



# A Programmatic Approach to Journal Use and Citation Analysis

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**abstract:** The study explores journal citations from 104 doctoral dissertations in sociology from 2010 to 2021 at the Pennsylvania State University. A citation analysis of 10,395 journal citations explores journal use from three graduate degree programs in sociology. Journal use is based on the top 32 journals for concentration of citations (CitRank), number of dissertations citing the journal (DissRank), and the average (CDRank). Forty journals are identified from 38 dissertations (degree in sociology), 40 journals from 57 dissertations (dual degree for sociology and demography), 34 journals from nine dissertations (dual degree for sociology and criminology), and 41 journals from 104 dissertations. An analysis of variance and correlation is conducted to determine the strength of the relationship of the three measures of use. The study identifies 71 unique journal titles from all degree programs and a core of 13 journals.

## Introduction

The purpose of this study is to identify the core journals used by graduate students in doctoral research in sociology at the Pennsylvania State University (PSU). This internal, local study explores journals used by doctoral students in 104 dissertations in sociology from 2010 to 2021 at PSU. This study provides an empirical approach to explore and compare journal use within the discipline of sociology by examining use across three programs (Table 1). This study will explore the following research questions:

- What journals are broadly used by graduate students in sociology at Penn State?
- What journals are broadly used by graduate students in each program in sociology?
- How strongly do the journal lists for each program correlate with each other and the discipline in general?
- What is the variability of each program's journal list with each other and the discipline in general? What lists are more stable?

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**Table 1.**  
Number of Dissertations in Degree Programs

Graduate Program	# Dissertations
Sociology	38
Sociology & Demography (dual degree)	57
Sociology & Criminology (dual degree)	9
Total	104

### Background

The sociology department at PSU houses an established and nationally recognized graduate school. The National Research Council ranked the sociology program at PSU third on a set of 20 measures in its extensive national survey of 118 graduate programs in sociology.<sup>1</sup> The NRC report ranked the department second in research activity and production, and third in student support and outcomes.

The first sociology course taught at PSU was part of the History and Political Science Department in 1919. The College of Liberal Arts formed a separate Department of Sociology in 1968 after pairing sociology with Economics in 1923 and Anthropology in 1958.<sup>2</sup> The Crime, Law, and Justice Program originally in the College of Health and Human Development became part of the Sociology Department in 1995. Criminology retains its identity as a separate program but is housed in the current iteration of the Department of Sociology and Criminology.<sup>3</sup> The Demography Program started in 1987 and was initially part of the Population Issues Research Center supported by the Agricultural Economics and Rural Sociology Departments. The Center was renamed the Population Research Institute in 1991 and gained independence from the College of Agriculture through ongoing funding from the National Institute of Child Health and Human Development grant.<sup>4</sup>

The Sociology and Criminology Department listed 42 research faculty and 15 teaching faculty in 2022. All departmental research faculty have backgrounds in sociology with one or two other interdisciplinary specializations (Table 2). There are 18 department research faculty and two affiliated faculty that support research in the demography program. The criminology program is supported by 15 department research faculty and one affiliate adjunct senior scientist in criminology.

The interdisciplinary nature of sociology at PSU is evident from the brief administrative and organizational history of the Department of Sociology at PSU. It is also clear from the research faculty's interdisciplinary specialization. Consequently, this study includes dissertations of dual graduate degrees in demography as well as criminal justice (Table 1). The numerous studies focusing on journal use in sociology confirm the importance



## Table 2.

### Research Faculty in the Department of Sociology and Criminology (PSU 2022)

Specialization	Department Faculty	Affiliated Faculty
Sociology	42	8
Criminology	15	1
Demography	18	2
Public Policy	5	0
Rural Sociology	0	4
Labor and Employment Relations	1	3
Social Analytics	3	0
Human Development and Family Studies	2	0
International Affairs	2	0
Public Health	0	2
Political Science	0	2
Religion	2	0
African Studies	1	0
Women's, Gender, and Sexuality Studies	1	1
Education	1	1
Anthropology	1	0
Geography	1	0
Management and Organization	0	1
Biobehavioral Health	0	1
Information Science and Technology	0	1
Law	0	1

of understanding the diffuse nature of sociological research.<sup>5</sup> The average enrollment of PhD students in sociology for the period of this study is 60.7 (Table 3). It is important for user studies of graduate research to consider the application to all students, not only those who finished the program.

This internal/local study explores journals used by doctoral students in 104 dissertations in sociology from 2010 to 2021 at PSU. Journal use is explored through an examination of journals with a high concentration of citations and those with a high dispersion across dissertations. The analysis will also investigate journals used by graduate students in the sociology program as well as the dual programs in sociology and demography and sociology and criminology (Table 1).



## Table 3.

Enrollment by year in the Sociology PhD programs (Graduate School, ND)

	Enrollment	Dissertation Defense (ETD)
2010/11	NA	7
2011/12	66	7
2012/13	67	13
2013/14	70	13
2014/15	64	10
2015/16	57	8
2016/17	58	9
2017/18	57	10
2018/19	56	8
2019/20	59	6
2020/21	53	10
2021/2022	NA	3

### Literature Review

There are numerous citation studies exploring the use of journals within the disciplines.<sup>6</sup> Citation studies typically identify and analyze a user group, type of publication, or set of publications, and a date range.<sup>7</sup> Linda C. Smith argues that citations offer an unobtrusive way to examine “signposts” of user behavior that allow the researcher to avoid limitations and bias introduced through user surveys.<sup>8</sup>

### Journals, Indexes, and Surveys

The earliest studies of journal usage in sociology examine the citations of three sociological journals: *American Sociological Review* (ASR), *American Journal of Sociology* (AJS), and *Social Forces* (SF). Robert N. Brodus conducted two studies of citations published in ASR, one in 1950 and another in 1965, comparing the use and characteristics of serial titles to earlier research conducted in chemistry and physics and history.<sup>9</sup> A study by Nan Lin and Carnot E. Nelson examined the citations from articles in ASR, AJS, SF, and the *Journal of the Optical Society of America* (JOSA) published in 1965 and 1966.<sup>10</sup> JOSA was selected to compare the characteristics of sociology and physical science journals. These studies reiterate two important ongoing themes in the discussions of journal use in sociology. First, research in the physical sciences cite journals more often than research in the social sciences and humanities. Second, the nature of sociological research is multidisciplinary and published in a diffuse collection of journal titles.



Julia S. Brown and Brian G. Gilmartin published one of the earliest ranked lists of journals in sociology, using data from their evaluation of citations from 202 articles published in ASR and AJS in 1940–41 and 1965–66.<sup>11</sup> The study identified the top 20 journals ranked by citation count for each period. Norval D. Glenn conducted a readership survey of 129 professors and associate professors in sociology to identify a weighted list of 63 journals.<sup>12</sup> William A. Satariano studied the readership patterns of sociologists using a questionnaire on a random stratified sample of 183 graduate departments (N = 811).<sup>13</sup> The analysis is based on 526 responses that identify the percentage of readership of 59 journal titles.

The release of the Social Science and Humanities Index (SSHI) and the Arts and Humanities Citation Index (AHCI) in the 1970s provided researchers with new indexing methods and alternative ways to explore journal prestige.<sup>14</sup> Since the release of the SSHI and AHCI the prestige of sociology departments, journals, and authors has driven much of the journal use research within the discipline.<sup>15</sup>

Publishers also recognized the interdisciplinary nature of social science disciplines.

Haworth Press published the Author's Guide to Journals Series in the late 1970s to assist researchers in various disciplines to identify the appropriate venues for their research. Marvin B. Sussman authored a guide for sociologists providing profiles of over 350 journal titles compiled from *Sociological Abstract* and the 1976 edition of *Ulrich's International Periodicals Directory*.<sup>16</sup> The list makes no determination about prestige and simply provides a subject and title index.

Of the eight citations studies of graduate research in sociology, only one explores local use at an academic institution in the United States.<sup>17</sup> The cross-cultural comparison offers some intriguing exploration, but it is important to keep in mind the interdisciplinary nature of sociological research and the role of the local context as it relates to journal use.<sup>18</sup>

### Graduate Research and Citation Analysis Studies

One of the earliest studies to examine usage from citations of dissertations examined a random sample of 100 dissertations from five subject areas; the dissertations were completed between 1930 and 1948 at three different size institutions.<sup>19</sup> Rolland E. Stevens's approach was juxtaposed to earlier citation studies that explored journal use from citations of core journals in chemistry and core journals in chemistry and physics.<sup>20</sup>

Five multidisciplinary studies of citations in graduate research include sociology in their analysis. A multidisciplinary study conducted at Purdue University analyzed 1,119 citations from nine dissertations in sociology (six in 2011 and three in 2015).<sup>21</sup> The study identified 775

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journal citations (69 percent), a notable difference from the other studies discussed in this review, but consistent with this study (67 percent). The Purdue study also provides a list of the top five ranked journals in sociology based on citation counts. Joseph Afful and Hillary Janks explored 3,891 citations from a random sample of ten dissertations in sociology from the University of Witwatersrand in South Africa from 2000 to 2006.<sup>22</sup> The study found 934 journal citations (24 percent). Another multi-disciplinary doctoral study conducted at Gauhati University in India evaluated 1,900 citations from ten dissertations accepted at the institution between 1970 and 1980.<sup>23</sup> The study published a list of 30 ranked journal titles based on citations from 395 journal citations (21 percent) identified in the study. Nazan Oezenk Ucak and Umut Al conducted a multidisciplinary study of 3,711 citations from a random sample of 18 master's theses and ten dissertations in sociology at Hacettepe University in Turkey from 1968 to 2007.<sup>24</sup> The study found 713 citations from journals (19.2 percent) from a combined count for theses and dissertations. Rosenberg analyzed 4,904 citations from 23 master's theses and nine randomly selected dissertations from the Department of Sociology and Anthropology at the Hebrew University of Jerusalem from 2010 to 2013.<sup>25</sup> The study identified 1,569 citations from journals (32 percent) and a list of the ten most frequently cited journals for English and Hebrew language journals.

Three studies explore citations of graduate research from a single institution and subject domain. Preeti Mahajan and Anil Kumar (2017) evaluated 3,721 citations from 33 dissertations in sociology at Panjab University in India from 2002 to 2012. The study identified 1,359 journal citations (37 percent) and a list of 30 ranked journal titles based on citation counts.<sup>26</sup> Another study examined 1,232 citations from 12 master's theses in sociology at the University of Peradeniya from 1995 to 2000.<sup>27</sup> The study found 274 journal citations (22 percent) and a ranked list of 31 journal titles based on citation counts. K. P. Singh and Ms Bebi examined 5,766 citations from 25 dissertations in sociology from the University of Delhi, India, from 1995 to 2010.<sup>28</sup> The study identified 1,280 journal citations (22 percent) and a ranked list of 21 journals based on citation counts.

N. Zafrunnisha conducted a multi-institutional study of graduate research examining 9,162 citations from 35 dissertations in sociology from Sri Venkateswara University, India, from 1981 to 2005 and 42 dissertations in sociology from Osmania University, India, from 1974 to 2005.<sup>29</sup> This study identified 2,755 citations to journals (30 percent). The study also includes a ranked list of 40 journal titles based on citation counts. No analysis beyond the number of dissertations is provided to explore the differences between the two institutions.

## Method

Dissertations were retrieved from the database PSU State Electronic Theses and Dissertations for Graduate School as PDFs.<sup>30</sup> A total of 104 doctoral dissertations awarded from 2010 to June 2021 in sociology and dual degrees are included in the research (Table 1). A spreadsheet was created for each dissertation, including the title, author, graduate program, core areas, date of defense, dissertation advisor, committee members, keywords, abstract, and ETD\_ID. The ETD\_ID serves as the key variable between spreadsheets.



## Data and Coding

A second spreadsheet was created from the citations in the dissertations. This was done by deriving Word documents from the PDFs so that their bibliographies could be copied into a text file without unnecessary coding. The text files were coded to identify the parts of a citation so that they could be exported into the spreadsheet for further analysis and coding. Dissertations that included multiple bibliographies were copied into a single text file and pulled into Microsoft Excel to remove duplicate citations. The second spreadsheet contained 15,420 records that were identified and coded: journal, book, or other. Three thousand citations were classified as books and book chapters, 10,395 citations were classified as journals, and 2,017 citations were classified as other (Table 4).

A third spreadsheet was created from the 10,395 journal citations. Each citation was coded to include ETD\_ID, author, year, article title, journal, ISSN, and DOI/URL. The ISSN was included to control for any journal title variation used by the researcher. The DOI/URL were left blank if the journal citation did not include them. This study identified 1,639 unique journal titles with ISSNs and nine journal citations where the ISSN could not be identified. On this spreadsheet, 848 journals were cited one time and 267 were cited two times, supporting the diffusive nature of the discipline (Table 2).

## Journal Use Methodology

This study generates a list of journals used by graduate students from each degree program: sociology, the dual degree in sociology and demography, and the dual degree in sociology and criminology (Tables 6 to 8). The fourth list of journals combines all three programs in sociology (Table 5).

Each list of journals is constructed from an analysis of the concentration of citations for a journal as well as the dispersion of journal titles across dissertations. The first method (CitRank) identifies and ranks the top 32 journal titles based on the concentration of citations. This method is commonly used in other citation studies of graduate research.<sup>31</sup> The second method (DissRank) identifies and ranks the top 32 journal titles based on the number of dissertations that cited a particular journal. The third rank method (CDRank) identifies and ranks 32 journal titles using the average rank score generated from CitRank and DissRank. The three ranked lists of 32 journal titles for each degree program and the combined degree are merged to create a single list analysis (Tables 5 to 8). For this study, rank is used to normalize the data for comparison and further analysis, not for prestige.

The decision to choose the top 32 is loosely based on Trueswell's 80/20 rule, which states that approximately 80 percent of book and serial use is accounted for by 20 percent of the collection.<sup>32</sup> There are 10,395 journal citations identified in the combined degrees in sociology (Table 4). The top 322 journal titles based on citation counts account for 8,313 citations, which roughly match 80 percent. The decision to evaluate 32 journals is based on ten percent of 322 identified in this analysis.

Consequently, the study identifies 41 unique journal titles in the combined degree (Table 5), 40 journal titles in the dual degree program in sociology and demography (Table 6), 34 journal titles in the dual degree program in sociology and criminology (Table 7), and 39 journal titles in the sociology degree program (Table 8). Overall there are 72 unique journal titles listed in all four tables.



Table 4.

Citation counts by number, percentage, and average

Graduate Program	Format	Citations	Percentage	Ave Citations per Dissertation
Sociology (Combined degrees)	Journals	10,395	67.4%	100
	Books	3,000	19.5%	29
	Other	2,017	13.1%	19
	Total	15,420	100.0%	148
Sociology (Dual degrees not included)	Journals	3,683	64.3%	97
	Books	1,330	23.2%	35
	Other	716	12.5%	19
	Total	5,729	100.0%	151
Sociology & Demography	Journals	5,995	70.6%	105
	Books	1,373	16.2%	24
	Other	1,165	13.7%	20
	Total	8,497	100.0%	149
Sociology & Criminology	Journals	753	63.1%	84
	Books	296	24.8%	33
	Other	145	12.1%	16
	Total	1,194	100.0%	133

### Variance

Each journal use list is evaluated using variance or measure of dispersion between the three journal ranking methods (Table 9). Variance is a measure of how far a set of numbers is spread out from their average value.<sup>33</sup> The analysis of variance on the concentration of citations (CitRank) and the pervasiveness of dissertations (DissRank) offers insight into journal use.

For example, the study identifies 1,651 unique journal titles. The overall average range between CitRank and DissRank for each journal title is large (106.74). The average variance between CitRank and CDRank is 29.08 and the average variance between DissRank and CDRank is 84.70. These numbers are skewed by journal titles that were frequently cited by two or three dissertations (variance of CitRank and CDRank) or fewer citations cited by several dissertations (variance of DissRank and CDRank). The function of the CDRank addresses both tendencies, so consequently, the evaluation of variance is limited to the top thirty-two CDRank journals in the list (Table 9).

Variance in this study is calculated using the following formulas (see Table 9 for results):



**Table 5.**  
Journal Use Combined Graduate Degrees in Sociology (Includes Dual Programs)

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>American Sociological Review</i> (4)	525	94	2	1	1
<i>American Journal of Sociology</i> (4)	342	90	4	2	2
<i>Demography</i> (4)	351	74	3	4	3
<i>Journal of Marriage and Family</i> (4)	557	56	1	7	4
<i>Social Forces</i> (4)	296	74	5	4	5
<i>Annual Review of Sociology</i> (4)	260	89	6	3	5
<i>Social Science Research</i> (4)	165	60	10	6	7
<i>Social Science and Medicine</i> (3)	217	45	7	10	8
<i>Journal of Health and Social Behavior</i> (4)	197	47	8	9	8
<i>Social Problems</i> (4)	108	49	14	8	10
<i>American Journal of Public Health</i> (4)	118	43	12	11	11
<i>Population and Development Review</i> (3)	122	33	11	15	12
<i>Journal of Family Issues</i> (3)	116	31	13	16	13
<i>Social Science Quarterly</i> (3)	80	39	18	13	14
<i>Criminology</i> (3)	184	25	9	23	15
<i>Annals of the American Academy of Political and Social Science</i> (4)	66	41	20	12	15
<i>Journal of Personality and Social Psychology</i> (3)	45	27	23	18	17
<i>Science</i> (4)	41	34	28	14	18
<i>Demographic Research</i> (2)	51	25	21	23	19
<i>Child Development</i> (4)	40	27	29	18	20
<i>Journal of Gerontology: Series B Psychological Sciences and Social Sciences</i> (2)	86	20	16	33	21
<i>Sociology of Education</i> (3)	71	21	19	32	22
<i>American Journal of Epidemiology</i> (2)	46	23	22	29	22
<i>Sociological Quarterly</i> (3)	38	30	34	17	22
<i>Social Psychology Quarterly</i> (3)	38	27	34	18	25
<i>International Migration Review</i> (3)	82	18	17	40	26
<i>JAMA: the Journal of the American Medical Association</i> (2)	43	20	24	33	26



Table 5., Cont.

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>Psychological Bulletin</i> (3)	37	26	38	21	28
<i>American Economic Review</i> (3)	37	25	37	23	29
<i>Journal for the Scientific Study of Religion</i> (2)	103	16	15	48	30
<i>Population Studies</i> (2)	40	18	29	40	31
<i>Sociological Methodology</i> (2)	33	26	49	21	32
<i>Future of Children</i> (3)	43	16	24	48	33
<i>Sociological Methods and Research</i> (2)	34	24	44	28	33
<i>Population Research and Policy Review</i> (2)	33	25	49	23	33
<i>Urban Studies</i> (1)	43	15	24	55	38
<i>Journal of Social Issues</i> (2)	29	25	60	23	41
<i>Sociological Forum</i> (2)	31	23	55	29	42
<i>Sociological Perspectives</i> (2)	31	23	55	29	42
<i>Gerontologist</i> (2)	42	13	27	67	47
<i>Public Opinion Quarterly</i> (2)	40	9	29	103	56

Note: (1), (2), (3), (4) the number of shared journal lists (Tables 5-8).

$$\sum | \text{CitRank} - \text{DissRank} | / 32 \text{ Citations} = \text{average CDRank range}$$

$$\sum | \text{CDRank} - \text{DissRank} | / 32 \text{ Citations} = \text{average variance dissertation distribution}$$

$$\sum | \text{CDRank} - \text{CitRank} | / 32 \text{ Citations} = \text{average variance journal concentration}$$

### Correlation

Two nonparametric measures, Kendall's tau-b and Spearman's rho are conducted to explore correlations between CitRank, DissRank, and CDRank (Table 10). Kendall's tau-b is typically a more conservative comparison and is based on the positive and negative relationships of the pairs.<sup>34</sup> In sum, Kendall's tau-b helps determine if there are ranked pairs that vastly differ that should be considered in our analysis. Spearman's rho provides an alternative and helpful analysis to determine if there is an overall congruency between the two ranks.<sup>35</sup>

### Results

This study found a higher percentage of journal citations compared to monographs in all the degree programs (Table 4). The finding in this study is similar to those in the Purdue



**Table 6.**  
Journal Use Dual Degree in Sociology and Demography

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>Demography</i> (4)	284	53	2	1	1
<i>American Sociological Review</i> (4)	230	50	3	2	2
<i>Journal of Marriage and Family</i> (4)	441	35	1	7	3
<i>Annual Review of Sociology</i> (4)	144	50	7	2	4
<i>American Journal of Sociology</i> (4)	153	48	5	4	4
<i>Social Forces</i> (4)	148	40	6	5	6
<i>Social Science and Medicine</i> (3)	168	34	4	8	7
<i>Social Science Research</i> (4)	109	37	9	6	8
<i>Journal of Health and Social Behavior</i> (4)	141	32	8	9	9
<i>Population and Development Review</i> (3)	90	25	10	11	10
<i>American Journal of Public Health</i> (4)	87	30	12	10	11
<i>Journal of Family Issues</i> (3)	89	24	11	13	12
<i>Social Science Quarterly</i> (3)	58	25	15	11	13
<i>Social Problems</i> (4)	40	22	17	14	14
<i>Demographic Research</i> (2)	37	19	19	16	15
<i>Sociology of Education</i> (3)	48	15	16	22	16
<i>Annals of the American Academy of Political and Social Science</i> (4)	34	18	22	17	17
<i>Journal of Gerontology: Series B Psychological Sciences and Social Sciences</i> (2)	77	14	13	26	17
<i>International Migration Review</i> (3)	62	14	14	26	19
<i>Population Studies</i> (2)	34	15	22	22	20
<i>American Journal of Epidemiology</i> (2)	32	17	26	19	21
<i>Future of Children</i> (3)	37	14	19	26	21
<i>JAMA: the Journal of the American Medical Association</i> (2)	37	14	19	26	21
<i>Population Research and Policy Review</i> (2)	27	20	32	15	24
<i>Science</i> (4)	23	18	35	17	25
<i>American Economic Review</i> (3)	23	16	35	20	26
<i>International Journal of Epidemiology</i> (1)	23	16	35	20	26
<i>Urban Studies</i> (1)	39	12	18	37	26
<i>Psychological Bulletin</i> (3)	24	15	34	22	29



Table 6., Cont.

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>Health and Place</i> (1)	33	12	24	37	30
<i>Sociological Perspectives</i> (2)	20	15	43	22	31
<i>Family Relations</i> (1)	25	13	33	33	32
<i>Research on Aging</i> (1)	28	12	30	37	33
<i>Child Development</i> (4)	19	14	47	26	35
<i>Journal of Personality and Social Psychology</i> (3)	18	14	51	26	38
<i>American Journal of Preventive Medicine</i> (1)	28	10	30	50	40
<i>Gerontologist</i> (2)	33	8	24	64	43
<i>Public Opinion Quarterly</i> (2)	32	3	26	175	105
<i>Acta Psychiatrica Scandinavica</i> (1)	32	2	26	246	142
<i>Fertility and Sterility</i> (1)	31	2	29	246	144

Note: (1), (2), (3), (4) the number of shared journal lists (Tables 5-8).

study that reported 69 percent.<sup>36</sup> The dual degree in sociology and demography, a heavily quantitative program, has the highest percentage of journal citations (70.6 percent). The sociology degree (64.3 percent) and the dual degree in sociology and criminology (63.1 percent) had lower percentages of journal citations, although much larger than other dissertation citation studies discussed in the literature review. The average number of citations of dissertations in the dual degree in sociology and criminology, 133 citations, was lower than the sociology degree, 151 citations, and the dual degree in sociology and demography, 149 citations (Table 4).

### Variance

Journal citations from the combined degree programs in sociology consist of 1,651 unique titles. There are ten journal titles from the top 32 DissRank or CitRank list not included in the top 32 CDRank list (Table 5). The average CDRank variance is 9.38 (Table 9). There is a similar distribution of journals ranked with a higher number of citations, 4.72, and ranked journals cited by dissertations, 4.84 (Table 9).

Journal citations from the dual degree in sociology and demography program consist of 1,072 unique titles. There are eight journal titles included from the top 32 DissRank or CitRank list not included in the top 32 CDRank list (Table 6). The average CDRank variance is 7.03 (Table 9). There is a similar distribution of journals ranked with a higher number of citations, 3.66, and ranked journals cited by dissertations, 3.63 (Table 9).



**Table 7.**  
Journal Use Degree in Sociology (dual programs not included)

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>American Sociological Review</i> (4)	220	35	1	1	1
<i>American Journal of Sociology</i> (4)	141	33	2	2	2
<i>Social Forces</i> (4)	122	26	3	4	3
<i>Annual Review of Sociology</i> (4)	93	33	6	2	4
<i>Journal of Marriage and Family</i> (4)	100	15	4	8	5
<i>Social Science Research</i> (4)	46	19	10	5	6
<i>Journal for the Scientific Study of Religion</i> (2)	95	13	5	11	7
<i>Demography</i> (4)	48	14	8	10	8
<i>Social Problems</i> (4)	41	18	12	6	8
<i>American Political Science Review</i> (1)	33	13	15	11	10
<i>Journal of Health and Social Behavior</i> (4)	44	11	11	17	11
<i>Annals of the American Academy of Political and Social Science</i> (4)	22	17	22	7	12
<i>Criminology</i> (3)	68	10	7	22	12
<i>Social Science and Medicine</i> (3)	48	10	8	22	14
<i>Sociology of Religion</i> (1)	35	11	14	17	15
<i>American Journal of Public Health</i> (4)	27	11	18	17	16
<i>Sociological Quarterly</i> (3)	17	15	27	8	16
<i>Social Science Quarterly</i> (3)	19	13	25	11	18
<i>Journal of Personality and Social Psychology</i> (3)	25	11	20	17	19
<i>Review of Religious Research</i> (1)	36	9	13	26	20
<i>Social Psychology Quarterly</i> (3)	21	11	24	17	21
<i>Journal of Social Issues</i> (2)	15	12	30	14	22
<i>Population and Development Review</i> (3)	32	8	16	31	23
<i>Science</i> (4)	14	12	35	14	24
<i>Sociological Forum</i> (2)	14	12	35	14	24
<i>Child Development</i> (4)	17	9	27	26	26
<i>Journal of Family Issues</i> (3)	27	7	18	36	27
<i>Mobilization: An International Quarterly</i> (1)	25	7	20	36	28
<i>American Economic Review</i> (3)	14	9	25	26	29



Table 7., Cont.

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>American Psychologist</i> (1)	14	9	35	26	29
<i>Journal of Research in Crime and Delinquency</i> (2)	15	8	30	31	29
<i>Sociological Methods and Research</i> (2)	13	10	45	22	32
<i>Journal of Quantitative Criminology</i> (2)	18	6	26	42	33
<i>Psychological Bulletin</i> (3)	12	10	48	22	34
<i>Sociology of Education</i> (3)	22	5	22	59	39
<i>European Sociological Review</i> (1)	10	9	57	26	40
<i>Academy of Management Journal</i> (1)	17	4	27	74	45
<i>Gender and Society</i> (1)	15	4	30	74	47
<i>Child Abuse and Neglect</i> (1)	31	1	17	300	187

Note: (1), (2), (3), (4) the number of shared journal lists (Tables 5-8).

Journal citations from the degree in sociology include 975 unique journal titles. There are eight journal titles included from the top 32 DissRank or CitRank list not included in the top 32 CDRank list (Table 7). The average CDRank variance is 8.88 (Table 9). There is a similar distribution of journals ranked with a higher number of citations, 4.69, and ranked journals cited by dissertations, 4.56 (Table 9).

Journal citations from the dual degree in criminology and demography program consist of 170 unique titles. There are eight titles included from the top thirty-one DissRank or CitRank list that were not included in the top 31 CDRank list (Table 8). The average CDRank variance is 4.97 (Table 9). There is a similar distribution of journals ranked with a higher number of citations, 2.47, and ranked journals cited by dissertations, 3 (Table 9).

### Correlation

Kendall's tau-b (Table 11) suggests a weak ranked pairs correlation, 0.365, between CitRank and DissRank for journal lists for the degree in sociology (dual degrees not included). The journal list for CitRank and DissRank for the dual programs in demography (0.506) and criminology (0.671) have a higher ranked pairs correlation. Spearman's rho (Table 10) also suggests a weaker correlation or congruency (0.496) between CitRank and DissRank for the journal list in sociology (dual degrees not included) and the journal lists for the dual programs in demography (0.655) and criminology (0.801).

For all degree programs, the correlation was strengthened between the journal list for CDRank and the corresponding CitRank and DissRank journal list (Table 10). Overall, DissRank had a stronger correlation with CDRank than CitRank for all the degree programs. The journal list from the dual program in sociology and criminology



**Table 8.**  
Journal Use Dual Degree in Sociology & Criminology

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>Criminology</i> (3)	97	9	1	1	1
<i>American Sociological Review</i> (4)	75	9	2	1	2
<i>American Journal of Sociology</i> (4)	48	9	3	1	3
<i>Social Problems</i> (4)	27	9	4	1	4
<i>Social Forces</i> (4)	26	8	5	5	5
<i>Journal of Research in Crime and Delinquency</i> (2)	19	8	7	5	6
<i>Demography</i> (4)	19	7	7	7	7
<i>Annual Review of Sociology</i> (4)	23	6	6	10	8
<i>Journal of Criminal Law and Criminology</i> (1)	14	7	11	7	9
<i>Crime and Delinquency</i> (1)	13	7	12	7	10
<i>Journal of Marriage and Family</i> (4)	16	6	9	10	10
<i>Journal of Quantitative Criminology</i> (2)	15	6	10	10	12
<i>Justice Quarterly</i> (1)	12	6	13	10	13
<i>Annals of the American Academy of Political and Social Science</i> (4)	10	6	15	10	14
<i>Journal of Health and Social Behavior</i> (4)	12	4	13	18	15
<i>Law and Society Review</i> (1)	10	5	15	16	15
<i>Social Science Research</i> (4)	10	4	15	18	17
<i>Contexts</i> (1)	6	6	24	10	18
<i>British Journal of Criminology</i> (1)	9	4	18	18	19
<i>Crime and Justice</i> (1)	8	4	20	18	20
<i>Theoretical Criminology</i> (1)	8	4	20	18	20
<i>Sociological Quarterly</i> (3)	6	4	24	18	22
<i>Social Psychology Quarterly</i> (3)	5	5	28	16	23
<i>Journal of Criminal Justice</i> (1)	5	4	28	18	24
<i>Criminology and Public Policy</i> (1)	9	3	18	28	25
<i>Science</i> (4)	4	4	31	18	26
<i>Sociological Methodology</i> (2)	4	4	31	18	26
<i>Child Development</i> (4)	4	4	31	18	28



Table 8., Cont.

Journal Title	Citation Count	Dissertation Count	CIT Rank	DISS Rank	CD Rank
<i>Homicide Studies</i> (1)	8	3	20	28	29
<i>Punishment and Society</i> (1)	8	3	20	28	29
<i>Housing Policy Debate</i> (1)	6	3	24	28	31
<i>American Journal of Public Health</i> (4)	4	2	31	36	32
<i>International Migration Review</i> (3)	6	1	24	63	46
<i>Future of Children</i> (3)	5	1	28	63	64

Note: (1), (2), (3), (4) the number of other tables that the journal is listed in this study.

## Table 9.

### Variance Journal Rank Lists Based on the Top 32 CD Ranked

Journal Rank List	CD Range  DissRank - CitRank	Citation Range  CitRank - CDRank	Dissertation Range  DissRank - CDRank
Sociology (combined degrees)	9.38	4.72	4.84
Sociology & Demography	7.03	3.66	3.63
Sociology & Criminology	4.97	2.47	3.00
Sociology (no dual degrees)	8.88	4.69	4.56

## Table 10.

### Rank Correlation (Spearman's rho) Journal Rank Lists

Journal Rank List	CIT Rank/ DISS Rank/	CIT Rank/ CD Rank	Diss Rank/ CD Rank
Sociology (combined degrees)	0.602	0.869	0.881
Sociology & Demography	0.672	0.875	0.920
Sociology & Criminology	0.801	0.918	0.953
Sociology (no dual degrees)	0.496	0.809	0.879



**Table 11.**  
Rank Correlation (Kendall's tau-b) Journal Rank List

Journal Rank List	CIT Rank/ DISS Rank/	CIT Rank/ CD Rank	Diss Rank/ CD Rank
Sociology (combined degrees)	0.453	0.717	0.750
Sociology & Demography	0.515	0.714	0.813
Sociology & Criminology	0.671	0.815	0.874
Sociology (no dual degrees)	0.365	0.650	0.725

demonstrated a stronger overall correlation (Kendall's tau-b and Spearman's rho) than the journal list generated for the other programs. In sum, the journal list demonstrated a stronger correlation reflected in the relationship of DissRank and CitRank with CDRank for all degree programs.

#### Graduate Research and Journal Use

There are 71 unique journal titles identified in at least one of the four-degree program lists (Tables 5 to 8). Thirteen journals are listed on all four tables with ten of those titles listed based on both the concentration of citations (CitRank) and dispersion rate (DissRank). Three journals are listed on all four tables but were added to one of the degree program tables (Tables 5 to 8) based on either a concentration of citations (CitRank) or dispersion rate (DissRank).

Thirteen journals are listed on the combined degree (Table 5) and a combination of two other degree programs tables: eight journals listed in sociology and demography (Table 6) and sociology (Table 7), three journals listed in sociology (Table 7) and sociology and criminology (Table 8), and two journals listed in sociology and demography (Table 6) and sociology and criminology (Table 8).

Fourteen journals are identified in the combined degree (Table 5) and one of the degree programs (Tables 6 to 8): nine journals in sociology and demography (Table 6), four journals in sociology (Table 7), and one journal in sociology and criminology (Table 8). Two journals are identified in sociology (Table 7) and sociology and criminology (Table 8). Thirty journals are not listed on the combined degree (Table 5) but are listed on one of the degree program lists: sociology (nine), sociology and demography (eight), and sociology and criminology (thirteen).

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**There are 71 unique journal titles identified in at least one of the four-degree program lists.**

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### Degree Programs

The study identifies 41 unique journal titles from an analysis of 10,395 journal citations of 104 dissertations from all degree programs in sociology (Table 5). Twenty-three journals were identified through a combination of concentration of citations (CitRank) and dispersion rate (DissRank). Other journal titles were added to the list, because of the concentration of citations (CitRank; eight journals) or dispersion rate (DissRank; ten journals).

An analysis of 5,995 journal citations from 57 dissertations in the dual degree program in sociology and demography identified 40 unique journal titles (Table 6). Twenty-four journals were identified through a combination of concentration of citations (CitRank) and dispersion rate (DissRank). Other journal titles were added to the list, because of the concentration of citations (CitRank; eight journals) or dispersion rate (seven journals). One journal, *Family Relations*, was added based on the average of citation concentration and dissertation dispersion (CDRank).

There were 40 unique journal titles based on the study methodology from 3,683 journal citations of 38 dissertations of graduate students in the sociology program (Table 7). Twenty-six journals were identified through a combination of concentration of citations (CitRank) and dispersion rate (DissRank). Other journal titles were added to the list, because of the concentration of citations (CitRank; six journals) or dispersion rate (six journals).

The analysis of 753 journal citations of nine dissertations from the dual degree program in sociology and criminology identified thirty-four unique journal titles (Table 8). The study methodology identified 32 journals with both a concentration of citations (CitRank) and dispersion rate (DissRank). Two journal titles were added to the list, because of the concentration of citations (CitRank).

### Discussion

It is essential for library subject specialists to understand unique journal usage within the local context of their institution's programs and departments. Sociology is a broad term that can be brought into focus by exploring the unique journal titles used by graduate

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**It is essential for library subject specialists to understand unique journal usage within the local context of their institution's programs and departments.**

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students within a program or a discipline providing a complementary approach to curriculum evaluation. The unique journals used by graduate students in the dual programs in demography (Table 6) and criminology (Table 8) offer the subject specialist a deeper understanding for understanding collection development as well as reference and instruction. Our discussion will focus on the application of findings for our study's

particular local context and provide suggestions for ways to apply this method to other academic institutions.



## Collection Development

Journals are clearly the most heavily used format used by graduate students in sociology at Penn State (Table 4). Furthermore, the study identifies 1,072 unique journal titles spanning numerous disciplines. This may not be the case in other local contexts, but it is still helpful to understand journal use, because journal titles are a signpost to understanding the collection focus and research interests within a discipline. For example, a closer examination of the titles used by graduate students in the sociology program identifies an interest in religion and education (Table 7) or an emphasis on aging in the demography program (Table 6).

A journal cluster approach can be an effective alternative to exploring the nuances of a particular discipline. For example, identifying citations from dissertations that cite the *Review of Religious Research*, *Sociology of Religion*, or the *Journal for the Scientific Study of Religion* provides insight for librarians into the journal use and other materials for building collections for users studying sociology of religion. This method can be an effective way for librarians at academic institutions that are not large enough to include programs to explore journal use within their disciplines.

Collection development of journals in sociology or for that matter any discipline cannot be done within a vacuum of a single subject area or program. This study identifies a local list of 12 core journals among the top 32 that span all three interdisciplinary programs in sociology; journals that are equally important in their own rights within other subject disciplines such as political science, health, education, economics, and psychology (Table 5). In sum, it is essential for the subject specialist to be aware of core journal titles that span across programs and disciplines as part of their collection development responsibilities.

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**Collection development of journals in sociology or for that matter any discipline cannot be done within a vacuum of a single subject area or program.**

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For example, an exploration of dissertations in criminology would expand local understanding of graduate student journal use in the dual degree program in sociology and criminology. Furthermore, PSU also offers a dual degree in demography for rural sociology. A comparison of journal use for both dual degrees offer further insight for developing collections for demographic research. A cross-disciplinary comparison of specializations of sociology faculty (Table 2) can also provide a deeper understanding of interdisciplinary collection building.

If journals are signposts of trends and focus of research within a discipline, then a deeper understanding of journal usage is important for the subject specialists to carry out effective collection development for all material types. For example, this study identifies a high use for the journal *Sociology of Education* within the sociology program. A cluster analysis of citations from dissertations that cite this journal can be useful for understanding the other types of materials used by graduate students to better understand monographs and gray literature that may need to be considered in collection development efforts.



### Instruction & Reference

An empirical understanding of journal use within a disciplines program can also be useful in a subject specialist library instruction. Often the graduate student's faculty advisor is the one directing the student to the relevant journals on their topics. Consequently, directing students in your instruction to journals found in an analysis of journal citations in dissertations will often correspond to the subject expertise of the faculty advisor. In sum, citation analysis can build credibility not only with the students but also with the teaching faculty.

Library instruction usually includes a discussion of scholarly journal articles, among other relevant topics. By examining the journal titles in dissertations produced at their university, the subject specialist will be able to build deeper relevancy around this topic.

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**By examining the journal titles in dissertations produced at their university, the subject specialist will be able to build deeper relevancy around this topic.**

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For example, you might discuss a list of core journal titles within the program that you would recommend browsing. Explain the value of setting up alert services for relevant journal titles cited in dissertations within the program. Inform students that it is not unusual to cite journals in dissertations outside of the domain of sociology.

A librarian's programmatic understanding of journal use in dissertations can potentially enhance reference interactions with students writing literature reviews, particularly those looking for scholarly materials. Knowledge of the core journals in a program or clusters of journals within a subtopic such as aging, education, and gender can be useful for researchers who are trying to write comprehensively for a systematic review, dissertation, or thesis.

### Limitations

This study is limited to local or internal journal use (dissertations). Others have argued persuasively that external or global sources (journals and monographs) could be analyzed as well to complement the understanding of general overall use in a discipline.<sup>37</sup> Other local studies of journal citations in dissertations must be understood within the context of research at the individual institutions and from an understanding of how the discipline of sociology has been shaped at a national level.

The study focuses on the journal use by graduate students in sociology. The findings do not necessarily translate to the journal use of the sociology faculty. The motivations of publishing for tenure and journal prestige may produce different results. That said, the faculty do have input into the journals that are used by graduate students.

Dissertations are a unique form of publication. The average dissertation in this study has 148 journal citations (Table 4), whereas scholarly articles published in *Social Forces* averaged 70.3 citations.<sup>38</sup> The overall structure of a dissertation contains approximately three chapters. Often graduate students in the United States will publish a scholarly article from a single chapter. In contrast, dissertations from European countries are typically composites of three published scholarly articles each representing an individual chapter.



Finally, time is also an important limitation. This study includes dissertations from 2010 to 2021. A journal that started later in this time frame would not have the same opportunity of being cited as a journal that existed during or before this span of time. Further research could explore the average frequency for each year, but the number and nature of accepted dissertations each year create a different type of limitation.

### Future Research

A multi-institutional approach can provide further insight into the use of journals by graduate students in sociology. The sociology program at PSU is heavily quantitative, whereas other sociology programs, such as the University of Chicago, emphasize the use of qualitative findings. An analysis of faculty publications and citations from the core list of journals provides another cohesive and logical next step.

From our existing data, there are several other explorations open for future research. A deeper coding and analysis of citations identified as Other (Table 4) can provide further insight into the use of gray literature. An exploration of monograph use provides an opportunity to confirm the theory that monograph citations in sociology research tend to focus on the classics.<sup>39</sup> Journal obsolescence is another important area not addressed in this study.

### Conclusion

Analyzing citations in doctoral dissertations provides important insight for the library subject specialist into research patterns in their discipline. This study offers methods for identifying those patterns through a programmatic approach that offers a way to explore and compare the nuances of the discipline. Another approach is to use journal clusters to explore sub-topics to stretch library subject specialist understanding of the discipline. Journal usage is an important signpost not only for understanding the scholarly scope of a discipline, but it is also essential for gaining insight into the shifting trends.

A subject librarian's deeper understanding of a discipline's scope and trends within the local context is important for collection development, reference, and instruction. This study demonstrates one of the ways that knowledge can be acquired but does not address the complexity of applying that knowledge to a library culture that is abandoning subject librarianship for function librarianship in its approach to services and collections.<sup>40</sup> It may be that the type of analysis done in this study is no longer the domain of the subject specialist but the responsibility of the library analyst. However, it still begs the question of how that information will be applied in a "functional library."

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