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Reference Mode Preferences of Community College (Two-Year) and Four-Year College Students: A Comparison Study

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Research Article

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Abstract

Objective – The purpose of this study was to examine the reference service mode preferences of community college (two-year) and four-year college students.

Methods – The researchers administered a paper-based, face-to-face questionnaire at two institutions within the City University of New York system: Hunter College, a senior college, and Queensborough Community College, a two-year institution. During the summer of 2015, the researchers surveyed 79 participants, asking them to identify their most and least preferred mediums for accessing library reference services.

Results – Nearly 75% of respondents expressed a preference for face-to-face reference, while only about 18% preferred remote reference services (online chat, e-mail, text message, and telephone).

Close to 84% of the participants cited remote reference services as their least preferred modes and slightly more than 10% said this of face-to-face. The data reveal a widespread popularity of face-to-face reference service among all types of participants regardless of institutional affiliation, age, gender, academic level, field of study, and race or ethnicity.

Conclusion – This study suggests that given the opportunity academic library users will utilize face-to-face reference service for assistance with research assignments. Academic libraries at both two-year and four-year institutions might consider assessing user views on reference modes and targeting support toward services that align with patron preferences.

Introduction

This study augments the existing literature on user perceptions of reference services by not only analyzing the reference medium preferences of students from different academic disciplines, levels, and demographic groups but also by comparing the preferences of students from two-year institutions against those of four-year college students. This topic bears direct relevance for librarians within the public City University of New York (CUNY) system, where every year thousands of students transfer from the numerous community colleges to the senior colleges, a transition which can pose its own challenges. Furthermore, students from any unit of CUNY have reciprocal library access privileges throughout the system, so that librarians at all campuses find themselves working with current or former community college students. Thus, the authors undertook this study in an effort to understand better the potentially differing needs and impressions of the two-year and four-year students who make up the libraries' patron base.

The researchers conducted this study at two institutions, Hunter College and Queensborough Community College (QCC), both of which are units of the CUNY system. Hunter is a four-year liberal arts college located in Manhattan with a current enrollment of nearly 23,000; it offers undergraduate and graduate degrees in "more than 170 areas of study" (Hunter College, 2016). Queensborough Community College is a two-year college in

Queens, NY offering associate degrees and certificates in a wide variety of disciplines, including business, health professions, and sciences, with a Fall 2015 enrollment of 15,493 degree and non-degree students (Queensborough Community College, 2015). Hunter has four branch libraries located across three campuses while QCC has one library on its campus.

The Hunter and QCC libraries offer face-to-face, e-mail, telephone, and online chat reference services. Hunter offers 24/7 chat service via the QuestionPoint Reference Cooperative, whereas QCC provides chat service during selected hours only and uses the LibraryH3lp software. In addition, QCC offers text message reference service to its patrons, while Hunter discontinued its text service after Spring 2015 (P. Swan, personal communication, July 18, 2016). Both libraries provide information on their websites about what reference services are available and how to utilize them. For purposes of this study, the authors define face-to-face reference as service that allows a patron to obtain assistance in person from a credentialed reference librarian. E-mail reference service involves "either e-mailing the reference desk via an online e-mail form . . . or contacting a departmental liaison directly" while telephone reference involves users "calling the general reference desk or . . . departmental liaison directly" (Chow & Croxton 2012, p. 249). Text message reference service allows patrons with mobile phones to send text messages directly to an account operated by the library.

Literature Review

Numerous researchers have investigated the reference medium preferences of academic library users. A recent study at the University of North Carolina at Greensboro employed online survey, focus group, and interview data collection methods with 936 participants to examine the reference-seeking preferences of undergraduate students, professors, librarians, and staff (Chow & Croxton, 2012). The investigators found that face-to-face was the most popular reference mode among respondents, noting that "[d]espite the growing plethora of ways for library users to seek help through technology mediums, face-to-face would appear to still be the preferred method of choice . . . in a university academic setting" (Chow & Croxton, 2012, p. 259). The authors also reported that undergraduate students preferred online chat and text reference modes, and acknowledged the impact of age on participants' reference medium choices.

Previous research suggests broad trends in favor of in-person reference service. A Washington State University study surveying reference service use among 276 students and faculty found that patrons strongly preferred face-to-face reference, with 49% of faculty members, nearly 77% of undergraduate students, and 65% of graduate students citing it as their favourite mode (Johnson, 2004). Granfield and Robertson (2008) addressed information-seeking preferences in a study of 348 academic library patrons conducted at two Canadian institutions, using focus group and survey methods. The authors found a strong preference for face-to-face reference among college student patrons, observing that "the reference desk continues to be the most popular method of getting help in the library" (Granfield & Robertson, 2008, p. 51). In a study at the University of Illinois at Chicago analyzing the reference transaction data of a health science library, the investigators noted that patrons used the reference desk more than they did web-based services, and that "traditional reference remains the core of

information services in this health science library" (De Groote, Hitchcock, & McGowan, 2007, p. 23). A related study found that 82% of undergraduate students and 86% of graduate students preferred "ask[ing] their questions in-person" (De Groote, 2005, p. 20).

Despite the attention that these and other studies have brought to the topic of reference medium preferences among academic library users, some questions remain open. Notably, the current investigators found a gap in the research literature with regard to drawing comparisons between students from two-year and four-year institutions. Moreover, the studies cited above did not seek to distinguish variations in preferences according to factors such as academic major or year of study. The current study seeks to address these and other omissions.

Aims

The primary goal of this study was to examine the reference service preferences of two-year college students in comparison with those of four-year students. This paper will examine the following research questions:

- RQ 1. Which reference mediums do community college (two-year) students prefer?
- RQ 2. Which reference mediums do four-year college students prefer?
- RQ 3. Which reference mediums do students pursuing different academic disciplines prefer?
- RQ 4. Which reference mediums do undergraduate and graduate students prefer?
- RQ 5. Which reference mediums do undergraduate freshman, sophomore, junior, and senior students prefer?
- RQ 6. What are reference preferences of students belonging to different age, gender, and racial/ethnic groups?

Methods

Research Methodology, Instrument, and Pilot Study

This study adopted a survey research method. After reviewing questionnaires from previous studies examining the reference mode preferences of academic library users (Chow & Croxton, 2012; Johnson, 2004; Granfield & Robertson, 2008), the researchers developed an instrument of 15 items (see the Appendix). The survey instrument contained 13 closed and two open questions, sequenced from simple to more complex. The questions were neutral, balanced, specific, easy to understand, and were written in complete sentences.

The first seven questions asked participants about their institutional affiliation, academic level, year of study, gender, age, race, and academic major. Subsequent questions asked respondents whether they were familiar with the reference services of their college libraries and if they had used those services. Participants then selected their most and least preferred reference mediums via multiple choice; this article focuses on the responses to these questions. The instrument also included a multiple choice question asking about preference for electronic versus print books, as well as two open questions soliciting suggestions for improvements to reference services and any other comments, but these did not yield findings relevant to the scope of this paper.

The investigators pre-tested the questionnaire with the help of two reference librarians at Hunter College and conducted a pilot study with five students (three undergraduate and two graduate, also from Hunter) to test the validity and reliability of the instrument. The investigators considered the pilot study participants' suggestions and revised the questionnaire accordingly.

Data Collection and Analysis

The researchers distributed paper-based questionnaires to Hunter and QCC students during the summer of 2015. They recruited participants in cafeterias, hallways, in front of classrooms, outside library entrances, and outside campus buildings. Participants who completed the survey received one dollar in appreciation of their time. The researchers orally informed subjects about the goal of this study, requested consent to participate, and provided written copies of the informed consent script if requested. The investigators analyzed the results using SPSS.

Participant Profiles

The investigators approached 100 students, of which 79 agreed to participate in the study. The completion rate of the survey was 100%. Of the 79 participants, 49 (62%) were Hunter students and 19 (nearly 24%) were QCC students. The remaining 11 participants (14%) were affiliated with other institutions but taking summer courses at Hunter or QCC. Among study participants, 81% (n=64) were undergraduate, 6.3% (n=5) graduate, 3.5% (n=3) continuing education, 2.5% (n=2) visiting students, and 6.4% (n=5) other (for example, alumni, non-degree, or BA/MA students). Among undergraduate students, approximately 13% (n=10) were freshmen, 24% (n=19) sophomores, close to 17% (n=13) juniors, and 29% (n=23) seniors. Nearly 18% (n=14) could not be classified in the aforementioned categories.

Of the study participants 63% (n=50) identified as female and nearly 37% (n=29) as male. An overwhelming number were below 24 years of age (72%, n=57). Close to one quarter (n=19) belonged to the 25-34 age group, and 1.3% (n=1) each were from the 45-54 and 55-64 age groups. The study subjects were diverse in terms of race and ethnicity: 20.3% (n=16) were white, 27.8% (n=22) black, 13.9% (n=11) Hispanic, 25.3% (n=20) Asian, 3.8% (n=3) multiracial, and 9% (n=7) from other racial and ethnic groups.
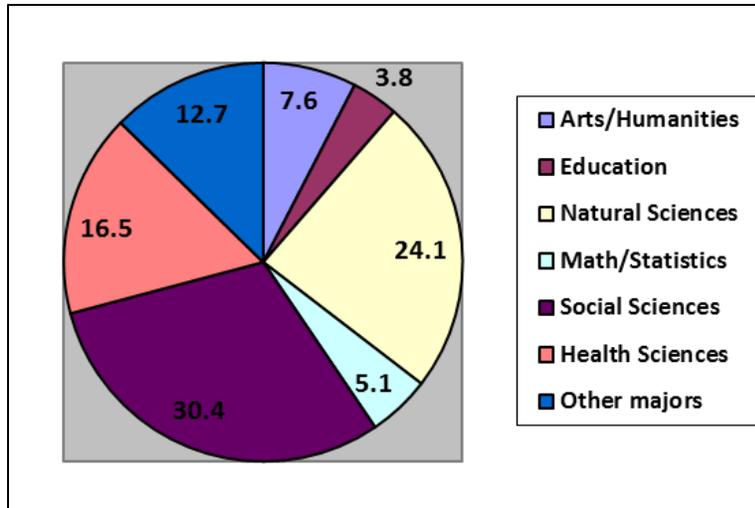
Figure 1
Participants' fields of study by percentage.

Participants represented a wide variety of academic majors: 30.4% (n=24) of respondents were pursuing social science degrees, 24.1% (n=19) natural sciences, 16.5% (n=13) health sciences, 7.6% (n=6) arts or humanities, 5.1% (n=4) mathematics or statistics, and 3.8% (n=3) education. The remaining 12.7% (n=10) indicated other majors. (See Figure 1.)

A strong majority of the respondents (nearly 79%, n=62) reported that they were aware that their college library offered reference services, but 21% (n=17) said they were not.

Results

Major Findings

Overall, face-to-face reference emerged as a clear favourite among participants, while telephone reference was consistently the least favoured—nearly 75% (n=59) of the respondents reported that face-to-face was their most preferred reference mode, and approximately 34% (n=27) identified telephone reference as their least preferred. Nonetheless, eight respondents (10.1%) still cited face-to-face as their least preferred medium. Other noteworthy findings include:

- Online chat and e-mail reference both had higher negative than positive ratings. Chat was most preferred by 11.1% (n=9) of respondents and least preferred by roughly 13%; for e-mail this difference was greater, with 5.1% (n=4) of participants citing it as their favourite mode and 25.3% (n=20) as their least favourite. Similarly, text message reference was the least favourite of nine respondents (11.4%) and the favourite of only one (1.3%).
- None of the participants favoured telephone reference.
- Six participants (7.6%) said they did not use reference services.

For an overview of most and least preferred reference modes please see Figures 2 and 3.

RQ 1. Which reference mediums do community college students prefer?

Approximately 74% (n=14) of community college students reported that when finding scholarly resources such as books or journal articles for research papers or other academic assignments, they prefer face-to-face reference
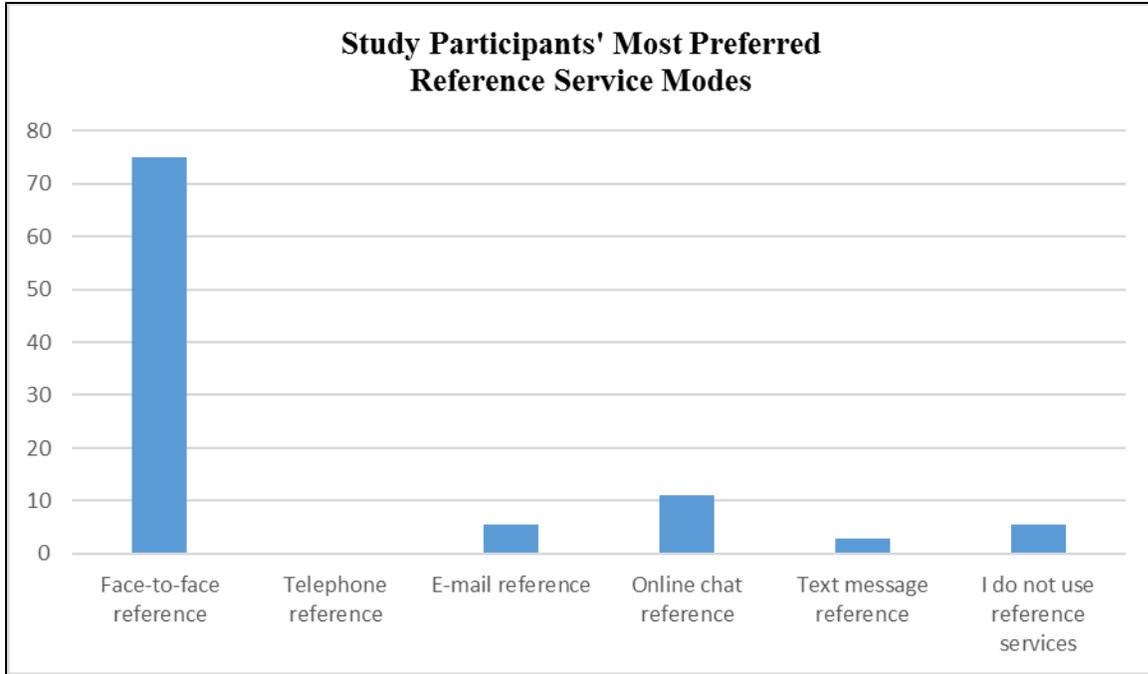
Figure 2
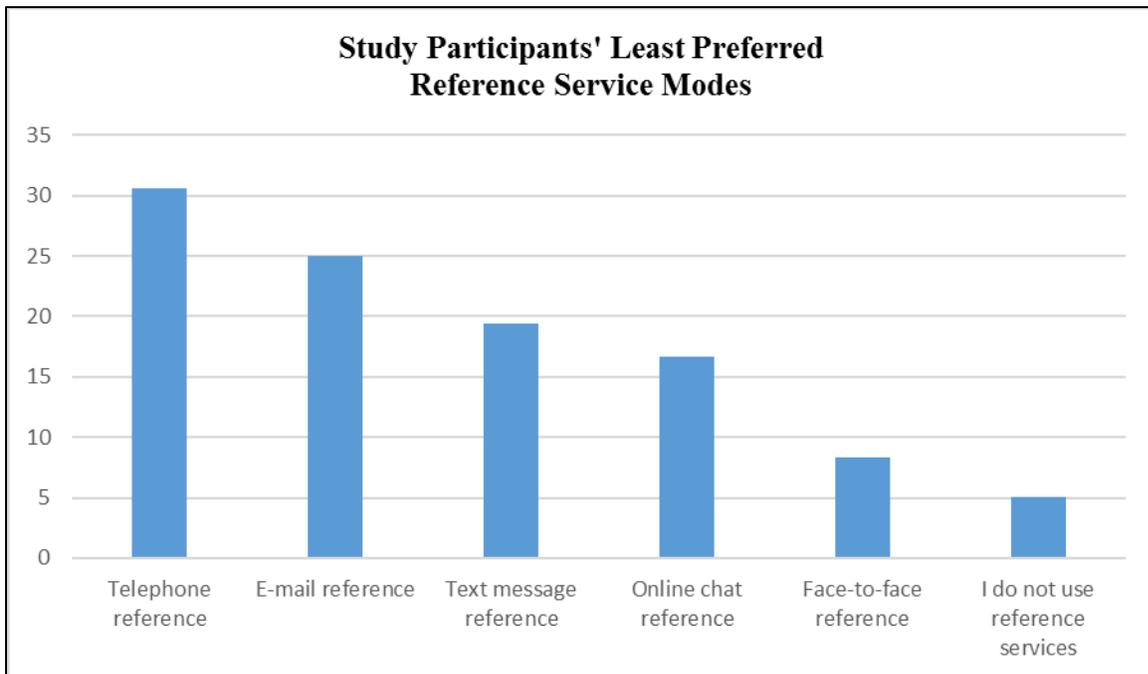Most preferred reference service modes of all participants.

Figure 3
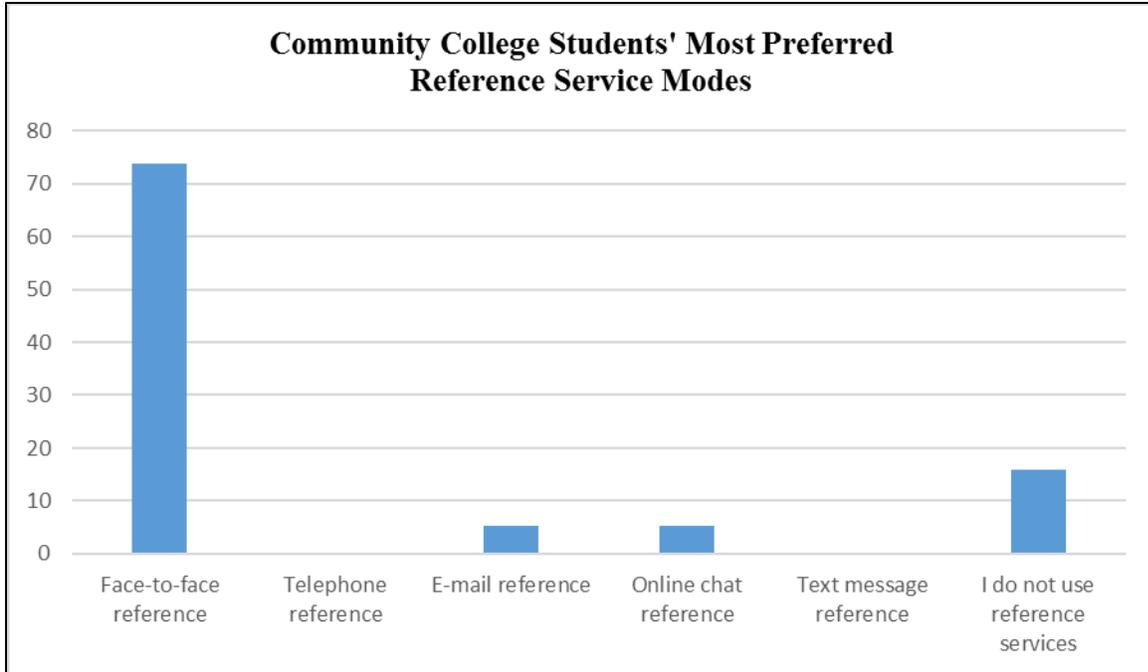Least preferred reference service modes of all participants.

Figure 4
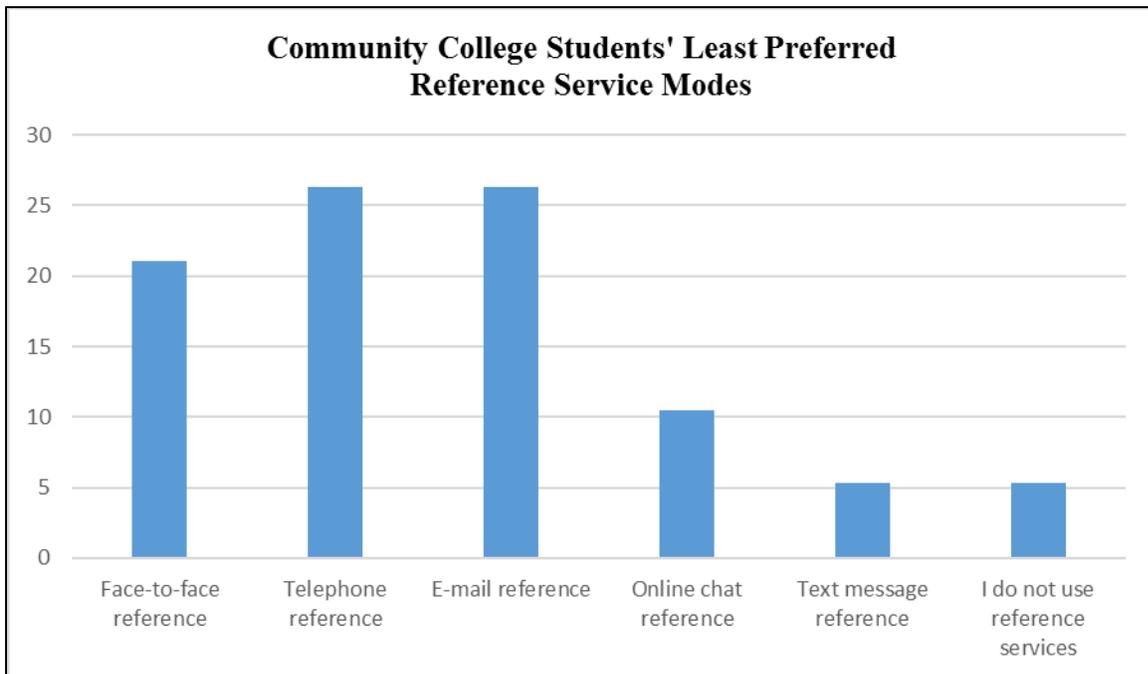Most preferred reference service modes of community college students.

Figure 5
Least preferred reference service modes of community college students.

*

help. One community college student (5.3%) preferred e-mail reference and one chat. None favoured telephone or text message reference mediums, and close to 16% (n=3) said they did not use any type of reference service. (See Figure 4.)

Equal numbers of community college students cited telephone and e-mail reference as their least preferred mediums (26.3%, or n=5, for each). Four community college subjects (21.1%) indicated face-to-face as their least preferred medium, one (5.3%) cited text message, and one had not used reference services. (See Figure 5.)

RQ 2. Which reference mediums do four-year college students prefer?

Nearly 70% (n=34) of four-year college students reported that they preferred face-to-face reference for assistance with finding resources such as books or journal articles for research assignments. Eight four-year students (16.3%) preferred chat reference, followed by e-mail at 6.1% (n=3). An equal percentage (6.1%, n=3) of

four-year students said they do not use reference services. Only one four-year student preferred text message reference (2%), and none chose telephone reference (see Figure 6).

With regard to least preferred reference mediums, close to 39% (n=19) of four-year students selected telephone, followed by e-mail reference at 26.5% (n=13), text message at 14.3% (n=7), and chat at 10.2% (n=5). Despite its status as the most preferred reference medium among this cohort, face-to–face nevertheless emerged as the least favourite of 6.1% of respondents (n=3). Two four-year college students reported that they do not use reference service. (See Figure 7.)

RQ 3. Which reference mediums do students from different academic disciplines prefer?

The researchers also attempted to determine the reference mode preferences of students according to field of study as reported by the participant (two respondents declined to identify an academic major). Overall, majorities of students across all disciplines preferred face-
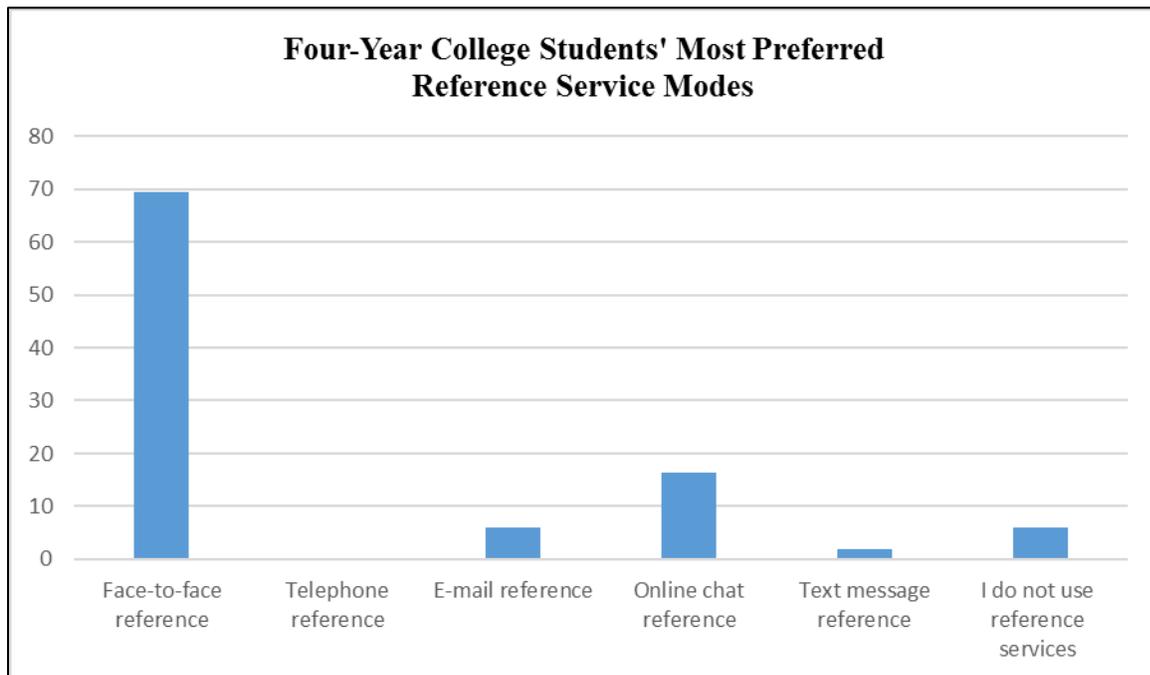
Figure 6
Most preferred reference service modes of four-year college students.

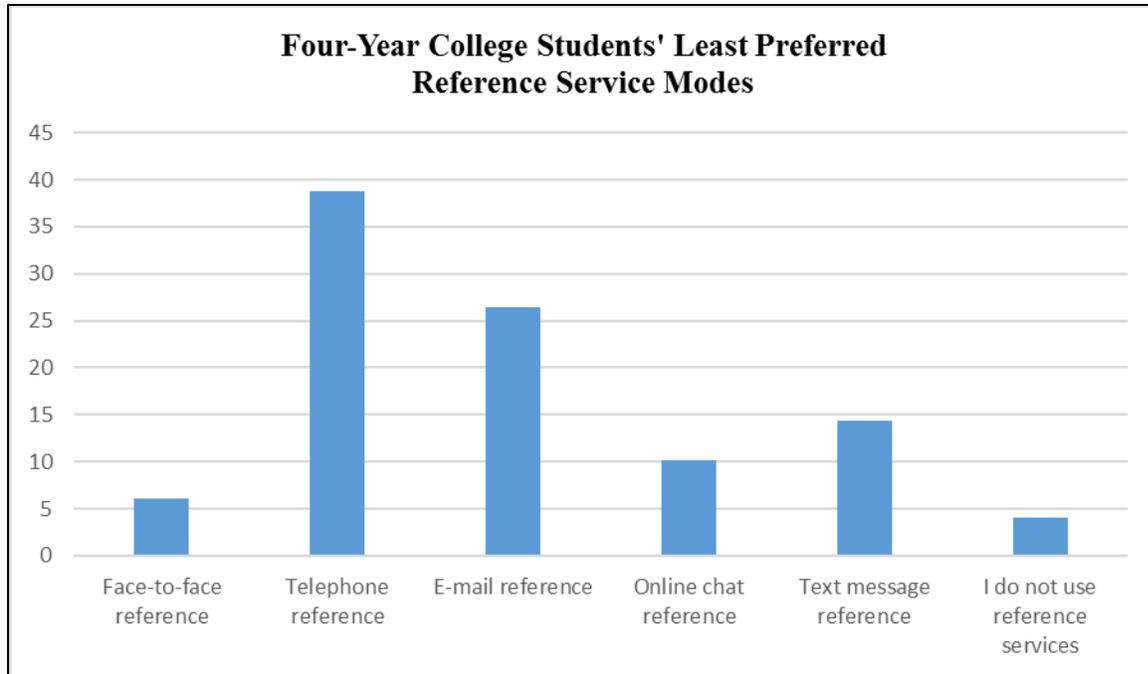**Four-Year College Students' Least Preferred Reference Service Modes**

Figure 7
Least preferred reference service modes of four-year college students.

to-face reference, while telephone, e-mail, and chat reference emerged as the mediums most likely to be cited as participants' least favourite. Table 1 lists complete data for most preferred reference modes by field of study; Table 2 lists data for least preferred reference mode.

RQ 4. Which reference mediums do undergraduate and graduate students prefer?

The survey also collected data on preferences according to graduate or undergraduate status. As with other groups, face-to-face was the preferred medium for majorities of both undergraduate (71.9%, n=46) and graduate (80%, n=4) students surveyed. E-mail and chat reference services fared better with undergraduate students, at 6.3% (n=4) and 11% (n=7) respectively, than they did with graduate students (n=0 for both). Again, no participant cited telephone as a favoured medium. See Figures 8 and 9 for complete findings regarding

most and least preferred modes according to academic level.

RQ 5. Which reference mediums do undergraduate freshman, sophomore, junior, and senior students prefer?

Within the undergraduate population, the researchers further attempted to determine preferences according to year of study. Seventy percent (n=7) of undergraduate freshman students, nearly 79% (n=15) of sophomores, 69.2% (n=9) of juniors, and close to 74% (n=17) of seniors chose face-to-face as their most preferred reference medium. Telephone was the least popular medium for all groups except sophomores, who indicated that they disliked e-mail more by a difference of 15 percentage points. With regard to library usage, seniors were the most likely to report that they made use of reference services. Please see Tables 3 and 4 for complete data on preferences according to year of study.

Table 1
Most Preferred Reference Service Modes by Field of Study [a]

Reference Medium	Liberal Arts and Humanities	Natural Sciences	Math or Statistics	Social Sciences	Health Sciences	Dual Major, Social Sciences and Health Sciences	Dual Major, Social Sciences and Natural Sciences	Pre-Med Concen-tration	Social Work	Education
Face-to-face	9(90)	15(78.9)	4(100.0)	17(70.8)	8(61.5)	1(100.0)	0(0.0)	8(72.7)	5(71.4)	5(100.0)
Telephone	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
E-mail	0(0.0)	1(5.3)	0(0.0)	0(0.0)	3(23.1)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Online chat	1(10)	1(5.3)	0(50.0)	4(16.7)	1(7.7)	0(0.0)	1(100.0)	0(0.0)	0(0.0)	1(33.3)
Text message	0(0.0)	0(0.0)	0(0.0)	1(4.2)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
I do not use reference services	0(0.0)	2(10.5)	0(0.0)	2(8.3)	1(7.7)	0(0.0)	0(0.0)	0(0.0)	1(50.0)	0(0.0)

[a] Number of Respondents/Percentage

Table 2
Least Preferred Reference Service Modes by Field of Study [b]

| Reference Medium	Liberal Arts and Humanities	Natural Sciences	Math or Statistics	Social Sciences	Health Sciences	Dual Major, Social Sciences and Health Sciences	Dual Major, Social Sciences and Natural Sciences	Pre-Med Concen-tration	Social Work	Education
Face-to-face	1(10.0)	1(5.3)	1(25.5)	2(8.3)	2(15.4)	0(0.0)	0(0.0)	0(0.0)	1(50.0)	0(0.0)
Telephone	3(30.0)	10(52.6)	1(25.5)	10(41.7)	3(23.1)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
E-mail	1(10.0)	4(21.1)	0(0.0)	6(25.0)	3(23.1)	1(100.0)	1(100.0)	1(100.0)	0(0.0)	2(66.7)
Online chat	2(20.0)	2(10.5)	0(0.0)	2(8.3)	3(23.1)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Text message	2(20.0)	1(33.3)	2(50.0)	1(8.3)	1(7.7)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(33.3)
I do not use reference services	1(10.0)	1(5.3)	0(0.0)	2(8.3)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(50.0)	0(0.0)

[b] Number of Respondents/Percentage
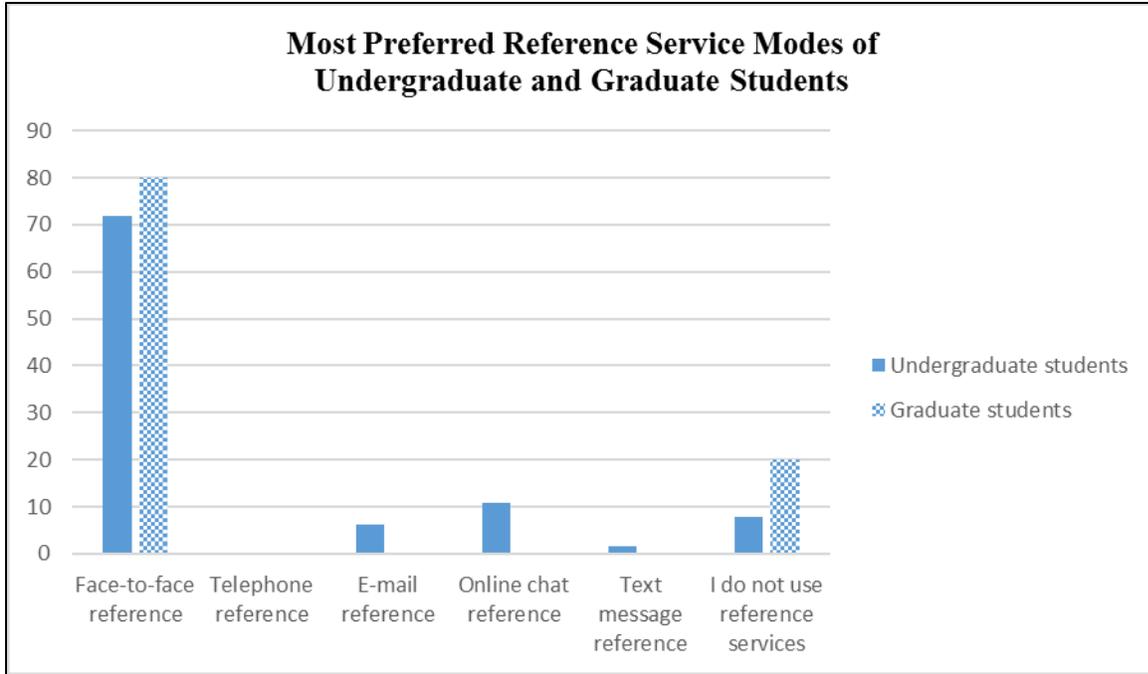
Figure 8
Most preferred reference service modes by academic level.
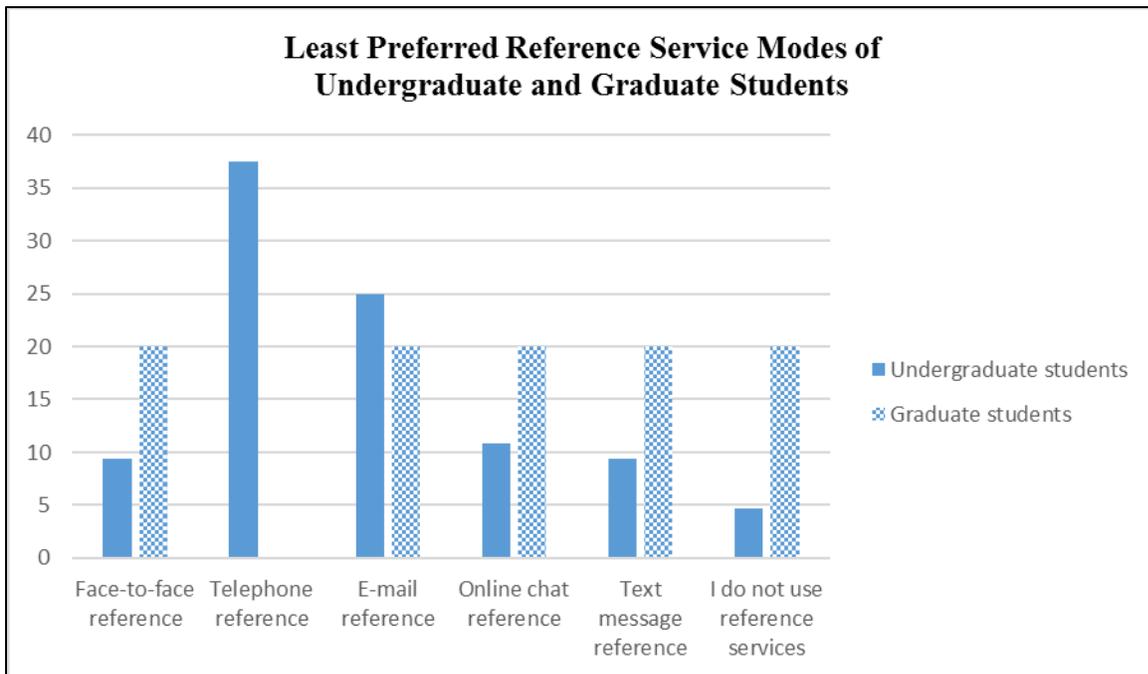

Figure 9
Least preferred reference service modes by academic level.

Table 3
Most Preferred Reference Service Modes by Year of Study [c]

Reference Medium	Freshman	Sophomore	Junior	Senior
Face-to-face	7(70.0)	15(78.9)	9(69.2)	17(73.9)
Telephone	0(0.0)	0(0.0)	0(0.0)	0(0.0)
E-mail	2(20.0)	0(0.0)	2(15.4)	0(0.0)
Online chat	0(0.0)	1(5.3)	0(0.0)	6(26.1)
Text message	0(0.0)	1(5.3)	0(0.0)	0(0.0)
I do not use reference services	1(10.0)	2(10.5)	2(15.4)	0(0.0)

[c] Number of Respondents/Percentage

Table 4
Least Preferred Reference Service Modes by Year of Study [d]

Reference Medium	Freshman	Sophomore	Junior	Senior
Face-to-face	2(20.0)	2(10.5)	0(0.0)	2(8.7)
Telephone	4(40.0)	4(21.1)	8(61.5)	8(34.8)
E-mail	2(20.0)	7(36.8)	3(23.1)	6(26.1)
Online chat	1(10.0)	2(10.5)	1(7.7)	3(13.0)
Text message	1(10.0)	1(5.3)	0(0.0)	4(17.4)
I do not use reference services	0(0.0)	2(10.5)	1(7.7)	0(0.0)

[d] Number of Respondents/Percentage

RQ 6. What are the reference medium preferences of students belonging to different age, gender, and racial or ethnic groups?

The survey captured data regarding the preferences of participants according to demographic characteristics such as age, gender, and identification with a particular racial or ethnic group, presented below.

Gender

Male participants showed slightly greater preference for face-to-face reference than did female respondents (86% as compared with 68%); also, more female students identified face-to-face as their least favourite medium than did males (12% vs. 7%). No one of either sex preferred telephone reference, although e-mail drew an even stronger negative response among male students. Female students were slightly more likely to state that they do not use reference services. See Figures 10 and 11 for complete data on most and least preferred reference modes by gender.

Age

Nearly 79% (n=45) of respondents below 24 years of age and 68.4% (n=3) from the 25–34 age group selected face-to-face as their most preferred reference mode, as did the sole
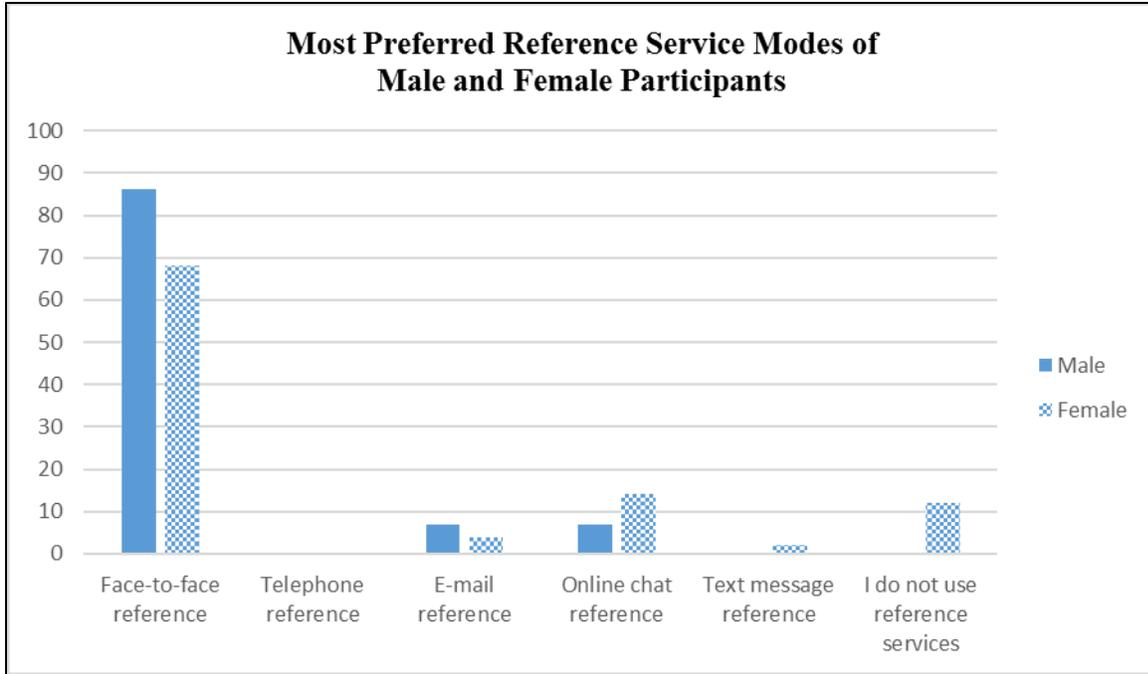
Figure 10
Most preferred reference service modes of male and female participants.
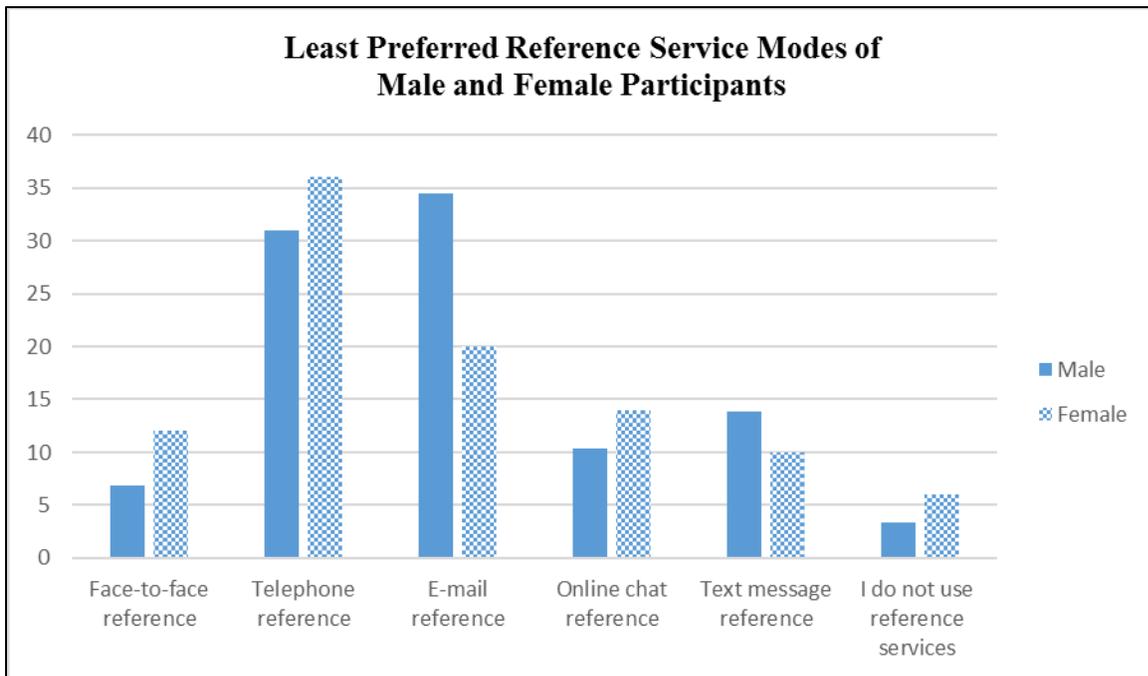

Figure 11
Least preferred reference service modes of male and female participants.
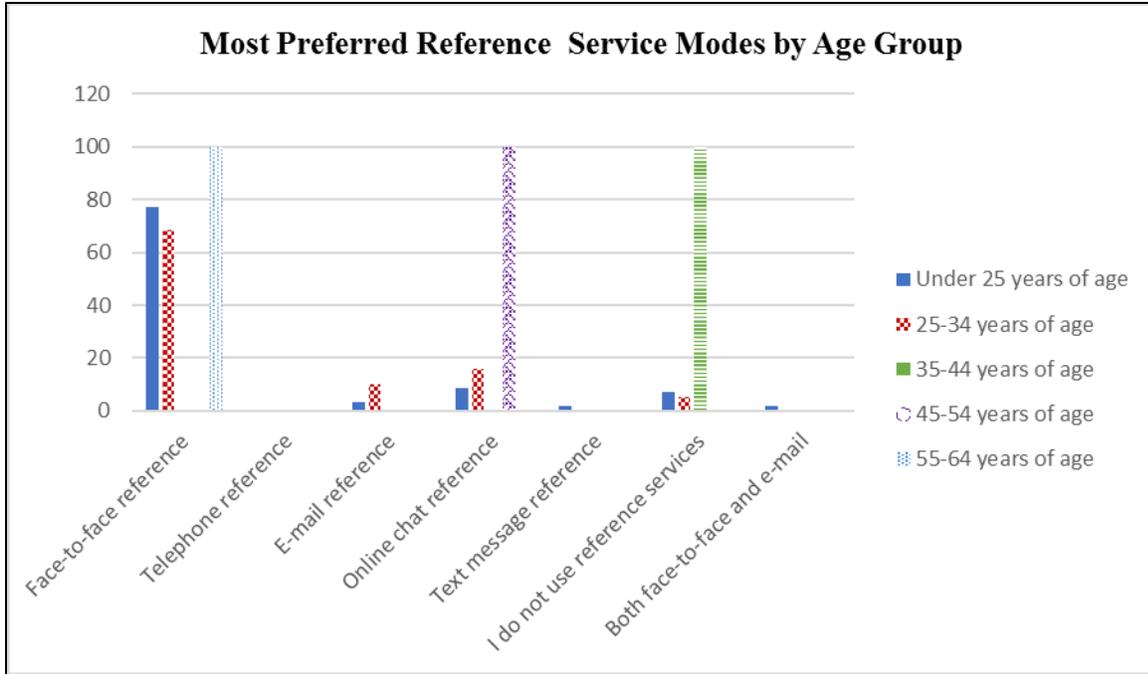
Figure 12
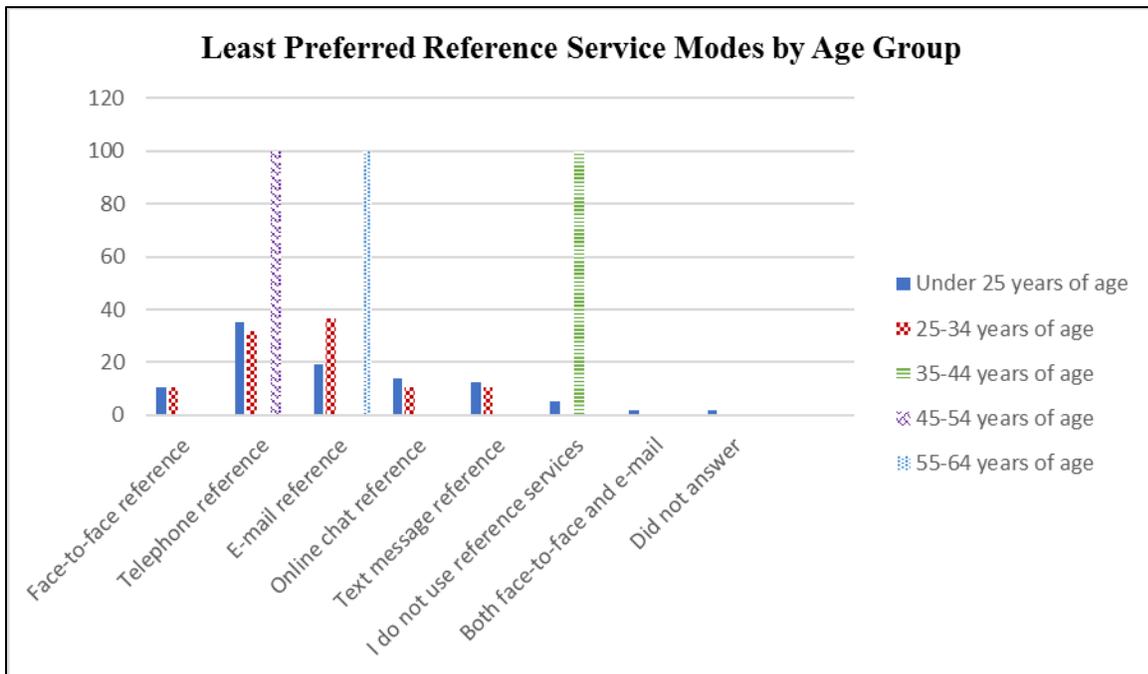Most preferred reference service modes by age group.

Figure 13
Least preferred reference service modes by age group.

participant from the 55–64 age group. No participant from any age group favoured telephone reference, which was cited as least preferred by 35.1% (n=20) of the respondents under age 24, 31.6% (n=6) of those in the 25–34 age group, and 100% (n=1) of the 45–54 age group. Figures 12 and 13 display the complete findings for most and least preferred reference modes by age group.

Race/Ethnicity

A majority of students within each racial or ethnic group selected face-to-face reference as their preferred medium. This was true of approximately 69% (n=11) of white, nearly 73% (n=16) of black, 63.6% (n=7) of Hispanic, and 80% (n=16) of Asian students, as well as 70% (n=7) of those identifying as other races or ethnicities. However, African-American respondents were more likely than other groups to cite face-to-face as their least preferred, with 27.3% (n=6) indicating this. Please see Tables 5 and 6 for complete data regarding most and least preferred reference modes per group.

Discussion

The findings of this study reveal noteworthy patterns concerning academic library users' reference service preferences. Foremost, regardless of institutional affiliation, academic major, undergraduate or graduate status, year of study, gender, age, and race or ethnicity, respondents overwhelmingly preferred face-to-face reference over remote mediums. These findings run counter to widely held perceptions of college students as being highly drawn toward technology, and could indicate that either students do not see added value in virtual reference services or their use of technology in other spheres does not necessarily carry over to academic tasks.

Only some of the results of this survey are consistent with those of earlier studies. As in Johnson's (2004) study, face-to-face emerged as the most preferred reference mode of undergraduate and graduate students, and telephone was the least preferred medium of undergraduates. The current results, however, differ from Johnson's in that graduate students

Table 5
Most Preferred Reference Service Modes by Race/Ethnicity [e]

Reference Medium	White	Black	Hispanic	Asian	Other
Face-to-face	11(68.8)	16(72.7)	7(63.3)	16(80)	7(30.0)
Telephone	0(0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
E-mail	1(6.3)	0(0.0)	0(0.0)	2(10)	1(10.0)
Online chat	2(12.5)	4(18.2)	2(18.2)	0(0.0)	0(0.0)
Text message	1(6.3)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Both Face to Face and e-mail	0(0.0)	0(0.0)	1(9.1)	0(0.0)	0(0.0)
I do not use reference services	1(6.2)	2(9.1)	1(9.1)	2(10.0)	0(0.0)

[e] Number of Respondents/Percentage

Table 6

Least Preferred Reference Service Modes by Race/Ethnicity [f]

Reference Medium	White	Black	Hispanic	Asian	Other
Face-to-face	0(0.0)	6(27.3)	0(0.0)	1(5)	1(10.0)
Telephone	6(37.5)	5(22.7)	6(54.5)	7(35.0)	3(30.0)
E-mail	5(31.3)	5(22.7)	4(36.4)	5(25.0)	0(0.0)
Online chat	0(0.0)	2(9.1)	1(9.1)	5(25.0)	2(20.0)
Text message	4(25)	2(9.1)	0(0.0)	0(0.0)	3(30.0)
Both e-mail and online chat	0(0.0)	1/(4.5)	0(0.0)	0(0.0)	0(0.0)
I do not use reference services	1(6.3)	1(4.5)	0(0.0)	2(10.0)	0(0.0)
Did not answer	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(10.0)

[f] Number of Respondents/Percentage

did not display any considerable interest in e-mail reference. Also, in Johnson's (2004) study a high percentage of undergraduate and graduate students predicted that remote reference services would be "heavily used in ten years" (p. 241), a finding which this study does not corroborate. Similar to Granfield and Robertson (2008), data from the current study reveal the popularity of in-person reference among college library users, but do not support that study's findings that graduate students prefer virtual reference modes. This is surprising given that many researchers have suggested that "graduate students seem more likely to conduct their research outside the library" (Granfield & Robertson, 2008, p. 44).

Finally, it must be noted that 21% of all respondents (n=17) indicated that they were not aware that their institution's library offered reference services at all. This serves as a sobering reminder that librarians can take nothing for granted regarding patron awareness of even basic library services. Clearly, a need exists among the population sampled here for outreach and education about reference services.

Limitations and Future Research

This study had several limitations. To begin with, the researchers conducted the survey during the summer, when only a minority of the student body is on campus. As with many colleges and universities in North America, Hunter and QCC organize the academic year into a 16-week semester during the fall and another during the spring, with shorter terms of anywhere from three to twelve weeks held during the January intersession and the summer months. According to the CUNY Office of Institutional Research and Assessment (2016a), total enrollment for degree-seeking students at Hunter was 15,204 for the spring 2015 semester and 15,465 for the fall; at QCC, these figures were 13,272 for spring 2015 and 13,692 for the fall. During the sessions comprising summer 2015, however, enrollment dropped to 4,998 degree-seeking students at Hunter and 4,805 at QCC. The demographic data available does not indicate any great difference with regard to gender or ethnic characteristics between the cohort of students who took courses during the summer of 2015 and those enrolled during spring and fall semesters. For instance, women made up 64.6% of Hunter undergraduates in

spring, 65.7% in summer, and 64.7% in fall 2015 (CUNY Office of Institutional Research and Assessment, 2016a). Percentages of students enrolled by ethnic group similarly vary within a limited range only. The only marked difference that emerges between regular semester and summer-session students is in the area of full-versus part-time status. In spring 2015, Hunter had 11,234 full-time undergraduate degree-seeking students and only 3,970 part-time; at QCC, this figure was 8,706 full-time and 4,566 part-time. Fall 2015 showed a similar composition of 11,942 full-time and 3,523 part-time students at Hunter, with 9,252 full-time and 4,440 part-time students at QCC. During the summer 2015 sessions, however, this pattern was reversed, with 4,846 undergraduate degree-seeking part-time students at Hunter and only 152 full-time, and 4,747 part-time versus 58 full-time students at QCC (CUNY Office of Institutional Research and Assessment, 2016b). Thus, part-time students are heavily over-represented in the summer population, which may limit the applicability of this study to the overall student body. The exact make-up of the group sampled in this study remains unknown because the survey instrument did not include a question about full- or part-time status.

Apart from the timing of the study, the small sample size and convenience sampling method might limit the generalizability of these findings to other college library users, and the reliance on self-reported data weakens the validity of the findings. With regard to the academic level of certain participants, the study failed to capture some pertinent data: there were 14 undergraduate participants who selected neither freshman, sophomore, junior, nor senior status, yet the survey instrument offered only those four options with no mechanism to indicate a different status. Thus, data on the academic level of almost 18% of undergraduate respondents went unrecorded. Finally, due to a misprint on the instrument used, the 24-and-under age group was mislabeled as "under 24," which might have created confusion for some

respondents and introduced ambiguity into the results concerning ages of participants.

Despite its limitations, this study offers opportunities for further investigation. Researchers could replicate this study with larger, randomized samples or expand it to include students from both public and private institutions. Future studies could employ interview and observation methods to gain a deeper understanding of students' reference-seeking preferences and behaviors, or examine the impact of factors not considered here such as full- or part-time status, daytime or evening attendance, use of mobile devices, and English language skills. Future researchers may also find it fruitful to more deeply investigate some of this study's findings regarding demographic groups (for instance, that African-American students are less likely to prefer face-to-face interaction with a librarian, or that female students are less likely to use reference services) to determine whether these results reflect any broader trends.

Conclusion

The researchers found no marked differences between students at two-year and four-year institutions with regard to reference mode preferences. Rather, as far as this survey could determine, community college students largely share the attitudes of students at the senior colleges when accessing reference services. Nonetheless, these findings help illuminate the experiences of both types of students at large, public, urban campuses and may help librarians better support community college students making the transition to a four-year institution. Moreover, knowing the practices and preferences of such patrons can help librarians situate reference services within a context more likely to maximize their use and relevance, thereby forging stronger connections with users.

Libraries today have much to gain by developing such connections. As Thorpe, Lukes, Bever, and He note, academic libraries "face

increasing competition for institutional funding and student attention" along with growing pressure to demonstrate the contribution of library services to student success (Thorpe, Lukes, Bever & He 2016, p. 387). At the same time, many librarians struggle to counter perceptions of decreased relevance in an age of free online resources and sophisticated search algorithms. Under these circumstances, academic libraries at both two-year and four-year institutions might enhance their impact by assessing user views on reference modes and targeting support toward those programs that more closely align with patron practises and preferences.

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Appendix

Questionnaire: Library Reference Services

1. Which college do you attend? **Please select ONE** of the following:
    a. Hunter College
    b. Queensborough Community College
    c. Another CUNY college
    d. A private college
    e. Other college
    f. I do not attend a college

2. What is your academic level? **Please select ONE** of the following:
    a. Undergraduate student
    b. Graduate/Professional student
    c. Continuing Education student
    d. Alumni
    e. Other (please specify)

3. If you are an undergraduate student, **please select ONE** of the following. Otherwise skip this question.
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior

4. What is your gender? **Please select ONE**.
    a. Male
    b. Female
    c. Transgender

5. Approximately, what is your age? **Please select ONE**.
    a. Under 24
    b. 25-34
    c. 35-44
    d. 45-54
    e. 55-64
    f. 65 and up

6. How do you identify yourself? **Please select ONE**.
    a. White
    b. Black
    c. Hispanic
    d. American Indian or Alaska Native
    e. Asian
    f. Arab/Middle Eastern
    g. Native Hawaiian or other Pacific Islander
    h. Multiracial
    i. Other (please specify)

7. What is your **major OR intended major OR In what subject area do you hope to obtain a degree or have a degree**? Please indicate:

8. How often do you go to your college library?
    a. Several times in a week
    b. Once a week
    c. Once a month
    d. More than one time in a month
    e. Rarely visit library

9. **Reference services** in libraries assist people to find information that they need.
    Are you aware that your college library offers **reference services**?
    a. Yes
    b. No

10. Have you used the **reference services** of your college library?
    a. Yes
    b. No

11. If you need help finding materials (e.g., books, research articles, and other items) for any academic purpose (e.g., research papers, assignments, etc.) which **ONE** of the following reference services would you **PREFER TO USE FIRST:**
    a. Face-to-face reference at the reference desk
    b. Telephone reference
    c. E-mail reference
    d. Online chat reference
    e. Text message reference service
    f. I do not use reference services

12. What is your **LEAST PREFERRED** reference medium for the purpose of finding materials (e.g., books, research articles, and other items) for any academic purposes (e.g., research papers, assignments, etc.)? Please select **ONE** of the following:
    a. Face-to-face reference at the reference desk
    b. Telephone reference
    c. E-mail reference
    d. Online chat reference
    e. Text message reference service
    f. I do not use reference services

13. Do you prefer:
    a. Electronic (e-books)
    b. Print books
    c. Do not know
    d. None

14. Any suggestions for improving reference services (e.g., **Skype Video Reference, make an appt. with librarians**):

15. Any other comments and/or suggestions: