

A Citation Study of Andrews University

Theological Seminary Dissertations

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Abstract

Citations found in Theological Seminary Ph.D./Th.D. dissertations completed between 2006 and 2010 at Andrews University were analyzed to determine how many of the cited resources were held by the library, what types of resources were used, and their age. The study showed that 2/3 of the citations were books and almost 1/3 were periodicals, 84% of the citations were held by James White Library, and the majority of the citations were published within 60 years of the dissertations' completion dates. The study also revealed that five of the 27 most frequently cited periodicals were included in ranked lists of three similar studies.

Libraries collect resources with a well-intentioned idea of supporting the information and research needs of their patrons; and in academic libraries, these are students and faculty. Collecting circulation statistics is one way of measuring the use of the library collections but it does not show the impact of resources on the final product of the research such as the published articles, theses, and dissertations. By evaluating the number of times a source is cited, citation analysis (CA) provides data on how the library is meeting the needs of its patrons (LaBonte, 2005) and shows what resources they used for their published work (Kellsey & Knievel, 2012). According to Johnson (2009), "citation studies assume that the more frequently cited publications are the more valuable, will continue to be used heavily, and consequently are more important to have in the library collection" (p. 247).

Ever since Gross and Gross (1927) studied citations published during 1926 in the *Journal of the American Chemical Society*, citation studies have been done either as a method of understanding the impact that the literature has on the field or

as a collection development tool in academic and research libraries. Although the pure and applied sciences have used CA heavily, it is used less frequently in the humanities, including religion and theology. Because there are few studies regarding the information seeking behavior of theologians, a CA of their research work can contribute to a better understanding of their use of the library.

Background

In 1874, the Seventh-day Adventist (Adventist) Church established Battle Creek College in Battle Creek, Michigan. When the college outgrew its location, it moved to Berrien Springs, Michigan in 1901 and was renamed Emmanuel Missionary College (EMC) (Andrews University, 1996).

In 1936, the governing body of the Adventist Church voted to establish a school of theology in Takoma Park, Maryland. When the school of graduate studies was added to the school of theology in 1957, the institution was named Potomac University. Due to lack of adequate space for a campus, the church voted to merge Potomac University with EMC. This merger resulted in the formation of Andrews University (AU) (Andrews University, 1996). The university is the home of the Seventh-day Adventist Theological Seminary. In 2010, the Seminary offered Master of Arts - Religion, Master of Arts - Religious Education, Master of Theology, Doctor of Philosophy, Doctor of Philosophy - Religious Education, and Doctor of Theology in the academic program; and Master of Arts Pastoral Ministry, Master of Arts Youth Ministry, Master of Divinity, and Doctor of Ministry in the professional program (Andrews University Bulletin, 2009-2010). The dissertations in this study are in the areas of Adventist Studies, Church History, Mission and Ministry, New Testament, Old Testament, and Theological Studies.

James White Library (JWL) serves both the graduate and undergraduate students of AU. Within JWL are collections that are relevant to the research needs of the theological seminary students and faculty, namely, the Center for Adventist Research, the Periodical Collection, and the Seminary Library in the main library; and the Horn Archaeological Museum located elsewhere on the campus. JWL takes pride in its collections on Biblical archaeology, Biblical studies, Christian ministry, creationism, Daniel and Revelation, the second advent, Sabbath, and youth ministry (Andrews University, n.d.).

Objective

Andrews University has awarded doctoral degrees to seminarians for many years but there has been no published analysis of the sources cited in the theses and dissertations of its graduates. This study undertakes the analyses of dissertations completed by the Seminary doctoral graduates for the five-year span of 2006-2010.

The main objective of this study is to answer the question: To what extent does the library collection support the research needs of the Seminary doctoral students? In order to answer this question, this study examined the citations in the bibliographies of Seminary doctoral dissertations by addressing the following points: (a) What types of sources are used? (b) What is the age of the citations? (c) How many of the cited sources are held by JWJ? (d) What are the most frequently cited periodicals?

Literature Review

Citation analysis (CA) is a bibliometric technique used to determine the pattern and frequency of articles, books, and other types of materials cited by authors. Academic and research librarians use CA for collection development purposes, such as selecting and deselecting serials (Becker & Chiware, 2015), assessing the collection (Tucker, 2013), creating core lists (Griffin, 2016; Enger, 2009; Waugh & Ruppel, 2004), and evaluating the ratio of serials to monographs for a subject area (Devin & Kellogg, 1990).

Citation studies are abundant in many fields of study but not in the humanities, particularly theology and religion. Sheppard (2015) reflected on the dearth of bibliometric studies in the field of theology. She did a search of the *ATLA Religion Database* using keywords “bibliometrics” which returned four articles, and “citation analysis” which returned articles focused on “key variants in sources used by ancient authors” (Sheppard, 2015, p. 31). The terms “altmetrics,” “infometrics,” and “scientometrics” produced no results. She attributed this scarcity to the following factors: (a) The focus in theological librarianship has been on preservation. (b) It is not easy to acquire grants for scholarly research in the humanities because the impact of an article is not as measurable as in the sciences. (c) Data sets for author citations are difficult to create and access due to copyright restrictions.

Gundry et al. (2015) state that the fields of religion, theology, and philosophy are “not significantly represented” in the large commercial citation databases such as Web of Science and Scopus (p. 17). The lack of a major citation index for the fields of religion, theology, and philosophy hinders the visibility of scholarship that is happening in these fields. The use of ancient text with variant translations also “impact how citations are referenced and counted” (p. 18).

Three outstanding works on citation analysis in the field of theology were done in the 1960’s and 1970’s, two of which were dissertations. All three produced ranked lists of frequently cited periodicals. Whalen’s dissertation (1965), focusing on the literature used in Catholic and Protestant doctoral research in theology, is one of the earliest citation analysis studies in theology. She analyzed 100 dissertations completed between 1953 and 1961. She found that 71.5% of the

citations were from monographs and 22% from serials. She made the observation that “there is almost an inverse ratio: science relies heavily, almost exclusively in some cases, on serials, while monographs are seldom used; social sciences come closer to equal use of both forms, whereas the humanities lean more heavily on monographs.” (p. 40-41). Whalen’s work was the only one that studied doctoral dissertations; the other two focused on journals.

Heussman (1970) did the second study five years later. His dissertation was a CA of seven theological journals. He presented a list of the 21 most frequently cited journals based on his study of seven scholarly English language journals. His analysis showed that 73.9% of the citations studied came from monographs and 20.6% came from serials. Similar studies published later by Hurd (1983) and Bowman (1991) showed that the ratio of monographs to serials were similar to Heussman’s findings.

Three years after Heussman’s study, McLeod (1973) published the third study in which he studied the citations from *The Journal of Biblical Literature*, *Catholic Biblical Quarterly*, *Vetus Testamentum*, and *New Testament Studies* published between 1966 and 1970. These journals are “broadly representative of the field of biblical studies” (p. 70). The 3,956 citations in the study appeared in 305 journals. Forty-six of the most frequently cited journals accounted for 80.5% of the citations. The study also revealed that 98% of citations were published within 70 years of the date they were cited.

Two publications written within the past ten years are worth mentioning. One of them was written by Senapatiratne (2014) who searched the *ATLA Religion Database* for articles dealing with scholarship on Ecclesiastes during the ten-year period of 2003-2012. His search netted 36 articles with an average of 31.5 citations per article. Monographs comprised 36.4%, journals 18.3%, essays 16.9%, and commentaries 23.3% of the citations.

The other one was a paper presented at the 69th annual conference of the American Theological Association. Adkins (2015) reported the preliminary findings of a study of “citations accompanying research published in the fields of theology, religious studies, and biblical studies” (p. 99). The paper focused on a sample of 917 citations in 20 articles published between 2010 and 2013. There was an average of 45.9 citations per article. The results showed that 27.7 % of the citations in the study came from journals, while 49.6% came from monographs.

Methodology

The citations in the bibliographies of the 27 seminary doctoral dissertations for the Ph.D. and Th.D. programs completed between 2006 and 2010 were categorized according to type, age, and holdings. Each periodical title was examined to

determine how many times it was cited. The data were analyzed using Microsoft Excel spreadsheets.

Material types were broken down into books, periodicals, dissertations, web, and others. "Books" included monographs, volumes of a set, chapters in edited books, and monographic series such as annuals. "Periodicals" covered journals, magazines, newsletters, and newspapers. Theses and dissertations were categorized as "Dissertations". Resources that were freely available on the Internet with URLs provided were classified as "Web". "Others" included unpublished materials, conference proceedings, sound recordings, and any other form not covered by the previous categories.

Age was determined by subtracting the date of the dissertation from the publication date of the citation. To determine holdings, each bibliographic entry was checked against the Library's Catalog, Periodicals A-Z List, and Center for Adventist Research website. Bibliographic holdings reflect the library's collection during the data gathering process of this article rather than when the dissertations were written. Periodical titles were arranged from the most to the least frequently cited, and the top most frequently cited periodicals were compared with previously published lists.

Results

The bibliographies of the 27 dissertations consisted of 1,497 pages containing 17,725 bibliographic entries with an average of 656 citations per dissertation.

Type

The types of materials in these dissertations were comprised of the following in descending order: books 69.1%, periodicals 26.5%, dissertations 2.1%, others 1.9%, and web .4%. Figure 1 shows the distribution of the types of materials cited in the bibliographies.

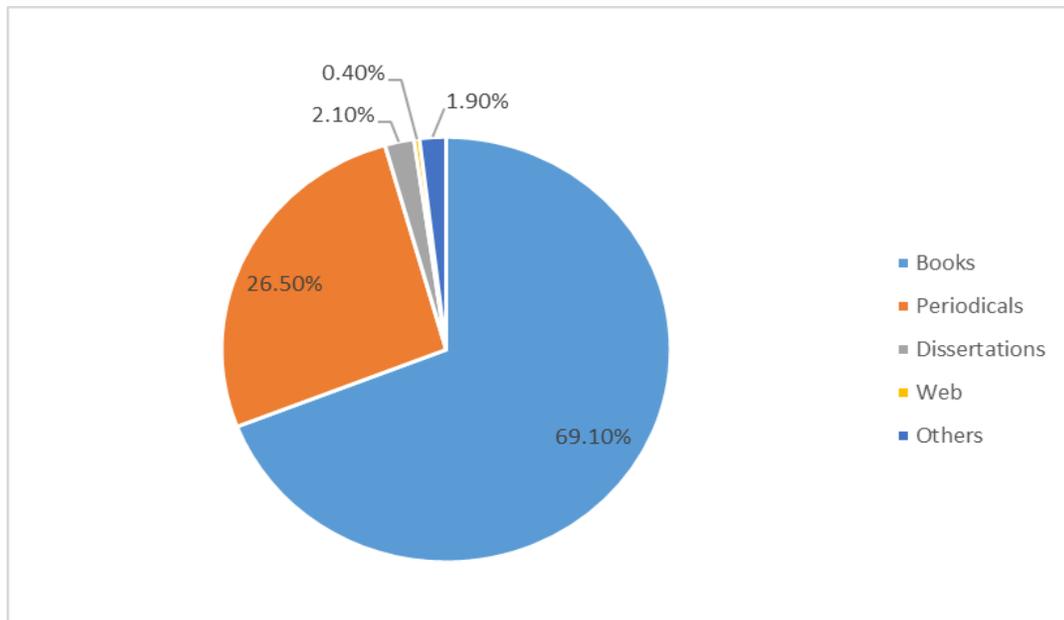


Figure 1. Percentage of Material Types

Age

Books. As seen in Figure 2, the majority of the books cited were published within 60 years prior to the dissertations' completion dates. The oldest book cited was 477 years old. This was the oldest citation in the study.

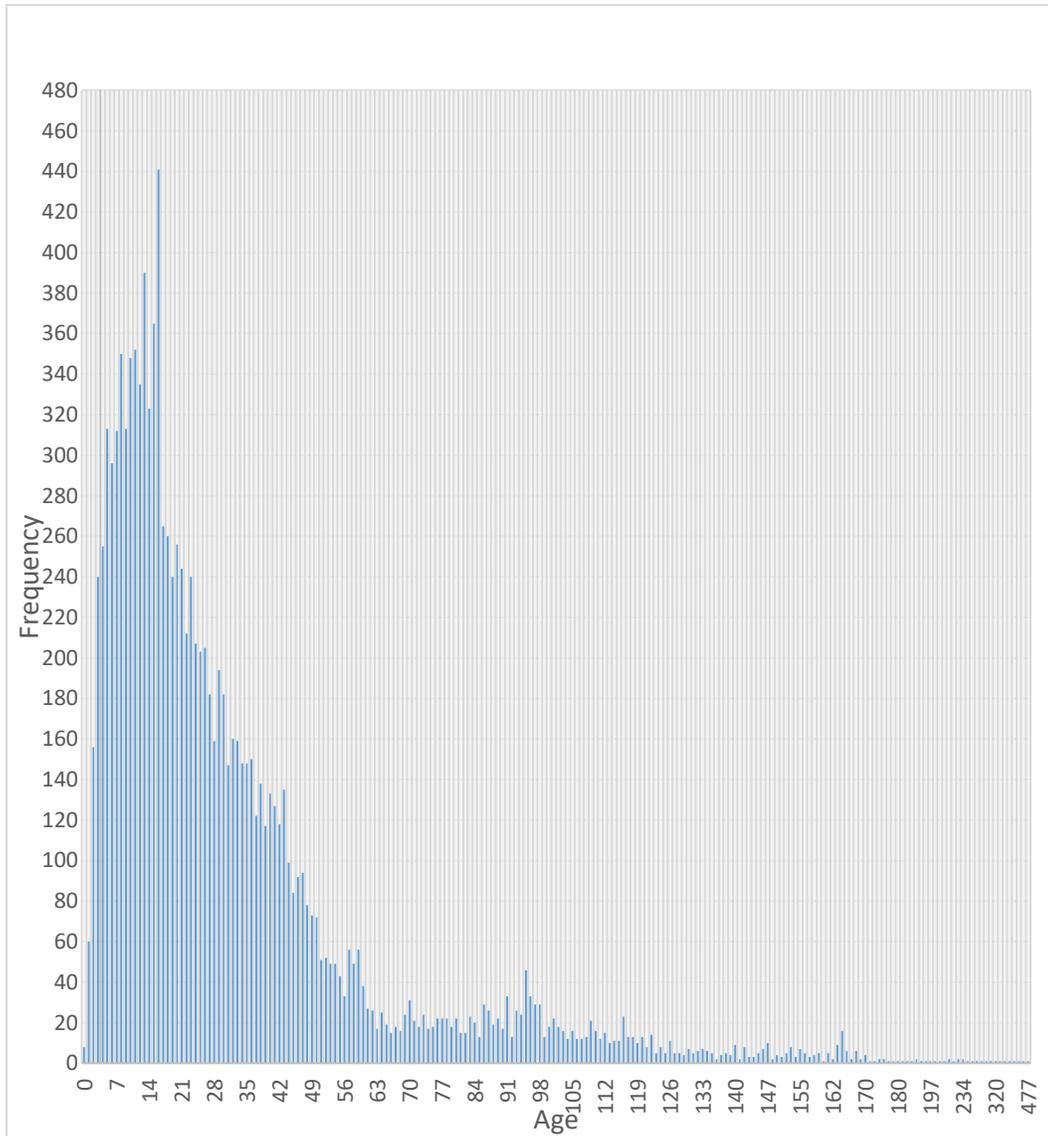


Figure 2. Age of Books

Periodicals. As shown in Figure 3, the majority of the periodicals were also published within 60 years prior to the dissertations' completion dates. The oldest cited periodical was 202 years. The spike at the 131 mark is attributed to one periodical used extensively by one author who did a historical study of the Seventh-day Adventist church in a specific country.

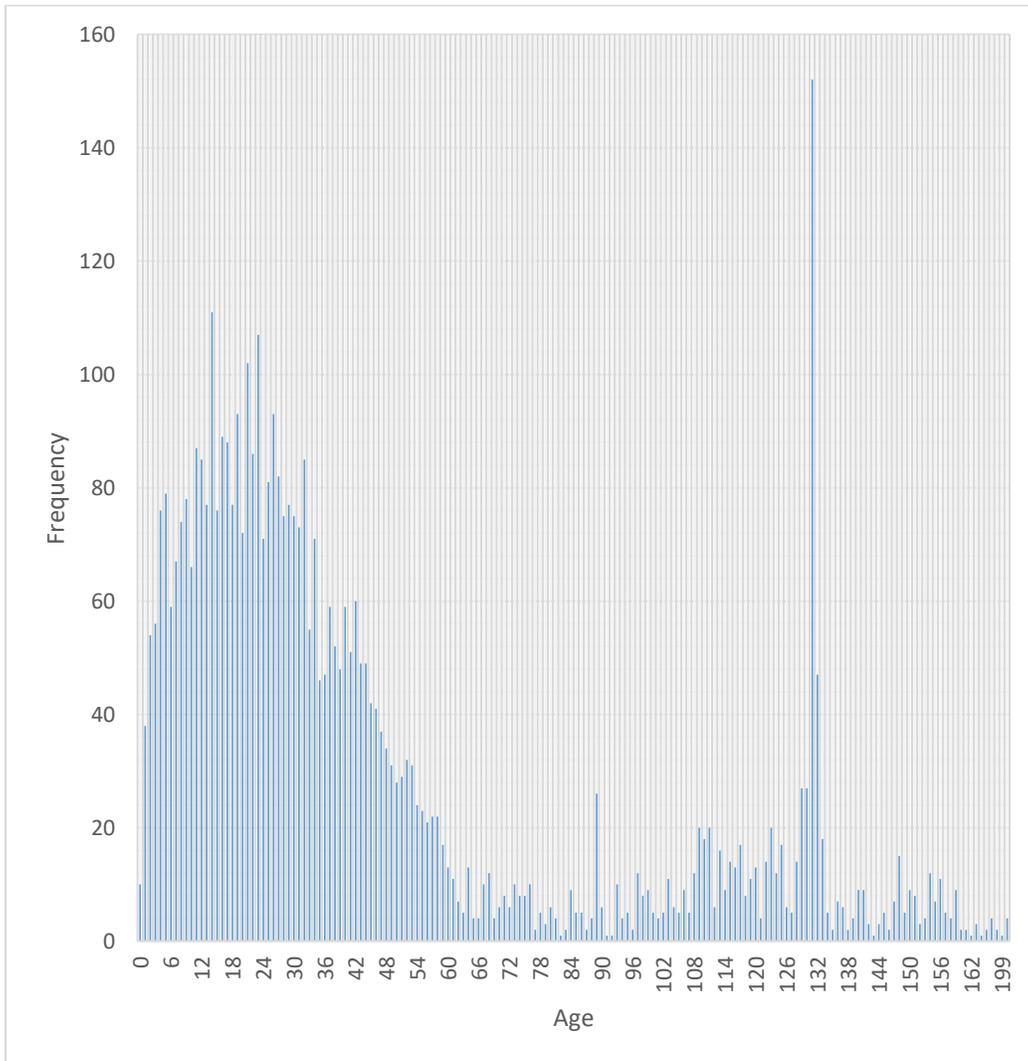


Figure 3. Age of Periodicals

Dissertations. Figure 4 shows that the majority of dissertations were published within 30 years prior to the dissertations' completion. The oldest dissertation cited was 93 years prior to the date it was cited.

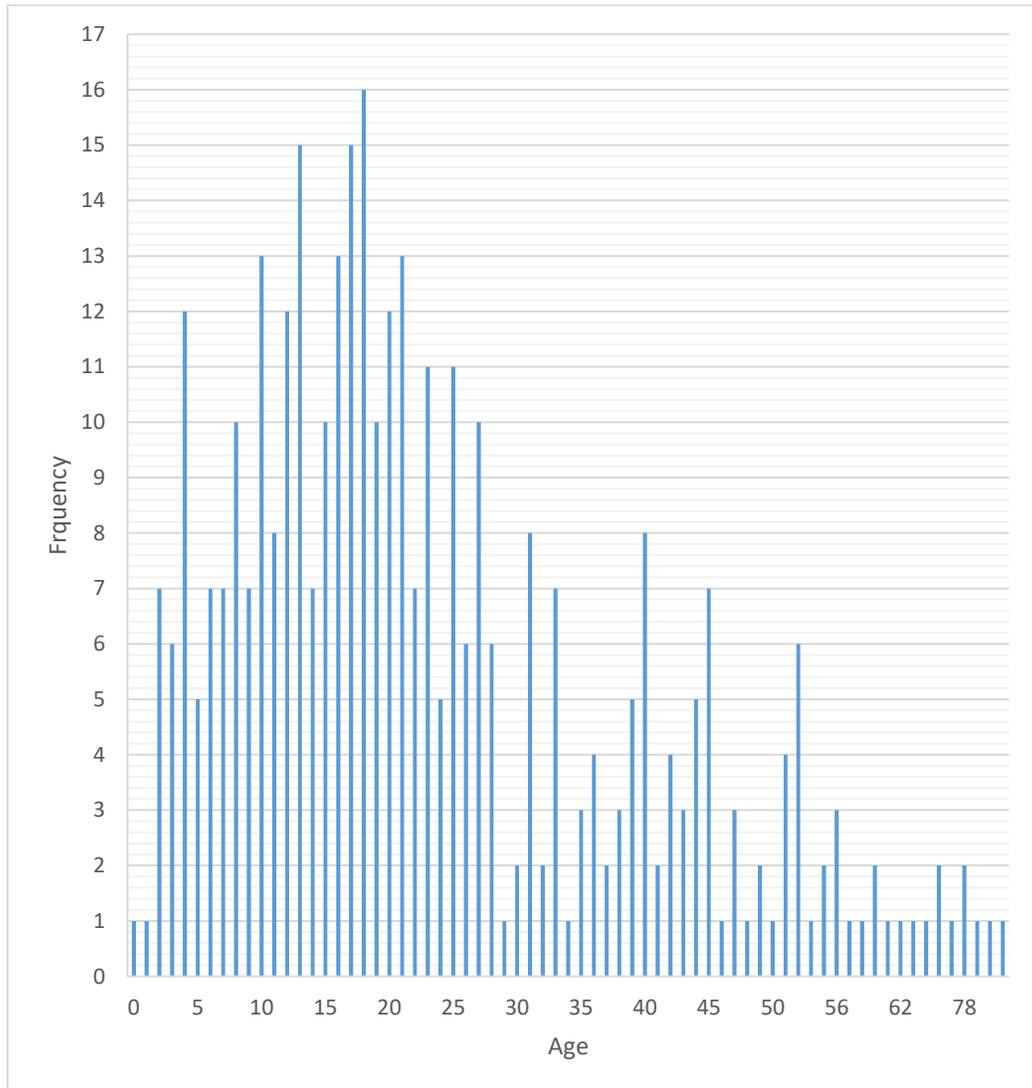


Figure 4. Age of Dissertations

Web. Websites had the fewest citations but they were the most current source, with publishing dates ranging from 0 to 15 years as shown in Figure 5. Many of the cited websites were within one year of the dissertations' completion dates.

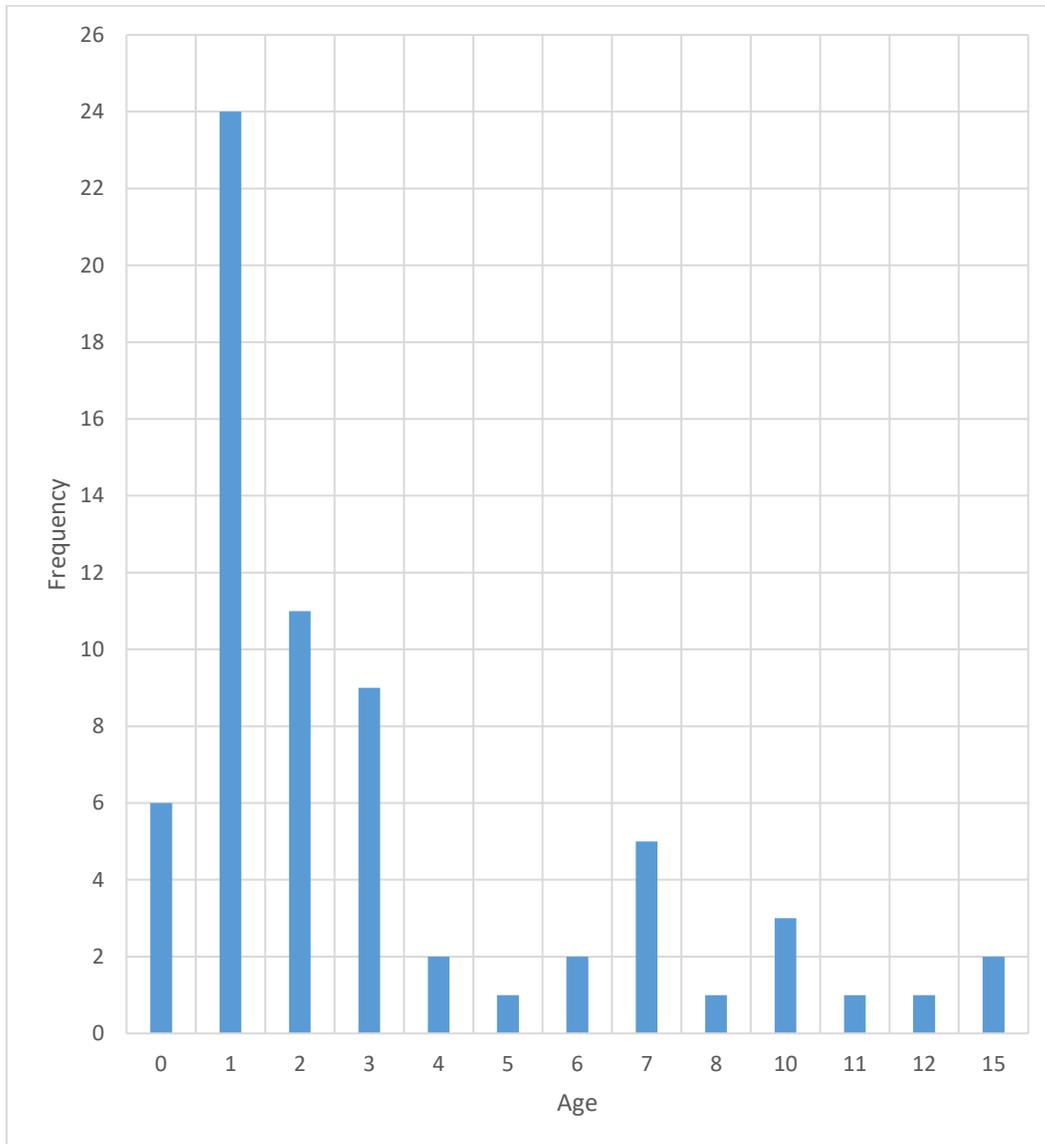


Figure 5. Age of Websites

Other types. There were a variety of other materials not covered by the above categories with very small frequencies for each age. Figure 6 shows that the most frequently cited “other” materials were published within the range of 124-131 years prior to the dates they were cited. The oldest item cited was published 313 years prior to the completion of the dissertation.

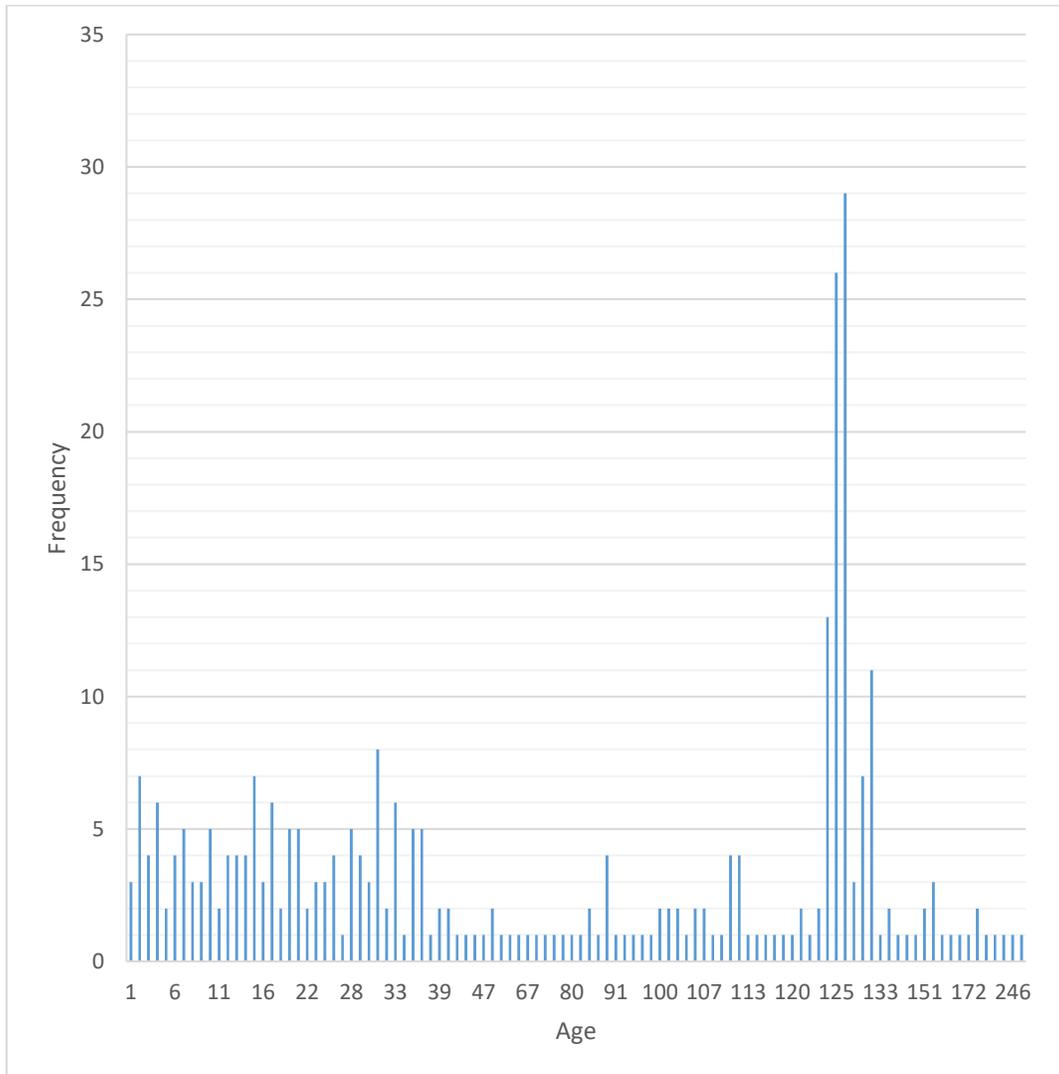


Figure 6. Age of Other Types of Sources

Holdings

The data show that JWL held 83.54% of the citation sources. For each type of material cited, there were more held than not held. Obviously, the one exception was the web, but those accounted for only .4% of all the citations. Periodicals had the highest holdings ratio (87.54% held vs. 12.45% not held), followed by books (83.29% held vs. 16.7% not held), followed by other materials (71.21% held vs. 28.78% not held), and lastly dissertations (68.99% held vs. 31.02% not held). Over all, the library held a majority of the sources cited as shown in Figure 7.

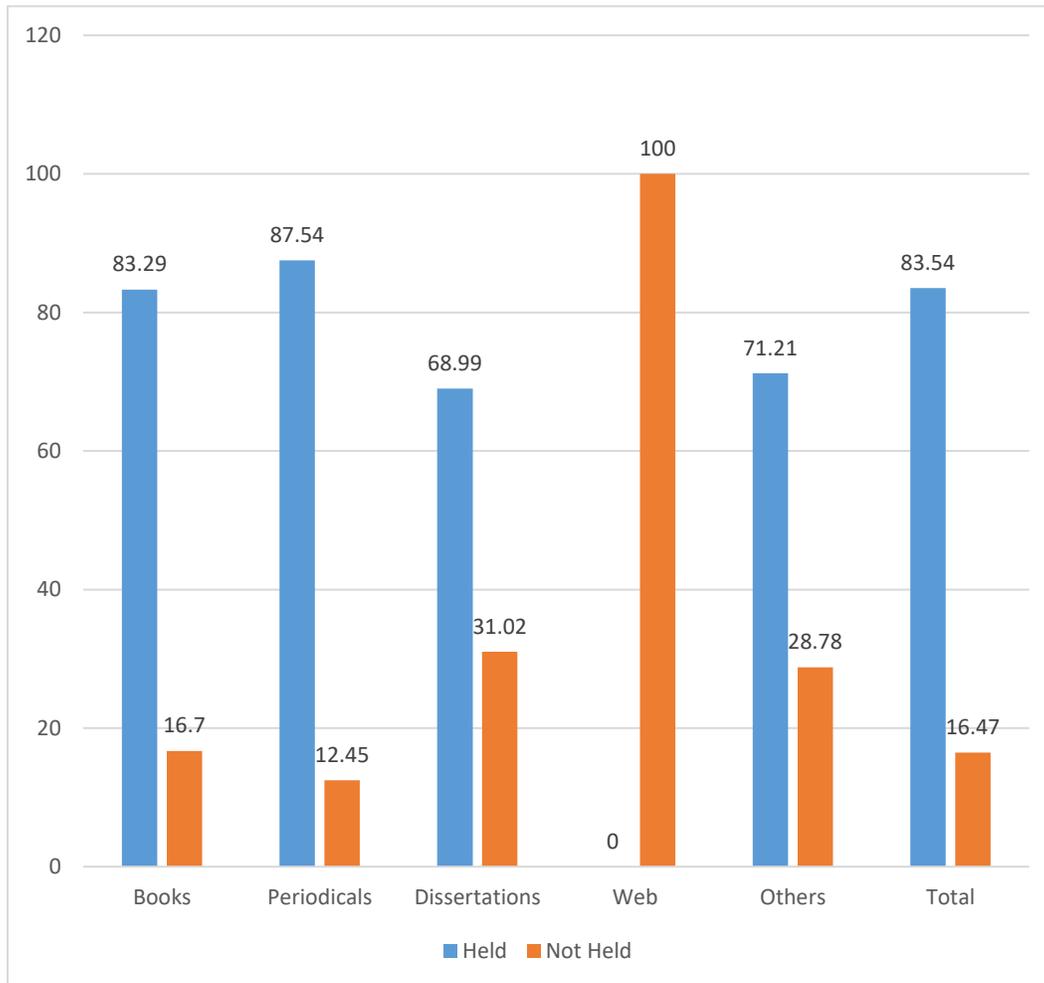


Figure 7. Ratio of Citations Held to Those Not Held

Most Frequently Cited Periodicals

All of the 711 periodicals were ranked from the most to the least frequently cited. Figure 8 shows periodical titles that were cited 40 or more times.

Rank	Periodical Title	Times Cited	Rank in Whalen List	Rank in Heussman List	Rank in McLeod List
1	Review and Herald	217			
2	Adventist Review & Sabbath Herald	189			
3	Journal of Biblical Literature	173	1	1	1
4	Morgenposten	139			
5	Vetus Testamentum	114	15	2	2
6	Andrews University Seminary Studies	112			39
7	Eternity	106			
8	Catholic Biblical Quarterly	100			5
9	Bibliotheca Sacra	98			
9	New Testament Studies	98		3	3
10	Semeia	91			
11	Bulletin of the American Schools of Oriental Research	84	8	11	11
12	Signs of the Times	82			
13	Christianity Today	63			
13	Interpretation	63	15		23
14	Biblical Archaeology Review	58			
15	Journal of the Evangelical Theological Society	52			
16	Biblica	50		14	8
16	Israel Exploration Journal	50		15	16
17	Biblical Archaeologist	48	12		17
18	Zeitschrift fur die Alttestamentliche Wissenschaft	47		4	4
18	Journal for the Study of the Old Testament	47			
19	Journal of the Adventist Theological Society	44			
20	Journal of Theological Studies	43	3	6	9
21	Expository Times	42	8	5	13
21	Revue Biblique	42		6	7

Figure 8. Most Frequently Cited Periodicals

The top periodical titles in this study were compared with lists created by other scholars, namely Whalen (1965), Heussman (1970), and McLeod (1973). The comparison showed that seven titles were in Whalen's list, 10 titles in Heussman's, and 14 titles in McLeod's. The *Signs of the Times* in this study's list is a different periodical than the one with the same title in Whalen's list, so her ranking is not included.

Five periodical titles in this list were in all three lists: *Journal of Biblical Literature*, *Vetus Testamentum*, *Bulletin of the American Schools of Oriental Research*, *Journal of Theological Studies*, and *Expository Times*. It is interesting to observe the similarities of these top ranked titles. *Journal of Biblical Literature*, ranked 3rd in this study, was ranked 1st in the lists of Whalen, Heussman, and McLeod; *Vetus Testamentum*, ranked 5th in this study, was ranked 2nd in Heussman's and McLeod's lists; and *Bulletin of the American Schools of Oriental Research*, ranked 11th in this study as well as in Heussman's and McLeod's lists. The following six titles were in two of the lists: *New Testament Studies*, *Interpretation*, *Biblica*, *Israel Exploration Journal*, *Biblical Archaeologist*, *Zeitschrift für die Alttestamentliche Wissenschaft*, and *Revue Biblique*. Two periodical titles, *Andrews University Seminary Studies* and *Catholic Biblical Quarterly*, were only in McLeod's list.

JWL held all the most frequently cited periodicals listed in Figure 8 except *Morgenposten*, which was cited by only one author. The rest of the periodicals were cited in anywhere from 3 to 19 dissertations. Five of the top 26 titles—*Review and Herald*, *Advent Review and Sabbath Herald*, *Andrews University Seminary Studies*, *Signs of the Times*, and *Journal of the Adventist Theological Society*—were published within the Seventh-day Adventist denomination.

Summary, Conclusion, and Recommendation

The present study demonstrates that the seminary doctoral students relied heavily on books (69% of the citations) followed by periodicals (27% of the citations). This closely resembles the studies of Whalen (1965), Heussman (1970), Hurd (1983), and Bowman (1991). The remaining 4% consisted of dissertations, websites, and other document types. Even with the vast amount of information on the World Wide Web, references to websites were rare.

Since the seminary doctoral students were highly dependent on books and periodicals, the study demonstrates that the JWL collection has been supportive of the seminarians' needs in that over 80% of books and periodicals were held by JWL. Approximately 70% of the dissertations and "other" types of materials were also held by JWL. These facts demonstrate the level of support that the library provides for theological research.

The finding that book and periodical citations were published mostly within 60 years of the dissertations' completion dates correlates with McLeod's (1973)

findings that citations were within 70 years of the date they were cited. Citations to dissertations, on the other hand, were published within 30 years of the date they were cited. A majority of the materials classified as “others” were published about 100 years prior to the dissertations’ completion dates. As a type, the most current citations were from the small number of websites.

The oldest cited materials were books over 400 years old. The oldest of the “other” types of materials was 313 years old, the oldest periodical was 202 years old, and the oldest dissertation was 93 years old. The fact that websites include the most current sources cited reflects the introduction of the World Wide Web less than twenty years prior to the dissertations that were analyzed.

Thus it has been observed that seminarians used older materials within limits. In the case of periodicals, while there were citations that referred to materials that were 100 years old or more, a majority of the citations referred to materials published within the last 60 years. This could be attributed to the availability of computer searchable indexes. The *ATLA Religion Database* only indexes materials back to the 1940’s. The *Seventh-day Adventist Periodical Index* indexes Seventh-day Adventist periodicals only back to the 1970’s with the exception of the *Adventist Review*, which is indexed back to 1948. The discoverability of articles in periodicals published prior to online indexing is much more difficult.

Except for sources that were archival in nature, other older materials not held by JWJL could have been requested through interlibrary loan. Non-English materials, as in the case of *Morgenposten*, could have been used by authors doing research in their home countries. The other non-English periodicals had a minimal impact on the percentage of materials not held by the library.

A comparison of the most frequently cited periodical titles with other scholars’ lists revealed that there was a denominational bias in the periodical titles most frequently cited. However, there were titles in this study that were common to the lists created by Whalen, Heussman, and McLeod. Since this CA was done in an Adventist theological seminary, other Adventist libraries serving seminarians may benefit from the list generated by this study. The list may be used as a benchmark by other theological libraries as part of their collection development plan.

As far as Andrews University is concerned, it would be beneficial to conduct a similar study of dissertations completed in other doctoral programs offered by the University to determine if the level of library support is comparable.

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