

“Death of social encounters”: Investigating COVID-19’s initial impact on virtual reference services in academic libraries

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Abstract

This investigation explores the initial impact of the COVID-19 pandemic on live chat virtual reference services (VRS) in academic libraries and on user behaviors from March to December 2020 using Goffman’s theoretical framework (1956, 1967, 1971). Data from 300 responses by academic librarians to two longitudinal online surveys and 28 semi-structured interviews were quantitatively and qualitatively analyzed. Results revealed that academic librarians were well-positioned to provide VRS as university information hubs during pandemic shutdowns. Qualitative analysis revealed that participants received gratitude for VRS help, but also experienced frustrations and angst with limited accessibility during COVID-19. Participants reported changes including VRS volume, level of complexity, and question topics. Results reveal the range and frequency of new services with librarians striving to make personal connections with users through VRS, video consultations, video chat, and other strategies. Participants found it difficult to maintain these connections, coping through grit and mutual support when remote work became necessary. They adapted to challenges, including isolation, technology learning curves, and disrupted work routines. Librarians’ responses chronicle their innovative approaches, fierce determination, emotional labor, and dedication to helping users and colleagues through this unprecedented time. Results have vital implications for the future of VRS.

In mid-March of 2020, the COVID-19 pandemic response forced most colleges and universities across the United States to send students, faculty, and staff home to shelter in place. Amid spiking numbers of infections, there ensued widespread confusion and ongoing disruption of normal operations while classes migrated online. It gradually became apparent that there would not be a return to campuses after spring break, or, as it came to pass, for the entire spring semester and additional semesters to come.

Academic libraries swiftly moved all previously in-person assistance to online modes, expanding or quickly adding virtual reference services (VRS) (Hinchliffe & Wolff-Eisenberg, 2020a, 2020b). The transition to fully online service delivery was accelerated by the need for individuals to socially distance to “flatten the curve” of the pandemic’s spread (Halle, 2020). Librarians and staff strove to continue to provide quality user services during this period of uncertainty, fear, and physical isolation. Based on

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analysis of data that was collected from July 2020 through December 2020 via two nationwide longitudinal surveys and 28 interviews, this article provides a unique and in-depth snapshot of the experiences of academic librarians providing VRS during this extraordinary time (note that throughout this paper, VRS is used interchangeably with live chat). This research was designed to chronicle how academic libraries pivoted service delivery to respond to the challenges of the pandemic, as well as to capture the experiences and observations of librarians working in the front lines of VRS amidst circumstances that transcended previous experience or imagined futures.

Fortunately, nearly all academic libraries had established robust VRS before the pandemic. A 2018 survey of Association of Research Libraries' websites found that 91% of the sample offered some form of VRS (Catalano et al., 2018). Connaway et al. (2011) confirmed that convenience, ease of use, and availability at point of need were major drivers of VRS uptake. However, moving to exclusively virtual settings, without the affordances of library spaces and in-person services, and addressing the needs of users in this evolving context represented a significant change for library practice and broad policy. Despite extensive online services already in place in most academic libraries, developing an all-encompassing comprehensive service response represented a unique challenge.

Through two longitudinal surveys and interviews with librarians responsible for adapting to physical service closures or reductions, this investigation explores the impact of the COVID-19 pandemic on live chat VRS, including how academic librarians initiated, continued, or expanded VRS; what crisis planning and policies were in place; how volume and questions changed; how users responded; and how workplaces and services changed as in-person interactions became limited or unfeasible through the spring and winter of 2020.

1 | LITERATURE REVIEW AND THEORETICAL FRAMEWORK

COVID-19's onset in mid-March, 2020 had an immediate and significant impact on the functional status of academic libraries that required a dynamic expansion of VRS to meet shifting user needs (Radford et al., 2021). Three early pandemic surveys by Hinchliffe and Wolff-Eisenberg (2020a, 2020b, 2020c) document transitions from in-person to remote operations in academic libraries. By September, 2020, only "about a quarter" of 875 survey respondents were offering in-person reference services (Hinchliffe & Wolff-Eisenberg, 2020c). This dramatic transformation is evident in case studies, for example, Mehta and Wang (2020) identified issues at

Bridgewater State University, MA, including increased use of VRS and live chat, marketing and communication, ensuring continuing collection access, and re-structuring remote reference schedules. While the university library stayed partially open for a reduced population of on-campus students, all librarians moved fully online. The Chinese University of Hong Kong (Ma, 2020) similarly shifted services, introducing self-checkouts and video chat to replace in-person reference. Askew et al. (2020) provide updates from eight academic and public libraries in Georgia whose diverse service responses featured innovative online programming for information and wellness, technology lending programs, and video and other VRS. Tranfield et al. (2020) outline UCLA libraries' response in adapting internal communication and external instruction to video, expanding access to e-collections, and developing online workshops and video tutorials.

Academic librarians were also grappling with changes to institutional service contexts. Anderson et al. (2021) found significant increases in librarian's perception of complexity and difficulty in VRS encounters, perhaps from inadequate VRS training, experience, or appropriate technology. Brown (2020) argued from a feminist standpoint that tensions between gendered service structures and necessary closing of service points contributed to "mental anguish" for practitioners and that moving toward creative practices and innovations could ensure flexible transitions in future crises (p. 103). Todorinova's (2021) survey found that librarians reported changes to library budget structures, decision-making, and services. It also identified increased stress and decreased research productivity on the part of librarians.

Several authors pinpoint service challenges that changed priorities or structures in moving to VRS. Pionke (2020) highlighted accessibility issues including compatibility, and equitable access to technology and collections. Lo et al. (2020) described an internal job bank at Pennsylvania State University to redistribute technology work to staff. Ohler and Pitts (2021) and Tavernier (2020) discussed invigorated interest in open access, prompted by restrictions on physical collections. Finally, Tomlinson and Leebaw (2020) focused on changes to organizational structures, particularly difficulties surrounding communication as a library middle manager during the pandemic. Clearly, along with surface changes to expand VRS and remote instruction, deeper and more widespread structural changes occurred within academic libraries foreshadowing the possibility of permanent shifts in the long tail of the pandemic.

This research is theoretically framed by Goffman's (1956, 1959, 1967, 1971) face-work and impression management constructs. Goffman draws our attention to relational, interpersonal aspects of encounters and to the importance of context in how we understand and experience these encounters. One important construct

underpinning this research is Goffman's (1967) idea of face-work. He wrote "Much of the activity occurring during an encounter can be understood as an effort on everyone's part to get through the occasion and all the unanticipated and unintentional events that can cast participants in an undesirable light, without disrupting the relationships of the participants" (p. 41). Although Goffman's work predated virtual modes such as live chat, his concepts have been successfully applied to the VRS environment. Connaway and Radford (2011) and Radford (2006) applied Goffman's frame to VRS interactions and found that these encounters have both content/information as well as relational/interpersonal dimensions. These relational aspects, including the rule of deference (Goffman, 1956), are critically important to the user's perceptions of success in VRS (Radford & Radford, 2016), especially during crisis. Deference acts signify appreciation and respect, such as politeness rituals, (e.g., "thank-you" messages) and are vital in establishing and maintaining strong interpersonal connections in VRS (Radford et al., 2011). When these rituals are ignored or perverted, Goffman (1967) calls these "face-threats," which must be repaired through apologies, or other corrective processes, least they damage relationships, sometimes irreparably.

With Goffman's approach in mind, this research focuses on VRS leaders' perceptions of interpersonal communication during COVID-19's early days. Its goals are to understand the pandemic's impact on relationships between librarians and stakeholders (such as students, faculty, staff, administrators, and colleagues), as well as on question complexity, topics, volume, and on service quality, and to develop an understanding of overall trends and changes to VRS in US academic libraries. The following research questions were developed to investigate these issues:

RQ1. What has been the impact on academic live chat reference services of the COVID-19 pandemic?

RQ2. How have questions to live chat VRS changed during the pandemic?

RQ3. What changes have taken place, if any, during the pandemic in the experience of live chat VRS encounters, especially relating to relational aspects from librarians and service users?

2 | METHOD

Data were collected during the COVID-19 pandemic using two simultaneous methods: (a) a two-phase longitudinal online survey of 300 academic librarians directing or

engaged in VRS and (b) 28 semi-structured qualitative interviews with academic librarians who have direct responsibility for VRS (e.g., Heads of Reference or of VRS, Associate Directors for User Services) (see Appendix A for Survey Questions and Appendix B for Interviews Questions). Survey 1 was open from 22 July, 2020, to 5 August, 2020. It focused on the period of March 2020 to July 2020, from the shut-down in Mid-March into mid-summer. Survey 2 ran from 1 December, 2020, to 23 December, 2020 and focused on late summer through fall semester (August 2020 to 1 December 2020). Between the two survey data collections, the three authors conducted 28 semi-structured interviews, from 29 September, 2020, to 18 November, 2020, via video conferencing software. Interview and survey participants included university, college, and community college librarians predominantly from the United States. Participants were recruited through academic librarian listservs, library websites, personal contacts, and snowball sampling. Survey participants could take both surveys and were compensated by opting into a random lottery for four \$50 gift cards. Each interview participant was compensated with a \$30 gift card.

Both surveys were developed using Qualtrics software and featured demographic, quantitative, and open-ended qualitative questions, centered on changes that occurred in academic library reference, especially virtual and live chat services, due to the COVID-19 pandemic. These included existing service changes, new initiatives, staffing, professional practice, technology, and changes in reference queries related to frequency, topics, and complexity. Additionally, information was gathered on relational/interpersonal dimensions in VRS encounters relating to participants' experiences and those of the students, faculty, staff, and other service users. Quantitative data analysis, including descriptive statistics, was computed through use of Qualtrics and SPSS software. The authors coded the qualitative survey data using the constant comparative method (Charmaz, 2014), including iterative open coding to identify themes and illustrative quotations. A shared codebook was developed cooperatively, reflecting both emic (from Goffman's theoretical frame) and etic (from participant's data) concepts.

Interviews were designed to gather more in-depth information in the above areas, lasted approximately 1–1.5 hr, and were recorded via conferencing software (i.e., Zoom and WebEx) and through notetaking. Through iterative review of the video recordings, the three authors created transcripts, coded the qualitative data, and captured verbatim quotes, in a manner similar to the analysis of the qualitative survey data. Each survey participant (SP) and interview participant (IP) was randomly assigned a number to preserve privacy. Also, all direct quotes below, in the results section, are verbatim.

TABLE 1 Responses relating to user communication style, politeness, and relationship for the question: “Did you observe any of the following changes to user behavior on VR chat as a result of the pandemic response?”

User communication changes	Survey 1 (<i>n</i> = 147)	Survey 2 (<i>n</i> = 153)	Total (<i>n</i> = 300)
Changes to user communication style	20 (13.6%)	37 (24.2%)	57 (19%)
Positive changes	n/a	29	
Negative changes	n/a	8	
Changes to user politeness	19 (12.9%)	36 (23.5%)	55 (18.3%)
Positive changes	n/a	25	
Negative changes	n/a	11	
Changes to the relationship between chat providers and users	18 (12.3%)	34 (22.2%)	52 (17.3%)
Positive changes	n/a	30	
Negative changes	n/a	4	

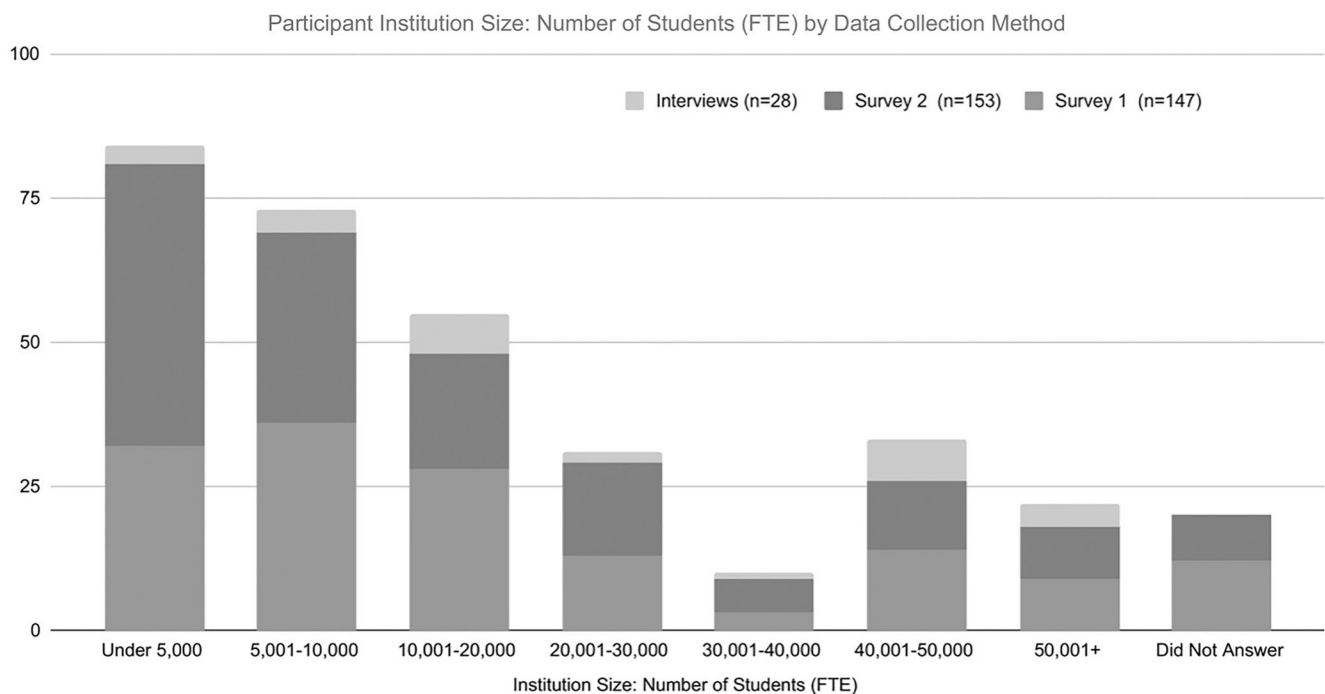


FIGURE 1 Participant's institution size by number of students

NVivo software was used to aid analysis, due to the length of the interview transcripts, and ease of computing intercoder reliability, which was calculated at 97.7% overall agreement with a Cohen's Kappa coefficient of 0.6. All data collected and analyzed from this mixed methods design were used to triangulate findings, to ensure greater validity and trustworthiness of results.

3 | RESULTS

Most of the Survey 1 (*n* = 147) and Survey 2 (*n* = 153) respondents were female (70.7%, *n* = 212), with median age

range of 45–49. Most participants (91.3%, *n* = 274) identified their job category as librarian. Interviews were conducted with 28 academic librarians. The majority of interview participants (*n* = 28) were also female (79%, *n* = 22). Participants from small institutions with under 10,000 full-time equivalency (FTE) represented half (50%, *n* = 150) of the 300 surveys. Purposive sampling was used to ensure that participants from a variety of institution sizes were represented in the interviews. Table 1 shows the institutional size by FTE of participants from the surveys and interviews (Figure 1).

Interviews were also conducted with librarians from different institution types with particular representation from institutions with doctoral-granting research

universities (50%, $n = 14$) and community or Associate's colleges (35.7%, $n = 10$).

To provide context for the VRS survey results, participants were asked about institutional and library operating status and general services in April 2020 (Survey 1) and September 2020 (Survey 2). Most Survey 1 participants (85.7%, $n = 126$) indicated that their institution's physical locations were closed as of April 2020 and all courses were online. By September 2020, only 21.6% ($n = 33$) of participants indicated that their institutions were fully closed, with the majority saying that some physical buildings were closed, with a mix of in-person and online courses (54.9%, $n = 84$). Some participants explained that in-person instruction resumed for courses like labs that required physical components.

As institutions adapted to pandemic conditions, libraries also adapted their services to the online environment. Survey 1 participants reported that online services, including VRS, were offered by most institutions (92.5%, $n = 136$) and this increased slightly in Survey 2 (95.4%, $n = 146$). Phone services followed this pattern with 58.5% ($n = 86$) offering these services in Survey 1 and 74.5% ($n = 114$) in Survey 2. Physical services had larger increases; libraries offering circulation of print materials increased from 8.2% ($n = 12$) in April to 73.9% ($n = 113$) in September. Libraries offering printing to users increased from 4.8% ($n = 7$) to 58.8% ($n = 90$) and libraries offering public, or study spaces increased from 4.1% ($n = 6$) to 52.3% ($n = 80$). Additionally, many libraries made updates to the library website (81.7%, $n = 245$), and to service documentation (56.0%, $n = 168$). Most participants also indicated that their libraries increased internal communication between library staff (55.7%, $n = 167$) and increased communication to users (55.3%, $n = 166$).

3.1 | Results related to RQ1: What has been the impact on academic live chat reference services due to the COVID-19 pandemic?

Libraries were well-positioned to provide online services to users through VRS during the pandemic and it is not surprising that overall use increased, in some cases dramatically, although some survey participants reported that use stayed the same or declined. Combining both survey results, most participants' libraries offered chat (88.7%, $n = 266$) and email (78%, $n = 234$) reference services prior to March 2020. A smaller percentage already offered online consultations (36.3%, $n = 109$) and video chat (22%, $n = 66$), though some participants mentioned that online consultation use was low pre-pandemic or that it was offered by a limited number of librarians. Participants

made changes to existing services, 60% ($n = 180$) stated that VRS schedule changes were made to adjust to the fully online environment. Most institutions developed new services, with 47.7% ($n = 143$) adding virtual consultations and 44% ($n = 132$) adding video chat to their VRS suite. No new services were added by 17% ($n = 51$) of participant libraries. Participants were asked to indicate which services were going well in their libraries, and, generally, VRS changes went well. In Survey 1, 98 (66.7%) of participants indicated that changes to VRS, video chat, video consultations, email, phone, and text reference were going well. In Survey 2, the majority, 90 (58.8%) participants also responded that VRS changes were going well.

One major finding from analysis of interview data was an increase in VRS Volume. *Rising VRS Volume* emerged as a major theme in interviews with 20 out of 28 (71.4%) participants reporting VRS volume increases. Several interviewees experienced considerable upticks and talked about "staggering" increases (IP11), "record levels" (IP22), and chat volume that "easily doubled" (IP14) as VRS became the primary mode of service delivery. Across both surveys, 36.7% ($n = 110$) indicated increased VRS volume and a further slight increase was observed from Survey 1 to Survey 2. Survey participants had a lower percentage of increased volume of VRS, when compared to the interview participants. Those that reported volume increases in VRS also suggested that this led to improvements in how reference services were perceived at the institutional level during COVID-19. One interviewee summed up the situation, saying "During the pandemic, chat was the only game in town" (IP10). According to another, "everyone wanted to hear what was going on with Ask-a-Librarian because that was our number one interface with the public" (IP2). This was echoed by a survey participant who said, "Reference has a low status and profile at our institution. We've gotten more positive attention from administration in the past five months than we've gotten in the past five years put together" (SP73). IP2 also mentioned that when they took on responsibility for VRS at their institution, they were amazed when it became "the last connection between the library and the community" with the closure of in-person services.

3.2 | Results related to RQ2: How have questions to live chat reference services changed during the pandemic?

Both interview and survey participants indicated that chat topics and complexity changed during the pandemic. Combining results from the two surveys ($n = 300$), in response to the question "Did you observe any of the

following changes to user behavior in VR chat as a result of the pandemic response?" 25% ($n = 75$) of participants indicated changes to question topics, 25% ($n = 75$) to question complexity, and 18.7% ($n = 56$) to new expectations for service delivery.

Respondents across surveys and interviews reported that the well-established VRS in libraries helped fill the information gap when universities moved suddenly to online learning. Interviewees reported that topic changes centered on increased question diversity across the university stemming from service disruptions. A major theme, *VRS as University Information Hub*, reflected interview participants' assertions that because libraries had established well-known online help services before the pandemic, they became information centers for other university departments struggling to initiate an online presence. IP24 said, "Across the university people were getting in contact with us saying, 'could you please get someone in student services to answer my issue? Because I don't need the library, but you're the only one who is there.'" IP13 suggested that library help was easier to find than services from other offices. Interview participants reported that questions were directed to the library that would have usually gone to student services, the bookstore, or the writing center, among other offices. Survey participants described similar experiences, as SP66 wrote: "users would go to us about questions that were related to another area of the institution because we were online and better prepared to answer, unlike many other departments who had never provided services remotely (unlike the librarians)." Survey and interview participants also reported that students and faculty were reaching out about university policies and for help teaching and learning online.

The major theme, *Rising VRS Volume*, had several sub-themes, including rising number of queries regarding *General and Technology Questions* and *New Services Questions*. Topic changes included increases in questions about functioning in the fully online environment. While directional questions for physical locations were eliminated, echoing survey respondents, half (14 of 28) of the interview participants reported an increase in informational questions, particularly pertaining to new services like curbside pickup, accessing materials remotely, and troubleshooting virtual technologies. Another sub-theme, *Online Learning Questions*, includes accessing e-course materials like textbooks and media, student questions about gaining access and how to engage with the system, instructor's questions about teaching online, and troubleshooting learning management systems.

Alongside the increase in informational questions, another major theme *Rising Question Complexity* was found, as six interviewees mentioned that the questions coming in through chat were more complex than those

they were receiving at the physical reference desks pre-pandemic. One mentioned that the increased complexity experienced in VRS might lead to changes in the physical reference desk as libraries re-open: "I think now we see in our data the vast majority of our questions on the physical reference desk are directional or not really having much of any reference substance, so I think now we're thinking of bifurcating our services" (IP5). Six interviewees commented on a sub-theme of *Research Questions*, noticing more detailed and research-heavy VRS questions. One interviewee described this shift, "because people could not come in for long sessions and consultations, the [VRS] questions were becoming more complex. We started to get research questions through [VRS] that were not previously experienced—longer questions, more involved questions" (IP2). This was echoed survey responses, for example, one participant wrote: "I have been noticing an uptick in the level of research assistance. There have been more requests for assistance from graduate students with complex research questions. It may be a result of the transition to online due to the pandemic" (SP44). Other interview participants described students taking their time with library research questions, asking longer format and more in-depth questions in chat, and staying longer than they had for in-person service.

3.3 | Results related to RQ3: What changes have taken place, if any, during the pandemic in the experience of live chat reference encounters, especially relating to relational aspects from the viewpoint of librarians and service users?

RQ3 was crafted with Goffman's (1956, 1967, 1971) theoretical framework in mind. According to survey and interview participants, major changes regarding relational (interpersonal) dimensions of the VRS encounter took shape throughout the course of the pandemic regarding user and librarian behavior. These changes provide context for the ways in which the stress of the pandemic impacted the communication styles of the users. Participants in surveys and interviews told of shifting levels of deference (in the form of *Gratitude*) and lack thereof (in the form of expressions of frustration), with *Angst* rising throughout fall 2020. Changes in user behavior, both positive and negative, are addressed holistically, and then parsed into user behavior changes (positive and negative), below. The following sections describe the relational changes experienced by participants, amplified by themes and illustrative quotations.

3.3.1 | User behavior

When asked in surveys and interviews about positive and negative changes in user behaviors in VRS, participants indicated that they noticed relational differences. In the surveys, these changes were indicated by a meaningful minority of participants and the qualitative responses from survey participants were illuminating. Most of those interviewed discussed these changes and helped provide a more robust understanding of these user behavior changes during the pandemic. As seen in Table 1, below, combining both surveys ($n = 300$), 57 (19%) of participants indicated that they experienced changes to communication styles, with 55 (18.3%) participants indicating that they experienced changes to user politeness in VRS encounters. In Survey 1 ($n = 147$), positive changes to user communication behaviors were noted by 29 (19%) of participants, while only 8 (5%) indicated that their users' communication behaviors were perceived to be negative. In Survey 2 ($n = 153$), 25 (16.3%) participants noted positive changes to user politeness, while 11 (3%) expressed negative changes. SP135 describes the fluctuation in student behavior, as they became more frustrated over a six-month period, "Initially, patrons were incredibly polite and understanding. Now that we're moving into six months of closures, they are starting to get frustrated and vent their ire on library staff." Many participants, however, reported that *Gratitude* (face-work and deference, in Goffman's, 1967, 1956 terms) was more common than rudeness (*Face-threats* in Goffman's term) throughout the pandemic, also reflected in interview results, below.

Table 1 summarizes changes to user behavior, communication style, politeness or to the relationship between chat providers and users in VRS. These changes were reported by a minority of survey participants, but the responses and the detail that participants provided in the write-in question that followed provided a foundation of data on this topic that was echoed and amplified in the interviews with VRS leaders.

It should be noted that positive and negative valence of changes were not collected for Survey 1, although these options were added in Survey 2. Participants had the option to indicate multiple responses to this question in both surveys.

3.3.2 | User behavior positive change

Interview and survey participants described genuine connections with students since the start of the pandemic. Participants in both surveys indicated that there were changes to user communication, but this was more prevalent in the second survey. Survey 2 also introduced an

opportunity for participants to indicate whether these changes were negative or positive in valence. Table 1 shows that participants in Survey 2 shows much higher numbers of participants reporting positive changes to communication style, user politeness, and relationships than to negative changes. In qualitative analysis of interview data, *Gratitude* surfaced as a major theme for positive changes in user behavior with 10 interviewees explicitly reporting that they encountered overwhelming gratitude and appreciation, resonating with Goffman's (1956, 1971) concepts of deference and face-work. *Personal Connection* was found to be a sub-theme, as participants reported that students seemed to take solace in knowing that librarians were still ready to assist them, even in the midst of a chaotic pandemic and tremendous isolation. For example, one said, "Students were very positive about the experience and connected on a more personal level than expected. Before, reference was more transactional. It was the death of social encounters that they were experiencing. They wanted to connect more with librarians as humans" (IP16). Participants explained that these trying times, for the most part, others were making an effort to do well, as this quotation illustrates, "Everyone is just doing their best and whatever that looks like is okay right now" (IP2).

3.3.3 | User behavior negative change

In some cases, this harrowing pandemic brought out not only the best in users, but also the worst. Table 1 shows that in Survey 2, there were small numbers of respondents who characterized the changes as negative in communication style, user politeness, and in the relationship between chat providers and users. In both Survey 1 and Survey 2, when asked to elaborate on changes in user behavior, the participants who wrote about negative changes responded with similar descriptions of impatient students who seemed desperate to acquire the information/resources necessary to complete assignments. These notes of anxiety, impatience, and desperation also arose as a major theme of *Angst* in the analysis of the interview data, as 11 interviewees related similar encounters. For example, one interviewee said, "You can almost feel the anxiety from students, just in terms of doing the fundamentals of completing/getting their basic assignments done. You can almost feel that the energy has been sucked out of the rhythm of the semester" (IP22). Librarians recognized that there were sources of *Angst* that were unrelated to academics and adjusted their behavior. One survey respondent wrote: "Our non-traditional student population was deeply impacted by this and education certainly was not at the forefront of their mind.

Our users were dealing with job losses, childcare, and health problems” (SP126).

The sub-theme of *Face-threats* (Goffman, 1956) surfaced under the *Angst* theme. In some cases, participants felt as though the students were unaware that real, live librarians were on the receiving end of their questions, one interviewee stated that users were rude and business-like (IP1). In a particularly negative case, racism and gender bias were experienced by one interviewee, IP21 recounted a lengthy encounter with a man, unaffiliated with the institution, who was angry with responses he had gotten regarding access to physical materials unavailable during the pandemic shut down. He was rudely aggressive and had been referred from a female VRS staff member, then to a phone call to a female African American circulation staff member, and, finally, to IP21. When the call was forwarded to IP21, upon hearing his voice, the man said: “Thank goodness there is a white male in charge.” IP21 reported this as a horrific experience and expressed deep concern for the staff that had experienced this abusive behavior.

3.3.4 | Librarian behavior

Each institution functions differently, resulting in varying responses encompassing changes in librarian behavior. However, there were commonalities among their experiences. Overall, the pandemic was an opportunity for librarians to showcase their expertise and caring behavior. Participants were consistently fishing for ways to make reference encounters positive as they emphasized being as present as possible, especially in an online environment. Changes in librarian behavior resulted in major Goffman (1956) related themes of *Impression Management* and *Building Rapport*, with 12 (43%) interview participants having related comments. For instance, one interviewee explained, “It’s the small things you can do to build rapport in a few minutes or even in person or even over the phone to help make that interaction positive [for the students]. It helps to empathize yourself with the user. So that was a big thing that was sometimes a big change for people who might not have had that experience” (IP5). Librarians noted that they spent extra rapport building efforts. In some cases, relying on faculty to spread the word as one survey participant noted, “Surviving remotely requires a good relationship with faculty in order to communicate services to students” (SP84). Another expressed the need to be both effective and relationally focused, “We tried to provide quick and efficient service so that academics were not a burden. We provided more empathy and understanding wherever we could” (SP126).

Librarians, as all faculty and staff, were required to wear many hats, to press forward in this online world, unaware of the taxing emotional labor they might have to adopt as part of their dynamic job descriptions. In addition to being “tired” (IP8, 14, 16) because the world is in a “moment of crisis” (IP16), participants engaged in *Situational Flexibility* to support students, which also arose as a major theme. Participants discussed “rolling with the punches” (IP15) and “figuring it out for the students’ sakes” (IP2).

Additionally, the emotional labor that is inherent in their “supportive roles” (IP12), with one interviewee characterizing their role as “semi-social workers” (IP1). These efforts took a toll on participants, which emerged as a major theme of *Struggle and Angst* for librarians. Another interviewee described how the various hurdles of pivoting to the remote environment impacted the ways in which they struggled in isolation, “It was like some weird dream where you have to do your job, but all of the sudden in order to do your job you have to do it on the moon and in order to do it you have to figure out how to build the spaceship yourself” (IP17). A third person poignantly said, “I don’t know how much more I can take of this. I don’t have to commute, and it should make my life so much easier. I feel like I’m falling apart and its only October [2020]” (IP8). Interviewees also expressed concern for their colleagues: “I have a lot of librarians who are fragile for different reasons from different experiences or where they are in their lifecycle. The heightened emotions around what it means to not know, or to be by yourself, or to be stuck with your family for some of them” (IP3). Other librarians reached out to their struggling co-workers. IP3, like many who made routine check-ins, said that they were making weekly phone calls to some reference librarians just to check in emotionally. Additionally, both survey and interview participants expressed *Struggle and Angst* in worrying about library users as *Difficulty Making Personal Connections* surfaced as a sub-theme. Librarians found it especially difficult to connect with formerly regular in-person users who had learning disabilities, and were anxious about those at-risk, recognizing that they had scant avenues for assessing the struggles or evaluating student needs. All of these worries in the pandemic required participants to engage in *Mutual Support*, which emerged as a major theme. To illustrate this theme, interviewees said that librarians are a “congenial group and we help each other” (IP28), who “collaborated more than ever” (SP98), to keep morale high. They found that sticking together and offering support reminded them that “they were not doing this alone. The tightness of the team of librarians was evident” (IP16).

4 | DISCUSSION

This mixed-methods research extends our previous knowledge in several ways. Findings relating to all three research questions inform the practical implications, and those from RQ3 in particular, inform the theoretical implications, as explored below.

4.1 | Theoretical implications

In focusing on relational, behavioral dimensions of the relationship between VRS librarians and the service users during the pandemic, this investigation gainfully applies the theoretical frame of Erving Goffman's concepts (1956, 1967, 1971). This frame helps to understand how virtual relationships develop and change over time, and how important context is in how we understand and experience interpersonal encounters. During COVID-19, the context for day-to-day reference encounters radically shifted to virtual-only modes. Librarians and library users were obliged to move interpersonal conversations in which they engaged in face-work strategies to improve relationship development and maintenance from a mix of virtual and in-person face-work to exclusively virtual face-work efforts (see Radford et al., 2011). Results from open questions focusing on relationships in the longitudinal surveys and interviews revealed important, and perhaps, inevitable relational changes. The pandemic and its sudden "death of social encounters" (IP16) presented a disruption in the everyday communication behaviors and practices of academic librarians in delivering reference service to students, faculty, and other library users.

Goffman's framework was especially salient to the librarian behavior themes from the analysis of interviews of *Impression Management* and *Building Rapport*, as well as the user behavior themes of *Gratitude* and *Face-Threats*. The importance of librarian attention to the relational aspects of VRS in promoting successful encounters is highlighted in Radford and Radford's (2016) discussion of the *Content/Relational Model of Success in Reference Encounters* (Radford & Connaway, 2015) and the findings from Connaway and Radford's (2011) *Seeking Synchronicity* project. The present study helped build on this literature by applying Goffman's concepts and demonstrating that relational efforts by librarians are perceived by participants as even more essential to the success of VRS encounters during times of crisis and stress. The user behavior theme of *Gratitude* resonates with the work of Dempsey (2016), who tied expressions of gratitude by users to librarian attention to user cues and to more involved VRS encounters. Also, participants reported similar expressions of gratitude from users appreciating

the role and presence of librarians during the pandemic. The user behavior theme of *Face-Threats* was associated with the librarian *Struggle and Angst* theme in the data and reflects changes associated with increased stress levels on the part of users. Thus, this research has expanded current applications of Goffman's work in understanding relational dynamics in virtual library service and pandemic crisis contexts.

4.2 | Practical implications

By applying Goffman's (1956, 1967, 1971) framework to better understand the changing relationships listed above, these theoretical implications highlight a role change for academic librarians. The intense and highly emotional labor (Joe, 2019) reflects models of librarian social work behavior that have been observed in public libraries (Westbrook, 2015). Because librarians are positioned to help their users by nature, it is no surprise that the emotional and therapeutic support public librarians were offering to their users began to filter into academic contexts in the onset of a global crisis. IP1 disclosed, "We are all as you know, unofficial social workers and so students could come in, dump it all, take a deep breath and then we could say, 'now let's...' [do some research]. While participants nodded to the same sentiments that many public librarians have already expressed (see Westbrook, 2015), for example, one interviewee said: "It would be great if I had some kind of psych background or training. However, I only have the skills of librarians like de-escalation training" (IP23). Respondents, across all types of institutions, expressed a yearning for adequate training to better assist their users during times of crisis and high emotions.

It is clear that librarians are the frontline, as respondents testified that they sacrificed long evenings and weekends to ensure access for faculty and students to needed resources, and to relational support and encouragement during uncertain times. In a time of crisis, VRS librarians had an opportunity to prove their worth and provide necessary services to see their institutions and libraries through the pandemic. The data reveal that upper-level administration was surprised by the seamless transition and delivery of services that, in most cases, the library had always offered. Results indicate that the COVID-19 pandemic presented an opportunity for libraries to shine.

Results suggest that the need for social-distancing prompted major disruptions to business-as-usual, resulting in the reshaping of academic library reference services. The pandemic has allowed for the "discovery of deep reserves of resilience and innovation"

(How COVID-19 is Reshaping Healthcare, 2022, p. 10) in healthcare systems that can be reflected in positive innovations in library services. These include recognition that the COVID-19 crisis has led to some major innovations and upgrades such as: the rise of tele-reference, increased remote work, enhanced teamwork, emphasis on mental well-being, spotlight on librarians' ability to bridge accessibility disparities, and newfound flexibility.

These adaptations in interpersonal dynamics and role changes for academic librarians took place in a turbulent, fast-paced environment. In the interviews, a strong majority reported VRS volume increases, and over one-third of survey participants also reported increases, although some reported that volume stayed the same or decreased. Responses to the survey may have been more moderate due to the timing of the survey relative to the interviews, which took place toward the end of the Survey 2 response period. The interviews were also conducted with managers of VRS who had full access to their institutional statistics, while surveys were open to all VRS participant librarians, who may have not had access to overall statistics, relying on their personal experiences. Though the survey participant institution size skewed toward smaller institutions while more of the largest institutions were included in the interviews, there was no significant correlation between institution size and reporting VRS volume increases in the interview data. There may be differences in the institutions such as chat structure or pre-pandemic usage that led to larger volume increase reporting at some institutions and not others.

Data also reveal that librarians seized the opportunity to lead their universities in student services by becoming information hubs. The pandemic response demonstrated that VRS offered a robust alternative to in-person service. As reference services moved online, the complex questions that institutions received at the reference desk migrated with them. The pandemic also increased demands on librarian's time and energy in dealing with these complicated questions. The theme of *Rising Question Complexity* is connected to the results of Anderson et al. (2021) who found that COVID-19 increased librarian perceptions of question complexity and the length of time librarians spent answering user questions.

There were also changes for librarians behind the scenes, with increases in remote work at all levels including staff, librarians, and administrators. These changes helped usher in innovative approaches to VRS, including use of video chat, and teleconferencing. They also resulted in enhanced teamwork and collegiality, flattening hierarchies, and providing a chance for groups to work together across geographic areas. Participant librarians demonstrated increased agility, flexibility, and

responsiveness in the face of changing norms and worked to develop services with an emphasis on relationship building and the well-being of all stakeholders.

The major question that remains as institutions transition into sustainable hybrid models is whether these changes to library services will be permanent. Though librarians were poised to meet the crisis through existing digital services, there is little doubt that the post-pandemic landscape of library services will look very different from what came before. The implications of the shift in service include an outline of new skills for academic librarians meeting the needs of complex institutions in times of crisis. These include enhanced leadership skills focused on managing rapid transitions and a focus on providing a variety of equitable, user-facing services. The pandemic surfaced deep-seated accessibility issues and disparities in access in user communities and revealed emerging needs for increased support and compassion in librarianship. As we move into the future, librarian communities may need to fully acknowledge the necessity of supporting one another and practicing self-compassion in stressful situations. The participants in this study described encounters during the pandemic that supported their users with services, information, and profound empathy. This intensive support requires a change to the institutional support structures for librarians and managers of VRS toward increased attention to the relational, interpersonal dimensions, as well as collaboration and flexibility.

5 | LIMITATIONS

This study involves analysis of 300 surveys and 28 interviews with self-selected library leaders and VRS administrators. The decision was made to use purposive sampling, not random sampling, to capture informed responses that address the research questions. Although interview numbers are relatively small, a sufficient point of saturation was reached, and findings were triangulated with survey data. Another limitation was that participants could take both surveys and could volunteer for interviews if they were interested in further sharing their experiences. Perhaps due to recruitment practices, survey results were skewed toward smaller universities, but purposive sampling was used in interview recruitment to include participants from a variety of institution sizes. All data were collected from the librarians' perspectives. Perspectives of library users and other stakeholders such as instructional faculty and staff were omitted in this study sample. There are many different staffing structures for VRS and the data collection in this study focused on the perspectives of librarians to the exclusion of the

technicians, staff, and students who may also be on the front lines of this service at some institutions. In addition, this study was conducted to be inclusive of academic libraries. Other types of contexts, such as public libraries, were excluded from the sample to hold academic virtual reference as the focal point of the study.

6 | CONCLUSION AND FUTURE DIRECTIONS

To our knowledge, this research is the largest study of VRS during COVID-19 that chronicled the pandemic-driven closure of physical academic library spaces across the United States and its initial aftermath. It documents how those managing VRS responded, and how they strove to transform and maintain essential service to academic users struggling to adapt to the virtual only educational reality. During times of crisis, data confirm that it is vital for librarians to continue to provide user-facing services that are innovative, effective, compassionate, and equitable, as well as supportive for library colleagues and across their institutions.

This research has applied Goffman's (1956, 1967, 1971) concepts of impression management, face-work and deference to help understand relational shifts that occurred and continue to evolve. Further investigation that can build on this work and provide additional insight into VRS during crisis situations. The full impact of the COVID-19 pandemic and its lengthy aftermath have yet to be determined and the authors wonder about the effect on VRS yet to come. Surveys and follow-up interviews could be replicated, and/or conducted in other contexts, for instance, in public libraries. The perspectives of students and users of VRS could also form an interesting complementary study, to understand if their needs for VRS support changed during the pandemic. This study could be enhanced by close qualitative analysis of live chat transcripts, collected during and after 2020, to compare this type of evidence to participant responses. Transcript analysis could also further investigate relational aspects of user and librarian behavior, or emergent themes like *Rising Question Complexity* to gauge whether queries genuinely grew more complex or whether the stress of the pandemic had an impact on librarians' and users' perceptions of complexity.

Despite resistance to vaccinations and boosters, as well as the possibility of more COVID-19 variants, libraries and universities have moved toward the full return to in-person presence at service points and classrooms at pre-pandemic levels. Lingering questions about the future of VRS abound in the pandemic's long tail, while ongoing uncertainty prevails. Which service changes will be permanent and/or

continuing to evolve? In what form will telecommuting persist as indications suggest that many library workers do not wish to return to physical offices? The sudden, but now ongoing, shift to forefront virtual services over traditional in-person encounters at reference desks has changed individual perceptions and professional attitudes. This research provides a snapshot of the early pandemic and offers intriguing possibilities for continued innovation in service models and in developing and maintaining strong interpersonal relationships in virtual environments. Alongside technical and content/information expertise, positive attitudes and interpersonal communication behaviors continue to be important, perhaps more important than ever, in enhancing the quality of library service encounters in times of crisis.

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How to cite this article: Radford, M. L., Costello, L., & Montague, K. E. (2022). “Death of social encounters”: Investigating COVID-19’s initial impact on virtual reference services in academic libraries. *Journal of the Association for Information Science and Technology*, 73(11), 1594–1607. <https://doi.org/10.1002/asi.24698>

APPENDIX A: SURVEY QUESTIONS

1. Consent to take part in research (select 1): I agree; I do not agree
2. Gender: (write in)
3. Age (select 1): 18–24; 25–29; 30–34; 35–39; 40–44; 45–49; 50–54; 55–59; 60–64; 65+
4. Position type (select 1): librarian, archivist, administrator, other professional staff, other (fill)
5. How long have you been working in academic libraries (select 1): less than 5 years, 5–10 years, 11–20 years, 21–30 years, 30+ years
6. Years of experience providing reference services (select 1): less than 1 year; 1–5 years; 6–10 years; 11–15 years, 16+ years
7. Highest degree awarded (select multiple): Associate, Bachelor’s, MLS, Master’s degree (other than MLS), PhD, other
8. Number of Students (please use FTE if available) (select 1): under 5,000; 5,001–10,000; 10,001–20,000; 20,001–30,000; 30,001–40,000; 40,001–50,000; more than 50,000
9. Region (select 1): West, Midwest, South, Northeast, Pacific, Outside of the United States, other (write in)
10. Did you participate in the first round of this survey distributed in August? (Survey 2 only) (select 1): yes; no
11. Status of institution in April 2020 (Survey 1)/ September 2020 (Survey 2) (select 1): Physical locations closed and classes canceled; Physical locations closed and online classes; Some physical locations closed and a mix of online and in-person classes; Physical locations open and in-person classes; other (write in)

12. Status of library services in April 2020 (Survey 1)/ September 2020 (Survey 2) (select multiple): Collections open; Public spaces open; Circulating print materials; Printing available; Online services available; Phone services available; other (write in)
13. What virtual services were in place prior to March 2020 (select multiple): chat; email or ticketing; video chat; online consultations; online instruction; other (write in)
14. What new virtual reference services were added in reaction to COVID-19? (select multiple): same options as Q12
15. What other changes were made as a result of COVID-19? (select multiple): Schedule changes for virtual reference; More librarians providing online services; New services; Updates to documentation; Updates to website; Increased communication to users; Increased internal communication between library staff; New communication channels; other (write in); No changes were made as a result of COVID-19
16. Which new services or service changes went well? (write in)
17. Which new services had unexpected or unsuccessful outcomes? (write in)
18. Did you observe any changes to user behavior or user queries as a result of new services or service changes? (write in)
19. How did your responsibilities change as a result of new services being added? Please briefly describe: (write in)
20. Please indicate your experience with virtual reference chat prior to and after March 2020 at your current institution (select 1): I provided chat reference before and after March 2020; I have past experience providing chat reference from before March 2020, but have not provided chat reference from March 2020-present; I began providing chat reference for the first time in March 2020
21. Did you observe any of the following changes to user behavior on virtual reference chat as a result of the pandemic response? (select multiple) new expectations for service delivery, higher volume of chat, lower volume of chat, question complexity, question topics, positive changes to user communication style (Survey 2 only), negative changes to user communication style (Survey 2 only), positive changes to user politeness (Survey 2 only), negative changes to user politeness (Survey 2 only), positive changes to the relationship between chat provider and user (Survey 2 only), negative changes to the relationship between chat provider and user (Survey 2 only), other (write in)
22. If you observed any of the changes in the above question, please briefly elaborate on the changes you observed (write in)
23. Please describe any changes you observed from providing chat reference in the way users related to you as the chat provider or chat reference as a service:
24. What else would you like to add that wasn't covered about changes to your services as a result of COVID-19?

APPENDIX B: INTERVIEW QUESTIONS

1. What was the response of your institution to the COVID-19 pandemic?
 - a. How did this response impact the library?
2. Tell me about your role in the library
 - a. What is your role in relation to reference/user services: director, planning etc.
 - b. How did your role change as a result of your library's response to the COVID-19 pandemic?
3. Please describe the reference services your library offered when you were in normal operating status/prior to the COVID-19 pandemic
 - a. Probe: If not offered: did your library offer chat reference services prior to the pandemic?
 - b. Probe: If not offered: which services do you participate in?
4. Please describe any changes to these existing services as a result of changes to operating status/COVID-19 pandemic.
5. Please describe any new services added as a result of changes to operating status/COVID-19 pandemic.
6. How would you evaluate these changes to services?
 - a. What was the user response to the service changes [highlight specific changes]
 - b. What unexpected outcomes were there for any of your service changes?
7. What changes to user behavior did you observe as a result of new services or service changes?
 - a. What behavioral changes did you discuss with your team?
 - b. What changes were made to any services or responses based on new user behaviors?
 - c. What changes were made to your training or documentation as a result of new user behaviors?
8. What changes to the questions users were asking did you observe, as a result of new services or service changes, or COVID-19?
 - a. What changes to user question did you discuss with your team?

- b. What changes were made to services or responses based on changes in user questions?
 - c. What changes were made in training or documentation change as a result of changes in user questions?
9. Please recall and describe one successful reference encounter that you have had during the COVID-19 pandemic.
 - a. What specifically made this come to mind as a successful encounter?
 10. Please recall and describe one unsuccessful reference encounter that you have had during the COVID-19 pandemic.
 - a. What specifically made this come to mind as an unsuccessful encounter?
11. If you could go back to the beginning of the pandemic with the knowledge you have now, would you change anything about your service response to the pandemic?
 12. If you had a magic wand and could create any new reference service or make a change to any existing reference service to better serve your users at this time, what would it be?
 13. What else would you want to add that wasn't covered about changes to your services as a result of COVID-19?