to people who have published in library science because it is the field in which they were most familiar with the authors. To develop the list of names to study, they brainstormed names of librarians they knew who had changed their names and also looked through the Index of Persons in the *ALA Handbook of Organization* (2006) to determine more likely names to search.

The researchers looked for these qualities in the names for the study:

- The person published something before and after the name change.
- The person published at least one article under each name, in order to have a basis for comparison.
- Articles of the person were indexed in more than one database.
- The names were distinctive enough that it would not be too difficult to sort out false hits from the search results.
- There was a mixture of how the names were formatted, some using the maiden names as the middle name and some not.

- There was a mixture of heavily published authors and others more moderately published.
- Authors had an easily identifiable surname (the researchers deliberately avoided names, such as those of Asian origin, in which the surname might be cited incorrectly as the given name and vice versa).

The researchers settled on eight author names to study in depth: Denise Beaubien Bennett, Carol Pitts Diedrichs, Melinda Flannery, Karen Lawson, Karen Markey, Kathleen de la Peña McCook, Pamela Rebarcak, and Arlene G. Taylor. A few of these authors have changed their names since the study; however, these were the most recent names published under at the time of the study.

While eight names may not seem like a large number, the research on these eight names resulted in checking 380 publications and 1159 citations.

The researchers searched for the author names in standard library science databases and broad cross-disciplinary indexes that included library science literature:

- *Library Literature* (using the FirstSearch interface)
- *Library, Information Science, & Technology Abstracts (LISTA)*
- *Web of Science*
- *Google Scholar*
- *CrossRef*

To see which names had an adequate number of publications, the researchers first performed rough searches of these databases under various permutations of the names to see how many publications would be found. Scoville (2003) described similar name permutations.

Combinations tried were:

- First and maiden name
- First and maiden and married name

- First and married name
- First and last name in different order
- Initials in place of first name

This helped determine the names of women who had published both before and after their name changes. The researchers also found that *CrossRef* was not a good choice for further searching because few of the names appeared there, so it was eliminated from the study.

For each publication that was found in the indexes used in the study, the researchers looked at how the author's name appeared on the title page. They used *Web of Science* and *Google Scholar* to determine which publications had been cited, and then tracked down the citing publications to see how the name appeared in the bibliography (and whether or not cross-references were provided between different forms of the name).

## Results

The researchers examined author names on 380 publications and in 1159 citations. Tables 1 and 2 show the overall summary of results. Due to variations in whether an index or citation included full author names versus initials, names were considered to be a "correct match" if author surname, first name/initial and middle initial (or lack thereof) on the original article matched what was found in the index or reference list.

[Insert Table #1 here]

[Insert Table #2 here]

Overall, indexing services listed the author name correctly 81.22% of the time while reference lists correctly identified authors 90.94% of the time. The lowest percentage of accuracy in correctly listing an author name (54.55%) occurred when the result set was limited to

publications found in *Library Literature*. The highest percentage of accuracy in reference lists (93.03%) occurred when the result set was limited to works published before a surname changed. When results from *Library Literature* were excluded from the indexing set, the accuracy rate climbed to 94.18%. The researchers speculated that this is due to authority control being used in *Library Literature*, which often listed an author's works under her latest name rather than the name on the publication.

When the results were examined by data set categories, author names on journal articles correctly matched both indexing services (83.56%) and reference lists (91.81%) more often than publications other than journal articles in the same categories (72.00% and 89.37%, respectively). Non-journal publications included books, book chapters, *ERIC* documents, reports, etc.

The number of author name variations occurred less frequently in journal articles than in non-journal publications. In a couple of sample authors, the change was very noticeable when looking at just the journal articles – in both the number of names under which the author published and the number of additional name variations found in indexes and reference lists. The researchers speculated that this was probably due to consistent editorial control following style manual rules for journal articles.

When the data was divided into materials published before and after an author changed her name, again, the differences were striking. Indexing services listed the name correctly 86.86% after the name changed, but only 74.16% before the author name changed. Again, the authors speculated, based on their search results that this may be due to the use of *Library Literature*'s style of authority control, meaning that all the names were changed to a current form.

Results in the reference lists were very different from those of the indexing services. In reference lists the name was identified correctly only 88.45% after the surname changed and 93.03% before the author surname changed. It should be noted that most of the inaccuracies in reference lists were due to typographical errors, not incorrect surnames.

Table 3 shows the same data set categories as Tables 1 and 2, but compares *just the surname* on the original article with the number of times the surname appeared incorrectly in the indexing service or reference list. As the table clearly reveals, the indexing services had considerably more instances when they did not match the surname from the original article than the reference lists.

[Insert Table #3 here]

The researchers defined a surname match as any instance in which the surname on the article was present in any part of the name showing in the index (even if there were additional surnames showing in the indexing record as well). For example, in the case of Denise Beaubien Bennett, both Beaubien and Bennett were counted as surname matches since both surnames were visible and indexed. This definition was intentionally very broad in order to see how many times there was no recognizable portion of the surname between what a researcher might find in an index or citation and that which appeared on the publication title page. If the researchers had used a narrower definition of a match, where the surname in the index had to be the final name on the publication in order to be considered a match, then the number of cases in which the indexed surname did not match the surname on the article would have been 85 instead of 53 in Table 3. This demonstrates that authors who do not include their former name as part of their new name have less opportunity for the surnames to match between the publication and the index.

### **Discussion**

There were 1159 citations that could have had a cross-reference to a different form of the author's name and only one of them had a cross-reference from an older/newer version to a different name in the reference list. This included reference lists from books, book chapters, conference proceedings, *ERIC* documents, and journal articles. The authors from the sample,

when citing their own works, in almost every case cited their own papers exactly as the author name was originally listed on the title page.

One of the authors was a library school professor. In a dissertation from that university, the student thanked Professor Markey for providing advice on developing questionnaires and interview questions. In the list of references there were no articles by Professor Markey; however, there was an article by Karen Drabenstott. Did the author know this was the same person? Probably, since the student was working closely with her and the article provided author affiliation information on the first page. Dissertations usually have very rigid rules for citations and name formats. The graduate student may not have had the freedom to include a cross-reference from the current name to the older one, but the student still chose to publish the dissertation with the original name in the references.

In recent years, it has become fairly common practice for authors to provide a full or selected list of publications on a website. One of the authors in the study, on her website bibliography, completely eliminated the author names in her publication list – to the point that it was impossible to tell which ones were co-authored or solo authored. While this made it easier for her to avoid the issue of form of name on particular articles, it also became impossible to know which form of her name she preferred to use or how she preferred her name to be listed on specific publications. Rather than determining an author's preference, the form of name used in library catalogs is typically how the name commonly appears.

In American library catalogs, authority control brings together the works of an author by using a consistent form of an author's name, currently chosen according to *AACR2*. If there are variations in an author's name, one form is selected and cross-references lead to the preferred form. This means that there are married women who have published under two (or more) distinct forms of names and yet cataloging rules chose only one form of the name and put all of the author's works under that one name.

The cataloging rules since 1967 treat pseudonyms differently than name changes.

Pseudonyms are now regarded as “separate bibliographic identities,” so each pseudonym is treated as a separate name. Prior to 1967, the *A.L.A. Cataloging Rules* Rule 30.A. said to “Enter works published under pseudonym under the author’s real name when known” with certain exceptions. This often required considerable research to detect the real name of a pseudonymous author, but kept the works of an author together, which is a goal of authority control. If name changes were treated more like pseudonyms in allowing different names to be established for each name change, this would more closely match the names that appear in journal articles and on the title pages of books. The names would need to be linked by cross-references to explain the situation. *Library Literature* sometimes follows the cataloging rules in how it handles name changes, by often using the latest form of a changed name. However, without cross-references, searchers have no way of knowing when the author can be found under more than one name.

Bennett and Williams (2006) observed that *Library Literature* had invented some amalgamated names, which is not what the cataloging rules prescribe. The name is to be the most commonly used form determined by an examination of the published works of the author. Determining most commonly used name, preferred name, or better known name can be challenging and problematic. Authority control records in OCLC can be submitted by any Name Authority Cooperative Program (NACO) cataloger. Only in rare cases are authors consulted about their preferences.

Karen Lawson is a good example of a currently-publishing author who has changed names and published under more than one surname. She has also sporadically varied whether or not she listed a middle initial on individual publications. *LISTA*, *Web of Science*, and *Google Scholar* all accurately showed the author name exactly as shown on the publication – regardless of author name variations (Table 4a). *Library Literature* showed authorship of most of Ms. Lawson’s publications as Karen G. Lawson regardless of whether she published them as Karen G. Roughton or Karen Lawson; however, one stray article in *Library Literature* showed the author

as Karen Lawson (with no middle initial). *Library Literature* listed the name exactly correct in only three out of seven publications. In three out of the four incorrect listings, the surname provided in *Library Literature* was a later form of the name, so it did not match the surname on the original publication (Table 4b).

[Insert Table 4a here]

[Insert Table 4b here]

In the greater scheme of things, three records may seem like an infinitesimal number but it is a symptom of a larger problem that becomes even more pronounced with authors who have more publications to their credit. For the 380 publications in this study, the incorrect surname was listed 53 times in indexing services and six times in reference lists (Table 3). In other words, there were 59 citations that a researcher could discover and then when tracking down the particular publication might have opened it to a specific page and found an article written by what they mistakenly thought was a different author (because the surname was completely different from what was provided in the index or reference list).

*Library Literature* was the only indexing service in this study which utilized authority control. Author authority control is intended to ensure that all publications of an author will be retrievable in an index regardless of which name variation a researcher looks under; however, it is an invisible process. Typically researchers are unaware of authority control going on in the background. If an author has changed her name, a researcher would have to know to search for the most current version of the author name or risk finding few, if any, results since there are no author name cross-references appearing within FirstSearch databases. Similarly, library catalogs utilize author authority control. If researchers use a keyword search for an author name, and retrieve zero results, they will not see any cross-references. As a result, they may assume the

library does not own any books by that author. An author browse search would offer cross-references but is not the most popular method of searching. Librarians have been trained that the most efficient search in *WorldCat*, or the original OCLC database interface, is a combination of author last name and first word in the title. In traditional online library catalogs this would equate to a keyword search and, again, they would retrieve zero results if the author name is one that has been changed due to name authority control.

### Recommendations

Dickson (1984), in speaking about patron difficulties with searching the online catalog, says “to what extent does the solution lie in bibliographic instruction, and to what extent in system revisions?” (p.36). This is still true today. There really does not seem to be any one solution that will “fix” the problem with author name searching. Yes, name disambiguation and patron education can help to some extent but neither solution will cure the problem completely. Name disambiguation distinguishes similar names, but doesn’t bring together names that have changed. Patron education assumes we can reach every researcher that needs to be taught. The following recommendations would help alleviate future confusion in author name searching:

- 1) Editorial styles which dictate how cited references appear in journal articles need to be reexamined from the researchers’ point of view. The practice of listing abbreviated author names and abbreviated journal names is a hindrance to researchers trying to track down individual references listed at the end of a paper. Editors have responded to some of these concerns by changing their practices to include the full journal and article names. However, some style manuals advocate treating author names differently in book bibliographies from those in journal articles, including the use of cross-references. Further style manual revisions are needed to resolve problems researchers encounter in trying to locate the articles written by a specific author.

- 2) Encourage support of projects that allow author identification across systems – e.g., the OCLC Cooperative Identities Hub and *ResearcherID*. This, unfortunately, only assists in identifying publications of contemporary authors.
- 3) Treat the author name changes the same for books and journal article reference lists.
- 4) If an author has consistently published under more than one surname he/she should be indexed or listed under each of his/her published surnames, with visible cross-references between the names.
- 5) Indexing databases, library catalogs, and citation lists all need to use visible author name cross-references wherever feasible. This would allow the author's name to match how it was listed on the original document, and yet enable researchers to discover alternative names. Another way of doing this would be to use the *MathSciNet* model, as described by Bennett and Williams (2006), which brings together all names under a preferred heading, but still lists all the associated names and keeps publications under the names used.
- 6) If authors want researchers to be able to find their earlier works, if on related topics, they should include their former name(s) as part of their name on later publications, or use self-citations to promote their own earlier publications.
- 7) Further study needs to be done on the nature and origin of author names indexed in *Library Literature*. This could include how the forms of the indexed names are determined.

## **Conclusion**

This study investigated name changes of women authors to determine how they were represented in indexes and cited reference lists. The state of affairs was *even more complex* than originally expected as a result of many factors influencing the manner in which author names were listed on title pages, in indexes, and cited references. Due to editorial requirements, names on title pages do not always reflect author preference.

Indexes further distorted names by shortening author names to first and middle initials. Many indexes displayed author names exactly as listed on the article with no authority control. When authority control was applied to change names to the current version, indexed surnames did not match earlier surnames on the original publication, and there were no cross-references to explain the situation. In this study, there were 1159 citations that could have had a cross-reference to a different form of the author's name and only *one* of them had a cross-reference.

Reference lists identified author surnames correctly more often than indexes but, like title pages, cited references were also formatted according to editorial requirements and style manuals. For the 380 publications examined, there were 53 instances in which indexes did not match any appearance of the surname in the publication, and six instances in which cited references did not match any appearance of the surname in the publication.

Overall, indexing services listed the author name correctly 81.22% of the time while reference lists correctly identified authors 90.94% of the time. Indexing services were more likely to list a surname correctly after the name changed than before the name changed, due to *Library Literature's* authority control practice of changing names to the current form. Reference lists were the opposite. They were more accurate for surnames on works published before the name changed, but these inaccuracies were often due to typographical errors rather than incorrect surnames. Authors from the sample, when citing their own works, in almost every case cited their own papers exactly as the author name was originally listed on the title page.

There were differences in how author names are treated in journal articles versus books and other publications. Author names on journal articles correctly matched both indexing services and reference lists more often than for publications that were not journal articles. This may be due to consistent editorial control following style manual rules for journal articles.

As in water ripples, author name change ripples can be unexpectedly far reaching. It was enlightening to discover the numerous factors (and their ramifications) that can cause variations in author names. It can help women authors who have changed their names to understand the impact of this decision on researchers looking for publications. Ultimately, it is hoped that this information will be used to improve the author name searching abilities for future researchers.

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