Breaking Barriers: How Libraries Can Better Support Female Architecture Students for Professional Success

Cathryn Copper and Sara Jamal Eddin

This study investigates the role academic libraries can play in narrowing the retention gap between the number of women graduating with a degree in architecture and the number of women currently in the architecture profession. Recommendations to libraries are made based on the existing literature and survey data. The findings of this study aim to propose solutions in the form of services and resources that libraries may provide to best support female architecture students. The findings shed light on four areas: 1. The importance of increasing students' access to role models and mentors; 2. The need to bring more awareness to available academic tools; 3. The urge to diversify the material taught in the curriculum; 4. The value of sponsoring and hosting diversity-related events and programs. The proposed efforts will further empower women in architecture schools and can also benefit the broader community of minority groups by serving as a resource of recommendations for supporting the underrepresented communities in a profession.

Introduction

The number of women enrolled in architecture schools has been steadily increasing over the last decade. According to the National Architectural Accrediting Board (NAAB) 2018 Annual Report, female students represented 46 percent of the students enrolled in NAAB accredited programs.[1] However, there is an uneven balance between the number of women who study architecture and those who practice it. The latest report of the American Institute of Architects (AIA) indicated that 25 percent of practicing architects are women, which is only a 2 percent increase since 2000.[2] This imbalance is caused by many factors including the presence of gender discrimination, salary gaps, lack of support and access to role models, and fewer advancement opportunities for women in the profession.

In architectural education, studies indicate that the teaching profession is often male-dominated and male-centered. The curriculum does not always reflect and shed light on the role of women in architecture.[3] Although the number of women enrolling in architecture schools is increasing, such circumstances may prevent women from seeing themselves represented in

the profession, which may prevent them from reaching their full potential as architects and impede their contributions to the profession.

Libraries can play a major role in supporting female architecture students for professional success. Academic libraries have the power to build fulfilling connections between the educational institutions and their female students by providing beneficial resources and services that meet the institution's goals and match the students' needs at the same time. Architecture libraries should make more efforts to address gender inequities that exist in the profession with the student body.

This paper highlights the role of academic libraries in helping female architecture students succeed in the profession and focuses on finding the most effective ways to achieve this goal. Importantly, the suggestions made in this article to increase support for female students translates to support for historically marginalized groups in general. The article also outlines some insights and recommendations for future work on this topic. The authors conducted a survey that was distributed to female architecture students. The survey's questions aim to give a voice to these students to better understand how library initiatives could support them and prepare them for professional success. This paper uses findings from the existing literature and a survey that was conducted to propose solutions and potential services that libraries can provide to empower women in architecture and to address the issue of underrepresentation of women in the profession.

Literature Review

Women have historically been underrepresented and undersupported in the field of architecture. The literature in architecture over the last four decades shows that during the 1980s and '90s the challenges women and minorities faced in architecture were a prominent part of the discourse,[4] but minimal progress has been made in terms of leadership, empowerment, and retention since then.[5] Like architecture, women make up roughly 50 percent of science, technology, engineering, and math (STEM) majors at universities, but are increasingly lost at each career transition.[6] The STEM literature is much richer in discussion surrounding this concern and can inform how people in the architecture discipline could approach the topic.

For instance, one article discusses the individual and institutional barriers for women when entering male-dominated majors.[7] It argues that, regardless of how prepared women are when they matriculate, their experience in the major and at university is what prepares them for success. Published in the same year, a report by the National Academies Committee on Science, Engineering, and Medicine confirmed that the underrepresentation of women in STEM professions is not caused by a lack of talent, but rather unintentional biases and archaic institutional structures.[8] It called for "societies and higher education organizations to play a leading role in promoting equal treatment of women and men and to demonstrate a commitment to their practices." In response, the Chemistry and Physics Librarian at Rutgers University conducted an environmental scan of efforts academic libraries have made to assist with retention of women in STEM fields.[9] It highlights efforts such as collections-based projects, programming initiatives, and librarian-led courses like Closing the Gap: Women in Science, Technology, Engineering, and Math at Rutgers University to position the library as an active contributor in supporting female students for professional success.

Women in Architecture

The literature reviewed in the architecture discipline is less focused on methods of support and more on bringing awareness to the problem, which is a necessary first step in implementing real change. A pivotal article, published in 1993 near the height of feminist theory in architecture, dives deep into how the socioeducational context of the university plays a critical role in restricting the potential of women in the field.[10] It argues that the university is where skills, knowledge, and attitudes toward the practice develop.[11] The more recent literature builds on this issue with a focus on attrition. In 2000, women represented 13 percent of registered architects, and today that number is 19 percent.[12] At this glacial pace, there will not be a 50-50 gender split in the profession until 2093. The author goes on to say that venues for discussing gender equity are increasing, which indicates the need among aspiring architects for a community to express concerns and explore solutions. The current third wave of architecture feminism—which follows the first wave, which emerged at the end of the 19th century and the second wave, which ran from the early 1970s through the 1990s[13]—has informed some best practices in the profession to close the gender gap. An article in *Architect* identified career points in which women are forced out, such as getting licensed and attaining leadership roles.[14] A key factor identified in this article is that for women to surpass these barriers, they need role models. While this article starts to touch on themes identified in this study, there is no literature on the role libraries specifically can play to better support female architecture students and prepare them for professional success.

Women in the Workplace

The architecture profession has significant work-environment pressures that cause high stress and frequent burnout.[15] Once in the profession, women drop out at a much higher rate than men. Multiple studies have shown that women leave because of the hostile and competitive environment in architecture firms.[16] A study published in *Architect's Journal* points out common reasons women leave, including salary gaps, fewer opportunities for advancement, lack of mentoring and role models, and routine sexism in the workplace.[17] In another study, half of female architects sampled knew cases of gender discrimination.[18] The same study by Fowler and Wilson explained that many women concluded it was impossible to have a family and be successful in architecture because of the long hours and highly competitive environment. It was universally acknowledged that having children changed the lives of female architects more than their male counterparts. The profession needs to have a better understanding of the challenges that women experience, or it will continue to lose women to its own detriment.[19]

Mentors and Role Models

The scholarship has shown the need for marginalized communities to see themselves represented in the profession and to have access to mentors and role models. A study on the role of peer support for women in STEM reported that the influence of peers predicted the likelihood that one would pursue a career in STEM.[20] Particularly with the graduate student population, the influence peers had on one's confidence had a direct connection to their intent to continue in the STEM profession. This is further supported by another article stating that despite generally higher academic achievement, female students display lower academic self-confidence than males, and self-confidence affects whether a person will persist in a task and may be a key to career decisions.[21] Another study found that female students exposed to women in

scientific professions had a more positive attitude about women in science and suggested that having role models will increase their chances of considering science as a career.[22] The same is true in the architecture literature, which instructs young female architects to seek a mentor for guidance and feedback.[23] The literature confirms that mentoring and support networks are vital to attracting and keeping women in the discipline.[24]

Diversity in the Curriculum

Diversifying the material taught in the curriculum was identified in both the STEM and architecture literature as critical to promoting women in these fields. Busch-Vishniac and Jarosz found that courses developed with a focus on the role of women, sections in introductory courses containing only women, and hands-on courses that help build skills are ways to address the issue of the lack of diversity in the curriculum.[25] In a different article the authors more specifically explain that architecture curriculums and teaching reflect and promote male-centered actions.[26] These gendered teaching practices permeate gender inequities and diminish the educational development of women. Instructors must make conscious efforts to incorporate women in architecture as prominent contributors and ensure their perspectives are seen as viable design directions.[27] How instructors craft assignments are key to showing all students the value of women's contributions to the built environment.
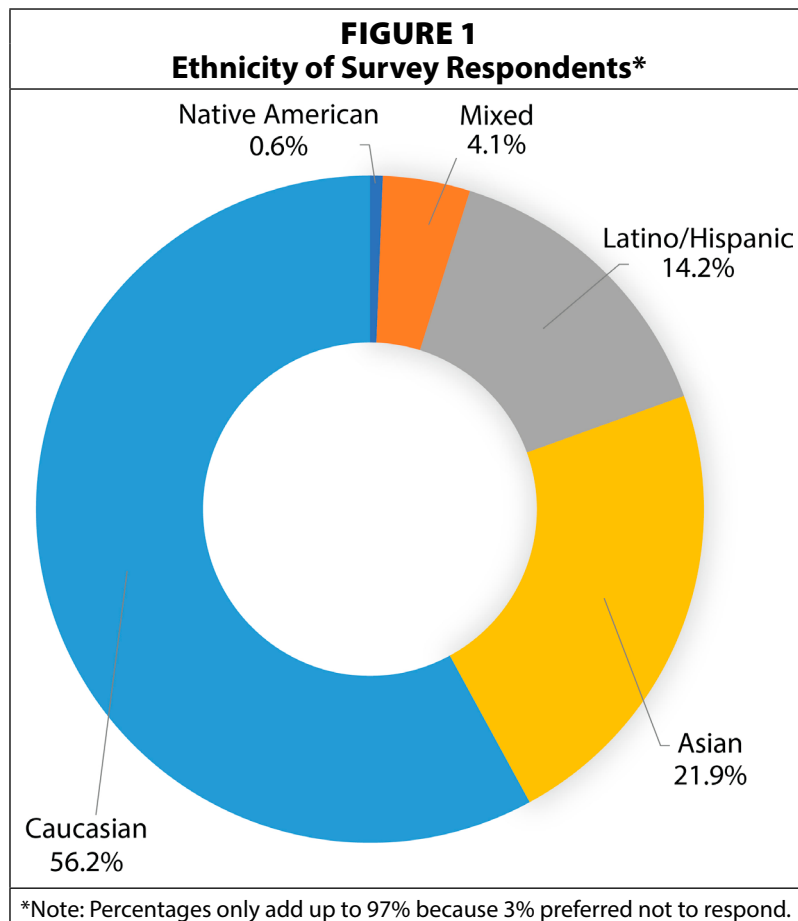
Methodology

A survey was conducted to collect data on the role libraries can play in preparing female architecture students for professional success.[28] The survey sought to answer questions related to the demographic makeup of female students in architecture schools across North America, what type of library initiatives currently exist or that the students are aware of, and what library-oriented tools could be developed to prepare them during their academic studies for success in the profession. The survey consisted of forty questions and took less than fifteen minutes to complete. The questions, drawn from initiatives to support women identified in the literature, sought to gather information on the likelihood that specific library initiatives would support women in architecture. To exclude participants that were not women, the first question asked whether participants were female or identified as female and required a response. Less than 5 percent of respondents answered that they were not or did not identify as female, and in doing so were filtered out from the survey. The remainder of the survey was divided into three sections with questions related to 1) the architecture program the student was enrolled in, 2) existing and ideal library and school initiatives to support the student's success, and 3) the student's background and demographic information.

Distributing the survey via architecture schools allowed the researchers to reach the broadest possible audience. The survey was distributed in October 2020 and remained open for forty days. It was distributed via the Association of Architecture School Librarians and the Art Libraries Society of North American Architecture Section listservs. These listservs reached 300 and 152 architecture librarians respectively. However, there is a significant yet unidentifiable amount of overlap of recipients on the two listservs. The description of the survey asked librarians at architecture schools to distribute the survey to their student populations through institutional processes. In November 2020, "Library Support for Female Architecture Students" was published in the Association of Collegiate Schools of Architecture (ACSA) News to highlight the research that was being conducted and expanded the reach of the survey to

all accredited professional degree programs in the United States, Canada, and some international schools.[29] Finally, the researchers reached out directly to twenty-two administrators and advisors at accredited architecture schools in North America to ask for the survey to be disseminated.

In all, 457 students from forty unique universities responded to the survey. According to the most recent data from the National Architectural Accrediting Board (NAAB), 26,061 students were enrolled in accredited programs in the 2018–19 school year, and 49 percent of those students were women, meaning there were 12,776 female students enrolled in accredited architecture programs.[30] Based on a Qualtrics measurement tool, this indicates the sample size has approximately a 4.5 percent margin of error.[31] A total of 434 female participants provides an impressive number of respondents and a large enough pool of data to create a comprehensive picture of how libraries can support this subsection of the population. Perhaps equally as important, 44 percent of partici-

FIGURE 1
Ethnicity of Survey Respondents*

Native American 0.6%
Mixed 4.1%
Latino/Hispanic 14.2%
Asian 21.9%
Caucasian 56.2%

*Note: Percentages only add up to 97% because 3% preferred not to respond.

pants responded that they were from minority or diverse backgrounds, which further indicates that the data has the potential to have a dual impact (see figure 1). The recommendations made later in this article for how libraries can support female architecture students can be translated to how libraries can support the broader community of minority students in architecture.

Findings
Mentors and Role Models
When analyzing the survey data and current scholarship, themes about library support for female architecture students emerged. The first theme is the importance of access to role models. The literature on diversity, inclusion, and equity shows that access to role models and seeing oneself represented is critical to professional development and success.[32] When asked, "How much access do you have to female mentors and role models to support you in your education and career?" 68 percent of survey respondents said that they had a moderate amount or higher access to female role models. However, 6 percent said they had no access to female mentors or role models. The response to that question closely reflects the perception of how many women hold leadership positions at architecture schools. According to survey participants, 74 percent said that a moderate amount or more of leadership positions, such as

director or dean, were filled by women. This figure is substantially higher than the number reported by the ACSA which reported that in 2019 only 33 percent of directors, heads, and chairs were women.[33] Having access to an adequate number of women in leadership roles in combination with other themes that emerged from this data, may have a great impact on increasing female students' confidence in their own abilities. As explained in the literature review, self-confidence may be a key factor in career decision-making processes.[34]

Academic Tools for Career Success

Related to access to mentors and role models, the second theme is a lack of tools to prepare female students for careers. While 64 percent of participants indicated they have received an award, grant, or scholarship, nearly 80 percent stated that they had little or no information about scholarships geared specifically toward women. Programs like the Payette Sho-Ping Chin Memorial Academic Scholarship,[35] the Beverly Willis Architecture Foundation Emerging Leaders Program,[36] and others present unique opportunities to support women during and after their studies, yet are not widely known, according to the data collected in this study. Another concern was the internship experience among female architecture students. In survey responses, 62 percent said they had work experience in a professional architecture or design environment, including internships, and 78 percent stated they had the tools to be successful in those positions or internships. However, the qualitative data did not reflect the same level of confidence. The comments heavily weighted toward problems in internships and professional environments, such as feeling that they were not being taken seriously, being assigned mundane or routine administrative tasks, and having all male coworkers and/or leaders. In general, survey comments indicated that female students felt they had to work harder than male colleagues to be taken seriously and were not given the same opportunities as male counterparts in the workplace. The literature supports this with research that states women must go farther, work harder, and accomplish more to be recognized.[37] Further, concerns about work-life balance were apparent. When participants asked directly if they had concerns about work-life balance in the profession, 73 percent of participants responded yes. In fact, nearly 25 percent of survey participants commented on the work-life balance challenge. An overwhelming number of comments, ninety four in total, addressed this issue and focused on the known demands of the architecture profession during childbearing years.
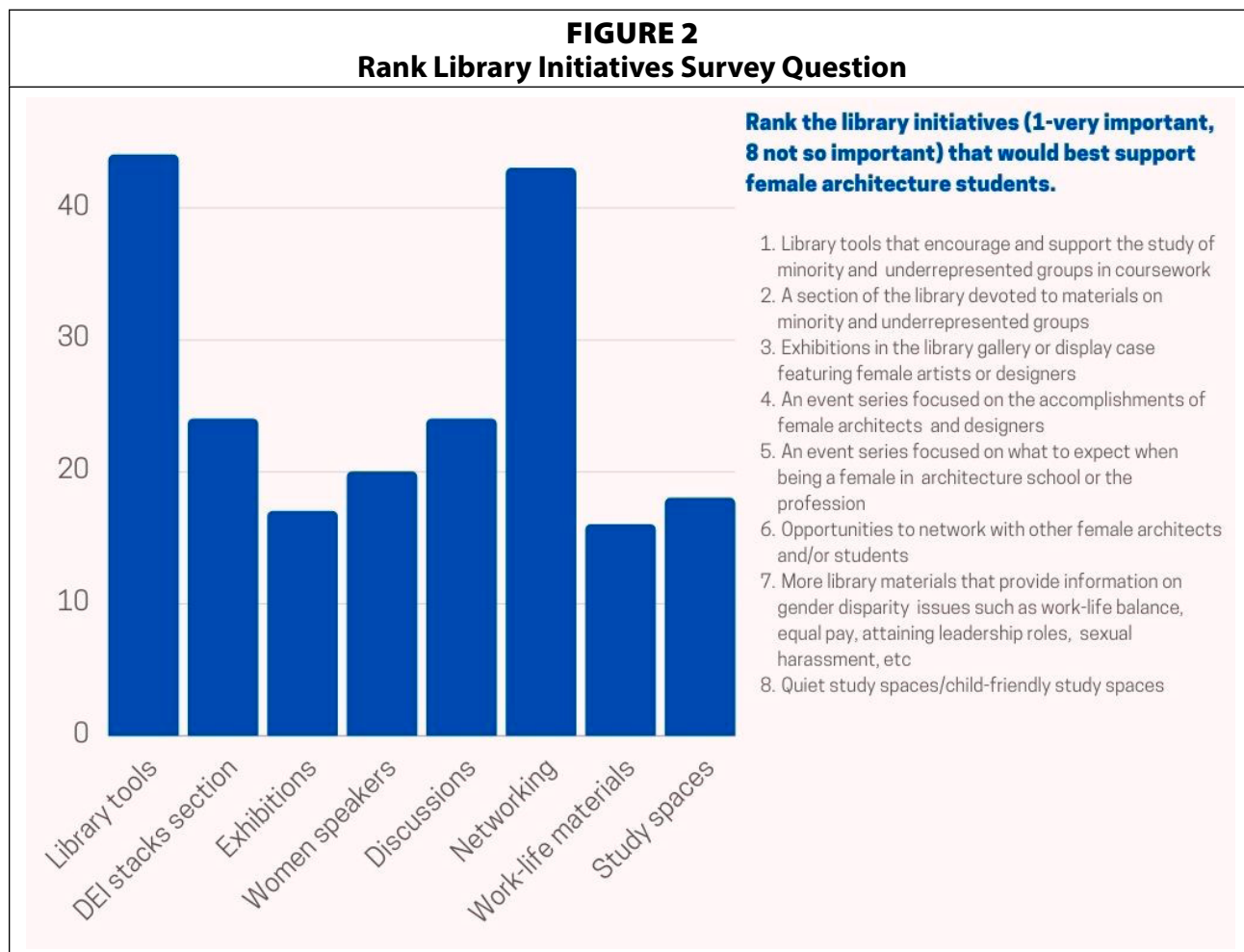
Diversity in the Curriculum

Another theme and area of concern for libraries, evident in the responses and literature, is a lack of diversity in materials studied in the curriculum. When asked specifically about the diversity of materials in the library collection, 48 percent of respondents said there was little or no diversity, and 43 percent said there was only a moderate amount in print collections (e.g., books and journals). Similarly, respondents said 41 percent of libraries had little to no diversity in their electronic collections (e.g., ebooks and research guides), and 43 percent said there was a moderate amount in electronic resources. To understand whether the work of women was studied, the survey asked how many female architects and designers were taught in courses. The responses ranged from 72 percent who said none at all or a little, to 28 percent who said a moderate amount or a lot. While the perception was that library collections have some diversity, that was not translated into an increase of diverse materials taught in the curriculum.

Events and Programs

The last theme is a desire for events and programs that bring awareness to the challenges women face in the architecture profession. When participants were asked if the library hosted diversity and inclusion events, 64 percent said no. It was unclear from the data collected whether libraries were not hosting these types of events or if students were just not aware of them doing so. The comments described events like book displays, networking opportunities, and author talks that more broadly focused on diversity and inclusion, but nothing specifically was mentioned about events that support women. In particular, the National Organization of Minority Architects (NOMAS) and LGBTQ+ groups were mentioned in the participants' comments regarding library events, further highlighting the potential connection between tools that support women and tools that support minority groups more generally.

The Library's Role

Finally, participants were asked what libraries could do to better prepare them for professional success. A key finding in this study is that 70 percent of respondents said the library could play a role preparing them for challenges in the profession. Therefore, the potential for libraries to have an increased positive impact on women studying architecture was evident in the data collected. Participants were asked to rank possible library-oriented initiatives in order of importance (see figure 2). The highest ranked initiative was acquiring tools that encourage and support the study of minority and underrepresented groups in

FIGURE 2
Rank Library Initiatives Survey Question

Rank the library initiatives (1-very important, 8 not so important) that would best support female architecture students.

1. Library tools that encourage and support the study of minority and underrepresented groups in coursework
2. A section of the library devoted to materials on minority and underrepresented groups
3. Exhibitions in the library gallery or display case featuring female artists or designers
4. An event series focused on the accomplishments of female architects and designers
5. An event series focused on what to expect when being a female in architecture school or the profession
6. Opportunities to network with other female architects and/or students
7. More library materials that provide information on gender disparity issues such as work-life balance, equal pay, attaining leadership roles, sexual harassment, etc
8. Quiet study spaces/child-friendly study spaces

coursework. The next most important initiatives, in order, were an increase in networking and event activities, more specifically, opportunities for female students to network with female architects, and an event series focused on what to expect when entering the profession and the accomplishments of women in the profession. In relation to the physical library space, respondents stated that a section of the library that highlights materials on minority and underrepresented groups was the most important initiatives. They expressed that quiet study spaces and/or child-friendly study spaces and exhibitions in the library that displayed work by female designers were of lesser importance. However, one comment indicated the desire for gender safe study spaces where they could find relief from unwanted male attention. Lastly, survey participants ranked library materials that related to gender disparity issues, such as work-life balance, equal pay, sexual harassment, etc., as the least important library initiative, but expressed an interest in exploring these topics in discussions or events. Simply put, one commenter indicated that any of these initiatives would be an improvement over the status quo.

Recommendation for Libraries
Mentors and Role Models
This study shows that libraries have the potential to play a unique role in preparing female architecture students for professional success. They can provide access to resources, facilitate learning, and physical space, among other things. The qualitative survey data shows a strong interest in networking opportunities to increase access to mentors or role models. Respondents want to have conversations and hear from women on what it was like to be in the profession and how they were able to overcome barriers. One respondent stated that "I would love to see networking opportunities for women at the library. Maybe a weekly event where we take an hour and talk to each other about challenges we are facing or hosting events to make women feel more comfortable studying architecture and learn more about the field." Events could be informal or formal and structured around a theme. For example, one topic could be how to combat self-doubt and prepare for juried critiques, since the potential for design juries to inflict damage on one's self-esteem is high.[38] Another topic for discussion could be what to expect in the field or on construction sites, an area of concern and challenge identified in the survey and literature.[39] At the core, survey participants suggest a wide range of topics of interest, the thread being a desire for a venue to have these conversations. A repeat suggestion was to have a program where upper-year students supported lower-year students, as a tool to provide support and techniques for navigating difficult situations. Librarians could facilitate this type of programming through social hours or support groups directed at female students. To expand the reach, digital video platforms offer the opportunity to connect with mentors and other female students across geographic locations. Lastly, to the extent possible, librarians should include female administrators and faculty in event planning. The more mentors participate in the planning process, the more meaningful the events and their impact will be.

Academic Tools for Career Success
To further prepare students for success, librarians can play an active role in providing tools to bridge the gap between school and practice. An area identified for improvement is making scholarships, competitions, and internships directed at female students more accessible. Librarians are well suited to work with school administrators or serve on committees to develop

internal programs for female student's success. Likewise, physical and digital spaces can serve as resource hubs. Printed lists of opportunities geared toward women could be made available in the library or advertised on digital signage. Online tools like research guides could include links to opportunities and support resources to be shared with students and advisors. The opportunity for programs on career preparation also exists. The library could be a forum to discuss work-life balance issues, a major concern identified in the survey and literature. The data shows students are more interested in hearing from other women on how they navigate this issue rather than the library providing resources to read about solutions on their own. However, tackling the issue from both angles would be beneficial for students who were unable to attend programs or prefer to follow up independently. It is important to acknowledge that applying these strategies requires adequate library funding and staffing, yet partnering with other groups can alleviate some of the added time and effort needed.

Diversity in the Curriculum

Librarians have a substantial opportunity to help increase the diversity of materials studied in the curriculum. In many ways, this is the core issue for female students studying architecture. The achievements of female architects and designers do not receive fair representation in school curriculums.[40] While this has an obvious impact on female students, it also affects their male colleagues because they may not see women as having the same potential as men and empowers that same thinking later in the workplace. Concerningly, in the article "Women Architects and Their Discontents," half of the male sample stated that women opted to work on smaller scale domestic projects.[41] The perception that women choose less important roles is most likely because of what male students perceive from their education in architecture. A well-worded comment from a female respondent explained that "Changing the curriculum is a big one. When we learn about Le Corbusier,[42] we need to learn about Eileen Gray.[43] Ray Eames was not Charles's assistant and that needs to be clear.[44] Denise Scott Brown is not secondary to Venturi."[45] To assist in changing this perception, librarians need to curate collections that represent all minorities, including women, so that all architecture students can recognize the vast diversity and potential of their peers.

Collecting more diverse materials in architecture is necessary, but ensuring that they are used and referenced in the curriculum is perhaps the more impactful action. Librarians need to exert extra effort to target these materials to faculty. Survey respondents expressed a need to focus on faculty who teach architecture history courses. In many architectural history classes, female architects prior to the twentieth century are not taught. This is partly because architectural history books make little mention of women. These texts often cover what is taught in history courses, and as a result women's contributions are left out of architecture history curriculums.[46] Professors who teach history courses must also discuss how women were discouraged or not allowed to claim credit for their contributions.[47] Librarians can curate tools such as resource lists that include books, articles, case studies, and links that feature women in architecture. The resource list could be embedded in course material through the use of course management systems or research guides. Further, librarians are well positioned to collaborate with faculty to organize reading groups as train-the-trainer programs. A major hurdle, especially for senior male faculty, is that some are simply not familiar with the material that exists on women or how to teach it in their courses. A reading group cohosted by the library could provide all faculty with a venue to digest and discuss this material. By building

working relationships with faculty, librarians can position themselves as collaborators in the curriculum and more successfully embed tools to support female students.

Survey responses included suggestions for how to highlight diverse library materials. The opinions were mixed on whether a section of the library should be devoted to minority and underrepresented architects. Some survey respondents expressed concerns that the point was not to single out these groups but rather give them equal attention. One possible solution, instead of separating these materials, would be to place a label on the outward facing edge of the items to indicate that they include diverse content or are written by a diverse author. This also gives an opportunity to highlight the work of some marginalized groups during certain months, like Women's History Month in March and Black History Month in February. As a tool to facilitate finding diverse library materials, the suggestion was made to incorporate a diversity filter in library discovery layers. In this way, when searching in the digital environment researchers can filter their results to items that include diverse content or are written by a woman author. Alternatively, instructions for using subject headings to conduct diversity searches could be displayed on library websites, assuming materials are cataloged accordingly. Furthermore, librarians could use their information retrieval expertise to advocate for diversity search tools more generally in databases and directories.

Events and Programs

The fact that 64 percent of survey respondents answered that their libraries were not hosting diversity-related events and programs indicates a significant opportunity to either increase programs or increase outreach related to programs. Students said that those current initiatives were primarily organized by student groups, and that they would like to see the school and library, including female role models and mentors, take a more active role in planning. To avoid duplicating efforts, librarians could seek out student groups or clubs to partner with to plan networking opportunities and discussion events for female students. Students are most interested in a program that partnered upper-year students or alumni with lower-year students. One comment suggested that "a program that partners older and younger female architecture students would be valuable. Probably would be done on a volunteer basis, but to have a woman I can specifically contact and feel that I'm not bothering them would be nice." To build on a formal mentorship program, roundtables or workshops in the library could discuss how to handle difficult situations, ways to combat self-doubt, the experiences of female architects or entrepreneurs, and more generally, mental health awareness.

To bring real change, the majority needs to be educated as well, not just the minority. To accomplish this, library events and programs should be shared broadly to target a wide audience. In "Women Need Cooperation Not More Competition," Flora Samuel calls for men to get behind women. She states that they too need to express an intolerance for archaic ways of working and be equal partners for the push toward gender equity.[48] This means that everyone, men and women, should be invited and encouraged to attend roundtables and discussion panels on how to better support female architecture students. Male students can benefit by being taught tactics for how to advocate for more fair practices and give women a platform in the workplace. Likewise, survey respondents said that the tools identified in this article, such as events and resources list, should be shared with firms and practitioners too. While librarians have more control over preparing students while they are in school, strides also need to be made in changing the workplace culture, which starts with everyone acknowledg-

ing that gender bias exists in architecture. Librarians can work with campus partners to offer workshops and training directed toward strategies to overcome bias and encourage fair treatment of all people.[49] Hosting online programs and opening them up to everyone, including practitioners, provides an opportunity to reach a wider audience and reduce duplication of effort across libraries. By targeting a wide audience, librarians can help bridge the gap between females in architecture schools and in the profession. For these strategies to be effective, it is essential that they be progressively staffed and funded along the various phases. A strategy for symbiotic yet practical partnerships with other individuals, groups, and organizations must also be developed, implemented, and constantly revised to share the load of the project and deliberately produce the desired result, which is a higher rate of women architects across the spectrum of the field of architecture.

Future Research

Some recommendations for future work on this topic include expanding the study to gather input and insights from practitioners, faculty members, and librarians. Contributions from these varied perspectives on how to support female architecture students and equip them for professional success will lead to novel exploration of effective ways to reach this goal. The importance of including librarians in such studies would help libraries amass resources that could further support female architecture students.

Conclusion

The main contribution of this paper is to shed light on the role of academic libraries in preparing female architecture students for professional success. It provides recommendations for achieving this goal based on a survey that was distributed to female architecture students enrolled in architecture schools in the United States, Canada, and some international schools.

Female students were not significantly affected by the gender difference while at school. However, the impact of this difference was significantly noticed once they entered the profession. Libraries can play a major role in tackling this issue by providing diverse materials that support the work of women in architecture, introducing tools that bridge the gap between school and practice and working with the faculty to get these materials included in course work and the curriculum. Libraries can also help female architecture students combat self-doubt and succeed in the profession by holding events that introduce them to the professional environment and arm them with tools to overcome the challenges they may face in the profession.

Seeing women represented in the profession fosters confidence, professional development, and success. However, the representation of women in the profession is currently weak, and therefore a cultural shift in the profession should occur, in which female architects would no longer be seen and treated as minorities. This shift will be the result of a process that starts with making appropriate changes in the school curriculum with the help of libraries to support women's presence and role in the field, which can then extend to the profession. The strategies and tools outlined in this study support other marginalized groups as well.

To make this shift, it is important to acknowledge that both male and female architects have a vital role in architecture to celebrate their technically qualified contribution equally and fairly. The difference in gender should no longer be seen as an issue that makes the profession favor one gender over another. This difference should be looked at as an opportunity that brings out creativity, diversity, and partnership in architecture. Therefore, the job respon-

sibilities should accommodate both genders to facilitate their welcomed participation and provide equal opportunities for both. These contributions would increase female architecture students' confidence, which would then empower them to reach their highest potential and experience upward mobility.

The results of the survey reflect that female architecture students see that libraries can play an important role in supporting them in their academic and professional lives. Libraries can be seen as powerful communication tools that connect the architecture schools with their female students, fulfilling the students' needs and partnering with the schools as well. Moreover, libraries can serve as a bridge that connects female architecture students to the professional world by providing guidance and equipping them with the tools for success in the field.

Appendix 1. Library Support for Female Architecture Students

Q1 Are you a female or identify as a female?
- □ Yes
- □ No

Q2 What College or University do you attend?
_____

Q3 What program are you enrolled in?
- □ Bachelor of Architecture
- □ Master of Architecture
- □ Doctorate of Architecture
- □ Other _____

Q4 Did you work as an architecture or design professional prior to enrolling in a graduate or doctoral program?
- □ Yes
- □ No

Q5 What year are you in the program?
- □ 1st year
- □ 2nd year
- □ 3rd year
- □ 4th year
- □ 5th year

Q6 What is your current GPA?
- □ 4.0 or higher
- □ 3.5–3.9
- □ 3.0–3.4
- □ 2.5–2.9
- □ 2.0–2.4
- □ 1.9 or lower

Q7 Do you feel the library collection (books, journals, etc.) represents minorities in architecture and design?
- □ A great deal
- □ A lot
- □ A moderate amount
- □ A little
- □ None at all

Q8 Do you feel the library's online tools (research guides, ebooks, etc.) support women in architecture or design?

☐ A great deal
☐ A lot
☐ A moderate amount
☐ A little
☐ None at all

Q9 Does the library host inclusion and diversity events that you know of?
☐ Yes
☐ No

Q10 Briefly explain the diversity and inclusion event program(s).
_____

Q11 Rank the library initiatives (1-very important, 8-not so important) that would best support female architecture students.
_____ Library tools that encourage and support the study of minority and underrepresented groups in coursework
_____ A section of the library devoted to materials on minority and underrepresented groups
_____ Exhibitions in the library gallery or display case featuring female artists or designers
_____ An event series focused on the accomplishments of female architects and designers
_____ An event series focused on what to expect when being a female in architecture school or the profession
_____ Opportunities to network with other female architects and/or students
_____ More library materials that provide information on gender disparity issues such as work-life balance, equal pay, attaining leadership roles, sexual harassment, etc.
_____ Quiet study spaces/child-friendly study spaces

Q12 Please share anything else the library could do or is doing to support female students studying architecture.
_____

Q13 How many female faculty teach in your program?
☐ 1–2
☐ 3–5
☐ 5–10
☐ 10 or more
☐ Unsure

Q14 How many female faculty are in leadership roles (i.e., department chair, dean, etc.) at the architecture school you attend?
☐ A great deal
☐ A lot
☐ A moderate amount
☐ A little
☐ None at all

Q15 How much access do you have to female mentors and role models to support you in your education and career?
- ☐ A great deal
- ☐ A lot
- ☐ A moderate amount
- ☐ A little
- ☐ None at all

Q16 How many women architects and designers do you study in your courses?
- ☐ A great deal
- ☐ A lot
- ☐ A moderate amount
- ☐ A little
- ☐ None at all

Q17 How much do you feel your school's lecture series or invited speakers represent females in the profession?
- ☐ A great deal
- ☐ A lot
- ☐ A moderate amount
- ☐ A little
- ☐ None at all

Q18 How much information on scholarships for females studying architecture does your school provide?
- ☐ A great deal
- ☐ A lot
- ☐ A moderate amount
- ☐ A little
- ☐ None at all

Q19 How much information on competitions, academic opportunities, and career opportunities for females does your school provide?
- ☐ A great deal
- ☐ A lot
- ☐ A moderate amount
- ☐ A little
- ☐ None at all

Q20 How much programming does your school offer to prepare women for interviews and career advancement?
- ☐ A great deal
- ☐ A lot
- ☐ A moderate amount

  □ A little
  □ None at all

Q21 How accessible and valuable are your school's on-campus counseling services?
  □ A great deal
  □ A lot
  □ A moderate amount
  □ A little
  □ None at all

Q22 Please share anything else your school is doing or could do to better prepare you for being a woman in the profession.

_____

Q23 What, if any, student organizations are you actively involved in?

_____

Q24 Do these student organizations do anything to specifically support female students? If yes, please describe.
  □ Yes _____
  □ No

Q25 Do you or have you ever held a leadership role (i.e., president of student organization, managed employees, etc.)? If yes, please describe.
  □ Yes _____
  □ No

Q26 Have you ever received an award, grant, scholarship? If yes, please describe.
  □ Yes _____
  □ No

Q27 Have you worked in a professional architecture or design position, including internships?
  □ Yes
  □ No

Q28 Did you feel like you had the tools to be successful in your position or internship?
  □ Yes
  □ No

Q29 Do you feel being a female presented more challenges for you in this position or internship? If yes, please describe.
  □ Yes _____
  □ No

Q30 Do you have childcare or caregiving responsibilities that make studying or succeeding

in architecture more difficult?
- ☐ Yes
- ☐ No

Q31 Do you have concerns about work-life balance in the profession? If yes, please describe.
- ☐ Yes _____
- ☐ No

Q32 Do you believe the library or program can better prepare you for work-life and gender discrimination issues? If yes, please describe.
- ☐ Yes _____
- ☐ No

Q33 Do you have any additional thoughts on being a female architecture student that you would like to share with the researchers? _____
_____

Q34 What is your age range?
- ☐ 15–19
- ☐ 20–24
- ☐ 25–29
- ☐ 30–34
- ☐ 35–39
- ☐ 40–44
- ☐ 45–49
- ☐ 50 or older
- ☐ Prefer not to say

Q35 Please specify your ethnicity.
- ☐ African-American
- ☐ Asian
- ☐ Caucasian
- ☐ Latino/Hispanic
- ☐ Native American
- ☐ Native Hawaiian/Pacific Islander
- ☐ Mixed
- ☐ Prefer not to say

Q36 Are you married?
- ☐ Yes
- ☐ No
- ☐ In a domestic partnership
- ☐ Prefer not to say

Q37 What is your current household income level (if your household includes roommates

only consider your individual income)?
- ☐ $0–$19,999
- ☐ $20,000–$39,999
- ☐ $40,000–$59,999
- ☐ $60,000–$79,999
- ☐ $80,000–$99,999
- ☐ $100,000 or higher

Q38 What is your current employment status?
- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Full-time student
- ☐ Seeking opportunities
- ☐ Prefer not to say

Q39 How many children do you have?
- ☐ None
- ☐ 1
- ☐ 2–4
- ☐ More than 4
- ☐ Prefer not to say

Q40 Where were you born?
- ☐ North America
- ☐ Central America
- ☐ South America
- ☐ Europe
- ☐ Middle East
- ☐ Africa
- ☐ Asia
- ☐ Australia
- ☐ Pacific Islander
- ☐ Other
- ☐ Prefer not to say

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