

INFORMATION VISUALIZATION

Student work at the School of Information, Pratt Institute

FINAL PROJECTS LAB REPORTS ABOUT | LOGIN HELP

EXPLORING DEMOGRAPHIC HOMOGENEITY IN LIBRARIANSHIP: A DATA DRIVEN APPROACH

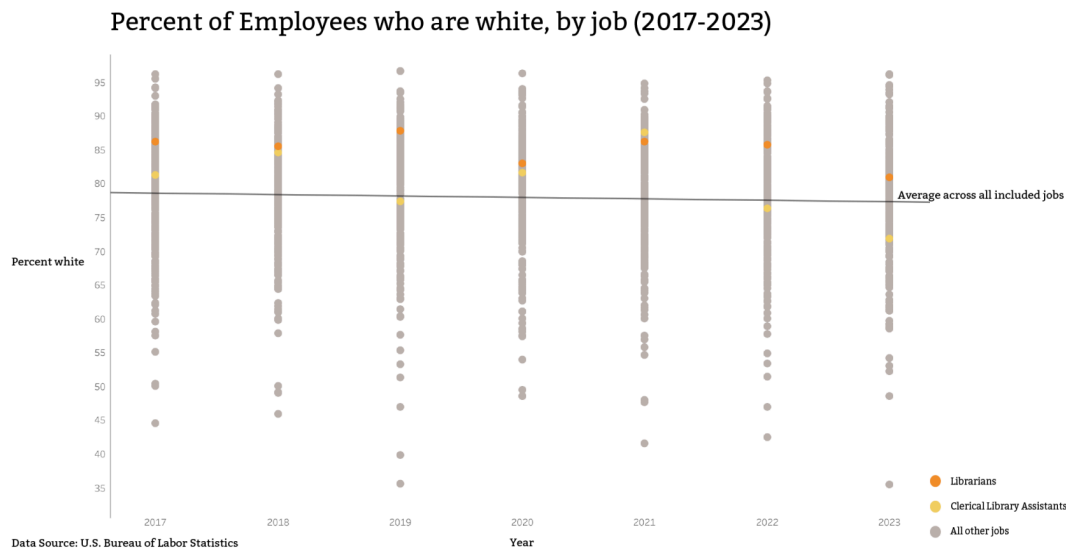
[Madeleine Casey](#)

Visualization

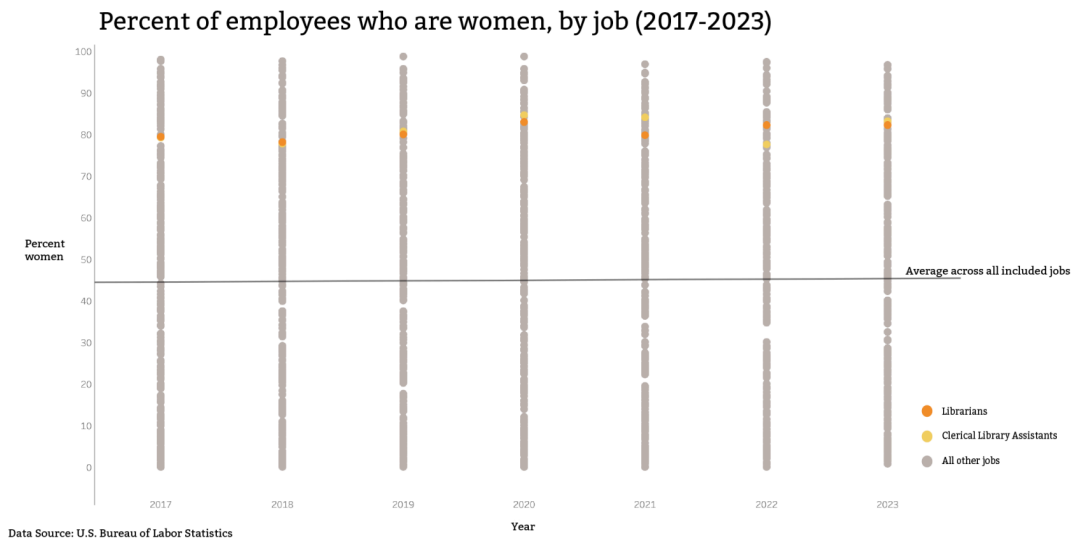
The lack of diversity in librarianship is an ongoing component of the field which many scholars, action groups, and working librarians have sought to address in their work.

A 2006 study commissioned by the American Library Association using Census Data found that in 2000, credentialed librarians were 89% white. (American Library Association, 2012). In the intervening 20 years, significant attention has been devoted to the relative lack of change of this metric, as well as the highly “feminized” nature of the profession (Emmelhainz, Pappas., & Seale, 2017).

As of 2023, women and white people continue to be overrepresented in librarianship, relative to the overall workforce over the age of 16 in the United States. According to occupational data from the United States Bureau of Labor Statistics, from 2017-2023, the percentage of librarians who are white has gone down from ~86% to ~80% of the workforce. In contrast, the percentage of all employed people over age 16 in the United States who were classified as white was 78.4% in 2017, and 76.5% in 2023.



During this same period, the percentage of librarians classified as women has slightly increased, from ~79% to ~82% of the workforce. In contrast, the percentage of all employed people over age 16 in the United States who were classified as women was 46.9% in both 2017 and 2023.



Hypotheses as to the cause of the homogeneity of professional librarianship, and suggestions for potential solutions are multifold. It is theorized within librarianship that there are a number of factors which influence individual's decisions to pursue librarianship including "the intellectual and service-oriented characteristics of librarianship," personal relationships with "role models (e.g., librarians and teachers), previous library work experience, and availability of financial aid" (Kim & Sin, 2008, 157).

Suggested barriers which exist to the recruitment and retention of a librarian workforce which is representative of the U.S. population, include amongst others, “the negative image of librarians” and the current “lack of diversity in LIS programs and libraries” which serves as a toxic feedback loop to future diversity (Kim & Sin, 2008, 157). Further identified barriers include, the high costs and cultural barriers to attending ALA certified Masters of Library Science programs, a failure to address the impact of unconscious bias in librarianship through practical initiatives, and inadequate mentorship of early-career librarians from underrepresented groups, (Vinopal, 2016).

An additional suggested barrier to the recruitment and retention of ethnic or racial minority librarians, is the “low salary of librarians”, given that “Statistics show that professional fields with higher salary levels (e.g., lawyers and engineers) are more successful in recruiting minorities” (Kim & Sin, 2008, 157).

Finally, the availability of a local accredited program, or of distance education opportunities has also been suggested as a pertinent factor to student success recruitment and retention (Kim & Sin, 2008).

As far as suggestions for improvement, recent work suggests focus on creating multidimensional recruitment and retention plans, to improve profession diversity for early, mid and late career librarians (De La Cruz et. al, 2024; Galvan, 2015; Kung, Fraser, & Winn, 2020).

Notably, an important distinction exists in these discussions between framings of poor diversity as a solvable “problem”, and framings of homogeneity in librarianship as a product of deeper institutional bias which necessitates deeper reflection and change (Galvan 2015). Whether or not deeper institutional bias, beyond factors such as average salary, are responsible for the nature of the profession can be explored, by examining the relationship between metrics such as salary or the presence of a nearby library school, and librarian demographics. In fact, using network analysis, charts, and spatial analysis, I will demonstrate that exploration of library employment data indicates that the diversity of librarianship is indeed the product of deeper structures in the field, and American society more broadly.

Exploring the culture of librarianship: Visualizing Equity and Labor discourse within librarianship through network analysis

In the Library with the Lead Pipe is an online, open-source journal, which has published multiple foundational articles addressing equity in librarianship (see Ettarh, F., 2018, Galvan 2015, Hathcock, 2015).

In order to visualize the manner in which discussion of labor and equity in librarianship has evolved over the course of the journal's publication, I created a series of network graphs visualizing article tags.

Factors and Limitations of the studied dataset

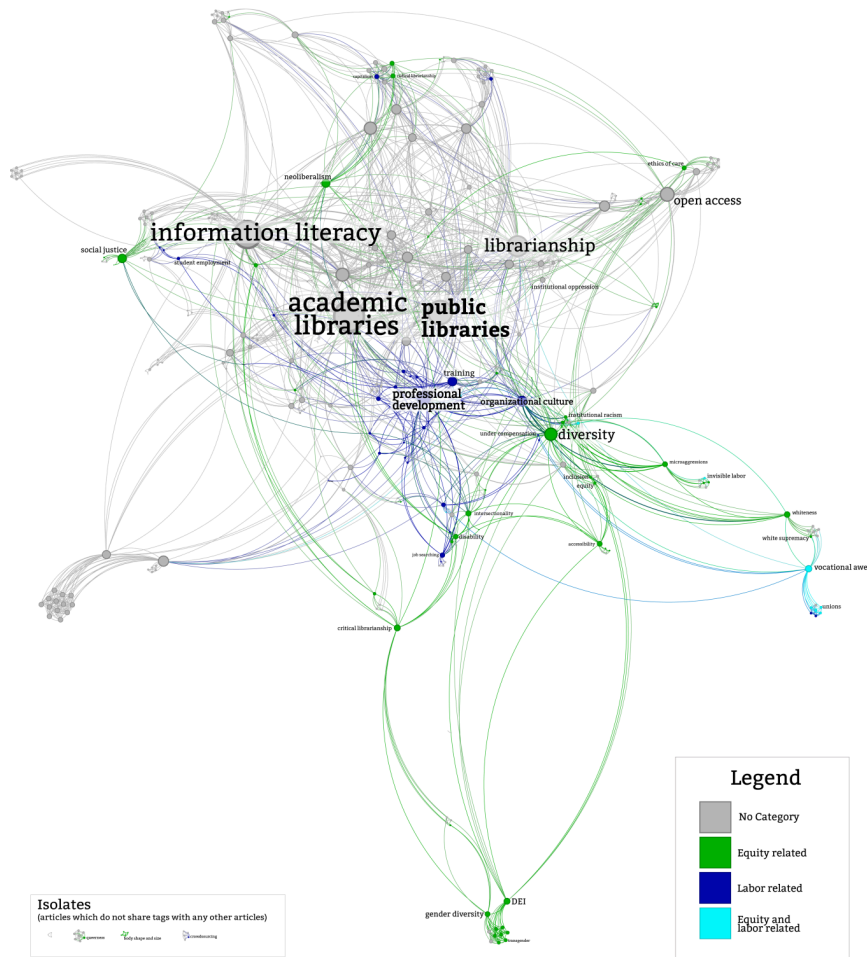
Tags from articles written during the journal's initial publication, in its iteration as a blog with a small group of rotating authors from 2008-2012, editorials, and interviews have been removed.

In addition to an overarching visualization of article tags from 2013 through April 2024 data has been further broken into time periods, each spanning approximately 3 years, in order to explore shifts in topics over time in greater detail.

Please note that the lack of tagging for a small portion of published articles, means that these visualizations are not representative of every article published in the journal. Nevertheless, while it may be helpful to apply a set list of terms to each article in future iterations to fully encompass the nature of discussion in the journal, utilizing article tags has the benefit of highlighting semantic patterns in the language publishers and authors of the journal used to describe their work. For example, while multiple authors have tagged articles with "diversity" since 2013, "DEI", "equity", and "inclusion" did not appear as tags until 2022, reflecting potential shifts in the language used to define equity and inclusion.

Discussion of Labor and Equity in Librarianship, 2013-2024

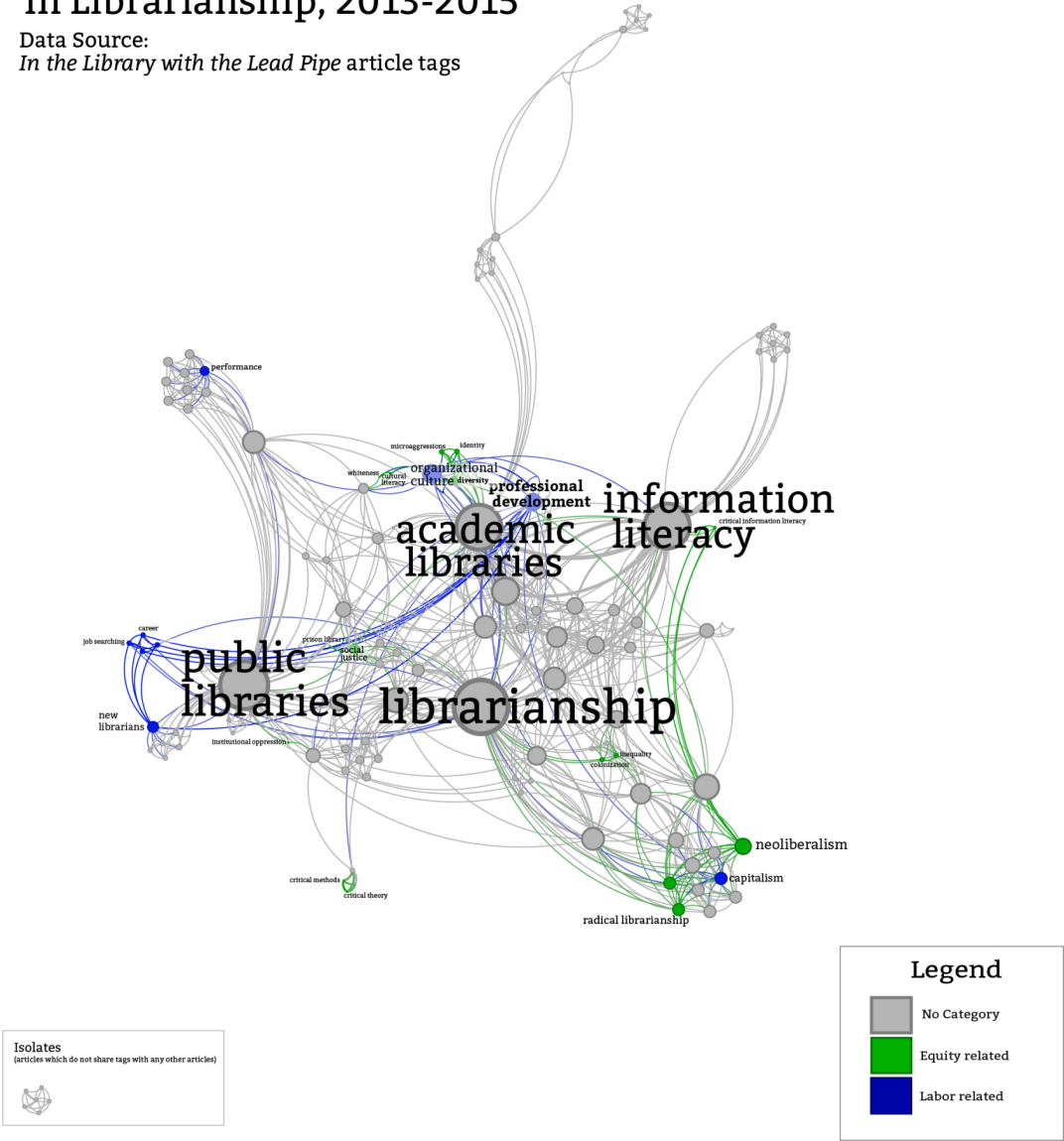
Data Source: *In the Library with the Lead Pipe* article tags



Tags are encoded as green, for equity, and blue for labor, in order to highlight intersections of discussions of these topics within librarianship.

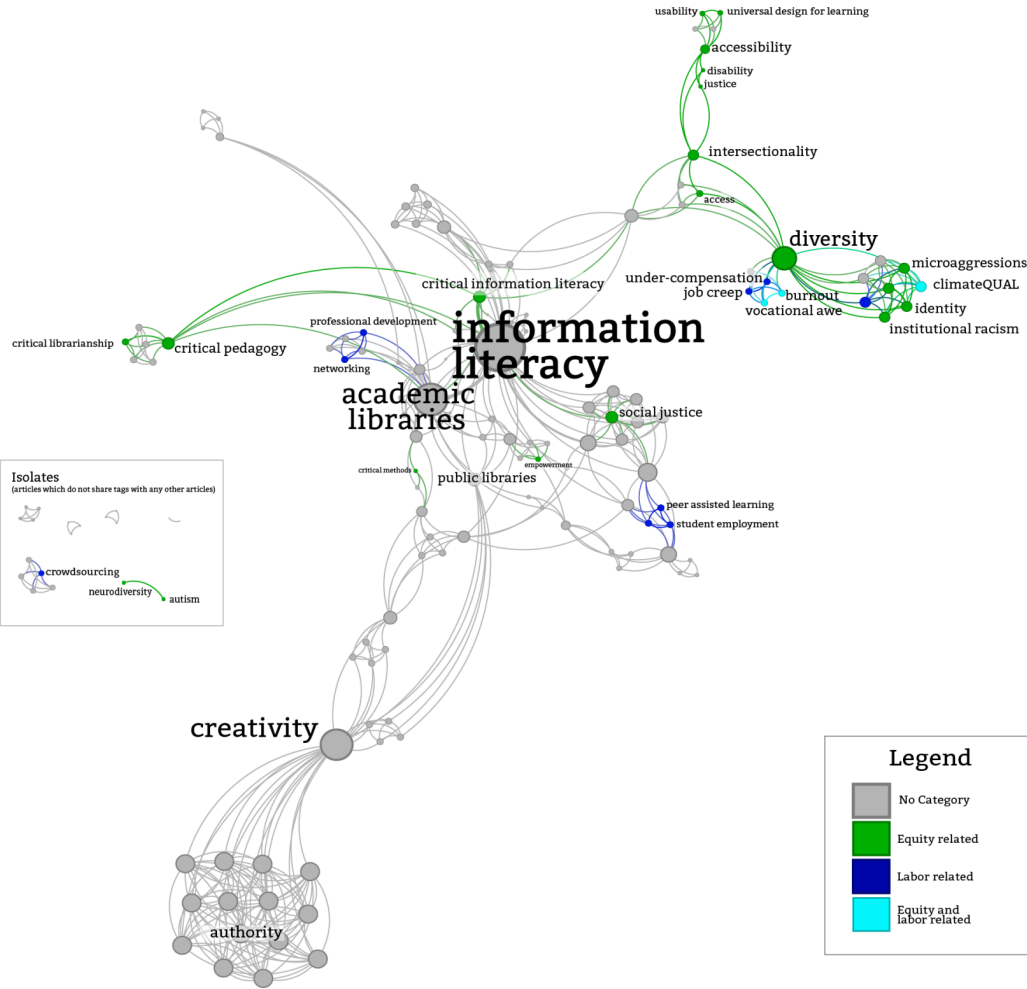
Discussion of Labor and Equity in Librarianship, 2013-2015

Data Source:
In the Library with the Lead Pipe article tags



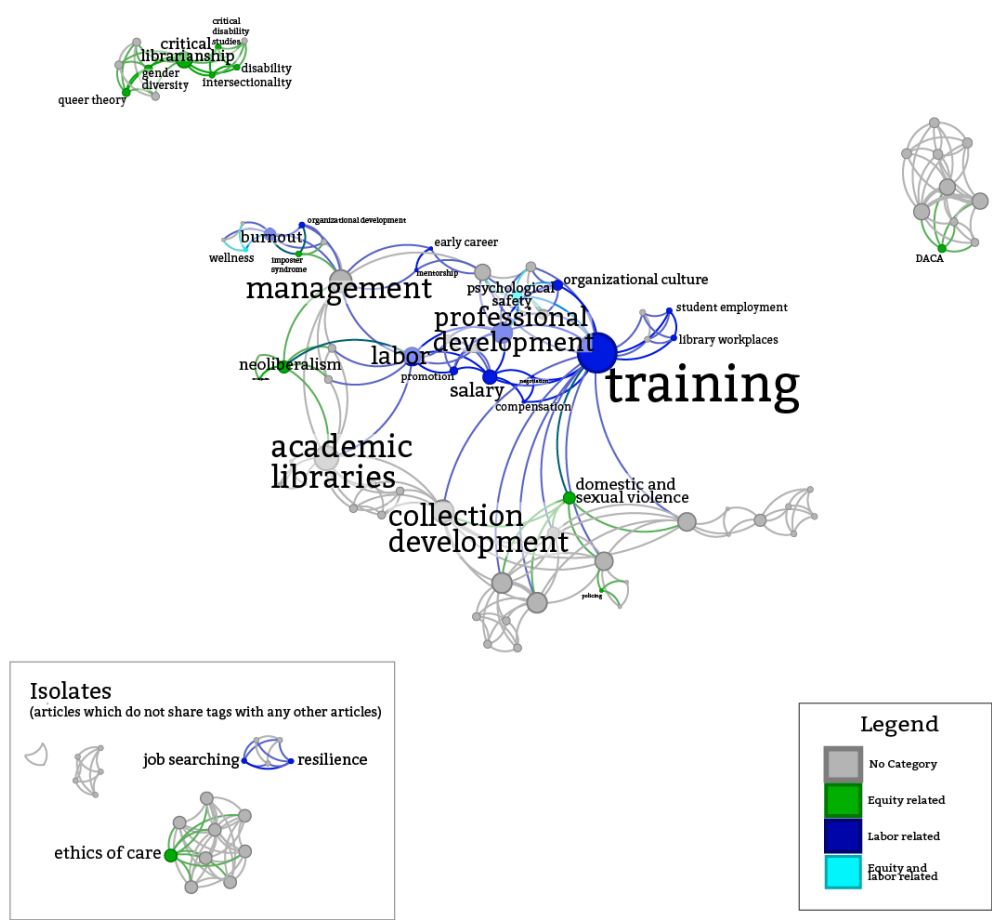
Discussion of Labor and Equity in Librarianship, 2016-2018

Data Source: *In the Library with the Lead Pipe* article tags



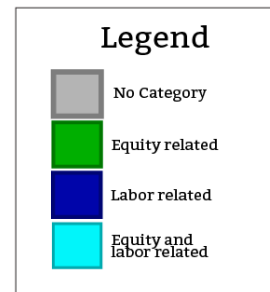
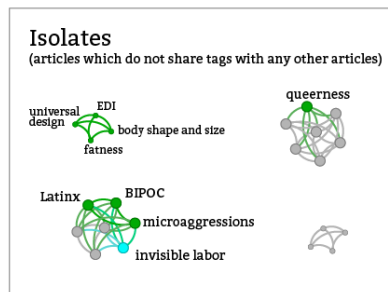
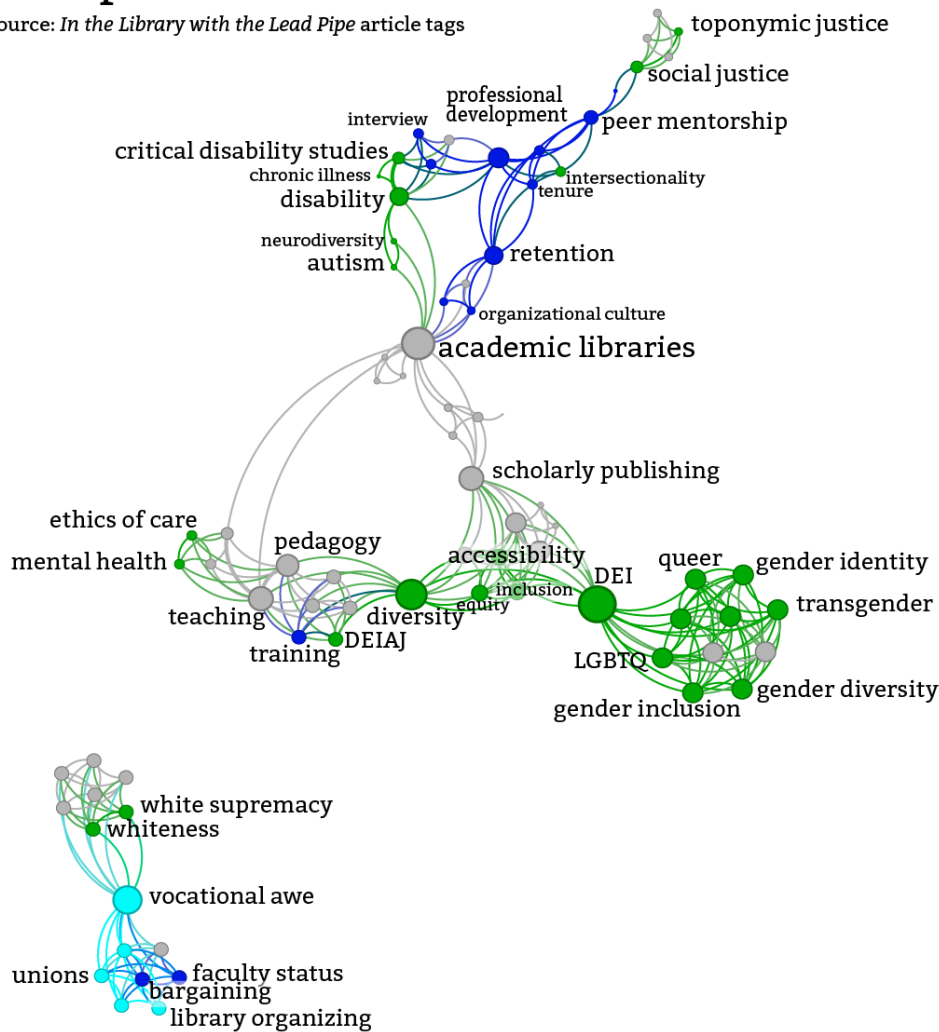
Discussion of Labor and Equity in Librarianship, 2019-2021

Data Source: *In the Library with the Lead Pipe* article tags



Discussion of Labor and Equity in Librarianship, 2022- April 2024

Data Source: *In the Library with the Lead Pipe* article tags

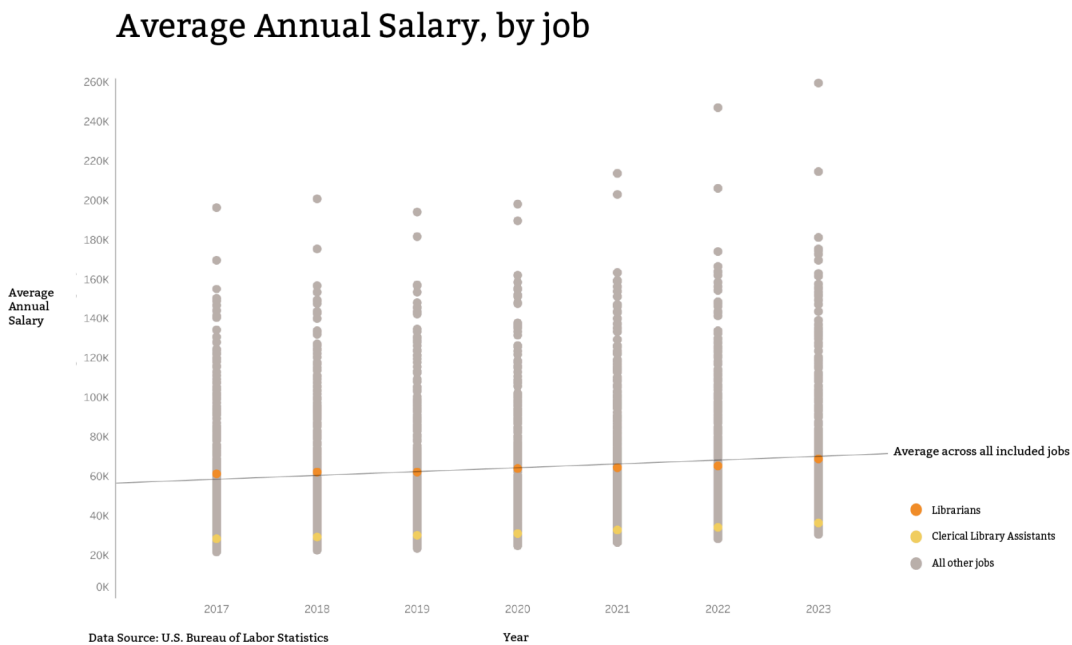


While discussions of equity and labor appear to be at the periphery of discussion from 2013-2015, comparison to visualizations across the years, in particular for the period from 2022-2024 shows that discussion of topics related to equity and labor have become increasingly prevalent and central to discussion in articles published by the journal. Additionally, the number of topics which are appropriately encoded as both equity-related and labor-related, colored in turquoise, increased over the studied period. However, the reality that topics related to equity and labor appear at the periphery of the network for the overall studied period indicate that these topics have not been historically explicitly addressed and

examined within librarianship, supporting the theory that within librarianship, a precedent exists for inadequate attention to institutional bias.

Interrogating Economics: Examining the Relationship between Salary and Demographics in librarianship

In order to understand the nature of librarianship in the United States, it is important to contextualize the field with the context of overall employment, given that when choosing a career, individuals make choices within a broader environment of potential jobs, as opposed to selecting a job based on its features in a vacuum.

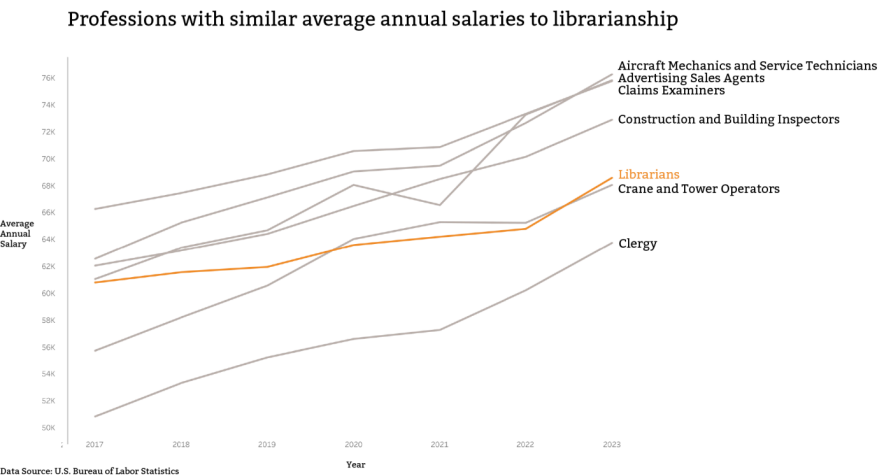


Note: Occupations for which data is not present for all 6 years have been removed, thus while extensive, this visualization is not representative of all possible careers in the United States.

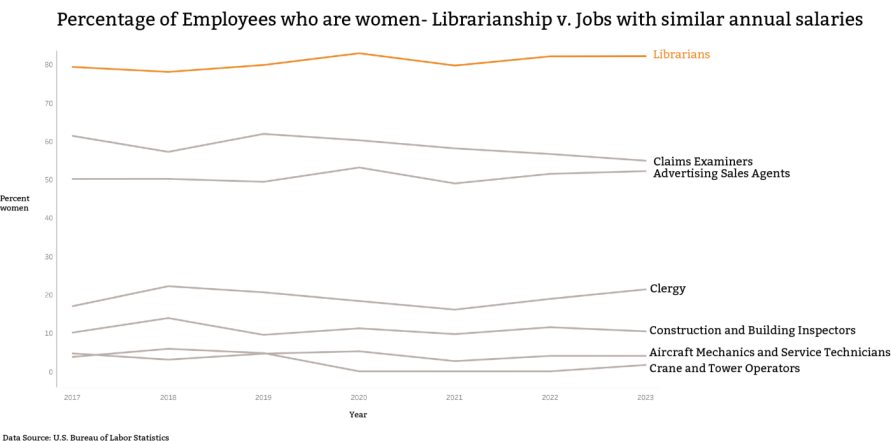
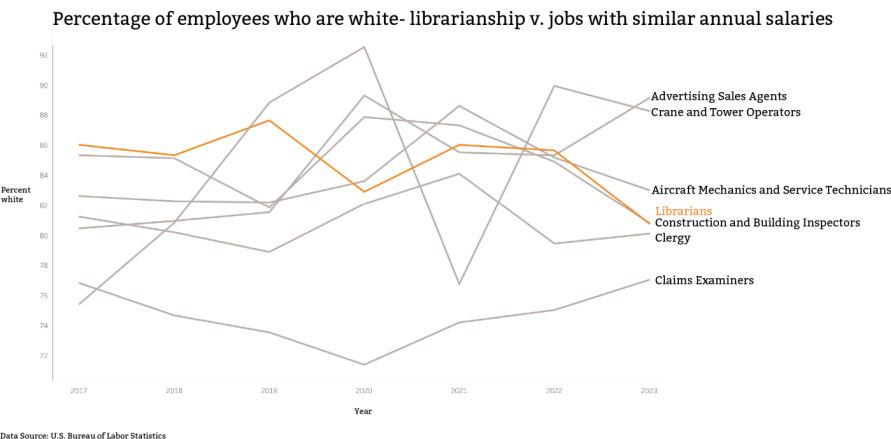
The average annual salary for librarians has remained relatively consistent across the period from 2017-2022, and is in fact comparable to the average annual salary for all employed people over 16, in the United States across this period.

However the reality that librarian positions typically require advanced degrees has contributed to extensive discussion about compensation of librarian roles, and how these metrics reflect the value placed on the profession in the United States. In particular, the relatively low salary and high costs to entry, of the field have often been cited as barriers to recruitment and retention of students who lack requisite privilege and financial support. Thus an examination of the relationship between salary and occupation demographics can illuminate whether or not salary rates alone explain librarian demographics. Accordingly, I

created visualizations featuring data from a selection of occupations which have similar mean annual salaries to librarianship.



In a comparison between librarianship and the chosen selection of jobs with similar annual salaries- no clear pattern in terms of annual salary or employment demographics emerges.



For example, in 2023, while around 82% of librarians were women, less than 1% of crane and tower operators, who had a comparable average annual salary, were women. Similarly,

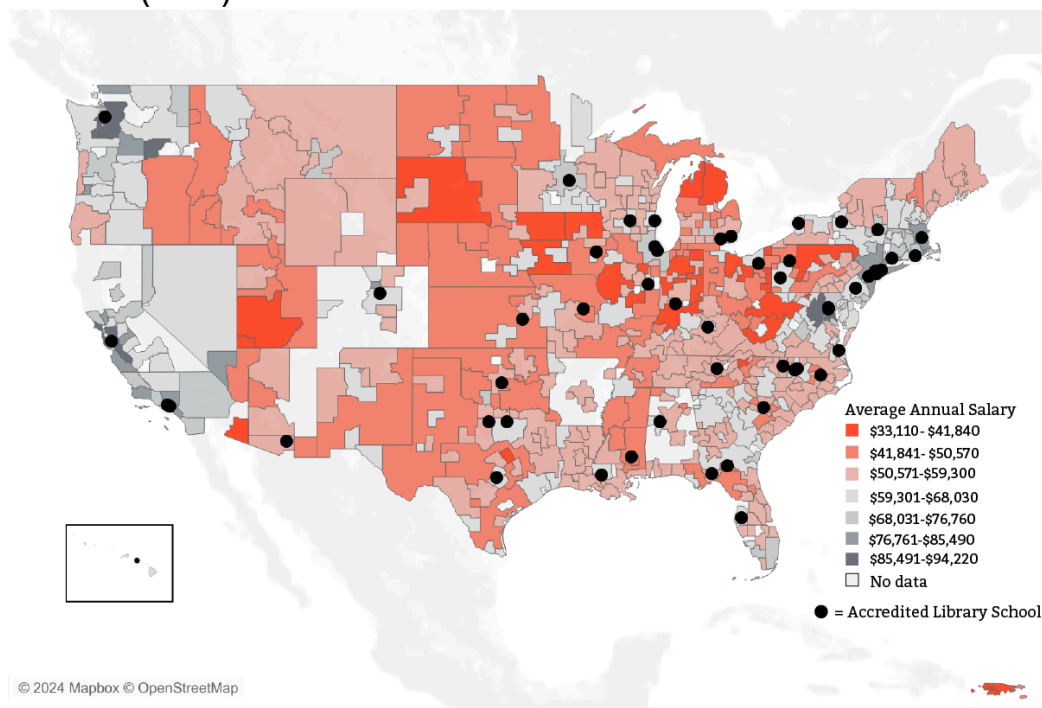
racial diversity varied extensively across similarly-paid fields. Thus, annual salary alone is not an adequate measure to predict employment demographics. This finding indicates that socioeconomic causes for limited diversity within librarianship are broader than wealth distribution alone, supporting the hypothesis that the causes behind the preponderance of white women in librarianship are multifold, and run deeper than surface level solutions.

Taking up Space: Exploring relationships between local educational opportunities and librarian employment through maps

In order to understand diversity within librarianship, it is also important to understand the socioeconomic factors which influence the workforce as a whole. For example, the relationship between the presence of American Library Association accredited programs, and employment data can indicate the influence of local educational opportunities for future librarians can have on the nature of the field.

The below visualization showcases average annual income for librarians across the United States, as well as the locations of accredited library schools. Areas where average annual salaries are far lower than the national average are highlighted in bright red, while areas where average annual salaries are higher than the national average are highlighted in gray.

Average Librarian Income by Area, Relative to Accredited Library Schools (2022)

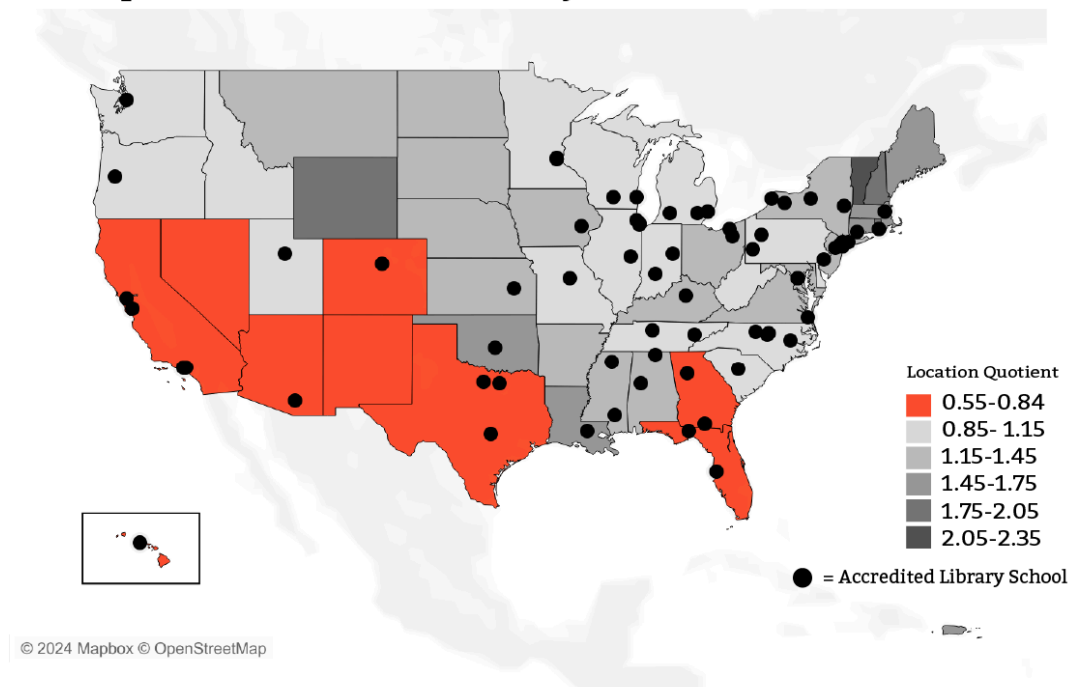


Data Sources: U.S. Bureau of Labor Statistics, American Library Association

Salary does not appear to be correlated with the presence of a local library school. For example, salaries in the Miami – Fort Lauderdale- West Palm Beach area are higher than salaries in Tallahassee, where Florida State University is located. Similarly, salaries in East-Central Montana (with no accredited program) are similar to North Carolina (which does have several accredited programs, including the University of North Carolina, Chapel Hill, and North Carolina Central University). Thus, it appears that broader socioeconomic forces are significantly affecting librarian salaries.

Similarly, as of 2023 the presence of library schools is not correlated to librarian employment concentrations at the state level.

Concentration of librarian Employment by State Compared to Accredited Library Schools, 2023



Location Quotient = the percent of people employed as librarians in each state **divided by** the percent of people employed as librarians in the U.S.

Data Source : U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics
& the American Library Association

In the above map, red states have a lower concentration of librarians, while dark gray states have a high concentration of librarians. In contrast, states colored in light gray have a similar percentage of their workforce working as librarians to the national rate. For example, a lower proportion of all employed people in California work as librarians, than the proportion of librarians/employed people in the United States overall. This data is particularly interesting, given that California is also home to the largest LIS program in the U.S., San Jose State University, which had 2469 enrolled LIS Master's students in 2022

(American Library Association, 2006). This data is likely influenced by the increasing number of online library science programs, amongst other factors, which could be studied in future work.

The data thus demonstrates that there is not a correlation between the concentration of librarians jobs with the presence of an accredited library school, at the state level, for the year 2023. Thus, the presence of a nearby accredited program does not adequately explain the state of community job markets for librarian work. Accordingly, continued attention to the impact that broader socioeconomic trends and factors, such as funding, allocation of space, and the manner in which library labor is valued within specific communities and regions may crucially explain the nature of librarian employment. These findings further indicate that factors influencing librarian employment are multidimensional. Thus, in order to “fix” librarianship, we need to focus on the role which the profession plays within broader socioeconomic, political and cultural systems in the United States.

Conclusions

Wages alone do not adequately explain the diversity of librarianship, much as *economics alone* does not adequately explain systemic sexism and racism. This reality points to the value of continued efforts which seek to holistically address the lack of diversity within librarianship on multiple fronts. Similarly, the presence of a library school in a community alone does not correlate to higher average salaries or higher concentrations of librarians. Thus efforts to improve work availability and wages, in order to broaden the profession, must address other components beyond the establishment of further accredited programs.

The findings of this study indicate that the demographic makeup of librarianship has deep seated causes which can not be adequately addressed by measures such as increasing librarian salaries. In other words, the theory that poor diversity in librarianship has multidimensional causes is supported, necessitating deep reflection on the part of all librarians and library students about the ways in which the employment structures we participate in perpetuate inequality. However, the reality that discussions of equity within librarianship literature has become increasingly prevalent and central over time, provides a glimmer of hope that the profession can and will change, and that these discussions are already ongoing.

Opportunities for further work

As many scholars have pointed out, the current corpus of library science scholarship does not adequately address a number of additional factors which influence the diversity of the profession, including, neurodiversity, body size and shape, and gender identity (going beyond the scope of this study, by incorporating data sources which use a more trans-inclusive conception of gender) (Adolpho, & Krueger, 2024; Eng, 2017; Rutledge, Church & Church, 2024). Thus, further work, most likely using alternate sources of data which classify gender, race and ethnicity, with more nuance, can visualize other components and structures which limit the diversity of librarianship as a profession.

References

Adolpho, K., & Krueger, S. G. (2024, April 24). Decistifying trans and gender diverse inclusion in library work: A literature review. *In the Library with the Lead Pipe*.
<https://www.inthelibrarywiththeleadpipe.org/2024/decistifying/>

American Library Association, “Librarian Ethnicity”, (2012)
<https://www.ala.org/tools/librarian-ethnicity> (Accessed May 7, 2024) Document ID: 3572be33-b44e-5e04-45a3-e44eb459f039

American Library Association, “ALA-Accredited Programs”, (2006)
<https://www.ala.org/educationcareers/accreditedprograms/directory> (Accessed May 7, 2024) Document ID: a584d443-21e5-48e1-a2ab-66c831bc3661

Emmelhainz, C., Pappas, E., & Seale, M. (2017). Behavioral Expectations for the Mommy Librarian: The Successful Reference Transaction as Emotional Labor. In *The Feminist Reference Desk: concepts, critiques, and conversations*. Location: Library Juice Press. UC Berkeley: Library. Retrieved from <https://escholarship.org/uc/item/2mq851m0>

Eng, A. (2017, July 17). Neurodiversity in the Library: One Librarian’s Experience. *In the Library with the Lead Pipe*.
<https://www.inthelibrarywiththeleadpipe.org/2017/neurodiversity-in-the-library/>

Ettarh, F. (2018, January 10). Vocational Awe and Librarianship: The Lies We Tell Ourselves. *In the Library with the Lead Pipe*.
<https://www.inthelibrarywiththeleadpipe.org/2018/vocational-awe/>

Galvan, A. (2015, June 4). Soliciting Performance, Hiding Bias: Whiteness and Librarianship. *In the Library with the Lead Pipe*.

<https://www.inthelibrarywiththeleadpipe.org/2015/soliciting-performance-hiding-bias-whiteness-and-librarianship/>

Hathcock, A. (2015, October 7). White Librarianship in Blackface: Diversity Initiatives in LIS. *In the Library with the Lead Pipe*. <https://www.inthelibrarywiththeleadpipe.org/2015/lis-diversity/>

Hildenbrand, S. (1989). “Women’s work” within librarianship: time to expand the feminist agenda. *Library Journal*, 114(14), 153–155.

De La Cruz, J., Milliken, G., Contaxiz, N., Juarez, M., & Ossom, P. (2024). *Recruitment Techniques for LIS Internship Applicants of Color: Case Study of a Paid Medical Data Internship Program*. *Issues in Science and Technology Librarianship*, 105. <https://doi.org/10.29173/istl2798>

Kim, K.-S., & Sin, S.-C. J. (2008). *Increasing Ethnic Diversity in Lis: Strategies Suggested by Librarians of Color*. *Library Quarterly*, 78(2), 153–177. <https://doi.org/10.1086/528887>

Kung, J. Y., Fraser, K-L., & Winn, D. (2020). *Diversity initiatives to recruit and retain academic librarians: A systematic review*. *College & Research Libraries*, 81(1), 96–108. <http://doi.org/10.5860/crl.81.1.96>

Rutledge, L., Church, E., & Church, D. (2024, January 24). Addressing Weight Stigma in Libraries to Promote Diversity, Equity and Inclusion. *In the Library with the Lead Pipe*. <https://www.inthelibrarywiththeleadpipe.org/2024/weight-stigma-in-libraries/>

Related Posts:

1. **Mapping NYC Natural Gas Consumption in Carto**
2. **Lung & Bronchus Cancer and Air Quality in the U.S. from 2010 to 2014 (A Tableau Public Dashboard)**
3. **Threatened species of the amazon rainforest**

May 8, 2024 · Madeleine Casey · Tagged Charts & Graphs, data visualization, diversity, equity, information visualization, libraries, maps, network visualization

[Final Portfolio](#)

[Next Post](#)



Proudly powered by WordPress | Theme: Illustratr by

WordPress.com.