

Assessing the Impact of Consultations with Librarians on Faculty Research: An Explanatory Sequential Mixed Methods Study

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Research consultations are a standard service in academic libraries and consume significant library resources. There is a lack of scholarship evaluating the impact of this service on faculty. This paper describes the impact of librarian consultations on faculty and their role in the research process. Data was collected from a survey of sixty-seven faculty and focus groups with twelve faculty members. Findings from the survey and focus groups indicate that research consultations provide valued contributions to the faculty research process. Still, librarians must communicate transparently about their work with a diverse audience and define a specific value of the service.

Introduction

Research consultations, which are defined for this study as a service that provides “in-depth, personalized instructional research sessions for its patrons,” are a standard service in academic libraries which consumes considerable library resources.¹ Despite the historical lack of attention given to research consultations, there is a growing body of literature examining their utility.² The majority of these studies assess usage statistics associated with the consultations including number, time, patron demographics, satisfaction and perception of the service. Few studies examine metrics that extend beyond reaction of the service to assess concrete measures of research consultation impact.

Additionally, most of this literature evaluates student populations, not faculty, regarding the use by and impact of research consultation services.³ In fact, a 2015 scoping review noted that only four of the twenty reviewed studies included faculty members as a part of the sample. No studies focused exclusively on faculty.⁴ This disparity was echoed in a 2020 scoping review of forty-three studies that found only a single study focusing on faculty research consultations.⁵ Furthermore, studies that included faculty did not come to the same conclusions regarding faculty beliefs/impact/use/utility of consultations. In two studies, faculty affirmed the importance of the library and the role of the librarian, whereas faculty in a third study expressed that they were unaware of the research consultation service, including its scope and the expertise librarians could offer.⁶ The lack of literature investigating research consultations among the faculty

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population is in many ways understandable as students often comprise the largest single user group at most libraries. Nonetheless, faculty are an important user group that may serve as library gatekeepers for students and who have the potential to link library services directly to research and scholarship. In the ACRL report “The Value of Academic Libraries,” Oakleaf notes that understanding how the library contributes to faculty research productivity, including publications and funding, is a central question that remains unanswered.⁷ Demonstrating that librarians are not only educational partners but collaborative equals to faculty, especially concerning research and scholarship, may bolster the library’s status on campus.

Local Context

The health sciences library uses liaison librarians to serve campus user groups. Six librarians serve the schools and departments on the health sciences campus: one librarian for each of the Schools of Dentistry, Medicine, Nursing, Pharmacy, and the College of Health Professions and one librarian focusing on the basic sciences across all health sciences campus programs. There are approximately 1,200 faculty and 4,000 students enrolled at the five schools on the health sciences campus.

Research is prioritized across the health sciences campus; however, each school has a different focus. For instance, the School of Dentistry places a high priority on developing and delivering clinical care. Often, faculty in this school spend much of their time in practice and devote less time to research purposes. On the other hand, the School of Medicine has a robust clinical and basic research enterprise. The liaison for each school is involved in research to a different extent, with some liaisons performing more research and research consultations than others. Furthermore, the duration of the relationships with certain schools on campus affects the local context of librarian consultations. For example, there are long-standing relationships in the School of Nursing and School of Medicine because of the tenure of librarians serving in those areas. In contrast, librarians serving the Schools of Pharmacy and Dentistry and the College of Health Professions have not been at the institution as long and relationships within the schools are still developing.

Study Aims

The current study investigates how health sciences faculty perceive research consultations with librarians at a R1 doctoral university and how these consultations impact faculty research productivity and dissemination. The goal of this work is to build upon recent scholarship that examines the values of librarian services.⁸ Specifically, this study explores faculty perceptions of research consultation services through the following questions:

- a. What personal factors influence faculty usage of the research consultation service?
- b. How do research consultations impact faculty scholarly products?
- c. What is the role of the research consultation in the faculty research process?

Methodology

This study, supported by the Mid-Atlantic Chapter of the Medical Library Association’s Research & Assessment Grant, utilized an explanatory sequential mixed methods design to describe the impact of research consultations between librarians and faculty. This study was reviewed by the Institutional Review Board (IRB) (HM20016354) and was deemed not to require IRB approval. The study applied a two-part assessment: 1. a survey of all faculty

known to have used the consultation service; and 2. a series of follow-up focus groups with self-selected faculty who participated in the survey.

Survey

An online survey was constructed in QuestionPro and sent to 129 faculty members on the health sciences campus. The researchers utilized an internal assessment database to determine which faculty to survey. To be included as a potential participant, faculty must have met with a librarian within a specific six- to nine-month period (January 2019 to November 2019).

In the spring of 2019, the researchers developed an initial set of questions which were internally reviewed by other librarians in the same department. The questions were piloted among known library users within the Schools of Dentistry, Nursing, Medicine, and Pharmacy and the College of Health Professions. Internal input, as well as feedback from the pilot study, was incorporated into the survey.

The survey first asked participants demographic questions, such as school or college affiliation, number of years as full-time faculty at the institution, and the percentage of time reserved for research or scholarship according to their work plan or contract. The survey then asked reactionary questions, such as satisfaction level concerning the research consultation service and if the consultation achieved the desired purpose. Faculty were also asked to comment on any tangibles that resulted from the consultation with a librarian, including any scholarly products (i.e., journal article, book or book chapter, grant application, funded grant, technical report or white paper, academic poster, or scholarly presentation). The next question collected information about whether the consultation contributed to the faculty member's research product or process (i.e., if the consultation related to the collection of background information for research, reference management, journal selection, methodology for a review article, research personnel training, or copyright or re-use permissions). The survey also asked whether the faculty member intended to include the librarian as a co-author or acknowledgement in their research product. Finally, the survey asked behavior-oriented questions, including whether the faculty member would return to the library for their next project, or if they would refer students, faculty, or other learners to the library or librarian (Appendix A). Participant consent was obtained at the beginning of the survey, with confidentiality and anonymity of survey responses assured for all participants. The survey was disseminated in November 2019 to the four schools and one college, and the survey was closed in mid-December 2019.

Descriptive statistical analyses were used to describe sample characteristics using frequencies and percentages for categorical data. All statistical analyses were conducted using Microsoft Excel, R (Version 3.4.4, R Foundation for Statistical Computing, Vienna, Austria), and QuestionPro.

Focus Groups

The final survey question asked participants about their willingness to participate in a focus group as a follow up to the survey. Fifty-one faculty participants initially volunteered, with twelve participants ultimately scheduled to attend one of three forty-five-minute focus groups in June and July 2020. The focus groups were hosted and recorded via Zoom.

During the focus groups, participants were asked to reflect on what influenced them to reach out to a librarian for a research consultation, what went well and what could have been improved concerning the consultation, and how their interaction with the librarian helped (or

did not help) them achieve the goals associated with their research or scholarship. The focus groups additionally asked participants to address factors determining whether they engage with a librarian on research projects, both past and present, and whether the faculty member referred the service to others and, if so, what influenced this decision. The last question asked participants a theoretical prompt about what they might say to their Department Chair or Dean if they had one minute to discuss the merits or effectiveness of the consultation service (Appendix B).

Focus groups were transcribed using the transcription service Verbit.⁹ Thematic analysis of the transcripts was completed in HyperRESEARCH, a qualitative data analysis software.¹⁰ Two researchers conducted initial coding of a single focus group transcript, and then met to discuss and refine the initial codes. Next, the researchers coded all transcripts using this initial codebook. New codes were added as necessary throughout the process. The researchers met again to consolidate and refine codes prior to identifying emergent themes. Final themes were agreed upon by consensus with reference to examples from the transcripts to provide context.

Findings

Survey Results

Sixty-seven faculty members completed the online survey (52 percent response rate), with responses representing each school or college on the health sciences campus. Demographic information is reported in Table 1. The majority of responses came from the School of Medicine (41.8 percent) and the School of Nursing (31.34 percent). Approximately half of the respondents had been at the institution for zero to five years (47.76 percent). Almost three-quarters of participants reported that 19 percent or less of their contracted time was dedicated to research and scholarship (73.13 percent).

As noted in Table 2, satisfaction with research consultations was high, with 100 percent of respondents reporting that the research consultation achieved its desired purpose. Furthermore, roughly 97 percent of faculty were satisfied or very satisfied with their latest research consultation. When asked if faculty would or did return for another research project, or refer others to the service, most indicated that they would either return for a subsequent project or refer others to the librarian. Fully 91.04 percent of respondents indicated that they would refer students or other learners to the library. Only one respondent indicated that they would not refer to the service or return for subsequent projects. All faculty who had been at the institution for five to ten years indicated that they would return for their next project as well as

TABLE 1
Descriptive Statistics of Participant Characteristics (n=67)

Participant characteristic	n	%
School or College		
College of Health Professions	7	10.45
School of Dentistry	6	8.96
School of Medicine	28	41.8
School of Nursing	21	31.34
School of Pharmacy	4	5.97
Other	1	1.49
Time at institution (in years)		
0-5 years	32	47.76
5-10 years	18	26.87
10-15 years	7	10.45
15-20 years	4	5.97
20+years	6	8.96
Time dedicated to scholarship (% FTE)		
0-19%	43	73.13
20-39%	9	13.43
40-59%	5	7.46
60-79%	7	10.45
80-89%	3	4.48

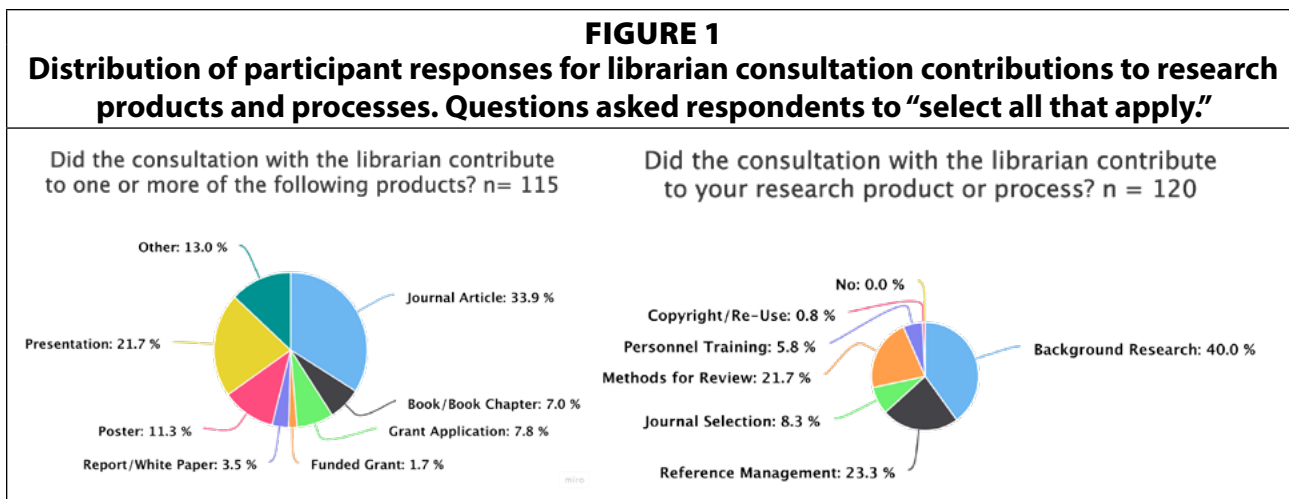
TABLE 2
Distribution of Response by Survey Question (n=67)

Survey Question	n	%
<i>The research consultation with the librarian achieved your desired purpose.</i>		
Agree	67	100
Disagree	0	0
<i>How satisfied were you with your latest one-on-one research interaction (e.g., research consultation, search strategy development) with the librarian?</i>		
Very Satisfied	51	76.12
Satisfied	14	20.9
Neutral	2	29.85
<i>Did you or would you do any of the following as a result of your interaction with the librarian? (Please select all that apply) (n = 174)</i>		
Return for your next project	56	83.58
Refer students/other learners to library/librarian	61	91.04
Refer other faculty to library/librarian	57	85.07
<i>Did you or do you plan to include the librarian as a co-author or in the acknowledgements of a publication or research product? (Please select all that apply) (n=71)</i>		
Yes, authorship	23	34.33
Yes, acknowledgement	22	32.84
No, neither	26	38.81

refer the library's services to other faculty, students, and learners (Appendix C). Faculty with 20-39 percent scholarship commitment, as well as those with 80-89 percent commitment stated that they would return and refer library services (Appendix C).

Faculty were also asked whether they included the librarian as a co-author or in their acknowledgements within scholarly products connected to a previous consultation (Table 2). Almost 39 percent of respondents said they had not or did not plan to do either. Of those who did give attribution to the librarian, the results were evenly divided with 34.33 percent providing the librarian with co-authorship and 32.84 percent with an acknowledgement. There was some variation in responses between schools and colleges; however, the data concerning faculty broken down by their percentage of scholarship commitment was more interesting (Appendix C). Approximately half (48.84 percent) of faculty with less than 19 percent research commitment did not or did not plan to give the librarian authorship or an acknowledgement in their scholarly product(s), while faculty with the highest percentage of scholarship commitment, 80-89 percent of their job contract, were the most likely to give authorship credit or an acknowledgement to the librarian (with 66.67% stating that they had done both). Finally, those with 40-59 percent scholarship commitment were the most likely to provide librarians with an authorship credit. Eighty percent stated that they had done so, with only one participant stating they had not provided authorship or an acknowledgement.

The online survey asked faculty if any of their scholarly products (e.g., journal articles, books or book chapters, grants, posters, presentations) or research processes (e.g., background for research, copyright or re-use permissions, journal selection) were influenced by the content covered during their consultation with a librarian (see Figure 1). Journal articles (33.91



percent) and presentations (21.74 percent) were the most common scholarly products that resulted from a research consultation. The same results occur when analyzed by school, years at the institution, and time dedicated to scholarship; however, contributions to grant applications (66.67 percent) were higher among faculty in the highest bracket of time dedicated to scholarship (Appendix C).

As noted in Figure 1, faculty respondents used research consultations to discuss background research (40 percent), to seek reference management assistance (23.33 percent), or to get help with review methodologies for systematic, scoping, or narrative reviews (21.67 percent). Consultations with librarians did not contribute much to research personnel training (5.83 percent), nor copyright or re-use permissions (0.83 percent). Those most likely to reach out for assistance with reference management were faculty employed by the institution for more than twenty years (66.67 percent), as well as faculty with 20-39 percent of their contractual time dedicated to scholarship (66.67 percent). Faculty who had been at the institution for over fifteen years were also more interested in discussing review methodologies (50 percent of both populations), as were those with 20-39 percent (44.44 percent) and 60-79 percent (71.43 percent) scholarship commitment (Appendix C).

Focus Group Results

Twelve faculty members, representing four of the five health sciences schools, participated in one of three forty-five-minute focus groups. Thematic analysis identified six themes with subthemes that describe various aspects of the consultative services (see Table 3). Themes included awareness of consultative services, value of librarian consultations, librarian expertise, librarian roles, barriers and facilitators, and faculty qualities.

Awareness of Consultative Services

Faculty who discussed awareness of consultative services described varied levels of understanding of the existence of the service, the scope of services offered, and what requests are reasonable to make of librarians. Participants who mentioned awareness of consultative services described a lack of awareness of potential services as well as a general uncertainty over how to interact with a librarian. Participants attributed general lack of awareness of library services either to previous training, which may have lacked interaction with librarians or emphasized reliance on individual resources or research, or an essential lack of realization

TABLE 3
Themes and subthemes from the focus groups

Themes	Subthemes	Representative statements*
Awareness of Consultative Services	Expectations	"I remember being unsure as to how to engage [the librarian] in the conversation ... because I'd never been trained that way. I don't know that I ever had that connection with ... librarians as a research resource." "I don't really know ... what I should be able to ask for, you know. I don't want to ask for something that's unreasonable ... I don't know whether it's appropriate for me to ask."
	Previous institutions	"I came from [another university] where we had a lot of ... research support, and so I'm used to accessing folks and to ... outsourcing work ... it was a natural fit."
Value of Librarian Consultations	n/a	"For those of us that are early academic clinicians, I think having early guidance from a librarian is extremely helpful because we are building on potential future grants, collecting pilot data, trying to fine-tune our skills. So early engagement, in my mind, should lead to more grants, potentially leading to promotion and tenure."
Librarian Expertise	n/a	"I've been really pleasantly impressed ... with the level of expertise and the ability to kind of speak my language because sometimes I come in there with weird stuff and [librarian] just makes sense of all my ramblings and I think that that ability to make sense of where my head is at has been really helpful and ... to help me frame my questions."
Librarian Roles	n/a	"I worked on a scoping review, which wasn't something I've done before, and you really sort of shepherd us through that project. That included, I think, five other faculty and several of them were very junior, so that was a great process. I also think that there's an organizational aspect to doing the work that was really helpful [and] even more than I expected ... I would get from a librarian." "... librarians are catalysts for scholarship."
Barriers & Facilitators	Proximity	"[The librarian] had an office that she kept right across from mine, so I think there was a ... natural alignment there, where it was just easy to access her."
	Time	"When I have a time crunch, I'm much more likely to do it myself than to ask for help. Because if I do it myself, I know I can get it done at 2:00 AM when I need it done as opposed to waiting for forty-eight hours for someone to help me."
	Early contact	"Early consultation with the librarian helps drive grants and efficient ideas ... if done early in the planning process, it helps lay a foundation for a manuscript outline, a background investigation, perhaps even some assistance with generating pilot data."
	Academic culture	"There is a bit of an ego checking that has to happen when you collaborate with people who are outside of your school or your discipline and I think sometimes acknowledging that can be challenging for some folks."

TABLE 3
Themes and subthemes from the focus groups

Themes	Subthemes	Representative statements*
Faculty	Clinical vs. research	"I'm a clinician and not much of a researcher ... I don't feel like I'm very good at accessing stuff. I feel like I'm a bit of a dinosaur because I've been a clinician for thirty years, but I've not been a researcher. And so sometimes I feel like I don't know how to find information." "... and I would make the argument that most medical faculty, certainly the clinicians, are not trained researchers. And so the pairing of a librarian with a clinician who's seeing patients and got their questions and ideas about things they want to do can be really powerful for developing scholarship and then lead to eventual dissemination."
	Early career vs. new to institution	"I think that for those of us that are early academic clinicians, having early guidance from a librarian is extremely helpful because we are building on potential future grants, collecting pilot data, trying to fine-tune our skills. Early engagement, in my mind, should lead to more grants, potentially leading to promotion and tenure. For interested, motivated, early career academic professionals, I think the librarian serves a very valuable role."
*Note: participant statements have been lightly edited for concision and readability.		

that librarians and library services to support research were available. The idea of uncertainty about how to approach a librarian and what is fair to ask of a librarian was often cited as an initial barrier to engagement.

Other faculty shared expectations of library services based on their experiences at previous institutions. This was most often expressed as expectations of a high level of research support available at a prior institution. Additionally, participants cited previous experience working with a librarian at another institution as establishing the expectation of available services at their current institution.

Value of Librarian Consultations

The benefits of consultations with a librarian that faculty members noted included the perceived value of the interaction, explicit statements about librarian efficiency, and comments regarding how the librarian's work contributed to the overall quality of a project. Some faculty saw the value of librarian consultations in terms of what was added to their work by librarians connecting them with library and institutional resources, and by building skills related to finding and using information. Other participants cited the potential of librarians to increase the quality of projects through methodologic knowledge, technical skills, outside perspective, or increased efficiency. Specifically, faculty who described the value of librarian consultations as stemming from an outside perspective indicated that an interdisciplinary point of view aided in brainstorming processes. Faculty describing a perceived increase in efficiency most often couched this in terms of time and effort savings attributed to the specific expertise of librarians.

Librarian Expertise

Faculty often characterized librarian expertise as the possession of disciplinary knowledge and the ability to handle complex requests. They cited this expertise as assisting them in developing research ideas, advising on methodologies, and undertaking complex projects. Faculty members frequently cited the disciplinary knowledge of librarians not only as a hallmark of their expertise but also of their utility to faculty. Based on the librarian's existing knowledge of a field of research, participants specifically felt that librarians were able to quickly contextualize questions or ideas, give useful feedback, or reduce time spent explaining the context by the faculty member.

Other faculty members cited the technical expertise of librarians as allowing them to contribute in various ways to complex projects. This expression of the complex nature of requests handled by librarians during consultations extended from the ability to meet unexpressed needs, to translating information requests across multiple disciplines and resources, and exhibiting leadership in the execution of complicated projects, such as systematic reviews.

Librarian Roles

Faculty often referred to the role the librarian played in past consultations. These ranged from more transactional roles, such as that of an instructor leading a guest lecture, to more participatory roles, such as that of a collaborator or facilitator of faculty work.

Several faculty members referred to the role of librarians outside of consultations or resulting from consultations as guest lecturers in their classes, especially for graduate and professional students. This was often in the context of supporting the development of student research skills and also occurred when faculty members referred students to a librarian for consultation on various assignments and projects related to acquiring research skills.

Similarly, faculty cited librarians as key collaborators on teams for research and evidence synthesis projects. In the case of evidence synthesis projects, librarians were described both as an essential element of the methods and as shepherding a team through the process. Three participants discussed collaboration as the longitudinal development of a relationship with the librarian to the point where recurring consultations become the standard for how some projects were conducted. Further, two faculty members described the role of librarian as that of a facilitator or catalyst of research in terms of building new connections, solidifying teams, and identifying available research support across the institution.

Barriers and Facilitators

Faculty identified factors that may positively or negatively influence the consultation process and/or their decision to seek assistance from librarians. Librarians and faculty members both contributed to barriers and to facilitation. For example, one focus group participant indicated that physical proximity was enough to facilitate access and to provide a reminder of the availability of library services. In contrast to other faculty members who discussed time in terms of efficiency when seeking assistance from a librarian, one participant indicated that time could also be a deterrent. This faculty member felt that, in cases of a time crunch, they were more likely to attempt the task themselves rather than reach out to a librarian either because they didn't want to impose an unreasonable deadline on someone else, or because they felt the task could not be delayed.

Several faculty cited early contact with a librarian, either in their career or in their time at an institution, as facilitating future consultations. Participants described early orientation and connections to research support services, as well as research question development as specific benefits of early contact with librarians. Faculty members who repeatedly consulted with a librarian cited the value of continuity or consistency in having a single individual to support their research across projects and years.

Interestingly, multiple participants in the focus groups identified academic culture as a barrier to scheduling or participating fully in librarian consultations. One faculty member described it as “ego checking,” that is, leaving behind the assumptions of one’s academic discipline to collaborate with an interdisciplinary professional. Another faculty member described a similar phenomenon in terms of stepping outside of the disciplinary norms into which they had been trained to engage with a librarian.

Faculty Qualities

Faculty expressed inherent differences in how their roles and experiences at the university influenced their interactions with librarians. Faculty described their orientation to research based on their role as either clinical or research faculty. Faculty members expressed that clinicians, who typically have undergone little formal research training or may be far removed from any baseline research training due to clinical responsibilities, may greatly benefit from the support of librarians. Further, one participant described a feeling of being overlooked in favor of PhD-trained researchers when it comes to research support. Research faculty, on the other hand, described librarian consultative services as a time-saver for them, or as a training opportunity for their students to establish good habits around finding and organizing information early on in their careers.

Focus group participants also noted that their experiences with the library may have been influenced by their identity as a new-career academic or as a seasoned faculty member new to the institution. Both early-career and new-to-the-institution faculty members noted that meeting with a librarian as part of a consultation was essential in orienting them to library resources and research support services within the wider university. Early career faculty, or those reflecting on their early career, described early consultation with a librarian as essential to skill-building and ideation around research goals, as well as to orienting them to research support and information resources. Two participants preferred that contact with a librarian occur earlier in their time at the institution and/or as part of the orientation and on-boarding process.

Discussion

The present study examined the ways in which health sciences faculty perceive research consultations with librarians as well as how these consultations impact faculty research productivity and dissemination. Qualitative data from faculty focus groups contributed to a more detailed understanding of survey results. The focus groups comprised a similarly uneven distribution of faculty members from the schools compared to the survey sample. The School of Medicine was overrepresented in both the survey and focus groups, and there was no representation from the School of Dentistry in the focus groups. The following discussion of results incorporates findings from both sets of data. The results of this study should be considered in light of the goal of assessment and program evaluation and should be considered neither research nor generalizable.

The results of this study provide the local institution with a better understanding of consultative services and a clearer picture of heavy consultation users. Librarians are predominantly consulting with new faculty, including those who have been at the institution for zero to five years, as well as those who have a lower contractual commitment to produce scholarship. Librarian consultations contribute to traditional research products (i.e., journal articles and presentations) and research processes (i.e., background research, reference management, and review methodologies). In addition, the data suggests that faculty return to consultative services or refer consultative services to students and other faculty. These results may give librarians a greater appreciation for the importance of explicitly educating faculty on the wide range of services typically performed by librarians as a way to lower perceived thresholds for engaging with a librarian. Additionally, these findings illuminate factors that may encourage or discourage faculty utilization of librarian consultative services, including the value of outside expertise or perspective to research and the idiosyncrasies of academic culture.

One of the main themes that emerged from the focus groups was a lack of awareness amongst faculty concerning librarian expertise, the extent of library services, and the role librarians play in the research process. Almost 50 percent of survey respondents had been at the institution for fewer than five years, which indicates that new faculty are finding library services. However, focus group discussions made it clear that participants' discovery of library services was often happenstance, and that more should be done during faculty onboarding to explicitly state how a librarian can and does interact with faculty. Librarians need to do more than show up and present at new faculty orientations, however. In particular, proximity to faculty was mentioned in the focus groups as a way for librarians to be physically present. Existing literature on embedded librarianship suggests that co-locating librarians with their users increases the visibility of librarians as well as their understanding of the discipline in which they are embedded, and encourages faculty to not view librarians as outsiders.¹¹ Echoing these findings, research on collaboration has found that physical proximity reduces barriers based on professional boundaries and can assist in developing collaboration.¹² The results of this study, compounded with additional results from the literature, indicate that librarians need to be more transparent about the scope of services offered, and to communicate clearly what is and is not within the bounds of librarian work.¹³

Transparency is key because new faculty arrive at an institution with a wide range of experiences. Some arrive fresh out of graduate or professional school, others enter with years of experience in a clinical or community setting; their level of research experience varies, as do their experiences working with librarians at previous institutions. In this study, focus group participants ran the gamut concerning their research and library experiences before arriving at the institution. A few participants indicated that, upon arrival, they did not know the correct way to reach out for help, were worried about "bothering" librarians, or were worried about being judged (e.g., "I don't want them to think I don't know what I'm doing"). These findings agree with those from a survey conducted at James Madison University, which found that faculty respondents expressed emotional distress, a shyness, or a lack of confidence when asking questions of librarians.¹⁴ Others in the focus groups indicated that working with a librarian was "a natural fit" because they had come from another university "where we had a lot of ... research support." Ultimately, these findings and the research literature suggest that faculty perceptions of librarians, including their awareness of librarian services and skills, are primarily informed by past experiences.¹⁵ Librarians must therefore consider this context

when meeting with new faculty and should strive to learn about these prior experiences.

Learning about a faculty member's past experiences and expressly communicating their service offerings may create additional work for individual librarians; however, this initial investment of time and effort will likely have several benefits. For example, survey and focus group results indicate that building relationships with faculty members has, over time, led to increased collaborative opportunities. In addition, this work builds trust between librarians and returning faculty, as indicated by the high survey numbers associated with returns and referrals. Faculty explicitly stated that "a lot of us work with [the librarian] and that's kind of the norm, we encourage each other to do it."

While this study did not examine librarian perceptions of their work with faculty, the literature shows how increased collaboration may contribute to a librarian's work performance. For instance, a 2017 study by Bedi and Walde concluded that librarians who became ingrained as equal members on research teams often felt more engaged in their own personal research as well as the overall library profession. Librarians perceived they had established "more meaningful and lasting relationships" with faculty and that their collaborative opportunities had led to "a total transformation of their everyday work as librarians."¹⁶ In this current study, results indicated that lack of awareness may contribute to lower librarian co-authorship and acknowledgement credits. The survey showed that new faculty were the least likely to include librarians as co-authors or provide them with an acknowledgement in a scholarly product. It is possible that new faculty not only lack the awareness of the extent that librarians can help but that, once new faculty receive that help, that they do not know that they can or should give credit to librarians in the form of an acknowledgment or co-authorship. It has been proven, however, that this understanding among faculty can be enhanced over time. In a 2020 study, Borrego and Pinfield found that some faculty who published with librarian co-authors in journals outside library and information science had always granted co-authorship, but in other cases "initial partnerships were just acknowledged or received no recognition until, progressively, librarians became part of the authorial team."¹⁷ Ultimately, these findings, combined with the results of the current study, indicate that relationships between librarians and faculty grow as faculty become aware and experience the benefits of librarian contributions. Therefore, taking the time to be explicit about the services librarians offer, as well as having conversations early on about co-authorship or acknowledgement expectations, is important and may lead to opportunities for librarians to build professional experience and to grow as scholars.

The importance of communicating clearly about library services emerged as a theme in the focus groups specifically regarding the differences between research and clinical faculty about their research needs and their perceptions of library services. Researchers in the basic sciences, for example, have been shown to use library resources heavily as part of their research process without relying on traditional services, such as consultations with librarians.¹⁸ Faculty with primarily clinical responsibilities on the other hand, while often interested in pursuing research, face a number of barriers to both building research skills and conducting research projects.¹⁹ In addition, clinicians and researchers often have very different approaches to research and to using the library due to the years of siloed training and experience required to fulfill their primary role.²⁰ Taken on the whole, these findings suggest that librarians need to tailor their messages to researchers as a broad group. They should invest additional effort into assessing the specific needs of special populations of researchers to appropriately speak to a diverse population.

Another key finding from this project is the importance faculty placed on the expertise of the librarian. This study found that faculty are referring their colleagues as well as their students to librarian consultative services. Faculty are also returning for consecutive projects; one focus group respondent even stated that they “can’t remember the last project [they] did that [they] didn’t meet [with the librarian].” Such referrals and repeat collaborations may prove faculty recognition of librarian expertise, as faculty would not return or refer others to a librarian if they did not value the librarian’s services themselves.

Viewing the use of consultative services as recognition of librarian expertise may give insight into why some populations use traditional services while others do not. As one focus group participant noted, consulting with a librarian as a professional outside of their discipline required “ego checking.” This ability to put aside professional identity or ego has been cited as an antecedent of interdisciplinary collaboration as it demonstrates a respect for and trust in other professionals.²¹ Other research suggests that a willingness or predisposition to collaborate may be informed by organizational culture, in this case that of academia. Librarians interact with faculty members rooted in strong disciplinary or professional identity. The educational systems that train these faculty spend considerable time developing the identity of the faculty member as a researcher, clinician, or academic within their own field often to the detriment of training on the skills and roles of other professionals.²² Further, cultures that prize autonomy tend to promote individualism rather than collaboration, suggesting that training and practice in a field of individuals may inhibit collaborative behavior, including consulting with librarians.²³

However, this is not where the significance of this finding ends. Not only did faculty believe librarian expertise was important, they also acknowledged the specifics of that expertise. As mentioned in the results, focus group participants identified librarian expertise as the possession of disciplinary knowledge and the ability to handle complex requests. Survey results indicated that many faculty understood librarians to be experts in research methodologies, especially concerning systematic, scoping, and literature reviews, and set up consultations specifically to address faculty lapse in knowledge of this topic. These findings are especially important considering the recent literature demonstrating that faculty and students acknowledge librarians’ expertise but struggle to explain what that expertise encompasses.²⁴ This project indicates that faculty can indeed describe the particulars of librarian expertise and that librarians may not be as misunderstood as previously thought.

Limitations

Several limitations are present in this study of faculty and their perceptions of research consultations with librarians. Concerning the methods, there are threats to the transferability or generalizability of this work. Participants were collected from a sample of known users of the research consultation service. Furthermore, participants self-selected; therefore, only participants who chose to respond to the survey or volunteered to participate in a focus group were included in the final sample. Application of the findings to the entire population of faculty at the institution, and to faculty members in academia more generally, is not possible.

Next, survey responses were unbalanced between the schools on the health sciences campus. The School of Medicine was over-represented in aggregate results; therefore, it is important to examine the results of each question by school or college (Appendix C). In the focus groups, representation across the schools and college on the health sciences campus

were similarly unbalanced. Additionally, as the participants self-selected, it was impossible to shape the mix of demographics factors, such as time at the university or status as primarily a researcher or clinician, represented in the focus groups. These imbalances have the potential to skew the results heavily towards a single group. Also, the authors, who conducted the focus groups, are liaisons to two of the schools and work with a few of the faculty who participated. Serving as both moderator and liaison creates the possibility of bias being introduced in the facilitation of the focus groups, responses of focus group participants with whom the authors had existing relationships, and analysis of the transcripts.

Conclusion

This project examined research consultations with librarians by engaging with health sciences faculty to better understand their perception of the interaction and its potential impact on their research processes. While there are some limitations to the approach employed in this study, the findings could be useful to librarians and library administrators hoping to better understand their own consultation services. The data collected from surveys and focus groups demonstrated that librarians need to remain focused on building trust and creating meaningful relationships with faculty by being explicit and transparent about the work librarians do. Librarians also need to acknowledge that there can be significant diversity within user groups which necessitates targeted communication to facilitate research. While this project was designed as an institutional program evaluation effort, there are several implications for areas of future research including: examining non-users' perceptions of research consultations with librarians, defining the value of a research consultation, determining how value may translate to referrals to a librarian, and understanding usage patterns across specific demographic groups among faculty.

Appendix A.

Survey Questions

1. The research consultation with the librarian achieved your desired purpose.
Agree / Disagree
2. How satisfied were you with your latest one-on-one research interaction (e.g., research consultation, search strategy development) with the librarian?
Very Unsatisfied / Unsatisfied / Neutral / Satisfied / Very Satisfied
3. Did the consultation with the librarian contribute to one or more of the following products?
(Please select all that apply)
 - ☐ Journal article
 - ☐ Book or book chapter
 - ☐ Grant application
 - ☐ Funded grant
 - ☐ Technical report or white paper
 - ☐ Academic poster
 - ☐ Scholarly presentation
 - ☐ Other
4. Did the consultation with the librarian contribute to your research product or process in one or more of the following ways? (Please select all that apply)
 - ☐ Background for research
 - ☐ Reference management
 - ☐ Journal selection
 - ☐ Methodology for review article (e.g., scoping, systematic, narrative, etc.)
 - ☐ Research personnel training
 - ☐ Copyright or re-use permissions (e.g., for images, tables, or figures)
 - ☐ No
 - ☐ Other
5. Did you or do you plan to include the librarian as a co-author or in the acknowledgements of a publication or research product? (Please select all that apply)
 - ☐ Yes, authorship
 - ☐ Yes, acknowledgement
 - ☐ No, neither
6. Did you or would you do any of the following as a result of your interaction with the librarian? (Please select all that apply)Return for your next project
 - ☐ Refer students or other learners to the library or librarian
 - ☐ Refer other faculty to the library or librarian
 - ☐ Other

Appendix B.

Focus Group Questions

1. What influenced you to / made you want to reach out to a librarian for a research consultation? What sparked the initial consultation?
2. What is your experience with librarian research consultations?
 - a. What could have been improved?
 - b. What went particularly well?
3. How did your interaction with the librarian help you achieve the goal of your research / scholarship / project?
4. When you have similar projects, do / would you contact a librarian again for a consultation?
 - a. When you don't, why not?
5. What factors determine whether or not you engage with a librarian on future projects?
6. Have you referred a librarian's services to others? If so, what influenced your decision to refer to others?
7. (Cut if necessary) Suppose you had one minute to talk to your Dean/Department Chair/colleague about the merits/effectiveness of the consultation service. What would you say?
8. Exit—Is there anything else you would like to say about your experiences consulting with librarians?

Appendix C.

Additional Tables

Survey Question: Did you or would you do any of the following as a result of your interaction with the librarian? (Please select all that apply)			
School Results:	Return for your next project	Refer students/ other learners to library/librarian	Refer other faculty to library/ librarian
CHP (n=7)	5 (71.43%)	7 (100%)	5 (71.43%)
Dentistry (n=6)	4 (66.66%)	5 (83.33%)	4 (66.66%)
Medicine (n=28)	25 (89.29%)	24 (85.71%)	26 (92.86%)
Nursing (n=21)	18 (85.71%)	21 (100%)	18 (85.71%)
Pharmacy (n=4)	4 (100%)	4 (100%)	4 (100%)
Time at the institution (years)	Return for your next project	Refer students/ other learners to library/librarian	Refer other faculty to library/ librarian
0-5 (n=32)	26 (81.25%)	31 (96.88%)	27 (84.38%)
5-10 (n=18)	18 (100%)	18 (100%)	18 (100%)
10-15 (n=7)	5 (71.43%)	4 (57.14%)	5 (71.43%)
15-20 (n=4)	4 (100%)	3 (75%)	3 (75%)
20+ (n=6)	3 (50%)	5 (83.33%)	4 (66.67%)
Time dedicated to scholarship (% FTE)	Return for your next project	Refer students/ other learners to library/librarian	Refer other faculty to library/ librarian
0-19% (n=43)	35 (81.4%)	38 (88.37%)	35 (81.4%)
20-39% (n=9)	9 (100%)	9 (100%)	9 (100%)
40-59% (n=5)	4 (80%)	4 (80%)	4 (80%)
60-79% (n=7)	5 (71.42%)	7 (100%)	6 (85.71%)
80-89% (n=3)	3 (100%)	3 (100%)	3 (100%)

Survey Question: Did you or do you plan to include the librarian as a co-author or in the acknowledgements of a publication or research product? (Please select all that apply)			
School	Yes, authorship	Yes, acknowledgement	No, neither
CHP (n=7)	3 (42.86%)	4 (57.14%)	2 (28.57%)
Dentistry (n=6)	1 (16.67%)	2 (33.33%)	4 (66.67%)
Medicine (n=28)	9 (32.13%)	7 (25%)	13 (46.43%)
Nursing (n=21)	7 (33.33%)	8 (38.1%)	6 (28.58%)
Pharmacy (n=4)	3 (75%)	1 (25%)	0 (0%)
Time at the institution (years)	Yes, authorship	Yes, acknowledgement	No, neither
0-5 (n=32)	9 (28.13%)	11 (34.38%)	14 (43.75%)
5-10 (n=18)	7 (38.89%)	7 (38.89%)	4 (22.22%)
10-15 (n=7)	2 (28.57%)	1 (14.29%)	4 (57.14%)
15-20 (n=4)	3 (75%)	1 (25%)	1 (25%)
20+ (n=6)	2 (33.33%)	2 (33.33%)	3 (50%)
Time dedicated to scholarship (% FTE)	Yes, authorship	Yes, acknowledgement	No, neither
0-19% (n=43)	10 (23.26%)	12 (27.91%)	21 (48.84%)
20-39% (n=9)	3 (33.33%)	6 (66.67%)	1 (11.11%)
40-59% (n=5)	4 (80%)	2 (40%)	1 (20%)
60-79% (n=7)	4 (57.14%)	0 (0%)	3 (42.86%)
80-89% (n=3)	2 (66.67%)	2 (66.67%)	0 (0%)

Survey question:

**Did the consultation with the librarian contribute to one or more of the following products?
(Please select all that apply)**

School	Journal Article	Book/ Book Chapter	Grant Application	Funded Grant	Report/ White Paper	Poster	Presen- tation
CHP (n=7)	4 (57.14%)	1 (8.16%)	0 (0%)	0 (0%)	2 (28.75%)	2 (28.75%)	4 (57.14%)
Dentistry (n=6)	3 (50%)	1 (16.67%)	0 (0%)	0 (0%)	1 (16.67%)	2 (33.33%)	0 (0%)
Medicine (n=28)	14 (50%)	5 (17.89%)	6 (21.43%)	2 (7.14%)	0 (0%)	4 (14.29%)	11 (39.29%)
Nursing (n=21)	15 (71.43%)	1 (4.76%)	2 (9.52%)	0 (0%)	1 (4.76%)	3 (14.29%)	9 (42.86%)
Pharmacy (n=4)	3 (75%)	0 (0%)	1 (25%)	0 (0%)	0 (0%)	2 (50%)	1 (25%)
Time at the institution (years)	Journal Article	Book/ Book Chapter	Grant Application	Funded Grant	Report/ White Paper	Poster	Presen- tation
0-5 (n=32)	17 (53.13%)	3 (9.38%)	4 (12.5%)	1 (3.13%)	1 (3.13%)	4 (12.5%)	7 (21.88%)
5-10 (n=18)	12 (66.67%)	2 (11.11%)	3 (16.67%)	0 (0%)	1 (5.56%)	5 (27.78%)	12 (66.67%)
10-15 (n=7)	5 (71.43%)	1 (14.29%)	1 (14.29%)	0 (0%)	0 (0%)	2 (28.57%)	4 (57.14%)
15-20 (n=4)	2 (50%)	0 (0%)	0 (0%)	0 (0%)	1 (25%)	1 (25%)	1 (25%)
20+ (n=6)	3 (50%)	2 (33.33%)	1 (16.67%)	1 (16.67%)	1 (16.67%)	1 (16.67%)	1 (16.67%)
Time dedicated to scholarship (% FTE)	Journal Article	Book/ Book Chapter	Grant Application	Funded Grant	Report/ White Paper	Poster	Presen- tation
0-19% (n=43)	22 (51.16%)	4 (9.3%)	4 (9.3%)	1 (2.33%)	2 (4.65%)	9 (20.93%)	17 (39.53%)
20-39% (n=9)	7 (77.78%)	4 (44.44%)	1 (11.11%)	0 (0%)	1 (11.11%)	2 (22.22%)	4 (44.44%)
40-59% (n=5)	3 (60%)	0 (0%)	0 (0%)	0 (0%)	1 (20%)	1 (20%)	2 (40%)
60-79% (n=7)	5 (71.43%)	0 (0%)	2 (28.57%)	0 (0%)	0 (0%)	1 (14.29%)	1 (14.29%)
80-89% (n=3)	2 (66.67%)	0 (0%)	2 (66.67%)	1 (33.33%)	0 (0%)	0 (0%)	1 (33.33%)

Survey Question: Did the consultation with the librarian contribute to your research product or process in one or more of the following ways? (Please select all that apply)							
School	Back-ground Research	Reference Management	Journal Selection	Methods for Review	Research personnel training	Copyright/ Re-Use	No
CHP (n=7)	4 (57.14%)	2 (28.75%)	2 (28.75%)	4 (57.14%)	2 (28.75%)	0 (0%)	0 (0%)
Dentistry (n=6)	2 (33.33%)	2 (33.33%)	3 (50%)	2 (33.33%)	0 (0%)	0 (0%)	0 (0%)
Medicine (n=28)	23 (82.14%)	16 (57.14%)	1 (3.57%)	11 (39.29%)	3 (10.71%)	1 (3.57%)	0 (0%)
Nursing (n=21)	16 (76.19%)	6 (28.57%)	4 (19.05%)	6 (28.57%)	0 (0%)	0 (0%)	0 (0%)
Pharmacy (n=4)	2 (50%)	2 (50%)	0 (0%)	3 (75%)	2 (50%)	0 (0%)	0 (0%)
Time at the institution (years)	Back-ground Research	Reference Management	Journal Selection	Methods for Review	Research personnel training	Copyright/ Re-Use	No
0-5 (n=32)	21 (65.63%)	13 (40.63%)	5 (15.63%)	12 (37.5%)	1 (3.13%)	0 (0%)	0 (0%)
5-10 (n=18)	17 (94.44%)	6 (33.33%)	3 (16.67%)	7 (38.89%)	3 (16.67%)	1 (5.56%)	0 (0%)
10-15 (n=7)	3 (42.86%)	2 (28.57%)	1 (14.29%)	2 (28.57%)	2 (28.57%)	0 (0%)	0 (0%)
15-20 (n=4)	4 (100%)	3 (75%)	0 (0%)	2 (50%)	0 (0%)	0 (0%)	0 (0%)
20+ (n=6)	3 (50%)	4 (66.67%)	1 (16.67%)	3 (50%)	1 (16.67%)	0 (0%)	0 (0%)
Time dedicated to scholarship (% FTE)	Back-ground Research	Reference Management	Journal Selection	Methods for Review	Research personnel training	Copyright/ Re-Use	No
0-19% (n=43)	31 (72.09%)	16 (37.21%)	8 (18.6%)	12 (27.91%)	5 (11.63%)	1 (2.33%)	0 (0%)
20-39% (n=9)	8 (88.89%)	6 (66.67%)	1 (11.11%)	4 (44.44%)	0 (0%)	0 (0%)	0 (0%)
40-59% (n=5)	4 (80%)	2 (40%)	0 (0%)	4 (80%)	0 (0%)	0 (0%)	0 (0%)
60-79% (n=7)	3 (42.86%)	3 (42.86%)	1 (14.29%)	5 (71.43%)	2 (28.57%)	0 (0%)	0 (0%)
80-89% (n=3)	2 (66.67%)	1 (33.33%)	0 (0%)	1 (33.33%)	0 (0%)	0 (0%)	0 (0%)

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