This study describes a survey of undergraduate students at the University of North Carolina Chapel Hill. The survey was conducted to determine the frequency of library use and source selection of undergraduate students. Demographics had little effect on library use and source selection. Two variables explain a student’s library use, the student’s parents’ education and the level of promotion the library receives from the faculty. A student’s choice of sources was independent of any variable in the study.

Headings:

- College and university libraries – Undergraduate usage
- Source selection -- Statistics
- Surveys – Undergraduate students
- Undergraduate students – University of North Carolina
LIBRARY USE AND SOURCE SELECTION OF UNDERGRADUATE STUDENTS AT THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

by
Robert D. Wolf

A Master's paper submitted to the faculty of the School of Information and Library Science of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Science in Library Science.

Chapel Hill, North Carolina
April 2005
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I. INTRODUCTION

With the rise of the internet and remotely accessible electronic resources, many academic libraries have seen a drop in patron usage and book circulation causing them to re-evaluate their mission and giving researchers much to ponder. While much research has been done to determine needs of the library patron once they are in the library, there is little information known about those who choose not to use the library, or at what point in their search students are most likely to seek information from the library. Researchers have looked at the information seeking behaviors of patrons, but have not examined the information seeking behaviors of non-library users, or the behavior of patrons prior to using the library. However, it is a difficult task to find the non-users, since by definition they do not use the library, however we can attempt to understand the source selection of “pre-patrons”.

We need to ask ourselves if students do not use the library resources available to them, why not? Is it because they are unaware of the resources offered by the library or not sure how to use them, or is it because they prefer to use other sources for their academic information needs? In an academic setting, it would be useful to understand the research needs of “pre-patrons” or non-users since they should have very similar information needs to those who use the library. What is it that keeps one student away from the academic library yet draws another? How can a student complete his or her academic career without using the institution’s library? How can libraries attract non-users? Why are students drawn to other resources?
It is the purpose of this study to try and determine the needs of an entire population, users and non-users alike. The survey in this study attempts to reach all parties to determine what they deem to be the most useful sources for their information needs, and to determine their opinion of these sources. The goal is to determine if there is a particular attribute or attributes that define non-users, casual users and those who are more frequent patrons of the library and its resources.

II. LITERATURE REVIEW

There is a dearth of literature examining the information use behavior of students outside of the library. Most studies are concerned with the needs and searching behaviors of the student who has already set foot in the library, or is using the library’s online resources. It is somewhat disconcerting that so little emphasis is put on determining who the non-users are, and why they do not use a resource that is freely available to them, or why students will look towards the web or their textbooks, for example, rather than their library’s resources. Unfortunately it is not an easy task to locate these non-users since they are obviously not using the services offered to them, and may not be interested in participating in a study for a service they do not use.

Early research focused on the characteristics of non-users in a way that implied non-use was the cause for poor academic performance or higher drop out rates. As far back as 1964, Patrick Barkley studied the patterns of library use by college students at Eastern Illinois University (Barkley, 1964). In his study, Barkley found at least 62% of students at the University did not borrow a single book from the library in a given academic year. When questioned why they did not use the library’s resources, students
replied they did not need these resources to do acceptable work, and this was long before the ease of access to information afforded to us by the Internet (Barkley). Students also saw use of the library as beyond the academic requirements of their courses for which they had little time (Lubans, 1971). Thus, in the 1960’s and 1970’s students do not seem much different from how many would characterize today’s students. It seems despite the ease of use technology has offered, students’ attitudes have not changed much.

A study four years later at the California State Polytechnic College, examining library circulation records and student records, found that students who did not use the library were more likely to drop out of college (Kramer, 1968). Kramer found students who did not use the library’s resources were nearly twice as likely to drop out between semesters as students who used the library at least infrequently (Kramer). A study at the Rensselaer Polytechnic Institute Library in New York also found a strong relationship between library use and continuance of education (Lubans, 1971). It would be interesting to see if the same results would be found today.

Significant differences in the grade point average (GPA) of library users and non-users have been observed; however, this is not true across all disciplines. Students in engineering or science programs showed no significant difference in GPA regardless of library use, suggesting library resources may be less important for the hard sciences in undergraduate programs (Kramer, 1968). In a later study by Joseph Hinchliffe, it was found that library instruction and use had little effect if any on the grades of research papers in a political science class; rather it was preparation before the research that was the most influential on the quality of work (2000). Students who received bibliographic instruction only performed well if they also planned out their research ahead, however
there was no evidence that bibliographic instruction predisposed students to advanced planning (Hinchliffe, 2000).

More current research focuses on the characteristics of the non-user or infrequent user as the predictor for non-library use, not the consequence. Recent research has shown that library use may be indicative of the level of one’s education, age, race, and background, with African American students engaging in more frequent library use (Whitmire, 2003). The study also found a significant relationship between a faculty member’s promotion of the library resources to their students, and their students’ actual use of the library (2003). In a study of undergraduate economics students, Grimes and Charters examined five aspects, including demographics, standardized testing scores, prior library skills, living situation (full time work, on campus, family, etc.) and library activities, to determine traits of non-users or infrequent users (Grimes & Charters, 2001). They determined race, gender, ACT scores, and job status, full-time versus part-time, to be the strongest predictors of library use. They found students working full-time or with lower ACT scores were least likely to use the library or its resources. Other research also found a student’s academic program to be a significant predictor of library usage (Williams, 1995). This has been further reinforced by Whitmire’s 2001 study which found course work requiring writing activities showed a strong correlation with academic library use (Whitmire, 2001). She also found, along with Williams, Grimes and Charters, a student's academic year corresponds with their library use (1995). Freshmen tend to use the library the least, while seniors are the most likely to access library resources, or study in the library. There is a steady progression of library usage with an increase in age or academic year.
A student’s perception of the library is also influential in their likelihood of library patronage. In a study of students at a public state university it was found students who believed the library was essential to a strong academic community where also more likely to use library resources for their course work (Watson, 2001). They also believed use of the library’s resources contributed to their educational gains and they had more confidence in their library skills (Watson). Once again, freshman where the least likely to use library resources, and felt the library was less important to their educational development than juniors or seniors (Watson).

In a 2003 study of Danish libraries, user perceptions and satisfaction with their libraries were found to be strongly influenced by the number of print titles available and the atmosphere of the particular library, where the availability of electronic resources only played a marginal role (Martensen and Gronholdt, 2003).

An examination of the characteristics or Generation X and Generation Y students from various studies was conducted by Deborah Sheesley in 2002. In this examination she explored the key characteristics used across studies to describe these students. It was shown that a majority of students from these generations begin their searches on the Internet, and not the library. Students also seem to have trouble transferring their web skills to library resources, such as commercial databases (2002). Finally, they have little tolerance for delays or slow service and will seek the fastest source of information and are willing to sacrifice accuracy. Massey-Burzio, confirms this need for faster service, stating libraries need relevant collections in a timely manner to retain patrons and to remain alluring for future patrons in the current setting (2002).
At the University of Maryland, College Park, a study was conducted by the Robert H. Smith School of Business to determine the needs of its business library patrons. In this study it was found that 69% of those participating in the study used a search engine to begin their searches, while only 17% used the library’s resources (Abels et al, 2004). The study also found that 34% of patrons would be unwilling to contact a librarian for help but would seek other sources (2004).

The base for an area of study in the library community has slowly begun to emerge as researchers realize the importance of the lost or non-user, in an ever-changing environment. Unfortunately there has been little research to build off these studies. It is important to understand the needs of all potential users in the academic community if the library is to remain relevant to academic growth and enhancement. It is also important to understand why students may consult other sources prior to or in lieu of using the library’s resources.

III. BACKGROUND AND SETTING

The University of North Carolina at Chapel Hill (UNC) currently enrolls 16,144 undergraduate students. The ethnicity of students is broken down as follows:

11.3 percent African American/Black
7.6 percent Asian American/Asian
3.6 percent Hispanic/Latino/Latina
0.9 percent Native American/Alaskan Native
73.1 percent White/Caucasian
0.2 percent Pacific Islander
3.3 percent Other/Not reported

The population is also composed of a great number of academically gifted students, with over 80% having a high school grade point average of 4.0 or higher. They
were also very active in extracurricular activities with 93% performing community service and 64% involved in after school clubs or sports activities. The school is primarily devoted to the arts and sciences, with its three largest programs in business, biology, and journalism and mass communication.

In order to gain a complete understanding of the choices available to undergraduates at the UNC it is necessary to give a brief description of the resources at their disposal and the atmosphere on campus. Since the fall of 2000, UNC has required all its students to purchase laptops. By 2003 the campus was officially wireless, giving students greater freedom of access to the Internet and the campus network, including online library resources. The students also have a top Academic Research Library (ARL) available to them, with more than 5,000,000 print volumes, millions of titles available on microforms, and thousands of electronic titles, including a wide variety of databases. The library consists of one main library, more commonly referred to as the graduate library, a second major library known as the undergraduate library, and a dozen or so departmental or special collections libraries. The graduate and undergraduate libraries have extensive computer networks available. The undergraduate library houses most of the university’s reserve materials, runs a collaborative for library instruction, and provides plenty of space for individual or group study. It also provides chat reference via America Online’s Instant Messenger (AIM). The library’s homepage provides students with access to the online catalog, remote access to electronic databases, support for courses, and online reference. For the vast majority of online databases there are no passwords required on campus, access is given to all students enrolled at the University. Remote users need only enter their student name and identification number for access. Students can even request inter-
library loans online, only visiting the library to pick up the materials when they are available. The University also offers a variety of online courses through Blackboard Learning System. Undergraduates are exposed to research through a required bibliographic instruction session in their English Composition classes.

IV. METHODOLOGY

The data for this analysis were gathered March 2005, from an online survey sent to a random selection of 1,313 undergraduate students over the age of 18 currently attending the University of North Carolina at Chapel Hill. A copy of the survey is found in Appendix A. Since non-users by definition do not use the library it would be hard to find them without contacting a large number of students. A survey was chosen in order to reach the most students possible and increasing the chance of finding those students who were non-library users.

An email was sent to these students requesting their participation in the study. Of these 1,313, only four addresses were returned as incorrect by the mail server, the rest presumably reached their destination. A total of 167 surveys were returned over a one week period. Forty-five of these initial 167 were dropped from the sample pool since they were incomplete. This left one hundred twenty two useable responses for analysis. A number of variables were recoded in order to analyze plausible explanations for library use or non-use. Majors declared by respondents were broken down into four basic categories, including liberal arts, hard sciences, business, and undecided.

The source variable was recoded to create more uniform results. All responses pertaining to online materials outside of UNC’s control were categorized as the Internet.
This includes but is not limited to Google, Yahoo, AskJeeves, etc. Library sources were also broken down into two categories, sources accessed from the library’s online resources, and sources accessed in the physical library itself. Examples of library online resources include individual database names, the library webpage, and e-journals. Examples of physical library sources include individual library names, the reference desk, paper journals, and library books.

Student GPA’s were recoded to ranges from 1 to 4 at .5 intervals, to create categories and increase ease of analysis. All variables except age are coded to categorical level variables to make cross tabulation possible with the dependent variables.

Due to the small number of responses for races other than Caucasian, race has been recoded as Caucasian and Non-Caucasian, for purpose of analysis, but has remained intact for the description of characteristics for the sample population.

There are two dependent variables in this study, the first is the frequency of library visits made by students to any of the campus libraries, and the second is the student’s choice of sources when doing research. This study examines the relationship between the student’s background, both demographic and academic, and his or her library use or non-use.

V. FINDINGS AND ANALYSIS

Table 1, describes the demographic break down of respondents. Respondents are spread rather evenly across class rank; they are for the most part full time students, about half are liberal arts majors, which is not surprising given the nature of the campus programs. Respondents are predominantly Caucasian, (85%), mostly female, with a median age of 20 years and the majority, (92%), of traditional college age, 18-22. Their
median GPA was a 3.0 to 3.49. There is an almost even divide between the number of students who live on campus and those who live off campus, 52% and 48% respectively. Slightly more than half of these students work at all (52%), with only about 3% working full time. Seventy-nine percent of those surveyed said they believe they will go on for a post-graduate degree of some kind. Most study for six or more hours a week for classes, and only 6% have ever taken a remedial course while attending UNC. If we compare our sample population to the undergraduate population at UNC, we can see minorities are under represented in this study, as are part-time students.
<table>
<thead>
<tr>
<th>Class Standing</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>26</td>
<td>21.31%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>33</td>
<td>27.05%</td>
<td>48.36%</td>
</tr>
<tr>
<td>Junior</td>
<td>33</td>
<td>27.05%</td>
<td>75.41%</td>
</tr>
<tr>
<td>Senior</td>
<td>30</td>
<td>24.59%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Status</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
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<tbody>
<tr>
<td>Full Time</td>
<td>119</td>
<td>97.54%</td>
<td>97.54%</td>
</tr>
<tr>
<td>Part Time</td>
<td>3</td>
<td>2.46%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
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</thead>
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<tr>
<td>Liberal Arts</td>
<td>60</td>
<td>49.18%</td>
<td>49.18%</td>
</tr>
<tr>
<td>Business</td>
<td>19</td>
<td>15.57%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Science</td>
<td>35</td>
<td>28.69%</td>
<td>93.44%</td>
</tr>
<tr>
<td>Undecided</td>
<td>8</td>
<td>6.56%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>104</td>
<td>85.25%</td>
<td>85.25%</td>
</tr>
<tr>
<td>African American</td>
<td>3</td>
<td>2.46%</td>
<td>87.71%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
<td>2.46%</td>
<td>90.17%</td>
</tr>
<tr>
<td>Asian</td>
<td>8</td>
<td>6.56%</td>
<td>96.73%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>3.28%</td>
<td>100.01%</td>
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<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
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<tbody>
<tr>
<td>Male</td>
<td>39</td>
<td>31.97%</td>
<td>31.97%</td>
</tr>
<tr>
<td>Female</td>
<td>83</td>
<td>68.03%</td>
<td>100.00%</td>
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</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
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<tbody>
<tr>
<td>Non-Working</td>
<td>58</td>
<td>47.54%</td>
<td>47.54%</td>
</tr>
<tr>
<td>Part Time Work</td>
<td>60</td>
<td>49.18%</td>
<td>96.72%</td>
</tr>
<tr>
<td>Full Time Work</td>
<td>4</td>
<td>3.28%</td>
<td>100.00%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>13</td>
<td>10.66%</td>
<td>10.66%</td>
</tr>
<tr>
<td>19</td>
<td>35</td>
<td>28.69%</td>
<td>39.35%</td>
</tr>
<tr>
<td>20</td>
<td>36</td>
<td>29.50%</td>
<td>68.85%</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>18.03%</td>
<td>86.88%</td>
</tr>
<tr>
<td>22</td>
<td>6</td>
<td>4.92%</td>
<td>91.80%</td>
</tr>
<tr>
<td>23+</td>
<td>10</td>
<td>8.20%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
Most students come from families where at least one parent has completed a college degree (85.24%), see Table 2. None of the students surveyed reported having parents with less than a high school degree, while only 9% reported the highest level of parental education at the high school level. These students all come from relatively well educated backgrounds, with almost half coming from families with at least one parent earning a graduate or post-graduate degree. Overall, 90% have at least some college.

<table>
<thead>
<tr>
<th>Parent’s Education</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School or GED</td>
<td>11</td>
<td>9.02</td>
<td>9.02</td>
</tr>
<tr>
<td>Some College</td>
<td>7</td>
<td>5.74</td>
<td>14.75</td>
</tr>
<tr>
<td>Associates or Bachelors Degree</td>
<td>51</td>
<td>41.80</td>
<td>56.56</td>
</tr>
<tr>
<td>Masters or Doctorate Degree</td>
<td>53</td>
<td>43.44</td>
<td>100.00</td>
</tr>
</tbody>
</table>

One goal of the study is to examine the relationship between high school or public library use and use of the college library. Results are reported in Table 3. Of those with libraries in their high school, only about 20% were frequent users, 70% were casual or infrequent users, while only 10% reported never using their high school library. About 21% reported using the public library often, while 72% were casual or infrequent users, and only 7% were non-users.
TABLE 3

High School and Public Library Use (N=122)

<table>
<thead>
<tr>
<th>High School Library (Public Library)</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>12 (8)</td>
<td>10.17 (6.56)</td>
<td>10.17 (6.56)</td>
</tr>
<tr>
<td>Rarely</td>
<td>42 (50)</td>
<td>35.59 (40.98)</td>
<td>45.76 (47.54)</td>
</tr>
<tr>
<td>Sometimes</td>
<td>40 (38)</td>
<td>33.90 (31.15)</td>
<td>79.66 (78.69)</td>
</tr>
<tr>
<td>Often</td>
<td>24 (26)</td>
<td>20.34 (21.31)</td>
<td>100.00 (100.00)</td>
</tr>
</tbody>
</table>

The students in this survey were also asked a number of questions concerning their campus library use, including how often they use the library, if ever, and for what purpose or task they were using the library. They were asked to estimate the number of times they visited any of the campus libraries in the past month. Only one student responded he never used the library, while over one third used one or more campus libraries, with the rest visiting the library from one to ten times. Students were also asked how often they borrow materials from the library, check their email, use reserve materials, use the library to study by themselves or in groups, and to state any other activities they may engage in during their visit.

When asked how often students borrow books or other materials from the library, nearly 20% indicated that they never did, and another 36% rarely checked out materials (see Table 4). Only about 15% replied they checked out materials on a regular basis. This may reflect the drop in circulation reported by many libraries even when there is an increase in the number of patron visits.

When asked how often they check their email, almost 75% of students replied they checked their email sometimes or often, while visiting the library. Seven percent said they never check their email when visiting the library.
Students were asked how often they use the library to conduct research. Ninety-three percent of all respondents conducted research in the library at least rarely, showing that the vast majority see the library as a place for research.

When asked how often they use the library to study on their own 42% of students replied they study often, while 30% replied they study some of the times. Overall, 92% of students said they studied in the library in some capacity. With 92% of students studying in the library at least once, it seems clear that the library is still seen as a place of study.

When asked how often they used the library for group studies, a majority of those surveyed said they rarely or never participate in group studies at the library (60%), while only 15% said they studied in groups often. The lack of group study may be due to a number of issues, including lack of interest on the student’s part, lack of group study space in the library, and the idea that libraries are places for quiet study.
TABLE 4  Description of Activities Performed During Library Visits (N=122)

Checkout Materials

<table>
<thead>
<tr>
<th>Use</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>22</td>
<td>18.03%</td>
<td>18.03%</td>
</tr>
<tr>
<td>Rarely</td>
<td>44</td>
<td>36.07%</td>
<td>54.10%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>37</td>
<td>30.33%</td>
<td>84.43%</td>
</tr>
<tr>
<td>Often</td>
<td>19</td>
<td>15.57%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Use Email

<table>
<thead>
<tr>
<th>Use</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>8</td>
<td>6.56%</td>
<td>6.56%</td>
</tr>
<tr>
<td>Rarely</td>
<td>23</td>
<td>18.85%</td>
<td>25.41%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>41</td>
<td>33.61%</td>
<td>59.02%</td>
</tr>
<tr>
<td>Often</td>
<td>50</td>
<td>40.98%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Use Reserve Materials

<table>
<thead>
<tr>
<th>Use</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>8</td>
<td>6.56%</td>
<td>6.56%</td>
</tr>
<tr>
<td>Rarely</td>
<td>28</td>
<td>22.95%</td>
<td>29.51%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>65</td>
<td>53.28%</td>
<td>82.79%</td>
</tr>
<tr>
<td>Often</td>
<td>21</td>
<td>17.21%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Study Alone

<table>
<thead>
<tr>
<th>Use</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>10</td>
<td>8.20%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Rarely</td>
<td>24</td>
<td>19.67%</td>
<td>27.87%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>36</td>
<td>29.51%</td>
<td>57.38%</td>
</tr>
<tr>
<td>Often</td>
<td>52</td>
<td>42.62%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Study in a Group

<table>
<thead>
<tr>
<th>Use</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>31</td>
<td>25.41%</td>
<td>25.41%</td>
</tr>
<tr>
<td>Rarely</td>
<td>42</td>
<td>34.43%</td>
<td>59.84%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>31</td>
<td>25.41%</td>
<td>85.25%</td>
</tr>
<tr>
<td>Often</td>
<td>18</td>
<td>14.75%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
When asked about other activities students participate in while visiting the library, 12% replied they used the computer lab (see Table 5). Another 12% replied they use the library to sleep. Printing and photocopying were the most frequently sited activity, making up 42% of all responses. Other popular responses were to use the bathroom, waste time, or read the newspaper.

**TABLE 5 Other Uses for Campus Libraries (N=26)**

<table>
<thead>
<tr>
<th>Use</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathroom</td>
<td>2</td>
<td>7.69%</td>
<td>7.69%</td>
</tr>
<tr>
<td>Computer Lab</td>
<td>3</td>
<td>11.54%</td>
<td>19.23%</td>
</tr>
<tr>
<td>Language Study</td>
<td>1</td>
<td>3.85%</td>
<td>23.08%</td>
</tr>
<tr>
<td>Printing or Photocopying</td>
<td>11</td>
<td>42.28%</td>
<td>65.36%</td>
</tr>
<tr>
<td>Reading</td>
<td>1</td>
<td>3.85%</td>
<td>69.21%</td>
</tr>
<tr>
<td>Movies</td>
<td>1</td>
<td>3.85%</td>
<td>73.06%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>1</td>
<td>3.85%</td>
<td>76.91%</td>
</tr>
<tr>
<td>Sleeping</td>
<td>3</td>
<td>11.54%</td>
<td>88.45%</td>
</tr>
<tr>
<td>Wasting Time</td>
<td>1</td>
<td>3.85%</td>
<td>92.30%</td>
</tr>
<tr>
<td>Downloading</td>
<td>1</td>
<td>3.85%</td>
<td>96.15%</td>
</tr>
<tr>
<td>Using Reserves</td>
<td>1</td>
<td>3.85%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

In a study of library usage it is important to understand the student’s opinion on the importance of the library. It would stand to reason that students who have negative or neutral opinions of the library would be less likely to use its resources, while those with favorable opinions would be apt to use the library more often. When asked if they thought the library was important in reaching their academic goals, 92% responded they believed so, while 8% were either unsure or did not believe so. When asked if they thought the library was important to the University, 99% replied in the affirmative, with only one person replying he was unsure. It seems that regardless of their actual use of the
library, there is a definite feeling of importance attached to the library and the function is serves.

In order to gain insight to the research processes of the students, they were asked to list what sources they used most often when conducting research. They were asked to list the top three resources they would use in order of importance, and to rank how effective they thought these sources were for finding the information they were seeking. It is hoped that by knowing where students turn to first for their information needs, it might become clear why. All students listed at least one source, 92% listed two sources, and 66% listed three sources.

Not surprisingly 65% turned to the Internet as their first source of information. The Internet in this case includes any online resources that are not provided by UNC libraries or their database providers. Of those who chose the internet as their source 87% were very satisfied with the results they find on the Internet, only 13% found it only somewhat helpful (see Table 6). About 21% searched the online catalog or databases for information with an 85% satisfaction rate, while another 12% stated they would actually visit the physical library and reported a 93% satisfaction level, the highest for all sources, though it is not clear if they used the library’s online resources once at the library.

<table>
<thead>
<tr>
<th>Rate</th>
<th>Internet</th>
<th>Online Library Resources</th>
<th>Library</th>
<th>Textbook</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somewhat</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Percentage</td>
<td>12.66%</td>
<td>15.38%</td>
<td>7.14%</td>
<td>66.67%</td>
<td>13.93%</td>
</tr>
<tr>
<td>Very</td>
<td>69</td>
<td>22</td>
<td>13</td>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>Percentage</td>
<td>87.34%</td>
<td>84.62%</td>
<td>92.86%</td>
<td>33.33%</td>
<td>86.07%</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>26</td>
<td>14</td>
<td>3</td>
<td>122</td>
</tr>
</tbody>
</table>
As the most popular second source for information, students stated they were most likely to visit one of the campus libraries (39%) with only a 55% very satisfied rating and a 43% somewhat satisfied rating (see Table 7). This is logical since we would expect the person’s first choice of sources to be the most satisfying. However, as in the primary source it is unclear if library uses include using the library’s online resources. Thirty-four percent stated they used the library’s online resources with a 55% very satisfied rating and a 42% somewhat satisfied rating. The Internet still attracted 11% of responses with a 33% very satisfied rating and a 66% somewhat satisfied rating. Results are summarized in Table 6.

<table>
<thead>
<tr>
<th>Rate</th>
<th>Internet</th>
<th>Online Library Resources</th>
<th>Library</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Very</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>%</td>
<td>0</td>
<td>2.63</td>
<td>2.27</td>
<td>0</td>
<td>1.79</td>
</tr>
<tr>
<td>Somewhat</td>
<td>8</td>
<td>16</td>
<td>19</td>
<td>11</td>
<td>54</td>
</tr>
<tr>
<td>%</td>
<td>66.67</td>
<td>42.11</td>
<td>43.18</td>
<td>61.11</td>
<td>48.21</td>
</tr>
<tr>
<td>Very</td>
<td>4</td>
<td>21</td>
<td>24</td>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>%</td>
<td>33.33</td>
<td>55.26</td>
<td>54.55</td>
<td>38.89</td>
<td>50.00</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>38</td>
<td>44</td>
<td>36</td>
<td>112</td>
</tr>
</tbody>
</table>

As the third primary source of information 38% stated they visited the campus library with a 32% very satisfied rating and a 25% not very satisfied rating (see Table 8). The Internet and the Library’s online resources were chosen 18% of the time each with 29% and 23% very satisfied ratings respectively. As one might expect the overall level of satisfaction dropped dramatically when students use their third source. Those who said they were very satisfied with their first source, an 86% rating, dropped to a 50% rating for their second source and only a 29% very satisfied rating for their third source.
TABLE 8  
Satisfaction with 3\textsuperscript{rd} Source (N=76)

<table>
<thead>
<tr>
<th>Rate</th>
<th>Internet</th>
<th>Online Library Resources</th>
<th>Library</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Very</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>%</td>
<td>21.43</td>
<td>15.38</td>
<td>25.00</td>
<td>0</td>
<td>15.79</td>
</tr>
<tr>
<td>Somewhat</td>
<td>7</td>
<td>8</td>
<td>12</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>%</td>
<td>50.00</td>
<td>61.54</td>
<td>42.86</td>
<td>71.43</td>
<td>55.26</td>
</tr>
<tr>
<td>Very</td>
<td>4</td>
<td>3</td>
<td>9</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>%</td>
<td>28.57</td>
<td>23.08</td>
<td>32.14</td>
<td>28.57</td>
<td>28.95</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>13</td>
<td>28</td>
<td>21</td>
<td>76</td>
</tr>
</tbody>
</table>

In a separate question students were asked how often they use the libraries’ online resources. This question was asked in addition to the three source questions to gain a better understanding of the student’s use of library resources when excluding other outside sources, and as a check on the accuracy of the student’s answers. Forty percent answered they use the library’s online resources often, while 45\% said they only used them sometimes. Only 15\% said they rarely or never used the available online resources.

Students were also asked if they use materials put on reserve by their professors. This question once again is closely related to library use since most reserve materials are either housed in the library or reached online through the library’s webpages. Students may not consider accessing their reserve materials as using the library, so this is another measure of use. A majority of students (61\%) stated they only access those reserves that are required by the course. Twenty-five percent stated they only use reserve materials if they have time, where those who never look at reserves and those who look at all reserves make up the extremes with 1\% and 13\% respectively.

Finally, students were asked if the library was their first source of information when researching a topic for a class assignment. This once again is a measure of accuracy for the source responses. One third of students responded the library is the first source of
information while 66% stated it was not. If we look at the sources cited as the student’s first choice of information, this confirms their initial responses.

Overall, students seem happy with the level of information they receive or are capable of finding through the library’s resources. When asked if they would be willing to attend a brief workshop to improve their library skills, 88% replied either no or probably not, while 2% answered they would definitely be interested in a skills workshop. The other 10% stated they would probably attend, but were not certain.

According to Whitmire, two sources that can have a great influence in the resources consulted by students are the faculty and library staff (2003). When students were asked if their professors promoted library use for research assignments, 57% replied that their professors normally instruct them to use library sources, where only 13% replied their professors never mention using library resources for assignments. Students were also asked if they ever received a library instruction session in their academic careers here at UNC. Although bibliographic instruction is a requirement for many English composition classes, only 52% of responses report to have received bibliographic instruction. This may be due to a number of factors, students may have tested out of the English composition classes, bypassing the instruction sessions, they may not remember their session since it may have been one class period a number of years ago, or they could be transfer students who were not required to take the English composition classes.

From these demographic descriptors, the majority of the sample is Caucasian female and majoring in liberal arts and this is a reflection of the school population. The Internet plays a large role in the research behaviors of these students. They use the library, and have used other libraries available to them in the past. Most do not work or
only work part-time, they are just as likely to live on campus as off, and they come from well educated backgrounds.

The relationships between choice of source or library use and the independent variables were tested for significance; only those relationships that were significant with an 85% confidence interval are analyzed here.

According to previous research, students in less writing-intensive studies, such as engineering or sciences, use the library less frequently than students in a liberal arts field. Liberal arts students used an Internet source more often than their Business or Science counterparts were, (see Table 9). In fact, business students reported the most library use, with 42% or eight responses, though of these eight, 88% said they would use the online library resources over the physical library. Students in the Liberal Arts used the Internet 1.28 times more often than students in Business, while students in the Sciences used the Internet 1.18 times more often than Business students.

**TABLE 9 Primary Source by Discipline (N=122)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Liberal Arts</th>
<th>Business</th>
<th>Science</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>42</td>
<td>10</td>
<td>23</td>
<td>4</td>
<td>79</td>
</tr>
<tr>
<td>%</td>
<td>70%</td>
<td>52.63%</td>
<td>65.71%</td>
<td>50%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Online Library</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>16.67%</td>
<td>36.84%</td>
<td>22.86%</td>
<td>12.50%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>10%</td>
<td>5.26%</td>
<td>11.43%</td>
<td>37.50%</td>
<td>11.48%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>3.33%</td>
<td>5.26%</td>
<td>0%</td>
<td>0%</td>
<td>2.46%</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>19</td>
<td>35</td>
<td>8</td>
<td>122</td>
</tr>
</tbody>
</table>

Using the second sources, there seems to be an even distribution of sources consulted across disciplines, with business students reporting slightly more use of library resources than liberal arts or science students (see Table 10). As seen in Table 10, the
third choice of sources, liberal arts students use library resources more often.

Unfortunately, by this time their satisfaction with the source is waning.

**TABLE 10**  
Second Source by Discipline (N=112)

<table>
<thead>
<tr>
<th>Source</th>
<th>Liberal Arts</th>
<th>Business</th>
<th>Science</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>%</td>
<td>12.50%</td>
<td>5.56%</td>
<td>9.68%</td>
<td>14.29%</td>
<td>10.71%</td>
</tr>
<tr>
<td>Online Library</td>
<td>17</td>
<td>8</td>
<td>12</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>%</td>
<td>30.36%</td>
<td>44.44%</td>
<td>38.71%</td>
<td>14.29%</td>
<td>33.93%</td>
</tr>
<tr>
<td>Library</td>
<td>23</td>
<td>6</td>
<td>11</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>%</td>
<td>41.07%</td>
<td>33.33%</td>
<td>35.48%</td>
<td>57.14%</td>
<td>39.29%</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>%</td>
<td>16.07%</td>
<td>16.67%</td>
<td>16.13%</td>
<td>14.28%</td>
<td>16.07%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>18</td>
<td>31</td>
<td>7</td>
<td>112</td>
</tr>
</tbody>
</table>

**TABLE 11**  
Third Source by Discipline (N=80)

<table>
<thead>
<tr>
<th>Source</th>
<th>Liberal Arts</th>
<th>Business</th>
<th>Science</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>14.63%</td>
<td>33.33%</td>
<td>19.05%</td>
<td>0.00%</td>
<td>17.50%</td>
</tr>
<tr>
<td>Online Library</td>
<td>8</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>19.51%</td>
<td>8.33%</td>
<td>19.05%</td>
<td>16.67%</td>
<td>17.50%</td>
</tr>
<tr>
<td>Library</td>
<td>18</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>%</td>
<td>43.90%</td>
<td>33.33%</td>
<td>23.81%</td>
<td>50.00%</td>
<td>37.50%</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>%</td>
<td>22.96%</td>
<td>25.01%</td>
<td>38.09%</td>
<td>33.33%</td>
<td>22.50%</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>12</td>
<td>21</td>
<td>6</td>
<td>80</td>
</tr>
</tbody>
</table>

Of those who use the campus library by major, those in the sciences were more often frequent users, with 11+ visits a month, than those in the liberal arts or in business, (see Table 12). Students, in a science program reported 1.82 times more often that they used the library eleven or more times a month than liberal arts students, and 1.26 times more often than business students. However, due to the size of the sample, these results
may be somewhat skewed. The only person to reply that he did not use the library was a liberal arts history major.

**TABLE 12  Library Visits by Discipline (N=122)**

<table>
<thead>
<tr>
<th>No. Visits</th>
<th>Liberal Arts</th>
<th>Business</th>
<th>Science</th>
<th>Undecided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>%</td>
<td>1.67%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td><strong>0.82%</strong></td>
</tr>
<tr>
<td>1-5</td>
<td>26</td>
<td>10</td>
<td>13</td>
<td>3</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>43.33%</td>
<td>52.36%</td>
<td>37.14%</td>
<td>37.50%</td>
<td><strong>42.62%</strong></td>
</tr>
<tr>
<td>6-10</td>
<td>17</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>28.33%</td>
<td>10.53%</td>
<td>14.29%</td>
<td>50.00%</td>
<td><strong>22.95%</strong></td>
</tr>
<tr>
<td>11+</td>
<td>16</td>
<td>7</td>
<td>17</td>
<td>1</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>26.67%</td>
<td>36.84%</td>
<td>48.75%</td>
<td>12.50%</td>
<td><strong>33.61%</strong></td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>19</td>
<td>35</td>
<td>8</td>
<td>122</td>
</tr>
</tbody>
</table>

According to Kramer, library use in the Sciences is not a predictor of grade point average (1968). Students who visit the library five or more times a semester have higher GPA’s than those who visit five times or fewer, (see Table 13). Choosing a 3.0 GPA or above as a measure, students with a GPA of 3.0 or higher reported visiting the library six or more times, 1.33 times more often than those with lower GPAs. In this sample, Kramer’s results do not hold true, however the sample size of 35 students may account for this result. Also, Kramer looked at the student’s scholarly use of the library where this study examines visits, which may include just checking one’s email or borrowing a movie from the media center.
TABLE 13 Science Majors, GPA versus Library Visits (N=34)

<table>
<thead>
<tr>
<th>Library Visits</th>
<th>&lt;3.0 GPA</th>
<th>&gt;3.0 GPA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 visits</td>
<td>7</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>6 or more visits</td>
<td>6</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>21</td>
<td>34</td>
</tr>
</tbody>
</table>

According to the literature, students with higher GPAs are more frequent library visitors and more likely to turn to the library as a research resource. The results of the survey show a slight positive relationship between GPA and the frequency of library visits, with a gamma of only 0.07. Based on GPA, there is little difference between students with higher GPAs and those with lower GPAs (see Table 14). There is a slight increase in Internet use for students with a GPA of 2 to 2.49; however there are only eight samples to rely upon, so this information may not be accurate.
TABLE 14    GPA and Library Use (N=121)

<table>
<thead>
<tr>
<th>Use</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.83%</td>
</tr>
<tr>
<td>1-5</td>
<td>0</td>
<td>3</td>
<td>13</td>
<td>19</td>
<td>17</td>
<td>0</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>37.50%</td>
<td>52.00%</td>
<td>41.30%</td>
<td>42.50%</td>
<td>0.00%</td>
<td>42.98%</td>
</tr>
<tr>
<td>6-10</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>12</td>
<td>9</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>%</td>
<td>100.00%</td>
<td>12.50%</td>
<td>16.00%</td>
<td>26.09%</td>
<td>22.50%</td>
<td>0.00%</td>
<td>22.31%</td>
</tr>
<tr>
<td>11+</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>50.00%</td>
<td>28.00%</td>
<td>32.61%</td>
<td>35.00%</td>
<td>100.00%</td>
<td>33.98%</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>8</td>
<td>25</td>
<td>46</td>
<td>40</td>
<td>1</td>
<td>121</td>
</tr>
</tbody>
</table>

TABLE 14    GPA and Source (N=121)

<table>
<thead>
<tr>
<th>Source</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>29</td>
<td>27</td>
<td>0</td>
<td>78</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>75.00%</td>
<td>64.00%</td>
<td>63.04%</td>
<td>67.50%</td>
<td>0.00%</td>
<td>64.46%</td>
</tr>
<tr>
<td>Online Library</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>11</td>
<td>7</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>12.50%</td>
<td>24.00%</td>
<td>23.91%</td>
<td>17.50%</td>
<td>100.00%</td>
<td>21.49%</td>
</tr>
<tr>
<td>Library</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>100.00%</td>
<td>12.50%</td>
<td>12.00%</td>
<td>10.87%</td>
<td>10.00%</td>
<td>0.00%</td>
<td>11.57%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.17%</td>
<td>5.00%</td>
<td>0.00%</td>
<td>2.48%</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>8</td>
<td>25</td>
<td>46</td>
<td>40</td>
<td>1</td>
<td>121</td>
</tr>
</tbody>
</table>

According to the study by Williams et al., there is a significant correlation between a student’s academic year and library use (1995). Williams states that freshmen students are less likely to use the library or its resources, while seniors are most likely to use it (1995). This does not seem to hold true for this sample when considering library visits in the past month. There seems to be a very slight negative correlation (gamma = -0.1046). There is little significant difference between a freshman’s choice of sources and those of seniors’ or juniors’ (see Table 15). If anything, a senior chose a library resource as first choice of sources less often.
TABLE 15  
Academic Year and Source Choice (N=122)

<table>
<thead>
<tr>
<th>Source</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>15</td>
<td>23</td>
<td>20</td>
<td>21</td>
<td>79</td>
</tr>
<tr>
<td>%</td>
<td>57.69%</td>
<td>69.70%</td>
<td>60.61%</td>
<td>70.00%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Online Library</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>23.08%</td>
<td>18.18%</td>
<td>21.21%</td>
<td>23.33%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>11.54%</td>
<td>12.12%</td>
<td>15.15%</td>
<td>6.67%</td>
<td>11.48%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>7.69%</td>
<td>0.00%</td>
<td>3.03%</td>
<td>0.00%</td>
<td>2.46%</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>33</td>
<td>33</td>
<td>30</td>
<td>122</td>
</tr>
</tbody>
</table>

Student status was not analyzed for this paper since only three respondents were part-time students. However, the relationship between residence and library use was examined. Off campus students who use library resources, preferred online resources rather than the physical libraries when identifying sources (see Table 16). Off campus used the Internet 1.28 times more often than on campus students. They also used online library resources 1.28 times more often than visiting the library. However, off campus students actually tended to use the library more frequently than their on campus counterparts, with a gamma of 0.1402, there is a very slight positive correlation. This may be due to the idea of the library as a gathering place for off time between classes, or a quiet place away from home to study.
Since a student’s location influences the choice of sources, the amount of time available to them may be a factor when choosing sources. Students who work full or part-time jobs may be less likely to use the library, or if they do use the library, it is likely to be an online resource. There were not enough students claiming to work full-time for a meaningful analysis, however there are enough part-time workers to do so. As seen in Table 17 below, part-time workers used the Internet or online library resources more often than their non-working counterparts. In terms of frequency of library visits in the past month, this relationship has a gamma of 0.097, making it a very slight negative relationship, where, as a student works more, library visits will decrease.
TABLE 17 Source Chosen by Work Status (N=118)

<table>
<thead>
<tr>
<th>Source</th>
<th>Non Working</th>
<th>Part Time Work</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>34</td>
<td>54</td>
<td>76</td>
</tr>
<tr>
<td>%</td>
<td>58.62%</td>
<td>70.00%</td>
<td>64.41%</td>
</tr>
<tr>
<td>Online Library</td>
<td>11</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>18.97%</td>
<td>25.00%</td>
<td>22.03%</td>
</tr>
<tr>
<td>Library</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>%</td>
<td>17.24%</td>
<td>5.00%</td>
<td>11.02%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>5.17%</td>
<td>0.00%</td>
<td>2.54%</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>60</td>
<td>118</td>
</tr>
</tbody>
</table>

According to most of the available literature, a person’s demographics are a strong predictor of library use. It is believed older minority females with higher grade point averages will be the most frequent library users (Whitmire, 2003). Unfortunately, the results from the survey were not well represented by non-Caucasians. Non-Caucasians were frequent library visitors, about 1.86 times more often than Caucasians. However, the sample population is rather small and may not be accurate to the true population of non-Caucasians. There is little difference in the choices of Caucasians and Non-Caucasians (see Table 18). It is interesting to note however, that not a single non-Caucasian reported using the physical library as a source; instead they used only the library’s online resources.
TABLE 18  Race and Campus Library Visits (N=122)

<table>
<thead>
<tr>
<th>Use</th>
<th>Caucasian</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>%</td>
<td>0.96%</td>
<td>0.00%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>47</td>
<td>5</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>45.16%</td>
<td>27.78%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>25</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>24.04%</td>
<td>16.67%</td>
<td>22.95%</td>
</tr>
<tr>
<td>11+</td>
<td>31</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>29.81%</td>
<td>55.56%</td>
<td>33.61%</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>18</td>
<td>122</td>
</tr>
</tbody>
</table>

Since the race and sex of the students in the survey can not be compared they must be examined separately. There is little difference between male and female students and their frequency of library use. It is interesting to note the only respondent to reply that he or she has not used the library in the past month was male. It would be helpful for the purposes of this study to interview this individual and determine why he does not use the library, and what sources he uses to find information for academic research.

The sex of the student did not affect their choice of source. From Table 19 below, females chose the Internet as a first source 1.2 times more often than males, and used library resources 0.70 less often than males. However, when asked to report their second choice of resource, males and females were nearly identical in their choices.
### TABLE 19  
**Sex and Library Use (N=122)**

<table>
<thead>
<tr>
<th>Use</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>%</td>
<td>2.56%</td>
<td>0.00%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>15</td>
<td>37</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>38.46%</td>
<td>44.58%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>9</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>23.08%</td>
<td>22.89%</td>
<td>22.95%</td>
</tr>
<tr>
<td>11+</td>
<td>14</td>
<td>27</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>35.90%</td>
<td>32.53%</td>
<td>33.61%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>83</strong></td>
<td><strong>122</strong></td>
</tr>
</tbody>
</table>

### Sex and Choice of Source (N=122)

<table>
<thead>
<tr>
<th>Source</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>22</td>
<td>57</td>
<td>79</td>
</tr>
<tr>
<td>%</td>
<td>56.41%</td>
<td>68.67%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Online Library</td>
<td>10</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>25.64%</td>
<td>19.28%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>6</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>15.38%</td>
<td>9.64%</td>
<td>11.48%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>2.56%</td>
<td>2.41%</td>
<td>2.46%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>83</strong></td>
<td><strong>122</strong></td>
</tr>
</tbody>
</table>

There is very little explained by a student’s age. With a gamma of only -0.04 there is no significant relationship between age and library use, as is suggested by the literature. There is little difference between the age groups in choice of source. This may be partially due to the size of the sample population who reported being 22 or older (see Table 20). If students aged 18-21 are included, there is a definite progression in frequent library use with age. When restricting for these ages there is a gamma of 0.121, a slight positive relationship.
TABLE 20  
Age and Library Use (N=122)

<table>
<thead>
<tr>
<th>Use</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>16.67%</td>
<td>0.00%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>5</td>
<td>16</td>
<td>17</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>38.46%</td>
<td>45.71%</td>
<td>47.22%</td>
<td>22.73%</td>
<td>66.67%</td>
<td>50.00%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>30.77%</td>
<td>20.00%</td>
<td>13.89%</td>
<td>36.36%</td>
<td>0.00%</td>
<td>40.00%</td>
<td>22.95%</td>
</tr>
<tr>
<td>11+</td>
<td>4</td>
<td>12</td>
<td>14</td>
<td>9</td>
<td>1</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>30.77%</td>
<td>34.29%</td>
<td>38.89%</td>
<td>40.91%</td>
<td>16.67%</td>
<td>10.00%</td>
<td>33.61%</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>35</td>
<td>36</td>
<td>22</td>
<td>6</td>
<td>10</td>
<td>122</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>9</td>
<td>21</td>
<td>23</td>
<td>13</td>
<td>6</td>
<td>7</td>
<td>79</td>
</tr>
<tr>
<td>%</td>
<td>69.23%</td>
<td>60.00%</td>
<td>63.89%</td>
<td>59.09%</td>
<td>100.00%</td>
<td>70.00%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Online</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>6</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>23.08%</td>
<td>17.14%</td>
<td>22.22%</td>
<td>31.82%</td>
<td>0.00%</td>
<td>20.00%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>0</td>
<td>7</td>
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<td>2</td>
<td>0</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>20.00%</td>
<td>11.11%</td>
<td>9.09%</td>
<td>0.00%</td>
<td>10.00%</td>
<td>11.48%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>7.69%</td>
<td>2.86%</td>
<td>2.78%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.46%</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>35</td>
<td>36</td>
<td>22</td>
<td>6</td>
<td>10</td>
<td>122</td>
</tr>
</tbody>
</table>

There is also evidence to suggest a student’s parents’ educational background is a reasonable predictor of library use. There is a very weak relationship between one’s parents’ level of education and one’s frequency of library visits. Students, whose parents had masters or doctorate degrees were heavier library users, 11 or more visits, 1.47 times more often than students with parents with lower education levels. Students, whose parents were high school graduates, used the library infrequently, 1-5 times in a given month, 1.3 times more often than students’ whose parents have a masters or doctorate. The choice of sources for these same two groups, are very similar, with one exception.
Students with parents who have high school educations tended to use the physical library more often, where students with parents with a graduate or post-graduate degree tended to use the library’s online resources (see Table 21). One might theorize this is due to the probable incomes of families with lower education levels and their lack of access to computers, but that should also mean that they would not choose the Internet at the same rate as their more educated counterparts.

**TABLE 21**

Parent Education and Library Visits (N=122)

<table>
<thead>
<tr>
<th>Use</th>
<th>High School</th>
<th>Some College</th>
<th>Assoc. or Bach.</th>
<th>Masters or PhD.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>14.29%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>6</td>
<td>1</td>
<td>23</td>
<td>22</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>54.55%</td>
<td>14.29%</td>
<td>45.10%</td>
<td>41.51%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>2</td>
<td>2</td>
<td>14</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>18.18%</td>
<td>28.57%</td>
<td>27.45%</td>
<td>18.87%</td>
<td>22.95%</td>
</tr>
<tr>
<td>11+</td>
<td>3</td>
<td>3</td>
<td>14</td>
<td>21</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>27.27%</td>
<td>42.86%</td>
<td>27.45%</td>
<td>39.62%</td>
<td>33.61%</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>7</td>
<td>51</td>
<td>53</td>
<td>122</td>
</tr>
</tbody>
</table>

Parent’s Education and Source Chosen (N=122)

<table>
<thead>
<tr>
<th>Source</th>
<th>High School</th>
<th>Some College</th>
<th>Assoc. or Bach.</th>
<th>Masters or PhD.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
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<td>4</td>
<td>29</td>
<td>38</td>
<td>79</td>
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<tr>
<td>%</td>
<td>72.73%</td>
<td>57.14%</td>
<td>56.86%</td>
<td>71.70%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Online Library</td>
<td>1</td>
<td>3</td>
<td>12</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>9.09%</td>
<td>42.86%</td>
<td>23.53%</td>
<td>18.87%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>18.18%</td>
<td>0.00%</td>
<td>15.69%</td>
<td>7.55%</td>
<td>11.48%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>3.92%</td>
<td>1.89%</td>
<td>2.46%</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>7</td>
<td>51</td>
<td>53</td>
<td>122</td>
</tr>
</tbody>
</table>
It is a reasonable hypothesis to believe a student’s public library use prior to his or her college career would be an indicator of their use of the campus library system. The reasoning behind this hypothesis is that a frequent public library user would be comfortable with a library atmosphere, and would be more willing to visit the library. Fifty-four percent of those who used their public library often are also frequent campus library visitors (see Table 22). Comparing those who used their public library often with those who used it never to sometimes, the data suggests that those who visited their library often visited their campus library eleven or more times a month, 1.43 times more often than those who never used their public library, 2.45 times more often than rare users, and 1.57 times more often than those using public libraries sometimes. Conversely, those who rarely used their public library were also infrequent users of the campus library. There is a slight positive relationship between the frequency of public library visits prior to college, and the frequency of campus library visits (gamma = 0.211).

**TABLE 22  Public Library Use and Academic Library Visits (N=122)**

<table>
<thead>
<tr>
<th>Use</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>0.00%</td>
<td>2.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>2</td>
<td>25</td>
<td>17</td>
<td>8</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>25.00%</td>
<td>50.00%</td>
<td>44.74%</td>
<td>30.77%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>3</td>
<td>13</td>
<td>8</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>37.50%</td>
<td>26.00%</td>
<td>21.05%</td>
<td>15.38%</td>
<td>22.95%</td>
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<tr>
<td>11+</td>
<td>3</td>
<td>11</td>
<td>13</td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>37.50%</td>
<td>22.00%</td>
<td>34.21%</td>
<td>53.85%</td>
<td>33.61%</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>50</td>
<td>38</td>
<td>26</td>
<td>122</td>
</tr>
</tbody>
</table>

A logical conclusion from the above data is that students who used their public library often may be more apt to choose a library resource as their first source when doing research. However, public library use does not seem to predict a student’s choice of
source. The only noticeable difference is frequent public library users used the physical library more often than the online resources, when compared to those who never, rarely, or sometimes used their public library (see Table 23).

**TABLE 23**  
**Public Library Use and Choice of Source**  
(N=122)

<table>
<thead>
<tr>
<th>Source</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>5</td>
<td>35</td>
<td>23</td>
<td>16</td>
<td>79</td>
</tr>
<tr>
<td>%</td>
<td>62.50%</td>
<td>70.00%</td>
<td>60.53%</td>
<td>61.54%</td>
<td>64.75%</td>
</tr>
<tr>
<td>Online Library</td>
<td>1</td>
<td>10</td>
<td>12</td>
<td>3</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>12.50%</td>
<td>20.00%</td>
<td>31.58%</td>
<td>11.54%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>25.00%</td>
<td>8.00%</td>
<td>5.26%</td>
<td>23.08%</td>
<td>11.48%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>2.00%</td>
<td>2.63%</td>
<td>3.85%</td>
<td>2.46%</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>50</td>
<td>38</td>
<td>26</td>
<td>122</td>
</tr>
</tbody>
</table>

Considering the influence public library use seems to have on a student’s use of the academic library, it would seem reasonable to believe use of their high school libraries would have a similar effect. However, there is little significant difference in the frequency of academic library visits and the frequency of high school library visits, as seen in Table 24. A gamma of -0.01, for this relationship, only strengthens this observation. As in public library visits, high school library visits did not affect a student’s choice of sources (gamma = 0.03).
There is only a slight difference between students who reported faculty support of the library and those who reported infrequent or no support for frequent library visitors.

Students whose faculty members promoted the use of the library used the library 1.5 times more often than students whose faculty did not promote the library and 1.3 times more often than those students whose professors only promoted the library some of the time. There was no significant difference between faculty library promotion and student selection of source, with a gamma of -0.07.

TABLE 25  Faculty Library Promotion and Library Visits (N=122)

<table>
<thead>
<tr>
<th>Use</th>
<th>Yes</th>
<th>No</th>
<th>Sometimes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
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<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.70%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>27</td>
<td>8</td>
<td>17</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>39.13%</td>
<td>50.00%</td>
<td>45.95%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>16</td>
<td>4</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>23.19%</td>
<td>25.00%</td>
<td>21.62%</td>
<td>22.95%</td>
</tr>
<tr>
<td>11+</td>
<td>26</td>
<td>4</td>
<td>11</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>37.68%</td>
<td>25.00%</td>
<td>29.73%</td>
<td>33.61%</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>16</td>
<td>37</td>
<td>122</td>
</tr>
</tbody>
</table>

One might also expect those students who have received some sort of bibliographic instruction would be more likely to visit the library or at least be more likely to use library resources when doing research. However, there was little difference
between the two groups when comparing library visits. We can also see there was little or no difference in their choice of sources.

### TABLE 26  Library Instruction and Library Visits (N=122)

<table>
<thead>
<tr>
<th>Use</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
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<td>1</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>1.69%</td>
<td>0.82%</td>
</tr>
<tr>
<td>1-5</td>
<td>26</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>%</td>
<td>41.27%</td>
<td>44.07%</td>
<td>42.62%</td>
</tr>
<tr>
<td>6-10</td>
<td>14</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>%</td>
<td>22.22%</td>
<td>23.73%</td>
<td>22.95%</td>
</tr>
<tr>
<td>11+</td>
<td>23</td>
<td>18</td>
<td>41</td>
</tr>
<tr>
<td>%</td>
<td>36.51%</td>
<td>30.51%</td>
<td>33.61%</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>59</td>
<td>122</td>
</tr>
</tbody>
</table>

### Library Instruction and Source Chosen (N=122)

<table>
<thead>
<tr>
<th>Source</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
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</thead>
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<tr>
<td>Internet</td>
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<tr>
<td>%</td>
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<td>64.75%</td>
</tr>
<tr>
<td>Online Library</td>
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<td>9</td>
<td>26</td>
</tr>
<tr>
<td>%</td>
<td>26.98%</td>
<td>15.25%</td>
<td>21.31%</td>
</tr>
<tr>
<td>Library</td>
<td>6</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>9.52%</td>
<td>13.56%</td>
<td>11.48%</td>
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<tr>
<td>Other</td>
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<td>3</td>
<td>3</td>
</tr>
<tr>
<td>%</td>
<td>0.00%</td>
<td>5.08%</td>
<td>2.46%</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>59</td>
<td>122</td>
</tr>
</tbody>
</table>

V.  CONCLUSIONS

Many studies examine the behavior of patrons once they are in the information system or library; however this study has made an attempt to look at their behavior both prior to using the library and their behaviors in the library. Studying the demographics of the student population has shown there is little difference in library use between sexes and across age groups. There were difference in library use between Caucasians and Non-
Caucasians; however, the sample population may not be an accurate representation of minority groups due to the small sample size. Student living and working situations had little noticeable affect on library use and source selection. However, there were notable difference in library use based on the parents’ education and the faculties’ involvement in library use.

It was found that prior high school library use had no affect on the student’s college library use, whereas prior public library use increases the student’s academic library use. However, neither public nor high school libraries altered the student’s selection of source materials. Also, students who received bibliographic instruction showed no difference in source selection or library visits than students without an instruction session.

As seen in the Abels study at the University of Maryland, Robert H. Smith School of Business, about 70% of students chose the Internet as their first source of information. This is very similar to the results of this study, where 65% chose the Internet as their first source suggesting that even though the results from this study may be slightly skewed due to sample size, they may also relatively accurate.

The findings of this study challenge some of the findings of previous studies. For example, students in the sciences and business fields used the library more often than expected compared with liberal arts students. There are a number of reasons this may have occurred including small sample groups in business and science or faculty influence on the student’s library use. These explanations are however in no way inclusive.

The results from the survey also contradicted the Grimes and Charters results, as subjects in this study showed very little difference in library use when controlling for
GPA, age, and academic year. In fact, freshmen students were more likely to use the library than seniors. According to Geffert and Christensen, incoming students are much more likely to be open to library instruction and library propaganda, and hence more likely to use the library (1998). Age may be less influential in library use as the library offers more digital resources and tries to adapt to the needs of its users. Generational difference may be more influential than age. Typically students are of the same generation since there is only on average four years difference between freshman and seniors. It would be interesting to compare traditional students with older students to see if there is a greater variation in library use and the sources they choose.

All the participants in this study stated that they planned to finish their degrees. This contradicted both Lubans’s and Kramer’s findings, where lack of library use was attributed to higher drop out rates. However, unlike these studies, students today have access to the Internet which may be a surrogate for using the library, and may have altered the results if available to students in the Lubans and Kramer studies.

It seems that the strongest predictors of library use in this study were the level of the parents’ education and the level of promotion given to the library by faculty. While libraries can not control the level of a student’s family education, faculty can be made more aware of their importance in the academic growth of their students. In this study, a little over half of all faculty members were reported to promote the library as a useful tool for research. If faculty members can be persuaded to promote the use of the campus libraries, there should be a noticeable increase in library use by students. It is also important for libraries to reach out to faculty, and make them more aware of the services available, so that in turn the faculty can reach out to their students.
It also important for librarians who instruct students, to understand that different students will have different information needs and pre-conceived ideas about the library, which may be due to their familial educational background, and that these students may need alternative forms of bibliographic instruction for them to realize the potential of the library.

This paper is only a beginning study of non-users and pre-library use users. It is necessary for more research to be done in order to fully understand what leads students in an academic environment, where there are resources available to them, to choose the Internet as their first choice of research. Is it the ease of use or convenience of access? Are students turned away from online library resources by the multitude of interfaces and too many choices? It is understandable for students to turn toward the Internet to gain a quick background on a subject, but for serious research it can be misleading, inappropriate or incorrect. It is important to reach students, and inform them of the information available to them, and the importance of reputable sources.

Unfortunately, this study was unable to reach a significant portion of students who would be classified as non-users, there for the results may be skewed toward the user’s perspective. It would be beneficial to target the non-user to gain an understanding of their needs and motivations. This could be done through interviews with non-users. In order to find these non-users, it would be necessary to ask students if they know or know of a fellow student who does not use the library. With this information, these non-users could be contacted for interviews.

It would also be beneficial to conduct a survey on minority groups on campus, since this survey did not get enough responses from these groups to make an accurate
analysis of their needs. A study focused on specific groups would be most beneficial. It would also be useful to create focus groups to provide students to interact with each other and elicit responses an interviewer may not be able to.

A study into the further opinions and attitudes of students would also be necessary to determine how they feel about a broad range of topics. It is almost necessary to take a sociological or psychological approach to any further studies, to understand what makes a student choose the library over the internet or why some students will not use the library at all. Is there something in the human condition that is unexplored by the library sciences, that makes the library a less desirable source of information? How can information providers adapt to meet the needs of their patrons? What is the future roll of the library?
Bibliography


**Overview of the UNC Library System** 15 March 2005

<http://www.lib.unc.edu/overview.html>


**UNC: ACADEMIC: FACTS AND FIGURES** 15 March 2005


APPENDIX

SURVEY

Age?

Race?
- Caucasian
- African American
- Hispanic/Latino
- Asian
- Other

Sex?
- Male
- Female

What is your academic standing?
- Freshman
- Sophomore
- Junior
- Senior

Are you a full-time or part-time student?
- Full-time
- Part-time
What is your major? (If undecided please enter "undecided")

Please Specify

To the best of your knowledge what is your current GPA?

What is the highest level of education of your parent or guardian?

☐ Less than high school
☐ High school or GED
☐ Some college
☐ A bachelors or associates degree
☐ A masters or doctorate degree

Do you intend to complete your current degree?

☐ Yes
☐ No

Do you intend to pursue a masters or doctorate degree?

☐ Yes
☐ No

How many hours do you study for classes in a typical week?

☐ 0-1
☐ 2-5
☐ 6+

Do you work while in school?

☐ No
☐ Yes, part-time
☐ Yes, full-time
What is your living situation?

☐ Live on campus
☐ Live off campus

Prior to college, how often did you use your public library?

☐ Never
☐ Rarely
☐ Sometimes
☐ Often

Did your high school have a library?

☐ Yes
☐ No

If you answered yes, how often did you use the library?

☐ Never
☐ Rarely
☐ Sometimes
☐ Often

Have you ever taken a remedial course at the college level?

☐ Yes
☐ No

Have you ever had a library instruction session at UNC, either as part of a class or workshop, where you learned of resources available at UNC's libraries?

☐ Yes
☐ No
In the last class assignment that required you to find more information about a subject, what were the first three places you looked? List them in order of importance. How helpful is this resource?

- [ ] Not Very  [ ] Somewhat  [ ] Very
- [ ] Not Very  [ ] Somewhat  [ ] Very
- [ ] Not Very  [ ] Somewhat  [ ] Very

How often in a month would you say you use any of the campus libraries?

- [ ] Never
- [ ] 1-5 times
- [ ] 6-10 times
- [ ] 11+

If you use the library, what do you use it for and how often?

- Borrowing books or other materials: [ ] Never  [ ] Rarely  [ ] Sometimes  [ ] Often

- Checking Email: [ ] Never  [ ] Rarely  [ ] Sometimes  [ ] Often

- Researching Information for a class project/paper: [ ] Never  [ ] Rarely  [ ] Sometimes  [ ] Often

- Studying Alone: [ ] Never  [ ] Rarely  [ ] Sometimes  [ ] Often

- Group Study: [ ] Never  [ ] Rarely  [ ] Sometimes  [ ] Often

- Other: Please Specify

How often do you use the online services available from the UNC Library system? i.e. databases, online catalog, etc...

- [ ] Never
- [ ] Rarely
- [ ] Sometimes
- [ ] Often
In your opinion, is the library helpful in reaching your academic goals?

☐ Yes  ☐ No  ☐ Not sure

Do you feel the library is important to the University as a whole?

☐ Yes  ☐ No  ☐ Not sure

If you had an assignment to write a paper on a topic you know little about would you turn to the library for information?

☐ Yes, I go to the library first.  ☐ After consulting other sources.  ☐ I would not use the library, I can find the information elsewhere.

If your instructor has put class materials on reserve at the library...

☐ I never look at reserve materials  ☐ If I have time I look at reserve materials  ☐ Only if the readings are required would I look at them.  ☐ I always look at reserve materials

If the library offered workshops on using library resources and improving your research abilities, would you be likely to attend such a workshop?

☐ No  ☐ Maybe  ☐ Probably  ☐ Definitely
In general, do any of your instructors promote the use of the library when giving a research assignment?

☐ Yes
☐ No
☐ Sometimes

Submission of this survey will be considered voluntary participation.