

Diversifying STEM Collections: Where We Are Now and Future Considerations

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Abstract

In academic libraries there has been growing interest in developing better ways to diversify collections, but STEM collections are sometimes overlooked. To better understand current practices and challenges, a survey was distributed to librarians with STEM collection responsibilities in the summer of 2021. Results from the survey indicated that STEM librarians care about improving the diversity of their collections but struggle with a lack of time, knowledge, and other resources needed to do so effectively.

Keywords: Academic libraries, Collection development, Diverse collections, Diversity, STEM

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Introduction

The American Library Association (ALA) interprets a diverse collection as one that "should contain content by and about a wide array of people and cultures to

authentically reflect a variety of ideas, information, stories, and experiences" (American Library Association, 2019b, para. 1). To create diverse collections, library workers should select, maintain, and review materials to ensure that works by and about diverse populations are included. Although there is some research about how to diversify specific subject areas, such as literature and history, there is a gap in the literature regarding how libraries diversify science, technology, engineering, and mathematics (STEM) collections.

Discussions about diversifying collections have arisen on STEM librarian listservs and at conferences, but these conversations often raise more questions than answers. The purpose of this study was to examine whether academic libraries are taking proactive steps to diversify their STEM collections and, if so, what specific actions are being taken. This article offers insights into how STEM librarians are currently working to diversify their collections. We present these findings as a starting point and hope they will contribute to a better understanding of what librarians can do to build more diverse STEM collections.

Literature Review

Over the past decade, issues relating to anti-racism, diversity, equity, inclusion, and social justice in library and information science (LIS) have gained more attention in the literature. Diversity in the practice of collection development is a frequent topic (Jones et al., 2022). Ciszek and Young (2010) provide examples of both quantitative and qualitative techniques that academic libraries can use to assess collections for diversity, including user-centered and collection-centered assessments. They emphasize the importance of developing a definition of diversity that is consistent with the institution's goals and incorporating this into collection development policies. The section on diversity in the ALA Policy Manual (American Library Association, 2010) can serve as a starting point, along with any diversity statements or definitions adopted by the institution.

Since Ciszek and Young's article, other academic librarians have published about assessing the diversity of their collections. This often involves conducting an audit, defined by Jensen (2018) as "a count of titles in your collection to determine the number of titles and the representative percentages of specific categories of your collection. For a diversity audit, we are attempting to determine what percentage of our collection is [about] something other than the established norm...[or] by something other than the traditionally dominant voice" (slide 2). Carmack (2021) describes best practices that could support any library in auditing its collections, emphasizing that before starting a diversity audit, it is important to educate oneself and reflect upon one's own biases and attitudes. As Emerson and Lehman (2022) point out in their literature review, one must also choose an appropriate method and focus for the diversity audit. For example, there have been articles about how library workers have assessed the diversity of authors in architecture trade publications and play script collections (Mathews, 2022; Stone, 2020). Other audits focus on diversity of content, such as Asian American law collections or LGBTQIA+ collections (Cheney et al., 2022; Pavenick & Martinez, 2021; Proctor, 2020). Another approach used by librarians to diversify the content of their collections is to

seek out books that have won diversity-related awards (<u>Kristick, 2020</u>; <u>Monroe-Gulick</u> <u>& Morris, 2023</u>; <u>Proctor, 2020</u>).

A demonstrated commitment to diversity has become a common requirement in STEM librarian job postings (Sterner, 2020), and there have been recent publications about inclusive teaching practices in STEM library instruction (Lester, 2020) and building diverse STEM collections (Baildon et al., 2017; Prosser, 2022). There has been relatively little in the literature about conducting a diversity audit in an academic STEM collection, but two recent articles specifically address assessing the diversity of medical collections. Brillant et al. (2022) sent a questionnaire to hospital libraries that asked participants to conduct a diversity audit based on a Medical Subject Heading (MeSH) list. The results indicated a lack of diversity within the hospital collections and highlighted differences in how libraries cataloged these collections. Bradley-Ridout et al. (2023) write about their experience evaluating a small dermatology collection in an academic health science library using Jensen's (2018) reverse diversity audit method. This type of audit involves selecting a small section of the collection, creating a list of diverse titles in that at subject area, checking the existing collection against the list, and then purchasing the titles that are not already in the collection.

Some authors have argued that STEM collections first need to be thought of as collections that can be diversified. Gilbert (1999) recalls a meeting where a selector for a science and medicine library "said he could not imagine that anything having to do with diversity might be relevant to the sciences" but had a "light bulb" moment once she provided a specific example of books about treating minority populations (p. 3). In an article about conducting a citation analysis to find which journals published the most about women in STEM in higher education, Blackburn and Heppler (2019) recommended that librarians go beyond the traditional STEM journals to fill gaps. Ford (2019) emphasized in her reflection on science librarianship that it is important to be an "active listener and advocate for those who are often not included in the conversation of scholarship" (p. 606). This includes promoting the work of marginalized groups in STEM and working with patrons to find gaps in the collection (Ford, 2019).

Methods

The survey used for this study was adapted from the School Library Journal (2018) Diverse Book Collection Survey. We edited and added questions to make the survey more applicable to librarians with STEM collection development responsibilities at academic libraries. At the beginning of the survey, we provided respondents with this definition of diverse collections: "A diverse collection should contain content by and about a wide array of people and cultures to authentically reflect a variety of ideas, information, stories, and experiences" (American Library Association, 2019b, para. 1). The James Madison University Institutional Review Board (IRB) determined that this study was exempt research that required no further review.

The survey included 19 questions, with 16 multiple-choice and three open-ended questions (see <u>Appendix A</u>). Sixteen of the questions focus on diversity in STEM collections, and the remaining three ask about the respondent's institution. We created the survey using the online tool QuestionPro and distributed it via email to STEM

librarian listservs, including the Association of College and Research Libraries-Science & Technology Section (ACRL-STS), Chemical Information Sources Discussion List, Geoscience Information Society (Geonet), Physics-Astronomy-Mathematics Division of the Special Libraries Association (PAMNet), and the American Society of Engineering Educators (ASEE) Engineering Libraries Division (ELD). Our recruitment message invited responses from librarians involved in their institution's recommendation or selection of STEM books. We chose not to limit participation to STEM subject specialist librarians, as selection of STEM books at some institutions is handled by librarians with multidisciplinary responsibilities.

The online survey remained open for six weeks. A reminder was sent out to the listservs ten days before the closing date. We received 69 completed responses from the US (64) and Canada (5). Respondents could skip questions and some questions allowed for the selection of multiple options, so the total number of responses per question is sometimes greater than or less than 69.

The results were downloaded into Microsoft Excel for analysis.

Results

Demographics

Most responses (73%) came from librarians at doctoral universities (see Figure 1), followed by Baccalaureate colleges (13%) and Master's colleges/universities (7%). Most respondents (68%) identified themselves as working at Predominantly White Institutions (PWI). The second largest group (21%) worked at Hispanic-Serving Institutions (HSI), and 10% were at Asian American- and Native American Pacific Islander-Serving Institutions (AANAPISI). A single respondent (1%) was at a Native American Non-Tribal Institution (NANTI). (See <u>Appendix B</u> for tables of responses to all multiple-choice questions on the survey.)

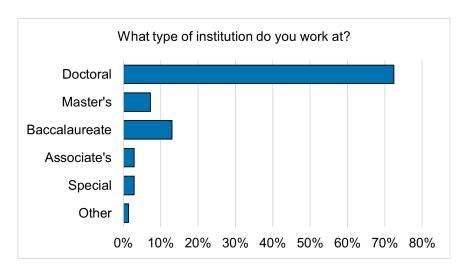


Figure 1. Responses by institutional classification

Collection Development

When asked if their library's collection development plan included a section about diverse collections (see Figure 2), 26% answered "Yes," 36% answered "No," 25% were not sure, and 13% selected "Other." Of the nine respondents who chose "Other", six added comments saying that their collection plans were currently under revision and three explained that their libraries did not have collection plans.

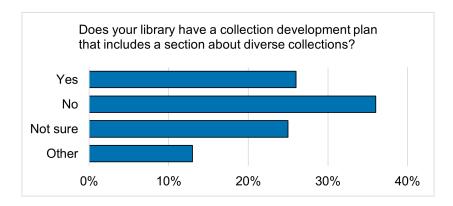


Figure 2. Collection development plans with sections about diverse collections

A combined 28% percent of respondents indicated that their library's STEM collection reflected the diversity of their campus "Very closely" or "Closely." A single respondent chose "Very closely." Another 38% selected "Somewhat closely," and 34% selected "Not too closely" or "Not at all closely." None of the respondents were aware of their libraries having conducted a diversity audit of their STEM collections in the past, although 28% said they had plans to do so in the future.

Most (62%) respondents indicated that diversifying their STEM collections was a collection development goal for them as individuals and 43% indicated that this was a goal for their libraries. These two categories overlapped, with 23% of respondents choosing both. Sixteen percent of respondents indicated that diversifying their STEM collections was neither a personal goal nor an institutional goal. A slight majority (52%) of respondents indicated that their libraries had purchased more diverse STEM books in the past five years than previously. Another 14% indicated that purchases of diverse STEM books had remained about the same as in the past, 6% said that these purchases had declined, and 28% were not sure.

When it came to paying for diverse STEM titles, 7% of respondents had grants or outside funding to support these purchases. The same number of respondents indicated that a portion of their book budget was set aside for purchasing diverse STEM titles. Nearly three times as many (20%) indicated that money was earmarked for the purchase of diverse books in other fields (see Figure 3).

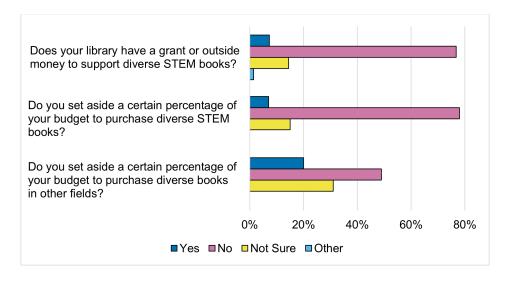


Figure 3. Availability of funding for purchasing diverse books

Demand for Diverse STEM Books

Of the 69 respondents, 43 (62%) indicated that there was demand at their libraries for STEM books by diverse authors and 41 (59%) indicated that there was demand for STEM books about diverse people. Respondents could select multiple options from a list of ten groups (see Figure 4). We also provided an "Other, please specify" option, but none of the respondents named a group not on the list. Books by women and Black or African American authors were the most in demand, as were books about women and Black or African American people.

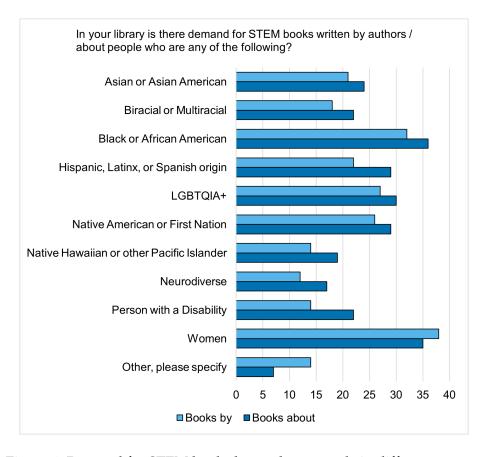


Figure 4. Demand for STEM books by or about people in different groups

Finding and Promoting Diverse STEM Books

When asked how they promoted their library's diverse STEM books, the most commonly selected answers were displays and library instruction (see Figure 5). Sixteen respondents added comments describing other ways they promoted diverse STEM books, with 14 of these describing some form of virtual display. Ten mentioned online subject or course guides, three mentioned highlighting diverse collections on the library website or in the discovery system, and one mentioned eBookshelves. (It was unclear if the latter was referring to the Springer product or if it was being used as a generic term for a virtual display.) Other promotional strategies described by respondents were bibliographies, research presentations, "Dedicated outreach," and "faculty EDI [Equity, Diversity, and Inclusion] training".

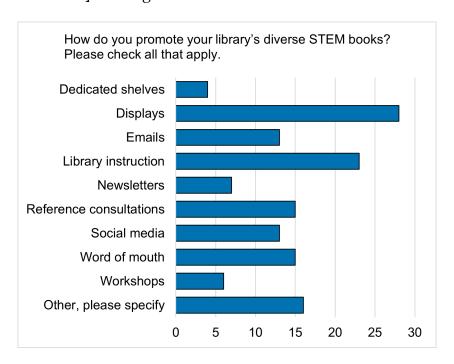


Figure 5. Methods used to promote diverse STEM books

Respondents use a variety of sources to discover diverse STEM books (see Figure 6), with professional organizations, word of mouth, award lists, and faculty suggestions being the most common. Fifteen respondents specified "Other" sources that they use to identify suitable diverse STEM titles, with the most common being GOBI notifications (four respondents) and Twitter (three respondents). Four respondents described reading book reviews from sources not listed on the survey, such as NPR, popular magazines, academic databases, and scientific journals. Also mentioned were Google web searches, Google Books, LibGuides at other libraries, publisher's catalogs from other countries, and a cooperative acquisition program with the Library of Congress.

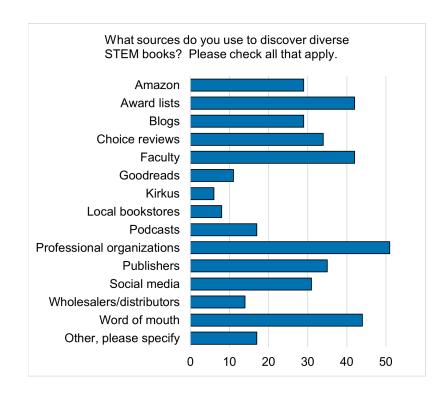


Figure 6. Sources used to discover diverse STEM books

However, many respondents still found it difficult to identify suitable titles for a diverse STEM collection. A plurality (48%) indicated that this is "Very difficult" or "Difficult," 42% selected "Somewhat difficult," and only 10% considered it "Not too difficult" or "Not at all difficult" (see Figure 7). A single respondent chose "Not at all difficult".

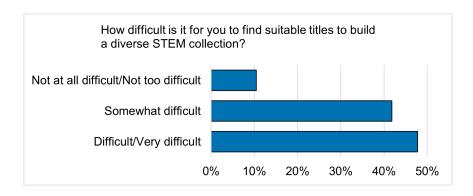


Figure 7. Difficulty of finding suitable diverse STEM books

Forty-six respondents provided answers to the open-ended question "What other types of resources would help you select diverse STEM books?" Most respondents (26) mentioned lists of books, reviews, and/or recommendations, with nine specifying that they were interested in recommendations from other librarians and library professional organizations. Eight respondents suggested that purchasing platforms like GOBI should do more to help librarians identify diverse authors and titles, and six suggested that publishers should do the same. Five respondents called for publishers to release more books by and about diverse people in STEM fields, with one writing "This is a SUPPLY problem – not just a buying problem". Five respondents wanted a resource that provided information about the identities of authors or noted that such information

could be difficult to find. Two expressed an interest in conference sessions about selecting diverse STEM books. A single respondent indicated that they were satisfied with current resources.

Success in Diversifying STEM Collections

We received 17 responses to a question about past success in diversifying STEM collections, with eight respondents saying that they or their colleagues make it a regular practice to consider diversity when selecting books or intentionally seek out recommendations for diverse books. Specific strategies mentioned were consulting award lists, newsletters, library guides, and social media. Two more respondents described using grant money or an endowment to purchase diverse books. Other diversity initiatives included "Set up boutique program with Library of Congress to acquire STEM materials from foreign countries", collaborating with a student on a "Women in maths project", and a diversity LibGuide with links to featured books and other library resources. Two respondents described projects at their institutions that were still in the early stages: a diversity audit of the collection, and a task force charged with forming a plan to diversify their collections. Four additional comments expressed hope for future success, uncertainty about how to measure success, or frustration with the lack of diverse STEM titles available.

Limitations

We wish to acknowledge several limitations of this study that should be considered when interpreting the results. When recruiting respondents, we failed to include any of the medical librarian listservs. Our survey also did not ask about the subject specializations of the respondents or the libraries where they were employed. This omission, which was made to better protect the anonymity of respondents, prevented us from analyzing the data by discipline. Although several respondents mentioned their subject areas, including one at a medical school library, we cannot determine how many responses were from librarians specializing in different STEM disciplines.

Survey respondents were self-selected, which may bias the data. For instance, librarians who were uninterested in diversifying collections may have been less likely to respond. The survey also relied on self-reported data about library collections, users, and respondents' opinions and behavior. Respondents may have lacked the information needed to give accurate responses to questions, such as how closely their STEM collections reflect their campus communities. Social desirability bias could also lead respondents to overestimate their own diversification efforts. Despite these limitations, we believe our study provides valuable insight into the attitudes and collection practices of librarians who work with STEM collections.

Discussion

A common theme in the survey comments was the difficulty of identifying diverse STEM titles to purchase, particularly those by diverse authors. One respondent wrote "it is much easier to find diverse content than it is to find diverse representation in authors, as the latter requires a lot more searching and assumptions" and others

expressed similar sentiments. Librarians often have no readily available information about authors except for their names. As another respondent put it, "Nearly all physics and chemistry books appear to be written by men. But I am also not sure how I would know if they are Black men. Until we start receiving more info about the authors (it takes an enormous amount of time for me to look each up), then how do we hold publishers accountable?" This desire to see publishers do more to both print and promote STEM books by diverse authors was echoed by other respondents.

Many respondents indicated that they primarily select books from lists they receive through purchasing platforms such as GOBI or that they rely heavily on lists of recommended and award-winning books, often mentioning that they do not have the time to dig deeper. A respondent described colleagues as being willing to purchase diverse titles but not to put special effort into finding them, saying "I suspect if these materials were more readily included in the collection development workflow and were better highlighted in purchasing systems, there might be less resistance to the idea of diversifying the collection". Librarians who did intentionally seek out lists of diverse books were sometimes disappointed by the lack of recommendations that were appropriate for their collections, with one commenting that "Too often I find lists that celebrate diverse STEM professionals where all of the titles are geared towards K-12 education."

Some respondents identified financial considerations as an obstacle to better diversifying their collections. Three said that they had limited funding available for STEM book purchases, and one mentioned recent budget cuts. Two other respondents described using money from a grant or endowment to successfully diversify their STEM collections, but only five respondents (7%) reported having access to such funds. The same number said that a portion of their STEM book budget was set aside for purchasing diverse books. Respondents were far more likely (20%) to say that a portion of the book budget was designated for the purchase of diverse books in other fields.

Although several respondents expressed interest in diversity audits, none had completed such an audit of their STEM collection. One respondent said that their library was currently working on a diversity audit of the entire collection, and others indicated that there were plans for diversity audits in the future. We did not ask about obstacles to conducting diversity audits, but one respondent said that their institution "couldn't find a way to do an effective one without making problematic assumptions about authors' identities". A different respondent said that their institution wanted to diversify its collections but had "decided an audit might be an expensive distraction" especially since they already believed that their collections did not reflect the diversity of their community. Another respondent mentioned that "knowing more about how to conduct an audit" would be helpful.

Recommendations and Conclusion

Many of the resources available on diversifying collections and conducting diversity audits are focused on children's and YA collections. Online tools like Diverse BookFinder (https://diversebookfinder.org/) and Teaching Books for Libraries (https://library.teachingbooks.net/) are used by public and school librarians to identify

diverse children's books and assess their existing collections. We are not aware of an equivalent for academic STEM librarians, but many of our respondents indicated that such a tool would be useful to them. In the meantime, one source for finding recommended undergraduate-level books with diverse content is the subscription database Resources for College Libraries (RCL). RCL includes lists of books in areas such as African American Studies and Gender Studies with sub-lists focused on specific subject areas, including Science and Technology. We do note that the main RCL lists for various STEM-related areas do not currently include sub-lists about diversity in these fields.

A variety of bibliographies dealing with diversity in STEM are available online. These tend to focus on a specific academic discipline or facet of diversity, so it may be necessary to seek out multiple bibliographies to cover the scope of a collection. A centralized list of diversity-related bibliographies could be a valuable resource for STEM librarians, although it would be important for this to be kept up to date. Two recent bibliographies that we have found helpful are Wong et al.'s (2022) *Building inclusive STEM Collections: Books by BIPOC [Black, Indigenous, People of Color] authors* and Blackburn's (2023) *Life after Lovelace: A select bibliography of women in computer science.*

Book awards can also be a way to identify notable diverse books. Again though, many diversity awards are for children's books, and those that honor books for adults are often limited to fiction. Some exceptions include the Stonewall Book Awards (https://www.ala.org/rt/rrt/award/stonewall) and the BCALA (Black Caucus American Library Association) Literary Awards (https://www.bcala.org/awards-and-news/literary-awards), both of which have awards for adult non-fiction, although these often go to biographies, memoirs, and social science books rather than STEM books. The Foreword INDIES Book of the Year Awards

(https://www.forewordreviews.com/awards/) recognizes books from independent publishers in a variety of fiction and non-fiction categories. This includes a Science & Technology category as well as several diversity related categories such as Multicultural and LGBTQ+, although not specifically a diversity in STEM category. Since STEM librarians are interested in awards that recognize diverse academic books, perhaps our own professional organizations could do more to organize or promote such awards.

Although there is little in the literature specifically about STEM librarians conducting diversity audits, Ciszek and Young (2010) provide an overview of methods for assessing the diversity of academic collections. Carmack's (2021) best practices could provide a foundation for STEM librarians who are considering diversifying their collections. These include bringing everyone involved in the collections process together to establish collection development policies that reflect the charge of a more representative collection in the future. Brillant et al. (2022) deal explicitly with hospital library collections and use Medical Subject Headings (MeSH) but could serve as a model for librarians in other disciplines who wish to conduct a diversity audit based on subject heading keywords.

A limitation of relying on subject headings is that these typically do not address the author's background or identity. Even when it comes to STEM biographies and memoirs, the subject headings may be missing information that would be relevant to a

diversity audit. Blackburn and Heppler (2023) analyzed subject headings for books on women in science and concluded that "the catalog records examined contain insufficient subject terms to help everyday patrons find books about women scientists" (p. 44). Subject headings may provide nothing more than a name, use outdated terminology, or reflect a single facet of an individual's identity (e.g., describing Sally Ride as a woman astronaut but not an LGBTQIA+ astronaut). In other cases, subject headings may inappropriately emphasize that a book is by or about someone who is not a "typical" scientist. In an interview with Nicole Chung (2022), physicist and author Chanda Prescod-Weinstein said:

Having *The Disordered Cosmos* come out and seeing how people reacted to it made me very aware of how differently I would be read compared to my white colleagues. I have a book by a white man in physics that's literally his story of a specific thing that happened to him in science, and he tells you about his childhood; you learn about the key players in his life. You learn very little about me in *The Disordered Cosmos*. His book was labeled by the Library of Congress as science methodology, and mine was originally labeled as African American biography. (para. 22)

However, when it comes to diversifying collections, it is important not to allow the perfect to become the enemy of the good. We encourage STEM librarians to select an audit method that suits their collections and resources and share their processes and results. If conducting a diversity audit or publishing a journal article is not practical, there are other ways to share information on this topic. Many of our respondents indicated that they were interested in recommendations from other librarians and library professional organizations in diversifying STEM collections, and several mentioned using LibGuides and social media to seek these out. Sharing book lists, displays, guides, and other resources that you have already created can help both users and other librarians. There is much that we can learn from each other.

Collection policies can be a place to describe procedures and define what diverse and inclusive collections mean for your institution. Some institutions may aspire to have their collections better reflect their users, while others may wish to better represent perspectives that are in the minority at their institutions. For a collection policy to be effective, it is important for selectors to know where to find it and what it says. A quarter of our respondents were uncertain about the content of their policies.

The question of whether designated funding is truly an effective way to improve the diversity of collections is beyond the scope of this study. We acknowledge that it could be counterproductive if it contributes to a perception that diversity is not a key part of good collection development but something extra or optional. However, if designated money is available for the purchase of diverse books in other areas, then failing to do the same for STEM may send the message that diverse collections are not important or relevant in STEM.

Responsibility for diversifying STEM collections does not rest solely on librarians. Publishers must invest in diverse authors and content. MIT Press (2023) has taken positive steps by acknowledging disparities in publishing "underrepresented voices

and perspectives" in STEM fields and highlighting their Diverse Voices in STEM collection. They also have a Fund for Diverse Voices that "supports new work by authors who bring excluded and chronically underrepresented perspectives to the fields in which the Press publishes across the sciences, arts, and humanities" (MIT Press, 2023, para. 1). Since 2020, the American Association for the Advancement of Science (AAAS), publisher of the journal *Science*, has increased its efforts to collect data on racial/ethnic identity and gender identity throughout their organization, including authors and reviewers (American Association for the Advancement of Science, 2023). Collecting and sharing this type of demographic data could help librarians to build more diverse collections and identify which publishers are living up to their stated values of diversity, equity, and inclusion.

We consider this article a starting point for understanding how to best support STEM librarians in diversifying their collections. It is important that we think about diversity not as an extra step, but as part of our usual collection management practices. Diversity is a core value of our profession (American Library Association, 2019a), and we support the information needs of our communities by maintaining collections that reflect their diversity. It can have a positive impact on students to see themselves represented in the STEM books they are reading and how they fit into their area of study. There are many obstacles to diversification efforts, including a lack of time, resources, and money in libraries, as well as larger systemic issues in the STEM fields and publishing. Yet our results indicate that many STEM librarians care deeply about this issue and would welcome advice and recommendations from peers. Perhaps together we can find new ways to make progress on this work.

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Charts in this article use the Okabe-Ito color palette (https://jfly.uni-koeln.de/color/), which was designed to be accessible for people with different forms of colorblindness. Special thanks to Howard Carrier for his assistance with the preparation of this paper, Kris Stacy-Bates for recommending the Foreword INDIES, and Liana Bayne-Lin for recommending Wong et al. (2022).

References

American Association for the Advancement of Science. (2023). 2022 Diversity, equity & inclusion report. https://www.aaas.org/diversity-equity-inclusion

American Library Association. (2010, August 4). *B.3 Diversity*. ALA Policy Manual. https://www.ala.org/aboutala/governance/policymanual/updatedpolicymanual/section2/3diversity

American Library Association. (2019a, January). *Core values of librarianship*. Advocacy, Legislation & Issues.

https://www.ala.org/advocacy/advocacy/intfreedom/corevalues

American Library Association. (2019b, June 24). *Diverse collections: An interpretation of the Library Bill of Rights*. Advocacy, Legislation & Issues.

https://www.ala.org/advocacy/intfreedom/librarybill/interpretations/diversecollections

Baildon, M., Hamlin, D., Jankowski, C., Kauffman, R., Lanigan, J., Miller, M., Venlet, J., & Willer, A. M. (2017). *Creating a social justice mindset: Diversity, inclusion, and social justice in the Collections Directorate of the MIT Libraries* [Report]. https://dspace.mit.edu/handle/1721.1/108771

Blackburn, H. (2023). *Life after Lovelace: A select bibliography of women in computer science*. George Mason University Libraries InfoGuides: Computer Science: Women in Computer Science. https://infoguides.gmu.edu/ld.php?content_id=72478464

Blackburn, H., & Heppler, J. (2019). Women in STEM in higher education: A citation analysis of the current literature. *Science & Technology Libraries, 38*(3), 261–271. https://doi.org/10.1080/0194262X.2019.1645080

Blackburn, H., & Heppler, J. (2023). Hidden voices: A case study analysis of subject headings for book titles on women in science. *Science & Technology Libraries*, 42(1), 31–49. https://doi.org/10.1080/0194262X.2022.2040405

Bradley-Ridout, G., Mahetaji, K., & Mitchell, M. (2023). Using a reverse diversity audit approach to evaluate a dermatology collection in an academic health sciences library: A case presentation. *Journal of Academic Librarianship, 49*(6), 102650. https://doi.org/10.1016/j.acalib.2022.102650

Brillant, B., Guessferd, M. R., Snieg, A. L., Jones, J. J., Keeler, T., & Stephenson, P. L. (2022). Assessing diversity in hospital library collections. *Medical Reference Services Quarterly*, 41(4), 424–438. https://doi.org/10.1080/02763869.2022.2131185

Carmack, N. (2021). Collecting for diversity, equity, and inclusion: Best practices for Virginia libraries. *Virginia Libraries*, 65(1), 1–5. https://doi.org/10.21061/valib.v65i1.622

Cheney, M., Lee, M., & Lawless-Collins, A. (2022). Bolstering the Asian American law library collection: A collection development guide. *Law Library Journal*, 114(3), 285–303. https://scholarship.law.bu.edu/faculty_scholarship/3415/

Chung, N. (2022, April 22). *Dr. Chanda Prescod-Weinstein wants to liberate scientific storytelling*. The Atlantic. https://newsletters.theatlantic.com/i-have-notes/625718603a37470020d12043/chanda-prescod-weinstein-science-writing-accessibility/

Ciszek, M. P., & Young, C. L. (2010). Diversity collection assessment in large academic libraries. *Collection Building*, 29(4), 154–161. https://doi.org/10.1108/01604951011088899

Emerson, M. E., & Lehman, L. G. (2022). Who are we missing? Conducting a diversity audit in a liberal arts college library. *Journal of Academic Librarianship, 48*(3), 102517. https://doi.org/10.1016/j.acalib.2022.102517

- **Ford, R.** (2019). The long conversation: Reflections on science librarianship. *College and Research Libraries News, 80*(11), 604–607. https://doi.org/10.5860/crln.80.11.604
- **Gilbert, E. D.** (1999). Diversity and collection development. *Library Philosophy and Practice, 1*(2), 1–7. http://digitalcommons.unl.edu/libphilprac/24
- **Jensen, K.** (2018, October 24). *Library Journal's equity in action: Doing a diversity audit.* School Library Journal Teen Librarian Toolbox.

https://teenlibrariantoolbox.com/2018/10/24/library-journals-equity-in-action-doing-a-diversity-audit/

Jones, E. P., Mani, N. S., Carlson, R. B., Welker, C. G., Cawley, M., & Yu, F. (2022). Analysis of anti-racism, equity, inclusion and social justice initiatives in library and information science literature. *Reference Services Review*, 50(1), 81–101. https://doi.org/10.1108/RSR-07-2021-0032

Kristick, L. (2020). Diversity literary awards: A tool for assessing an academic library's collection. *Collection Management*, 45(2), 151–161. https://doi.org/10.1080/01462679.2019.1675209

Lester, S. (2020, June). *Diversity, equity, and inclusion teaching practices among engineering librarians* [Paper presentation]. 2020 ASEE Virtual Annual Conference. https://doi.org/10.18260/1-2--34472

Mathews, E. (2022). Representational belonging in collections: A comparative study of leading trade publications in architecture. *Library Resources & Technical Services*, 65(3), 96–112. https://doi.org/10.5860/lrts.65n3.96

MIT Press. (2023). *Diverse voices in science*. Retrieved February 15, 2023, from https://mitpress.mit.edu/give-to-the-mit-press/fund-diverse-voices/

Monroe-Gulick, A., & Morris, S. E. (2023). Diversity in monographs: Selectors, acquisitions, publishers, and vendors. *Collection Management*, 48(3), 210-233.. https://doi.org/10.1080/01462679.2022.2163019

Pavenick, A., & Martinez, G. (2021). Hearing and being heard: LGBTQIA+ cross-disciplinary collection development. *Collection and Curation, 41*(4), 109–115. https://doi.org/10.1108/CC-07-2021-0021

Proctor, J. (2020). Representation in the collection: Assessing coverage of LGBTQ content in an academic library collection. *Collection Management*, 45(3), 223–234. https://doi.org/10.1080/01462679.2019.1708835

Prosser, E. (2022, August). *Creating a STEM diversity collection in an academic science and engineering library* [Paper presentation]. ASEE Annual Conference, Minneapolis, MN, United States. https://peer.asee.org/40793

School Library Journal. (2018). 2018 Diverse Book Collections Survey. *School Library Journal*, 64(11). https://www.slj.com/page/slj-diverse-books-survey-2018

Sterner, E. (2020). Science/STEM librarianship in 2020: Opportunities and insight. *Science & Technology Libraries*, 39(4), 432–449. https://doi.org/10.1080/0194262X.2020.1781023

Stone, S. M. (2020). Whose play scripts are being published? A diversity audit of one library's collection in conversation with the broader play publishing world. *Collection Management*, 45(4), 304–320. https://doi.org/10.1080/01462679.2020.1715314

Wong, H. D., Hicks, K. A., & Kornreich, D. (2022, October). Building inclusive STEM by BIPOC authors. *Choice: Current Reviews for Academic Libraries*, 60(2). https://alachoice.libguides.com/c.php?g=1269672

Appendix A: Survey questions

- 1. Does your library have a collection development plan that includes a section about diverse collections?
 - Yes
 - No
 - Not sure
 - Other, please specify
- 2. How closely would you say your library's STEM book collection reflects your campus community?
 - Very closely
 - Closely
 - Somewhat closely
 - Not too closely
 - Not at all closely
- 3. In your library is there demand for STEM books written by authors who are any of the following? Please check all that apply.
 - Asian or Asian American
 - Biracial or Multiracial
 - Black or African American
 - Hispanic, Latinx, or Spanish origin
 - LGBTQIA+
 - Native American or First Nation
 - Native Hawaiian or other Pacific Islander
 - Neurodiverse
 - Person with a Disability
 - Women
 - Other, please specify
- 4. In your library is there demand for STEM books written about people (e.g. biographies, memoirs) who are any of the following? Please check all that apply.

- Asian or Asian American
- Black or African American
- Biracial or Multiracial
- Hispanic, Latinx, or Spanish origin
- LGBTQIA+
- Native American or First Nation
- Native Hawaiian or other Pacific Islander
- Neurodiverse
- Person with a Disability
- Women
- Other, please specify
- 5. Has your library ever conducted a diversity audit of its STEM collection?
 - Yes
 - No, but we are planning to
 - No, and no plans to do so
 - Not sure
- 6. Is diversifying your STEM collection an intentional part of your collection development/selection goals? Please check all that apply.
 - Yes, this is a goal for my library
 - Yes, this is a goal for me
 - No
- 7. Would you say in the past five years your library has purchased more, less or about the same number of diverse STEM books as in the past?
 - More
 - Less
 - Same
 - Not sure
- 8. Does your library/institution set aside a certain percentage of your budget to purchase diverse STEM books?
 - Yes
 - No
 - Not sure
- 9. Does your library/institution set aside a certain percentage of your budget to purchase diverse books in other fields?
 - Yes
 - No
 - Not sure

•	Yes
•	No
•	Not sure
•	Other, please specify

- Very difficult
- Difficult
- Somewhat difficult
- Not too difficult
- Not at all difficult
- 12. What sources do you use to discover diverse STEM books? Please check all that apply.
 - Amazon
 - Award lists
 - Blogs
 - Choice reviews
 - Faculty
 - Goodreads
 - Kirkus
 - Local bookstores
 - Podcasts
 - Professional organizations
 - Publishers
 - Social media
 - Wholesalers/distributors
 - Word of mouth
 - Other, please specify
- 13. What other types of resources would help you select diverse STEM books?
- 14. How do you promote your library's diverse STEM books? Please check all that apply.
 - Dedicated shelves
 - Displays
 - Emails
 - Library instruction
 - Newsletters
 - Reference consultations
 - Social media
 - Word of mouth
 - Workshops
 - Other, please specify

- None of the above
- 15. If you have had past success in diversifying your STEM collections, please share a brief description of your practice.
- 16. What type of institution do you work at?
 - Doctoral University
 - Master's College/University
 - Baccalaureate College
 - Associate's College
 - Special Library
- 17. Please select any of the following that describe your institution, if applicable.
 - Alaskan Native- or Native Hawaiian-Serving Institutions (ANNHI)
 - Asian American- and Native American Pacific Islander-Serving Institutions (AANAPISI)
 - Historically Black Colleges and Universities (HBCU)
 - Hispanic-Serving Institutions (HSI)
 - Tribal Colleges or Universities (TCU)
 - Native American Non-Tribal Institutions (NANTI)
 - Predominantly White Institution (PWI)
 - Women's Colleges
- 18. Where is your institution located?

Dropdown of US states and territories, North American countries

19. Are there any other comments you would like to share?

Appendix B: Tables of survey results

Note:	Comments and	reconnece to	o open-ended	questions are	e not included
woie.	Comments and	Tesponses i	o open-chaca	questions are	mot meruaca.

Note: Comments and responses to open-ended questions	are not included.	
Does your library have a collection development plan that in	ncludes a section about d	iverse
collections?		
Yes	18	26.1%
No	25	36.2%
Not sure	17	24.6%
Other, please specify	9	13.0%
Total	69	
How closely would you say your library's STEM book collecti	ion reflects vour campus	
community?	on regreeous y can cannipale	
Very closely	1	1.5%
Closely	18	26.5%
Somewhat closely	26	38.2%
Not too closely	19	27.9%
Not at all closely	4	5.9%
Total	68	
In your library is there demand for STEM books written by a	uthors who are any of the	2
following? Please check all that apply.	, , , , , , , , , , , , , , , , , , ,	
Asian or Asian American	21	8.8%
Biracial or Multiracial	18	7.6%
Black or African American	32	13.5%
Hispanic, Latinx, or Spanish origin	22	9.2%
LGBTQIA+	27	11.3%
Native American or First Nation	26	10.9%
Native Hawaiian or other Pacific Islander	14	5.9%
Neurodiverse	12	5.0%
Person with a Disability	14	5.9%
Women	38	16.0%
Other, please specify	14	5.9%
Total	238	3.570
Total	230	
In your library is there demand for STEM books written abou	ut neonle who are any of	the
following? Please check all that apply.		
Asian or Asian American	24	8.9%
Biracial or Multiracial	22	8.2%
Black or African American	36	13.3%
Hispanic, Latinx, or Spanish origin	29	10.7%
LGBTQIA+	30	11.1%
Native American or First Nation	29	10.7%
Native Hawaiian or other Pacific Islander	19	7.0%
Neurodiverse	17	6.3%
Person with a Disability	22	8.2%
Women	35	13.0%
Other, please specify	7	2.6%
Total	, 270	2.070
	270	

Has your library ever conducted a diversity audit of its STEM collection?

Yes	0	0.0%
No, but we are planning to	19	27.9%
No, and no plans to do so	34	50.0%
Not sure	15	22.19
Total	68	
Is diversifying your STEM collection an intentional part development/selection goals? Please check all that app	* *	
Yes, this is a goal for my library	30	35.7%
Yes, this is a goal for me	43	51.29
No	11	13.19
Total	84	13.17
		. ,
Would you say in the past five years your library has punumber of diverse STEM books as in the past?	rchased more, less or about t	the same
More	36	52.2%
Less	4	5.8%
Same	10	14.5%
Not sure	10	27.5%
Total	69	27.3/
		_
	purchase diverse STEM book	ks?
	•	
Yes	5	
Yes No	5 54	78.3%
Yes No Not sure Total	5 54 10 69	7.3% 78.3% 14.5% ther
No Not sure Total Do you set aside a certain percentage of your budget to fields?	5 54 10 69 purchase diverse books in o	78.3% 14.5% ther
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes	5 54 10 69 purchase diverse books in o	78.3% 14.5% ther 20.3%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No	5 54 10 69 purchase diverse books in o	78.3% 14.5% ther 20.3% 49.3%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure	5 54 10 69 purchase diverse books in o	78.3% 14.5% ther 20.3% 49.3%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No	5 54 10 69 purchase diverse books in o	78.3% 14.5% ther 20.3% 49.3%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total	5 54 10 69 • purchase diverse books in o 14 34 21 69	78.3% 14.5% ther 20.3% 49.3%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total	5 54 10 69 • purchase diverse books in o 14 34 21 69	78.3% 14.5% ther 20.3% 49.3% 30.4%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books?	78.3% 14.5% ther 20.3% 49.3% 30.4%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5	78.3% 14.5% ther 20.3% 49.3% 30.4% 76.8%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53	78.3% 14.5% ther 20.3% 49.3% 30.4% 76.8% 14.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify	5 54 10 69 14 34 21 69 20 port diverse STEM books? 5 53 10	78.3% 14.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69	78.3% 14.5% ther 20.3% 49.3% 30.4% 76.8% 14.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build a Very difficult	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult Somewhat difficult	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20 28	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5% 17.9% 29.9% 41.8%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult Somewhat difficult Not too difficult	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20 28 6	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5% 17.9% 29.9% 41.8% 9.0%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult Somewhat difficult Not too difficult Not at all difficult	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20 28	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5% 17.9% 29.9% 41.8% 9.0%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult Somewhat difficult Not too difficult Not at all difficult Total	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20 28 6 1 67	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5% 17.9% 29.9% 41.8% 9.0% 1.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult Somewhat difficult Not too difficult Not too difficult Not at all difficult Total What sources do you use to discover diverse STEM book	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20 28 6 1 67	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5% 17.9% 29.9% 41.8% 9.0% 1.5%
Yes No Not sure Total Do you set aside a certain percentage of your budget to fields? Yes No Not sure Total Does your library have a grant or outside money to sup Yes No Not sure Other, please specify Total How difficult is it for you to find suitable titles to build of Very difficult Difficult Somewhat difficult Not too difficult Not at all difficult Total	5 54 10 69 purchase diverse books in o 14 34 21 69 port diverse STEM books? 5 53 10 1 69 diverse STEM collection? 12 20 28 6 1 67	78.3% 14.5% ther 20.3% 49.3% 30.4% 7.3% 76.8% 14.5% 1.5% 17.9% 29.9% 41.8% 9.0% 1.5%

Serving Institutions (AANAPISI) Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI) Tribal Colleges or Universities (TCU) Native American Non-Tribal Institutions (NANTI) Predominantly White Institution (PWI) Women's Colleges Total Where is your institution located? Canada	0 6 0 13 0 1 41 0 61	0.0% 9.8% 0.0% 21.3% 0.0% 1.6% 67.2% 0.0%
Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI) Tribal Colleges or Universities (TCU) Native American Non-Tribal Institutions (NANTI) Predominantly White Institution (PWI) Women's Colleges	0 6 0 13 0 1 41	9.8% 0.0% 21.3% 0.0% 1.6% 67.2%
Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI) Tribal Colleges or Universities (TCU) Native American Non-Tribal Institutions (NANTI) Predominantly White Institution (PWI) Women's Colleges	0 6 0 13 0 1 41	9.8% 0.0% 21.3% 0.0% 1.6% 67.2%
Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI) Tribal Colleges or Universities (TCU) Native American Non-Tribal Institutions (NANTI) Predominantly White Institution (PWI)	0 6 0 13 0 1 41	9.8% 0.0% 21.3% 0.0% 1.6% 67.2%
Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI) Tribal Colleges or Universities (TCU) Native American Non-Tribal Institutions (NANTI)	0 6 0 13 0 1	9.8% 0.0% 21.3% 0.0% 1.6%
Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI) Tribal Colleges or Universities (TCU)	0 6 0 13 0	9.8% 0.0% 21.3% 0.0%
Historically Black Colleges and Universities (HBCU) Hispanic-Serving Institutions (HSI)	0 6 0 13	9.8% 0.0% 21.3%
Historically Black Colleges and Universities (HBCU)	0 6 0	9.8% 0.0%
	0	9.8%
Serving institutions (AANAPISI)	0	
		0.0%
Asian American- and Native American Pacific Islander-		0.00/
Alaskan Native- or Native Hawaiian-Serving Institutions (ANNHI)	applicable.	
Please select any of the following that describes your institution, if a	م امام ما امام	
Diamage colors when a fall and the state of		
Total	69	
Other, please specify	1	1.5%
Special Library	2	2.9%
Associate's College	2	2.9%
Baccalaureate College	9	13.0%
Master's College/University	5	7.3%
Doctoral University	50	72.5%
What type of institution do you work at?		
Total	140	
Other, please specify	16	11.4%
Workshops	6	4.3%
Word of mouth	15	10.7%
Social media	13	9.3%
Reference consultations	15	10.79
Newsletters	7	5.0%
Library instruction	23	16.49
Emails	13	9.3%
Displays	28	20.0%
Dedicated shelves	4	2.9%
How do you promote your library's diverse STEM books? Please che	ck all that apply.	
Total	410	
Other, please specify	17	4.2%
Word of mouth	44	10.7%
Wholesalers/distributors	14	3.4%
Social media	31	7.6%
Publishers	35	8.5%
Professional organizations	51	12.49
Podcasts	17	4.2%
Local bookstores	8	2.0%
Kirkus	6	1.5%
Goodreads	11	2.7%
Faculty	42	10.29
Choice reviews	34	8.3%
Blogs	29	7.1%

		22.22/
United States	59	92.2%
Total	64	
State or US Territory?		
Arizona	2	3.4%
California	5	8.5%
Colorado	4	6.8%
Connecticut	2	3.4%
Idaho	1	1.7%
Illinois	4	6.8%
Indiana	1	1.7%
lowa	2	3.4%
Maine	1	1.7%
Maryland	1	1.7%
Massachusetts	4	6.8%
Michigan	4	6.8%
Minnesota	2	3.4%
Missouri	1	1.7%
Nevada	1	1.7%
New Jersey	2	3.4%
New York	8	13.6%
North Carolina	1	1.7%
Ohio	3	5.1%
Oregon	1	1.7%
Pennsylvania	4	6.8%
Utah	2	3.4%
Virginia	1	1.7%
Washington	1	1.7%
West Virginia	1	1.7%
Total	59	



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