Students who are non-users of their academic library:

A scoping review

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**Abstract**

Studies of university students who are non-users of their academic libraries could provide valuable insights to libraries, yet the extent of the research on this topic remains largely unexplored. This scoping review provides a comprehensive and systematic examination of the research literature in this area, exploring how authors have defined, researched, and addressed the phenomenon of non-users. A search for relevant studies was conducted using bibliographic databases, grey literature searching, and citation tracing. From 1864 records, 69 publications were identified for inclusion. Analysis of the included publications revealed a wide array of definitions for non-users and reasons for non-use. An overwhelming majority of studies (88%) included a survey or questionnaire, most described only a single mode of recruitment, and there was a surprising dearth of information gathered about the non-users themselves. There is currently still much to be learned about students who do not use their academic library and their reasons for non-use. Further qualitative research focused on the needs and motivations of non-users could allow for more nuanced segmentation within this group, and inform libraries' outreach and development efforts.

**Keywords:**

non-users, scoping reviews, academic libraries, user studies, students

**Introduction**

User studies have long been conducted in academic libraries, to multiple ends: their results can be used to demonstrate impact, to evaluate program effectiveness, or to inform prioritization of library resources. Recent studies of academic library users have looked into why and how students use myriad library tools and services. These may include, but are not limited to: physical space (Hall & Kapa, 2015) and print collections (Rose-Wiles et al., 2020); services such as Interlibrary Loan (Yang et al., 2020) and library reference assistance (Jameson et al., 2019); and e-resources, including discovery services (Oh & Colón-Aguirre, 2019) and LibGuides (Hicks et al., 2021).

Over the last several years, there has been increased interest in demonstrating the value of an academic library by looking at how students’ use of the library, or lack thereof, relates to potential metrics of student success. A 2017 report from the Association of College and Research Libraries demonstrated positive relationships between library use and student success in multiple areas (Brown & Malenfant, 2017). Other studies have found a positive relationship between use of some library resources and student Grade Point Average (GPA) (Anderson & García, 2020; Scoulas & De Groote, 2019). Mayer and colleagues (2020) used a mixed-methods approach to investigate the relationship between student success and library use, finding that students with higher library use were more likely to persist to the next year.

Such studies, while offering interesting insights, usually have not gathered information about the non-users, nor their reasons for not using the library. They also typically rely on users’ participation and self-report of their library activities. Indeed, historically, library surveys have often omitted the non-user, "who is far more difficult to reach but who…represents a significant portion of the population" (Schlichter & Pemberton, 1992). Including non-users in a survey can be a "complex and costly" endeavor (Martin, 1976) yet provides valuable insight into our community. As expressed by McCarthy (1994), non-users "are not necessarily anti-library" but may simply use alternate paths to information, and that a library “would be failing in your mission if you did not seek to identify the needs of all potential users in the organization” (McCarthy, 1994).

In 1990, Cannon pointed out that academic library non-users are studied infrequently when compared to prolific user studies and called for more in-depth research into non-users (Cannon, 1990).  While library users may be a more popular topic, non-users have not gone unexplored since that time. In the study of academic libraries, there have been multiple studies of faculty non-use (Borteye & Atiso, 2018; Davis & Connolly, 2007; Ocholla, 1996). Past researchers also have studied the non-users of public libraries (Fernández-Ardèvol et al., 2018; Flowers, 1995; Horrigan, 2016; McNicol, 2004) and school libraries (Burks, 1996; Clark & Teravainen-Goff, 2018; Kershaw, 2001). A recent narrative literature review considers the topic of non-users in academic libraries (Kiilu & Otike, 2016). To date, however, there has not been a review on the topic of academic library non-users using formal evidence synthesis methods.

The aim of this scoping review is to provide a comprehensive and systematic examination of the body of literature on higher education students who are non-users of their academic libraries, exploring how authors define, research, and address the phenomenon of non-users.  

**Methods**

We conducted a scoping review of the research literature on students of higher education institutions who were considered non-users, or infrequent users, of their institution’s library. Our review was guided by the methodological framework of Arksey & Malley (2005), elaborated upon by Levac and colleagues (2010) as well as Peters and colleagues (2020).

Our objectives for the review were to: explore the extent of the literature on this topic, identifying potential gaps in the research; examine the methodological approaches of identified studies; understand how authors define non-use; and summarize the conversation around reported reasons for non-use.

*Inclusion/exclusion criteria*

In order to be included, non-users had to be a focus of the publication, and these non-users had to be, or at least include, higher education students. The publications also had to be primary research studies or case reports. We excluded commentaries, review articles, and publications that were not in English, French, or Spanish. Publications that appeared to use data from the same study, but were either reformatted or split into different analyses were ultimately included. Since authors might vary in the strictness of their definitions for “non-users,” we also included studies that referred to infrequent or low-use users. Additionally, the studies had to include some description or exploration of non-users—studies that only provided a simple statistic about how many non-users were found in a larger user study were excluded.

*Search strategy*

We searched the following databases: Library, Information Science & Technology Abstracts (LISTA); Library Literature & Information Science Full Text; Web of Science Core Collection; Scopus; ERIC (ProQuest); Education Research Complete (EBSCOhost); and Dissertations & Theses Global (ProQuest). We conducted all searches on May 13th 2020.

In addition to the Dissertations & Theses database, we searched the following websites for grey literature: American Library Association and within it, ACRL and RUSA; the Association of Research Libraries; the Medical Library Association; the Canadian Library Association; the International Federation of Library Associations and Institutions; Ithaka S+R; and the International Association of University Libraries (IATUL).

We searched using a combination of keywords and controlled vocabulary terms describing three concepts: 1) non- or infrequent use, 2) a higher education setting, and 3) libraries. Some databases used controlled vocabulary terms that combined two of the above concepts, such as "academic libraries," in which case that was included as an alternative to terms for the two concepts separately, and LISTA and Library Literature also had controlled vocabulary terms for "Academic library use studies" and “technical college library use studies” so all articles indexed with these terms were also included. We did not apply date restrictions or any other limitations. An example of the search strategy created for LISTA is available in Table 1, and the full search strategy is available in Appendix A. While full search strings were used for the searches, as shown in the appendix, the LISTA example is shown with numbered lines to more clearly highlight how the terms were combined.

|  |  |
| --- | --- |
| **Row #** | **Search String** |
| #1 | (AB("don't use") OR TI("don't use") OR AB("infrequent user") OR TI("infrequent user") OR AB("infrequent users") OR TI("infrequent users") OR AB("low use") OR TI("low use") OR AB("non-use") OR TI("non-use") OR AB("non-user") OR TI("non-user") OR AB("non-users") OR TI("non-users") OR AB("infrequently use") OR TI("infrequently use") OR AB("nonusers") OR TI("nonusers") OR AB("nonuser") OR TI("nonuser") OR AB("never use") OR TI("never use") OR AB("rarely use") OR TI("rarely use") OR AB("infrequent use") OR TI("infrequent use") OR AB("non-usage") OR TI("non-usage") OR AB("nonuse") OR TI("nonuse")) |
| #2 | (DE "Academic libraries") |
| #3 | (DE "UNIVERSITIES & colleges" OR (DE "Undergraduates") OR DE "Graduate students" OR AB("college") OR TI("college") OR AB("colleges") OR TI("colleges") OR AB("university") OR TI("university") OR AB("universities") OR TI("universities") OR AB("higher education") OR TI("higher education") OR AB("higher ed") OR TI("higher ed") OR AB("academic") OR TI("academic") OR AB("undergraduates") OR TI("undergraduates") OR AB("undergraduate") OR TI("undergraduate")) |
| #4 | (DE "Library use studies" OR DE "Digital library use studies" OR DE "Library information network use studies" OR DE "Medical information services use studies" OR DE "Technology information services use studies" OR DE "Research library use studies" OR AB("library") OR TI("library") OR AB("libraries") OR TI("libraries") OR AB("librarian") OR TI("librarian") OR AB("librarians") OR TI("librarians")) |
| #5 | (DE "Academic library use studies" OR DE "Technical college library use studies") |
| #6 | #1 AND #2 |
| #7 | #1 AND #3 AND #4 |
| #8 | #6 OR #7 OR #5 |

**Table 1**Search strategy used for Library, Information Science and Technology Abstracts (LISTA).

*Study selection*

We uploaded search results into EndNote for deduplication; the deduplicated results then were uploaded to Covidence. We screened ten articles together in Covidence to test the process and identify potential areas for clarification. Next, we separately screened 30 more publications. After finding conflicting decisions for only two of them, we moved forward with the screening process, separately screening the remaining publications in four batches and meeting at regular intervals to review and discuss conflicts. For conflicts, we decided to err on the side of inclusion whenever there was not clear agreement between reviewers.

Both authors reviewed each paper at the full text review stage. The only exceptions to the dual reviewer process were items in a language other than English, or that were only available in physical format, such as print or microfilm, since due to the COVID-19 pandemic these could not be easily shared between the reviewers. In these cases, one reviewer made the final decision about the item.

After we identified the set of included publications, we conducted backwards and forwards citation searching: one author reviewed the reference lists of the identified publications and the other used Google Scholar to identify subsequent citations.

*Data Charting and Synthesis*

We created an extraction form in Covidence to capture data from each publication. We abstracted data including study aims and methods, participant characteristics, and any listed reasons for non-use. Five publications were reviewed jointly by the two authors to identify potential discrepancies. We decided to make some adjustments to the form based on this initial review, including changing reasons for non-use from a list of pre-selected options into a single free-text field since we found that we could not anticipate and document all potential reasons in the form, and then we divided the remaining publications between us. When questions emerged in the data charting process, the other reviewer was consulted. For some items such as reasons for non-use, we performed further inductive coding after initial charting in Covidence to identify relevant categories for further classification. Results were summarized using descriptive statistics.

**Results**

Database searches identified 1842 publications, and an additional 22 were identified through website searches for grey literature, backward and forward citation searching, and serendipitous discovery. After the screening process was complete, 69 publications met the inclusion criteria (see Table 2). See PRISMA diagram (Figure 1) for full details.

Additional records identified   
through other sources  
(n = 22)

Forward citations = 4  
Backward citations = 1  
Targeted grey lit searches = 9  
Serendipitous discovery = 8

## Identification

Records identified through database searching  
(n = 1842 )

Records after duplicates removed  
(n = 1273 )

## Screening

Records screened  
(n = 1273 )

Records excluded  
(n = 986 )

Full-text articles excluded, with reasons  
(n = 218 )

Non-users not a focus = 158  
Not a research study = 21  
No discussion of reasons for non-use or characteristics of non-users = 13  
Not obtainable via ILL or author = 9  
Not about students = 7  
Not in English, Spanish, French = 5  
Wrong setting (public or K-12) = 3  
Not a library focus = 2

## Eligibility

Full-text articles assessed for eligibility  
(n = 287 )

Studies included in synthesis  
(n = 69 )

## Included

Figure 1. PRISMA flow diagram.

**Table 2**   
Included studies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Study (1st author, year) | Country | Service or resource of interest (what is not being used?) | Method(s) | Reasons for non-use, if included |
| Abdullah, 2008 | U.K. | e-books | Survey (print) | Lack of awareness; no relevant e-book titles were available; e-books need special equipment; prefer printed books; dislike reading on screen; not as portable; takes time to learn new technology |
| Al-Harbi, 2002 | U.S.A. | Multiple: general library use; reference service; ILL | Survey (online) | Find necessary information elsewhere; use internet instead; lack of adequate services; do not need library for their discipline |
| Baillargeon, 1982 | Canada | Multiple: book borrowing; physical space | Survey (print) | N/A |
| Balanli, 2007 | Turkey | Multiple: research (reference) service; physical space | Survey (print); headcounts | Uncomfortable library space; travel distance to library; trouble accessing needed resources |
| Balog, 2018 | Croatia | Multiple: physical space, browsing library shelves, seeking help from a librarian, OPAC, databases, library website, social media | Survey (online); follow-up interviews | Lack of need; dislike library space |
| Boakye, 1999 | Ghana | Library science & technology collections, including but not limited to books and periodicals | Survey (print/online not specified) | Poor lighting/power cuts; unlabeled shelves; unfriendly staff; inadequate furniture; library hours; difficulty using catalogs; books misshelved; inadequate collections |
| Braimoh, 1997 | Lesotho | Physical space | Survey (print) | Dated reference materials; lack of searching skills; not used to reading in the library; unhelpful staff; library hours; satisfied with own books; crowded/ uncomfortable environment |
| Bridges, 2008 | U.S.A. | Multiple: physical space, virtual library services | Survey (online) of all undergrads; non-users followed up with focus groups and open-ended survey (online) | Studied/used computers at home or in departmental buildings instead; cannot log into their individual student accounts from the library building |
| Bringula, 2014 | Philippines | E-resources, including books and journals | Survey (print); informal interviews | Prefer watching video tutorials; teachers give handouts with relevant information; use print resources instead; lack of awareness |
| Bureau of Libraries and Educational Technology, 1971 | U.S.A. | Physical space | Survey (print) | Collections unavailable/in use, or library doesn’t have; outdated collection; catalog and stacks poorly organized; not needed for studies; unattractive library; insufficient seating/space; library hours; insufficient services/equipment; noise |
| Cabonero, 2017 | Philippines | Periodicals (magazines and journals) | Survey (print/online not specified) | Prefer internet; no time to visit the library; not required in the classroom |
| Cassidy, 2012 | U.S.A. | E-books | Survey (online) | Lack of awareness; lack of perceived need |
| Colaric, 1998 | U.S.A. | Course reserves | Survey (print) | Only available at undergraduate library; waiting if someone already checked out; poor quality photocopies; pages marked, damaged, torn, out of order, or missing |
| Connaway, 2007 | U.S.A. | Virtual reference services | Survey (online); focus groups | Lack of awareness; satisfaction with other information sources; lack of confidence in the chat librarian's ability to help them |
| Connaway, 2009 | U.S.A. | Virtual reference services | Survey (online) | More convenient to retrieve information themselves rather than seeking help from librarian; lack of awareness; lack of confidence in the chat librarian’s ability to help them; lack of service availability at all hours; satisfaction with other information sources.  Among older non-users, also: lack of computer skills; complexity of chat environment |
| Connaway, 2011 | U.S.A. | Mutliple: virtual reference services (seeking synchronicity); internet search engines; library catalogs; newspapers; staff; reference books; internet chatrooms, etc. See p. 182 for complete list | Survey (online); focus groups; interviews; VRS transcripts | Lack of service availability at all hours; library is not convenient or not open at convenient hours; start with internet/Google/Wikipedia first; personal convenience; internet as starting point; more convenient to retrieve information themselves rather than seeking help from librarian |
| Consonni, 2010 | Italy | Digital library service (central portal to search e-resources) | Survey (online) | Lack of need; interests not covered; system not user-friendly; attempted to use but access denied; using other systems instead |
| Croft, 2010 | Canada | E-books | Survey (online) | Lack of awareness; prefer print books/issues with reading on screen; lack of need; have not had time to investigate; only use journal articles |
| Curtis, 2000 | U.S.A. | Multiple: physical space; print and electronic collections; reference staff (asking for help) | Focus groups | Prefer internet sources; find library confusing; hesitant to bother librarians at reference desk |
| de Crevoisier de Vomecourt, 2001 | France | OPAC; databases, including CD-ROMs; internet (at library) | Survey (print) | OPAC: No need for this tool; unable to use it; prefer to search in stacks; don't have time; lack of awareness.  Internet: wait too long; don’t know how to use; no need.  Databases/CD-ROMs: wait too long; no need; I never find what I want; don't know how to use |
| Dendani, 2001 | France | Multiple: physical space; photocopier; computers; internet (at library); CD-ROMs; card catalog; microfiche | Sociological observation | N/A |
| Ferguson, 1982 | U.S.A. | OPAC | Survey (print) | No need; no time to learn how to use it; not having taken a training session |
| Fidzani, 1998 | Botswana | Multiple: ILL; reserves; reference desk; photocopier; CD-ROMs; Botswana collection; periodical; late night hours | Survey (print/online not specified) | Lack of awareness; lack of need; difficult to use |
| Fisher, 2019 | U.S.A. | Multiple: circulation; ILL; information sessions; physical space; digitization services; in-person and virtual reference service; technology assistance | Survey (online); interviews | No need or interest |
| Frank, 2007 | U.S.A. | Interlibrary Loan | Survey (online) | Lack of awareness; lack of need; didn't think would receive in time; didn't want to fill out form; form is difficult |
| Hsieh, 2008 | U.S.A. | Laptop lending service | Survey (online) | Lack of awareness; lack of need/having own laptop; using library desktops instead; inconvenient to get to library |
| Ikeda, 1992 | U.S.A. | "Computerized literature searching" including drug information, disease information | Survey (print) | Lack of access to a computer; lack of access to an intermediary searcher, lack of access to assistance with searching; lack of need |
| Ismail, 2005 | Malaysia | E-books | Survey (print) | Prefer print; lack of knowledge on how to use or access; inconvenient; do not have internet connection; difficult to browse and read; no interest; need special software |
| Kisby, 2011 | U.S.A. | Multiple: physical space; online resources | Survey (online) | Not required for classes |
| Kranich, 1984 | U.S.A. | OPAC | Survey (print) | Have no need; time needed to learn system; have not received training |
| Kranich, 1986 | U.S.A. | OPAC | Survey (print) | Have no need; time needed to learn system; have not received training |
| Kyrillidou, 1993 | Greece | English department library, including: physical space; borrowing library materials; card catalog; reserves; browsing; asking librarian's assistance | Survey (print) | Have no need; library hours; did not have time; found necessary books elsewhere; library didn't have materials they wanted |
| Larson, 2016 | Ghana | Unclear | Survey (print) | N/A |
| Link, 1985 | U.S.A. | Multiple: phone calls; physical space; asking librarian’s assistance | Survey (phone) | Library space too crowded or noisy; difficulty parking; demands on time; location; missing or insufficient materials; lack of carrels; concern with security; issues with library staff, rules, or policies |
| Littrell, 2019 | U.S.A. | Multiple: physical space; electronic resources; “resources on library premises” | Survey (print/online not specified) | N/A |
| Lubans, 1970 | U.S.A. | “The library”/unclear | Interviews; survey (print) | Do not need |
| Lubans, 1971 | U.S.A. | “The library”/unclear | Interviews | Do not need; poor collection |
| Lubans, 1972 | U.S.A. | Multiple: physical space; reserves; card catalog; periodicals; microforms; “etc.” | Survey (print) | Courses don't require library use; the library is inadequate; I don't care for library environment; lack of awareness; felt no need to use; couldn't locate the service even though I knew it existed |
| Lubans, 1973 | U.S.A. | Circulating materials classified in Library of Congress or Dewey Decimal | Interviews | Courses don't require library use; the library is inadequate for my purposes; I don't care for library environment |
| Lubans, 1974 | U.S.A. | “The library”/unclear | Survey (print) | No need; lack of awareness; couldn’t locate the service even though I knew it existed |
| Luo, 2015 | Ghana | Information help desk (reference service) | Survey (print) | I’m able to find information myself; not aware help desk exists; don’t want to wait when librarian already engaged; don’t feel comfortable talking to librarians |
| Maltby, 1972 | U.K. | Library catalog | Survey (print) | Catalog doesn't give information wanted; crowding makes use difficult; difficult to understand |
| Markey, 1983 | U.S.A. | OPAC | Survey (print); focus groups | Not having taken training sessions; no time or reluctant to learn; lack of need; card catalog easier to use, more familiar/trusted; dislike or fear of computers |
| Maxwell, 1991 | Canada | Computer-based bibliographic information systems, including OPAC, CD-ROM databases, & others | Survey (print) | Used other information sources instead; lack of need; lack of time to learn; forgetting how to search; anxiety about computers; anxiety about asking for help; problems scheduling an appointment |
| Musavi, 1977 | U.S.A. | "The library"/unclear | Survey (print); informal follow-up conversations (interviews) | Lack of need; poor collection; use another library instead |
| Musavi, 1984 | U.S.A. | Checking out materials | Survey (print) | Lack of need; poor collection; use another library instead |
| Naylor , 2008 | U.S.A. | Chat reference service | Focus groups | Lack of awareness |
| Omaji , 1994 | Australia | CD-ROM databases | Interviews | Lack of awareness; don’t know how to use computers; use articles on reserves instead |
| Ouellette, 2011 | Canada | Subject guides (LibGuides) | Interviews | Lack of awareness; prefer searching the Web with a search engine; lack of need |
| Porat, 2008 | Israel | Interlibrary Loan | Survey (online) | Lack of awareness; lack of need; inconvenient; unwilling to wait; colleagues send items instead; cost; travel to other libraries instead; Locate for free on the Internet; personal or departmental subscription to journal; library not used for research purposes |
| Porat, 2009 | Israel | Interlibrary Loan and Document Supply | Survey (online) | Lack of awareness; lack of need; inconvenient; unwilling to wait; colleagues send items instead; cost; travel to other libraries instead; Locate for free on the Internet; personal or departmental subscription to journal |
| Pritchard, 1980 | U.K. | Physical space | Survey (print) | Lack of awareness; lack of need; no time; library hours; use other library instead |
| Rogani, 2007 | Italy | Digital collection service (Emeroteca Virtuale) | Survey (online); interviews | Lack of awareness; prefer print; insufficient backfiles; technical difficulties |
| Rowlands, 2008 | U.K. | “The library”/unclear | Survey (online) | N/A |
| Safavi, 1989 | France | “The library”/unclear | Survey (print) | Lack of awareness; lack of need; library too far; library hours; can’t find the building; library too complex |
| Saleem, 2011 | Canada | Self checkout | Survey (online) | N/A |
| Simmonds, 2000 | U.S.A. | “The library”/unclear | Survey (online/print not specified); focus groups | N/A |
| Stöpel, 2010 | France | “The library”/unclear | Survey (print); interviews | Don’t know how to use library webpage; lack of awareness; lack of need; webpage not fast enough; prefer to work elsewhere; find information elsewhere; professors provide necessary information |
| Stöpel, 2017 | France | Multiple: physical space, online resources | Survey (print); interviews | Don’t know how to use library webpage; lack of awareness; lack of need; webpage not fast enough; prefer to work elsewhere; find information elsewhere; professors provide necessary information |
| Swails, 2018 | U.S.A. | Physical space | Survey (online) | N/A |
| Thomas, 2015 | U.S.A. | Physical space (learning commons) | Survey (online) | Lack of awareness; prefer studying elsewhere; too crowded; cannot concentrate there; too far from residence |
| Thompson, 2007 | Multiple, unclear | Library “on-premises” resources | Analysis of pre-existing (LibQUAL+) data | N/A |
| Tipton, 2001 | U.S.A. | Multiple: physical space; interlibrary loan; databases; TexShare card; print resources | Survey (print) | Lack of awareness; lack of need; don’t know how to use |
| Toner, 2008 | U.K. | “Traditional library services”; print resources | Survey (print) | Library too far; lack of time; library hours; difficulty finding items on shelves; lack of help from staff; lack of need; library uninviting; do not like libraries |
| Umukoro, 2017 | Nigeria | Electronic library services including databases, e-journals, e-reference, and more | Survey (print/online not specified); interviews | Inefficient/unreliable e-library system; lack of skilled manpower; lack of user training; lack of Internet access; lack of awareness; lack of availability; irregular power supply |
| Vondracek, 2007 | U.S.A. | Multiple: physical space; virtual library resources | Surveys (online); focus groups | Inconvenient; crowded, loud, or uncomfortable physical space; lack of need; not required by courses; prefer alternatives; better Internet access elsewhere |
| Whittaker, 1990 | U.S.A. | Multiple: reference service; journals; infotrac; late night study area; library handouts; self-guided tour; instructional media center; government documents; new books collection; physical space | Survey (print) | Lack of need; library did not have what they needed; used public library instead; environment uncomfortable/not conducive to study |
| Yang, 2020 | U.S.A. | Interlibrary loan and document delivery | Survey (online) | Lack of awareness; lack of need; prefer to find item in the stacks myself |
| Zei, 2011 | Malaysia | “The library”/unclear | Questionnaire-based interviews | N/A |

*General characteristics of all identified articles*

The publication dates of included publications ranged from 1970-2020. The split by decades is available in Table 3. Thirty-five (51%) of the studies were conducted in the United States, and the full breakdown of studies by country and continent is available in Table 4.

|  |  |  |
| --- | --- | --- |
| Decade | # of publications | Percentage of publications |
| 1970s | 8 | 12% |
| 1980s | 9 | 13% |
| 1990s | 9 | 13% |
| 2000s | 22 | 32% |
| 2010s | 20 | 29% |
| 2020s | 1 | 1% |

**Table 3**  
Year of study publication

|  |  |  |  |
| --- | --- | --- | --- |
| Country | # of publications | Percentage | Continent |
| United States | 35 | 51% | North America |
| UK | 5 | 7% | Europa |
| Canada | 5 | 7% | North America |
| Turkey | 1 | 1% | Europa |
| Croatia | 1 | 1% | Europa |
| Ghana | 3 | 4% | Africa |
| Lesotho | 1 | 1% | Africa |
| Philippines | 2 | 3% | Asia |
| Italy | 2 | 3% | Europa |
| France | 5 | 7% | Europa |
| Botswana | 1 | 1% | Africa |
| Malaysia | 2 | 3% | Asia |
| Greece | 1 | 1% | Europa |
| Australia | 1 | 1% | Oceania |
| Israel | 2 | 3% | Asia |
| Multiple countries | 1 | 1% | Many |
| Nigeria | 1 | 1% | Africa |

**Table 4**  
Country in which the study was conducted

The majority of the publications were journal articles (n=44, 64%), with the remainder being reports (n=8), PhD dissertations (n=5), book chapters (n=4), conference publications (n=4), master’s papers (=3), and a paper produced for a certificate (n=1). The 44 journal articles came from 32 different journals, with eight journals represented more than once: Journal of Academic Librarianship (5), portal: Libraries and the Academy (3), Bulletin des Bibliothèques de France (2), Journal of Interlibrary Loan, Document Delivery & Electronic Reserves (2), Journal of Librarianship & Information Science (2), Journal of Library Administration (2), Library Review (2), and Malaysian Journal of Library & Information Science (2).

*Study design*

Sixty-one (88%) publications included questionnaires/surveys. Of these, 31 were print surveys, 22 were online surveys, one was a phone survey, and one was a “questionnaire-based interview”. The format of the remaining six surveys were not clearly indicated.

Fifteen (22%) publications included interviews, either as the primary study method or as follow-up to an initial survey, which some studies used to identify non- or infrequent users. Eight (12%) publications included focus groups, and one study did analysis of pre-existing library/university data.

*Method of recruitment used*

In-person solicitation (n=23) was the most common single mode of recruitment indicated, followed by email (n=14)**.** Other, less common, methods of recruitment included: phone, mail, campus newspaper ads, flyers/posters, campus radio and television announcements, instructor announcements, outreach to the student government association, snowball sampling, and working with instructors to offer extra credit for participation. Eight studies used more than one of these methods to recruit subjects, and in 13 cases the recruitment methodology was not described.

Within the 23publications that recruited participants in person, nine did so exclusively within the library building. Another five publications recruited at least some portion of the participants from within the library, although two specified that non-users were recruited through other means.

In three studies(Baillargeon & Dufort, 1982; Consonni, 2010; Lubans & et al., 1973), participants were contacted based on library data that indicated their non- or low use of a library resource. In one study participants were individually selected because the researchers considered them to be “interesting customers” (Rogani, 2007).

*Participants*

The number of students participating in the studies ranged enormously, from one study that looked at two years of LibQUAL+ data from multiple countries with over 50,000 respondents for each year (Thompson et al., 2007), to a study which interviewed a total of eleven participants (Ouellette, 2011). Many studies included both non-users and users of the resource(s) in question, and did not always provide clear numbers for non-users or even total study participants. Twenty-six publications included participants who were not college students, and did not always indicate the breakdown of students vs. other populations, further complicating the data.

*Aspect of library reviewed for non-usage*

The studies varied in terms of what facet of the library was not being used by non- or low users. Twenty-two studies focused on tools or collections provided by the library, 11 studied library services, and five studies focused solely on use of the library building. Twenty-one studies looked at multiple items across these categories. For nine publications, it was not clear how the authors defined "library use."

Library services investigated included interlibrary loan, chat reference, and the information help desk. Library tools or collections reviewed included: library catalog, circulating materials, databases, course reserves, e-books, specific subject collections, a digital library service, subject guides, e-journals, and magazines/journals.

*Definitions of non-users/infrequent users*

While four studies defined and identified non-users based on existing library data about a lack of usage (Baillargeon & Dufort, 1982; Consonni, 2010; Lubans & et al., 1973; Toner, 2008), most studies relied on users’ assessment of their own use to define them as non- or infrequent users.

What constituted non-use or infrequent use varied considerably. In some publications, non-users were defined as someone who had never used the facet of the library in question, while other publications defined non-users as those who had not used it within a certain period of time. Depending on the study, this time period could be the most recent two weeks, month, semester, or year. In other cases, the non-users were specifically students who frequented the library building, but who indicated that they did not use a particular facet of the library (de Vomécourt, 2001; Ferguson, 1982; Luo & Buer, 2015). One study specifically studied people who had used a resource but had chosen not to use it again, referring to these as “factual non-users” (Consonni, 2010). Another included people who had never used the service in question as well as those who had previously used the service then discontinued use (Umukoro & Tiamiyu, 2017).

Infrequent, or “low,” users also were not defined in a consistent manner. In some cases these were users that only used the library several times a year (Vondracek, 2007), or claimed to “rarely” use it (Kisby, 2011). Some studies similarly analyzed non-users and infrequent users together. One study specifically stated that “nonusers are actually irregular and infrequent users, rather than people who have never used the library" (Kyrillidou, 1993). Another created a "low user group" containing both students who "never use" the library and used it "a couple of times per semester" (Link & et al., 1985) and another similarly created a low use group comprised of users who had borrowed three items or less in the last twelve months (Toner, 2008). One study looked at those who indicated that they only used the library a few times per semester, very seldom, or never (Lubans, 1972).

*Detailed characteristics of selected articles*

*Initial focus on non-users*

The authors noted the included publications in which non-users were an intended focus of a study from its outset (n=49), as well as those designed as broader user studies within which non-users emerged during the course of the research (n=17). In the remaining three publications, classification was not made due to unclear language.

*Characteristics of non-users analyzed*

In 29 publications, the authors found no breakdown of characteristics for the non-users. Within the remaining 40 publications, 15 examined a single characteristic, with the other 25 examining two or more. Characteristics analyzed in the publications included non-users' discipline/major/college/course/department (n=21), gender or sex (n=17), class year (n=10), and age (n=9).

Additional but less frequently mentioned characteristics were divided by the authors into the following broad themes: previous or future library interactions, technology fluency/access, student status, academic success, and background/personal. Each of these characteristics and how they were classified by the authors is available in Table 5.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Previous or future library interactions** | **Technology fluency/access** | **Student status** | **Academic success** | **Background/**  **personal** |
| * Attendance at a library orientation * use of other library services * intent to use a service * use of other libraries | * access to IT * online usage | * on-campus or distance students * part-time/full time status * transfer status * commuter * living on campus/off | * GPA * Productivity * publications | * Socioeconomic status * town/city of origin * work status * language use * parent’s education * personality traits * plans for after graduation |

**Table 5**  
Additional characteristics of non-users

*Reasons provided for non-use*

Fifty-nine studies provided some exploration of participants' reasons for non-use. The reason for non-use documented in the highest number of studies (n=39) was users stating that they simply did not have a need for the particular tool, service, or resource. The second most frequently documented reason for non-use was a lack of awareness (n=27), and the third was not knowing how to use the resource in question (n=14).

The remaining reasons given for non-use can be grouped into the following broad categories: perceived inadequacies of the library, barriers, and preferred alternatives (see Table 6).

|  |  |  |
| --- | --- | --- |
| **Perceived inadequacies** | **Barriers** | **Preferred alternative** |
| inadequate or outdated collections (n=13) | attempted to use but unable to access (n=10) | Use an alternative/find information elsewhere (n=12) |
| what I need is not available (n= 11) | Time needed to learn how to use (n=7) | Use internet instead (n=7), |
| disliking the library space or finding it uncomfortable (n=10) | not having had training, (n=5) | Use print resources instead (n=7) |
| inconvenient(n=9) | Do not have or have not had the time to use (n=5) | Use another library instead (n=6), |
| too crowded/not enough seating(n=7) | not having the necessary equipment or technology (n=4) | Prefer to do it myself rather than getting assistance from librarian or library staff (n=3) |
| library services are inadequate(n=5) |  | Use another space to work or study (n=3) |
| unfriendly or unhelpful staff(n=4) |  | Professors give me the information I need (n=3). |
| noise/library too loud (n=3) |  |  |
| Misshelved books or disorganized stacks(n=3) |  |  |

**Table 6**  
Additional reasons for non-use

*Planned/proposed changes*

Fifty publications included some description of planned or proposed changes based on their findings, and 19 publications did not.

The top two planned or proposed changes were for improved promotion and more robust instruction. Thirty-two publications recommend or indicate plans for improved promotion, marketing, or outreach to improve awareness of the library or its services/tools. Eleven publications recommended using profiling to target services to specific populations, e.g. distance learners. Twenty-three publications proposed implementing, increasing, or improving library instruction sessions, trainings, orientations, or user education programs. Relatedly, several (n=8) proposed the creation of instructional products other than instruction sessions, such as tutorials or user guides. Fourteen publications describe working with faculty or curriculum integration of library resources as a proposed means of increasing use.

Other recommendations made by at least five publications included making improvements to the physical space (seating, temperature, etc.) (n=6), making e-resources, including library websites, more user-friendly (n=11), and digitizing/making resources available in electronic format (n=6).

*Suggestions for additional research*

Forty-two publications gave suggestions for further research on non-users, with a common recommendation to repeat the present study in some form. However, publications varied in their recommendations in terms of what form this replication should take. Some described repeating the study with an improved/different sample, e.g. larger, randomized, stratified, or multi-institutional, to improve generalizability (n=9). Others recommended using a different population or discipline, e.g. faculty, graduate students, or students from another discipline (n= 8). Some suggested repeating the study at the same institution to measure progress or the impact of changes implemented due to study findings (n= 5), and some simply suggested that their method or instrument be adopted at additional libraries (n=5). Seven publications recommended further research using the same method, but with refinements to the survey instrument or inclusion of additional variables.

Nine publications recommended deeper investigation of reasons for non-use, using qualitative methods, and four recommended the investigation of the impact of library use/non-use on student performance or academic outcomes. Three broadly stated that there should be further research conducted on non-users.

**Discussion**

This scoping review provides an overview of the current landscape of research around students who are non-users of their academic library. It reveals a wide array of definitions for non-users and reasons for students’ non-use of their library. In addition, it raises questions around common assumptions about the prevalence of non-users and continuing gaps in the profession’s understanding about these students. Heavy reliance on surveys indicates a need for expanding research methods in future studies.

*Approaches to studying & recruiting non-users*

While Booth (2008) stated that “to capture the opinions of non-beneficiaries from existing services, it is probably best to conduct separate and specific research aimed at this group (such as focus groups or interviews” (p.233) , the majority of the identified studies instead relied on surveys and often included both users and non-users of the library.

Non-users are often described as a difficult population to reach, yet many of the publications found listed a notable lack of recruitment strategies, with heavy reliance on a single mode of outreach—sometimes even specifically focusing on in-person recruitment within the library. While some studies detailed specific efforts to reach out to non-users, overall there was a lack of detailed efforts about recruiting and consulting with non-users.

*Prevalence of non-users*

Despite the overall sparsity of recruitment efforts, some studies found that non-users still comprised a sizeable percentage of the participants, and sometimes even the majority. Indeed, Baillaregon & Dufort (1982) found that 47% of the total population of students were non-borrowers for the time period of interest. Balog (2018) found that a large majority of the doctoral students in the study neither visited the library nor asked a librarian for help, and de Crevoisier de Vomecourt (2001) said that the extent of non-use was probably the most interesting finding in their study. In another of the included publications, Vondracek (2007) commented on the idea that non-users may be more prevalent than librarians often assumed, remarking: “When every computer is in use in the library and every table filled with students, we are lulled into believing that more students regularly visit the Valley Library or use the online resources” (p.292).

This potential disconnect between library perceptions around the number of non-users and the reality is likely furthered by the fact that commonly gathered usage statistics, including those for IPEDS and the National Center for Education Statistics, typically reflect cumulative usage rather than users. Indeed, Fleming-May (2011) found that “[t]hirty years after Zweirig and Dervin advised that examination of library and information use should be centered with the user (or the user’s process of use), discussion of library use is still overwhelming focused on instances, or transactions, of use” (p. 317). Even surveys such as LibQUAL+ reflect only the self-reported usage of those who participate, and response rates are typically low. One study found that among 19 institutions that used LibQUAL+, the average response rate was 15% (Buck et al., 2012). As such, most universities may simply not know much about what segment of their population is, or is not, using the library.

*Defining library non-use and non-users*

While in decades prior to widespread online access to library resources and services, the use of a library might have been largely synonymous with visitation of its physical premises, what it means to be either a user or a non-user of a library is no longer as clear-cut. Indeed many librarians may be familiar with the phenomenon of students and faculty who think of themselves as never using the library, while regularly making use of its subscription resources.

Among the publications located, there were many different dimensions of library non-use studied, ranging from a single library resource, building, or service, to a wide range of different types of use. Definitions for non-users also varied from individuals who had never using used the library facet in question to ones who had simply not used it within the last week. Non-use of a particular facet of the library also did not always correlate with larger patterns of non-use (Baillargeon & Dufort, 1982; Lubans & et al., 1973).

The complications for defining non-use come into clearer relief when considering how researchers have attempted to measure its inverse: library use. Stemmer & Mahan (2016) included twenty different potential aspects of library usage in their survey, and described what the library provides to students as falling into three rough categories “library as place, library as resource, and library as service” (p.371). When Anderson & Garcia (2020) looked at library usage, they created a Library Resource Usage Index (LRU) score that included frequency of use of a variety of physical and online tools and resources. They also gathered data on frequency of library building usage. Fleming-May (2011) studied how the concept of use was used in the library literature, ultimately developing a typology of library use, with four broad types, some of which also had associate subtypes. There are clearly many different potential ways to be a user of the library, and as such just as many ways to be a non-user.

*Characteristics of non-users & reasons for non-use*

Overall, there was a notable lack of information gathered about non-users and little analysis conducted about their characteristics—and a lack of consensus among those that did. Among the studies that gathered data on the characteristics of non-users, information about non-users' discipline, gender, age, and class year were more commonly compiled.

However, the wide variety of reasons provided for students’ non-use suggests that non-users—under any chosen definition of that term—are not a monolith and may indeed have distinct sets of reasons for non-use of the library*.* This scoping review identified numerous reasons for non-use. Non-users' perceptions of the library's offerings can be categorized as follows: not needed, low quality, inaccessible, unfamiliar/unknown, or rendered unnecessary by preferred alternatives. Each of these categories potentially points to differences with the non-users in terms of their experience and preferences for their interactions with the library.

While publications in this scoping review did not attempt to create distinct categories within non-users, other publications have discussed the importance of distinctions in this area. Peter Hernon pointed out in a 1996 editorial that investigating the complaints of the "lost customer," an idea originating in marketing literature, could help libraries develop strategies for attracting both the lost users as well as "never-gained" users, those who have never used the library (Hernon, 1996). A 2018 public library study looked at those whose non-use more closely reflects an intentional rejection of a known offering (“ex-users”), versus those with a lack of need for or familiarity with the offering in question (“never users”) and found that the two groups had important differences in experiences and preferences (Fernández-Ardèvol et al., 2018).

Even more nuanced classifications could be created for non-users, though, as have been for library users. Easton et al. (2016) identified six distinct user types for hospital libraries based on three dimensions of knowledge behavior, and Zaugg & Rackham (2016) developed nine library personas to describe undergraduate students who physically attended a given library, as well as one persona, “outsiders,” for those who did not. Although information barriers and library anxiety are not the only reason for non-use, existing categories for these also prove instructive. Świgoń (2011) created a typology of information barriers in libraries, which included those associated with personal characteristics of the user, interpersonal barriers, environmental barriers, and barriers connected with information resources. The Multidimensional Library Anxiety Scale (Van Kampen, 2004) is comprised of six distinct factors, including ones dealing with knowledge and confidence, perceived importance of understanding how to use the library, comfort with technology, and comfort while inside the library building.

A typology for non-users could help academic libraries more effectively study and connect with non-users. The finding that “not needed” and preferred alternatives were common reasons that emerged for non-use raises an interesting question of whether the library may truly not be as important for some students--at least at certain points in their academic journey--as for others. Rather than simply assuming all non-use is based around a lack of awareness, a typology of non-users would shed light on the differences within this group. Such a typology might facilitate a refocusing of a library's efforts towards those would benefit from its resources but who are simply unaware of them, or have encountered barriers that the library might be able to remedy.

*Future research*

As Dempsey (2018) notes, “descriptive, quantitative, survey-based research dominates in LIS” (p. 365) and comparisons between studies can be difficult due to differences in sampling methods and categories used (Dempsey, 2018). The studies located in this scoping review were consistent with that finding, with heavy reliance on surveys and hard-to-compare sampling and findings. As such, we concur with the nine publications that recommended that additional research in this area would benefit from more in-depth qualitative methods to investigate reasons for non-use. Such research could also delve into important distinctions between non-users, and their reasons for non-use, and explore creating a typology, or personas, for non-users.

Research could also be done on how different definitions of usage might provide very different pictures regarding the reach of the library: how does the landscape of non-users change based on different metrics, and what provides the most useful insights in terms of the library connecting with users who need its resources?

*Limitations*

The classification of whether the initial focus was on non-users was based on a reviewer’s reading of the aims and methods of a study, and there is certainly an element of subjectivity to this assessment.

It was not possible to anticipate every potential way that libraries might refer to non-users, and as such some relevant studies may not have been captured by the search strategy, even with citation tracing employed. Also, since EBSCOhost databases treat some words, including “not” as stop words, and always ignores these words even when included as part of phrase within quotation marks, the phrases “do not use” and “not using” could not be used in the LISTA or Library Literature searches. Nine studies were not obtainable via interlibrary loan or by requesting them through the author, and as such could not be examined. A list of these studies is available in Appendix B.

**Conclusion**

The results of this scoping review revealed that while many studies have documented findings around students who are non-users of their academic libraries, there is still much to be learned about these students and their reasons for non-use.

There is considerable grey area within discussions of non-users, with a lack of uniformity in terms of what use is of interest, and what level of non-use defines a non-user. As such, it appears to be an oversimplification to view use/non-use behaviors as a dichotomy, since one study’s non-users could be classified as users in another study.

Still, there are students whose use of the library, however defined, may be minimal to nonexistent. As a profession, we need to go further in engaging and understanding these students. Indeed, non-users are likely not a small, monolithic entity, but a large percentage of the campus population that is as complex, possibly more so, than students who are library users. Research into possible typologies or personas for student non-users would allow libraries to make more targeted and intentional decisions for outreach and improvements.

Appendix A: Search strategy

**Library, Information Science & Technology Abstracts (LISTA)**

(AB("don't use") OR TI("don't use") OR AB("infrequent user") OR TI("infrequent user") OR AB("infrequent users") OR TI("infrequent users") OR AB("low use") OR TI("low use") OR AB("non-use") OR TI("non-use") OR AB("non-user") OR TI("non-user") OR AB("non-users") OR TI("non-users") OR AB("infrequently use") OR TI("infrequently use") OR AB("nonusers") OR TI("nonusers") OR AB("nonuser") OR TI("nonuser") OR AB("never use") OR TI("never use") OR AB("rarely use") OR TI("rarely use") OR AB("infrequent use") OR TI("infrequent use") OR AB("non-usage") OR TI("non-usage") OR AB("nonuse") OR TI("nonuse")) AND ((DE "Academic libraries") OR ((DE "UNIVERSITIES & colleges" OR (DE "Undergraduates") OR DE "Graduate students" OR AB("college") OR TI("college") OR AB("colleges") OR TI("colleges") OR AB("university") OR TI("university") OR AB("universities") OR TI("universities") OR AB("higher education") OR TI("higher education") OR AB("higher ed") OR TI("higher ed") OR AB("academic") OR TI("academic") OR AB("undergraduates") OR TI("undergraduates") OR AB("undergraduate") OR TI("undergraduate")) AND (DE "Library use studies" OR DE "Digital library use studies" OR DE "Library information network use studies" OR DE "Medical information services use studies" OR DE "Technology information services use studies" OR DE "Research library use studies" OR AB("library") OR TI("library") OR AB("libraries") OR TI("libraries") OR AB("librarian") OR TI("librarian") OR AB("librarians") OR TI("librarians")))) OR (DE "Academic library use studies" OR DE "Technical college library use studies")

**Library Literature & Information Science Full Text**(AB("don't use") OR TI("don't use") OR AB("infrequent user") OR TI("infrequent user") OR AB("infrequent users") OR TI("infrequent users") OR AB("low use") OR TI("low use") OR AB("non-use") OR TI("non-use") OR AB("non-user") OR TI("non-user") OR AB("non-users") OR TI("non-users") OR AB("infrequently use") OR TI("infrequently use") OR AB("nonusers") OR TI("nonusers") OR AB("nonuser") OR TI("nonuser") OR AB("never use") OR TI("never use") OR AB("rarely use") OR TI("rarely use") OR AB("infrequent use") OR TI("infrequent use") OR AB("non-usage") OR TI("non-usage") OR AB("nonuse") OR TI("nonuse")) AND ((DE "Academic libraries") OR ((DE "Undergraduates") OR DE "Universities & colleges" OR DE "Graduate students" OR AB("college") OR TI("college") OR AB("colleges") OR TI("colleges") OR AB("university") OR TI("university") OR AB("universities") OR TI("universities") OR AB("higher education") OR TI("higher education") OR AB("higher ed") OR TI("higher ed") OR AB("academic") OR TI("academic") OR AB("undergraduates") OR TI("undergraduates") OR AB("undergraduate") OR TI("undergraduate")) AND (DE "Library use studies" OR DE "Digital library use studies" OR DE "Library information network use studies" OR DE "Medical information services use studies" OR DE "Technology information services use studies" OR DE "Research library use studies" OR AB("library") OR TI("library") OR AB("libraries") OR TI("libraries") OR AB("librarian") OR TI("librarian") OR AB("librarians") OR TI("librarians"))) OR (DE "Academic library use studies" OR DE "Technical college library use studies")

**Web of Science**

TOPIC: (("don't use" OR "infrequent user" OR "infrequent users" OR "low use" OR "non-use" OR "non-user" OR "non-users" OR "infrequently use" OR "do not use" OR "not using" OR "nonusers" OR "nonuser" OR "never use" OR "rarely use" OR "infrequent use" OR "non-usage" OR nonuse) AND ("college" OR "colleges" OR "university" OR "universities" OR "higher education" OR "higher ed" OR "academic" OR "undergraduates" OR "undergraduate") AND ("library" OR "libraries" OR "librarian" OR "librarians"))

**Scopus**

TITLE-ABS-KEY ( ("don't use" OR "infrequent user" OR "infrequent users" OR "low use" OR "non-use" OR "non-user" OR "non-users" OR "infrequently use" OR "do not use" OR "not using" OR "nonusers" OR "nonuser" OR "never use" OR "rarely use" OR "infrequent use" OR "non-usage" OR nonuse) AND ( "college" OR "colleges" OR "university" OR "universities" OR "higher education" OR "higher ed" OR "academic" OR "undergraduates" OR "undergraduate" ) AND ( "library" OR "libraries" OR "librarian" OR "librarians" ) )

**ERIC (ProQuest)**

ti,ab("don't use" OR "infrequent user" OR "infrequent users" OR "low use" OR "non-use" OR "non-user" OR "non-users" OR "infrequently use" OR "nonusers" OR "nonuser" OR "never use" OR "rarely use" OR "infrequent use" OR "non-usage" OR nonuse OR "do not use" OR "not using") AND (su("Academic Libraries" OR "college libraries" OR "junior college libraries") OR (ti,ab("college" OR "colleges" OR "university" OR "universities" OR "higher education" OR "higher ed" OR "academic" OR "undergraduates" OR "undergraduate") OR su("higher education" OR "college students" OR "community colleges" OR "undergraduate students" OR "universities" OR "graduate students" OR "colleges")) AND (ti,ab("library" OR "libraries" OR "librarian" OR "librarians") OR su("library services" OR "libraries" OR "librarians" OR "library materials" OR "library facilities")))

**Education Research Complete (EBSCOhost)**

(AB("don't use") OR TI("don't use") OR AB("infrequent user") OR TI("infrequent user") OR AB("infrequent users") OR TI("infrequent users") OR AB("low use") OR TI("low use") OR AB("non-use") OR TI("non-use") OR AB("non-user") OR TI("non-user") OR AB("non-users") OR TI("non-users") OR AB("infrequently use") OR TI("infrequently use") OR AB("nonusers") OR TI("nonusers") OR AB("nonuser") OR TI("nonuser") OR AB("never use") OR TI("never use") OR AB("rarely use") OR TI("rarely use") OR AB("infrequent use") OR TI("infrequent use") OR AB("non-usage") OR TI("non-usage") OR AB("nonuse") OR TI("nonuse") ) AND ((DE "Academic libraries" OR DE "Academic Librarians" OR DE "undergraduate libraries") OR ((DE "college students" OR DE "graduate students" OR DE "junior college students" OR DE "undergraduates" OR DE "universities & colleges" OR DE "junior colleges" OR DE "higher education") OR AB("college ") OR TI("college") OR AB("colleges") OR TI("colleges") OR AB("university") OR TI("university") OR AB("universities") OR TI("universities") OR AB("higher education") OR TI("higher education") OR AB("higher ed") OR TI("higher ed") OR AB("academic") OR TI("academic") OR AB("undergraduates") OR TI("undergraduates") OR AB("undergraduate") OR TI("undergraduate")) AND (DE "library use studies" OR DE "Attitudes of library users" OR DE "Librarians" OR DE "libraries" OR DE "libraries & education" OR DE "libraries & distance education" OR DE "libraries & scholars" OR DE "libraries & students" OR DE "library resources" OR DE "research libraries" OR DE "library public services" OR DE "academic library use studies" OR DE "library materials" OR AB("library") OR TI("library") OR AB("libraries") OR TI("libraries") OR AB("librarian") OR TI("librarian") OR AB("librarians") OR TI("librarians"))))

**Dissertations & Theses Global (ProQuest)**

(ti,ab("don't use" OR "infrequent user" OR "infrequent users" OR "low use" OR "non-use" OR "non-user" OR "non-users" OR "infrequently use" OR "do not use" OR "not using" OR "nonusers" OR "nonuser" OR "never use" OR "rarely use" OR "infrequent use" OR "non-usage" OR nonuse)) AND (ti,ab("college" OR "colleges" OR "university" OR "universities" OR "higher education" OR "higher ed" OR "academic" OR "undergraduates" OR "undergraduate") OR su(“higher education” OR “college students” OR “colleges & universities” OR “community colleges” OR “university students” OR “graduate students” OR “higher education”)) AND (ti,ab("library" OR "libraries" OR "librarian" OR "librarians") OR su(“librarians” OR “libraries” OR “library and information science” OR “library resources” OR “library science”))

Appendix B

Items that could not be obtained via interlibrary loan

Burns, M. A. (1977). *The relationship between the use of the San Diego State University library and selected personal characteristics of the student population* (ED154807). ERIC. https://eric.ed.gov/?id=ED154807

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