



LibQUAL+  TM

**LibQUAL+TM
Spring 2002 Survey Results -
Wake Forest University, Z. Smith Reynolds
Library**

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<http://www.libqual.org>
Bibliography of LibQUAL+TM Studies: <http://www.coe.tamu.edu/~bthompson/servqbib.htm>

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Individual Institution Statistics and Graphs



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Reynolds Library**

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June, 2002

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1. Introduction

1.1 Acknowledgements

This notebook contains information from the third administration of the LibQUAL+™ protocol. The material on the following pages is drawn from the analysis of more than 78,000 respondents from 164 participating institutions, many of them members of the Association of Research Libraries (ARL).

LibQUAL+™ is a research and development project undertaken to define and measure library service quality across institutions and to create user-based quality-assessment tools for local planning. LibQUAL+™ tests a tool for measuring library users' perceptions of service quality and identifies gaps between desired, perceived, and minimum expectations of service. The project will continue as an R&D endeavor based at ARL in collaboration with the Texas A&M University Libraries through 2003, by which time LibQUAL+™ will evolve into an ongoing service quality assessment program at ARL.

There are four main goals of LibQUAL+™: 1) development of web-based tools for assessing library service quality; 2) development of mechanisms and protocols for evaluating libraries; 3) identification of best practices in providing library service; and 4) establishment of a library service quality assessment program at ARL.

A project of this magnitude requires the skills of a dedicated group. We would like to thank the other members of the LibQUAL+™ team for their key roles in this developmental project. From Texas A&M University, the project management role of Colleen Cook, the quantitative guidance of Bruce Thompson, and the qualitative leadership of Yvonna Lincoln have been key to the project's integrity. The behind-the-scenes roles of Bill Chollet and others from the library Systems and Training units were also formative. From the Association of Research Libraries, the oversight role of Martha Kyrillidou and the day-to-day contributions of Consuella Askew Waller and Jonathan Sousa were fundamentally important. Julia Blixrud, Kaylyn Hipps, and Amy Hoseth were also important contributors.

A New Measures Initiative of this scope is possible only as the collaborative effort of many libraries. To the directors and liaisons at all 164 participating libraries goes the largest measure of gratitude. Without your commitment, the development of LibQUAL+™ would not have been possible. We would also like to extend a special thank you to administrators at the two participating consortiums. From OhioLINK, Tom Sanville and Jeff Gatten were particularly helpful. From the American Association of Health Sciences Libraries (AAHSL), the efforts of Rick Forsman and Tamera Lee were greatly appreciated. The advisory groups from each consortium also provided needed assistance.

This note would be incomplete without acknowledging the enabling role of the Fund for the Improvement of Post-secondary Education (FIPSE), U.S. Department of Education, which granted funds of \$498,368 over a three-year period towards the LibQUAL+™ project, enabling us to expand the protocol to all post-secondary institutions.

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1.2 Web Access to Data

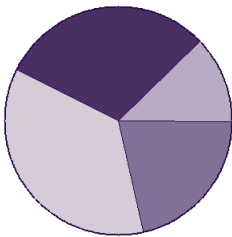
Data summaries from the 2002 iteration of the LibQUAL+™ survey will be available to project participants online at the LibQUAL+™ survey management site:

<http://survey.libqual.org/Manage/>

1.3 Explanation of Charts

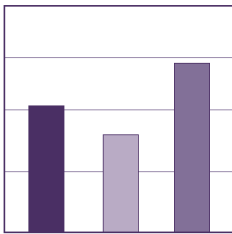
Several different types of charts are used throughout this document to display individual institution results. A working knowledge of how to read and derive relevant information from these charts is essential. The basic chart types are outlined below, and additional descriptive information is included throughout this notebook.

1.3.1 Pie Chart



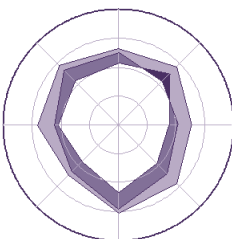
On a pie chart, each slice represents a percentage of the whole. Pie charts are especially useful for displaying classes or groups of data in proportion to the whole data set. On the pages that follow, pie charts are used primarily to present demographical information collected as part of the survey.

1.3.2 Bar Chart



Bar charts are easy to read and are useful for comparing classes and groups of data. For LibQUAL+™ results, bar charts are used to present information on survey completion rates, the chronological distribution of survey completion, respondents' general satisfaction with their libraries' service, service quality dimension summaries, and other sets of data that easily lend themselves to this format.

1.3.3 Radar Chart



On a radar chart, variations in the data are shown by distance from the center of the chart. Radar charts feature multiple axes along which data are plotted. In the case of the LibQUAL+™ survey results, each axis represents a different survey question. Radar charts are used to present the item summaries (the results from the 25 survey questions) and the local question analysis (the results from the additional questions added by individual institutions).

Radar graphs are an effective way to graphically show strengths and weaknesses. Points close to the center indicate a low value, while points near the edge indicate a high value. When interpreting a radar graph, it is important to check each individual axis as well as the graph's overall shape in order to gain a complete understanding of its meaning.

1.4 A Few Words About LibQUAL+™ 2002

Libraries today confront escalating pressure to demonstrate impact. As Cullen (2001) recently noted,

Academic libraries are currently facing their greatest challenge since the explosion in tertiary education and academic publishing which began after World War II... [T]he emergence of the virtual university, supported by the virtual library, calls into question many of our basic assumptions about the role of the academic library, and the security of its future. Retaining and growing their customer base, and focusing more energy on meeting their customers' expectations is the only way for academic libraries to survive in this volatile environment. (pp. 662-663)

In this environment, "A measure of library quality based solely on collections has become obsolete" (Nitecki, 1996, p. 181).

These considerations have prompted the Association of Research Libraries (ARL) to sponsor a number of "New Measures" initiatives. The New Measures efforts represent a collective determination on the part of the ARL membership to augment the collection-count and fiscal input measures that comprise the ARL Index and ARL Statistics, to date the most consistently collected statistics for research libraries, with outcome measures, such as assessments of service quality and satisfaction.

One New Measures initiative has been the LibQUAL+™ project (Cook, Heath & B. Thompson, 2002; Heath, Cook, Kyriellidou & Thompson, 2002; Thompson, Cook & Thompson, 2002). Within a service-quality assessment model, "only customers judge quality; all other judgments are **essentially irrelevant**" (Zeithaml, Parasuraman, Berry, 1990, p. 16). Consequently, the selection of items employed with the LibQUAL+™ has been grounded in the *users' perspective* as revealed in a series of qualitative studies (Cook, 2002a; Cook & Heath, 2001).

LibQUAL+™ is a "way of listening" to users called a *total market survey*. As Berry (1995) explained,

When well designed and executed, total market surveys provide a range of information unmatched by any other method... A critical facet of total market surveys (and the reason for using the word 'total') is the measurement of competitors' service quality. This [also] requires using noncustomers in the sample to rate the service of their suppliers. (p. 37)

Although (a) measuring perceptions of both users and non-users and (b) collecting perceptions data as regards peer institutions can provide important insights, LibQUAL+™ is only one (i.e., a total market survey) of 11 "ways of listening" (Berry, 1995, pp. 32-61).

Using LibQUAL+™ Data

In some cases LibQUAL+™ data may confirm prior expectations and library staff will readily formulate action plans to remedy perceived deficiencies. But in many cases library decision-makers will seek additional information to corroborate interpretations or to better understand the dynamics underlying user perceptions.

For example, once an interpretation is formulated, library staff might review recent submissions of users to suggestion boxes to evaluate whether LibQUAL+™ data are consistent with interpretations, and the suggestion box data perhaps also provide user suggestions for remedies. User focus groups also provide a powerful way to explore problems and potential solutions. Cook (2002b) provides case study reports of how staff at various libraries have employed data from prior renditions of LibQUAL+™.

2002 Data Screening

LibQUAL+™ consists of 25 items. The 25 items measure perceptions of total service quality, as well as four subdimensions of perceived library quality: (a) *Service Affect* (9 items, such as "willingness to help users"); (b) *Library as Place* (5 items, such as "a haven for quiet and solitude"); (c) *Personal Control* (6 items, such as "website enabling me to locate information on my own"); and (d) *Information Access* (5 items, such as "comprehensive print collections" and "convenient business hours").

However, as happens in any survey, in 2002 some users provided incomplete data, or inconsistent data, or both. In compiling the summary data reported here, several criteria were used to determine which data cases to omit from these analyses.

1. **Complete Data.** The web software that presents the 25 core items monitors whether a given user has completed all items. On each of these items, in order to proceed to the next survey page, users must provide a rating of (a) minimally-acceptable service, (b) desired service, and (c) perceived service or rate the item "not applicable" ("NA").

If these conditions are not met, when the user attempts to leave the web page presenting the 25 core items, the software shows the user where missing data were located, and requests complete data. The user cannot exit the page containing the 25 items until all items are completed. *Only records with complete data on the 25 items were retained in summary statistics.*

2. **Excessive "NA" Responses.** Because some institutions provided access to a lottery drawing for an incentive (e.g., a Palm Pilot) for completing the survey, some users might have selected "NA" choices for all or most of the items rather than reporting their actual perceptions. Or some users may have views on such a narrow range of quality issues that their data are not very informative. *In this survey we made the judgment that records containing more than 11 "NA" responses should be deleted.*
3. **Excessive Inconsistent Responses.** On LibQUAL+™ user perceptions can be interpreted by locating "perceived" results within the "zone of tolerance" defined by data from the "minimum" and the "desired" ratings. For example, a mean "perceived" rating on the 1-to-9 ("9" is highest) scale of 7.5 might be very good if the mean "desired" rating is 6.0. But a 7.5 perception score is less satisfactory if the mean "desired" rating is 8.6, or if the mean "minimum" rating is 7.7.

One appealing feature of such a "gap measurement model" is that the rating format provides a check for inconsistencies in the response data (Thompson, Cook & Heath, 2000). Logically, on a given item the "minimum" rating should not be higher than the "desired" rating on the same item. For each user a count of such inconsistencies, ranging from "0" to "25" was made. *Records containing more than 9 logical inconsistencies were deleted.*

LibQUAL+™ Norms

An important way to interpret LibQUAL+™ data is by examining the zones of tolerance for items, the 4 subscale scores, and the total scores. However, the collection of such a huge number of user perceptions has afforded us with the unique opportunity to create "norms" tables that provide yet another perspective on results.

Norms tell us how scores "stack up" within a particular user group. For example, on the 1-to-9 ("9" is highest) scale, users might provide a mean "perceived" rating of 6.5 on an item, "complete run of journal titles." The same users might provide a mean rating on "minimum" for this item of 7.0, and a mean service-adequacy "gap score" (i.e., "perceived" minus "minimum") of -0.5.

The zone-of-tolerance perspective suggests that this library is not doing well on this item, because "perceived" falls below "minimally acceptable." This is important to know. But there is also a second way (i.e., normatively) to interpret the data. Both perspectives can be valuable.

A total market survey administered to tens of thousands of users, as was LibQUAL+™ in 2002, affords the opportunity to ask normative questions such as, "How does a mean 'perceived' score of 6.5 stack up among all individual users who completed the survey?", or "How does a mean service-adequacy gap score of -0.5 stack up among the gap scores of all institutions participating in the survey?"

If 70% of individual users generated "perceived" ratings lower than 6.5, 6.5 might not be so bad. And if 90% of institutions had service-adequacy gap scores lower than -0.5 (e.g., -0.7, -1.1), a mean gap score of -0.5 might actually be quite good. Users simply may have quite high expectations in this area. They may also communicate their dissatisfaction by both (a) rating "perceived" lower and (b) "minimum" higher.

This does not mean that a service-adequacy gap score of -0.5 is necessarily a cause for celebration. But a service-adequacy gap score of -0.5 on an item on which 90% of institutions have a lower gap score is a different gap score than the same -0.5 for a different item in which 90% of institutions have a higher service-adequacy gap score.

Only norms give us insight into this comparative perspective. And a local user-satisfaction survey (as against a total market survey) can never give us this insight.

Common Misconception Regarding Norms. An unfortunate and incorrect misconception is that norms make value statements. Norms do not make value statements! Norms make fact statements. If you are a forest ranger, and you make \$25,000 a year, a norms table might inform you of the fact statement that you make less money than 85% of the adults in the United States.

But if you love the outdoors, you do not care very much about money, and you are very service-oriented, this fact statement might not be relevant to you. Or, in the context of your values, you might interpret this fact as being quite satisfactory.

LibQUAL+™ 2002 Norms Tables. Of course, the fact statements made by the LibQUAL+™ norms are only valuable if you care about the dimensions being evaluated by the measure. More background on LibQUAL+™ norms is provided by Cook and Thompson (2001) and Cook, Heath and B. Thompson (2002). LibQUAL+™ norms for 2002 are available on the web at URL:

<http://www.coe.tamu.edu/~bthompson/libq2002.htm>

Response Rates

At the American Library Association mid-winter meeting in San Antonio in January, 2000, participants were cautioned that response rates on the final LibQUAL+™ would probably range from 25% to 33%. Higher response rates can be realized (a) with shorter surveys that (b) are directly action-oriented (Cook, Heath & R.L. Thompson, 2000). For example, a very high response rate could be realized by a library director administering the following one-item survey to users:

Instructions. Please tell us what time to close the library every day. In the future **we will close at whatever time receives the most votes.**

Should we close the library at?

A. 10pm B. 11pm C. midnight D. 2pm

Lower response rates will be expected for total market surveys measuring general perceptions of users across institutions, and when an intentional effort is made to solicit perceptions of both users and non-users. Two considerations should govern the evaluation of LibQUAL+™ response rates.

Minimum Response Rates. Response rates are computed by dividing the number of completed surveys at an institution by the number of persons asked to complete the survey. However, we do not know the actual

response rates on LibQUAL+™, because we do not know the correct denominators for these calculations.

For example, given inadequacy in records at schools, we are not sure how many e-mail addresses for users are accurate. And we do not know how many messages to invite participation were actually opened. In other words, what we know for LibQUAL+™ is the "lower-bound estimate" of response rates.

For example, if 200 out of 800 solicitations result in completed surveys, we know that the response rate is at least 25%. But because we are not sure whether 800 e-mail addresses were correct or that 800 e-mail messages were opened, we are not sure that 800 is the correct denominator. The response rate involving only correct e-mail addresses might be 35% or 45%. We don't know the exact response rate.

Representativeness Versus Response Rate. If 100% of the 800 people we randomly selected to complete our survey did so, then we can be assured that the results are representative of all users. But if only 25% of the 800 users complete the survey, the representativeness of the results is not assured.

Representativeness is actually a matter of degree. And several institutions each with 25% response rates may have data with different degrees of representativeness.

We can never be sure about how representative our data are as long as not everyone completes the survey. But we can at least address this concern by comparing the demographic profiles of survey completers with the population (Thompson, 2000). At which university below would one feel more confident that LibQUAL+™ results were reasonably representative?

Alpha University

Completers (n=200 / 800)

Gender

Students 53% female
Faculty 45% female

Disciplines

Liberal Arts 40%
Science 15%
Other 45%

Population (n=16,000)

Gender

Students 51% female
Faculty 41% female

Disciplines

Liberal Arts 35%
Science 20%
Other 45%

Omega University

Completers (n=200 / 800)

Gender

Students 35% female
Faculty 65% female

Disciplines

Liberal Arts 40%
Science 20%
Other 40%

Population (n=23,000)

Gender

Students 59% female
Faculty 43% female

Disciplines

Liberal Arts 15%
Science 35%
Other 50%

The persuasiveness of such analyses is greater as the number of variables used in the comparisons is greater. The LibQUAL+™ software is being expanded to automate these comparisons and to output side-by-side graphs comparing sample and population profiles for given institutions. Show these to people who question result representativeness.

ARL Service Quality Assessment Academy

LibQUAL+™ hopefully is an important tool in the New Measures toolbox that librarians can use to improve service quality. But, even more fundamentally, the LibQUAL+™ initiative is more than a single tool. LibQUAL+™ is an effort to create a culture of data-driven service quality assessment and service quality improvement within libraries.

Such a culture must be informed by more than one tool, and by more than only one of the 11 ways of listening to users. To facilitate a culture of service quality assessment, and to facilitate more informed usage of LibQUAL+™ data, the Association of Research Libraries has created the *ARL Service Quality Assessment Academy*:

http://www.arl.org/libqual/geninfo/academy_participants.html

The intensive, five-day Academy teaches both qualitative and quantitative skills that library staff can use to evaluate and generate service-quality assessment information. The first cohort of Academy participants graduated in May 2002. The Academy is one more resource for library staff who would like to develop enhanced service-quality assessment skills.

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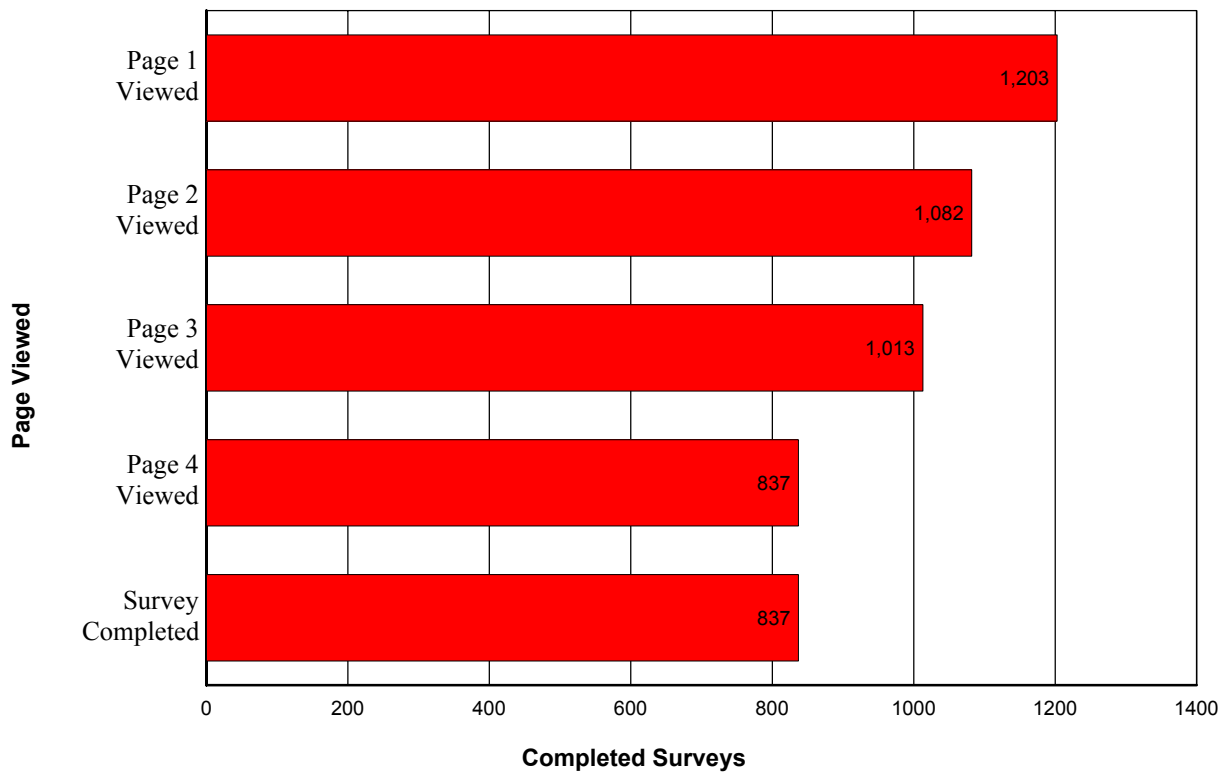
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- Thompson, B. (2000, October). Representativeness versus response rate: It ain't the response rate!. Paper presented at the Association of Research Libraries (ARL) Measuring Service Quality Symposium on the New Culture of Assessment: Measuring Service Quality, Washington, DC.
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Zeithaml, V.A., Parasuraman, A., Berry, L.L. (1990). Delivering quality service: Balancing customer perceptions and expectations. New York: Free Press.

2. Survey Analysis (Includes Library Staff)

2.1 Completion Rates

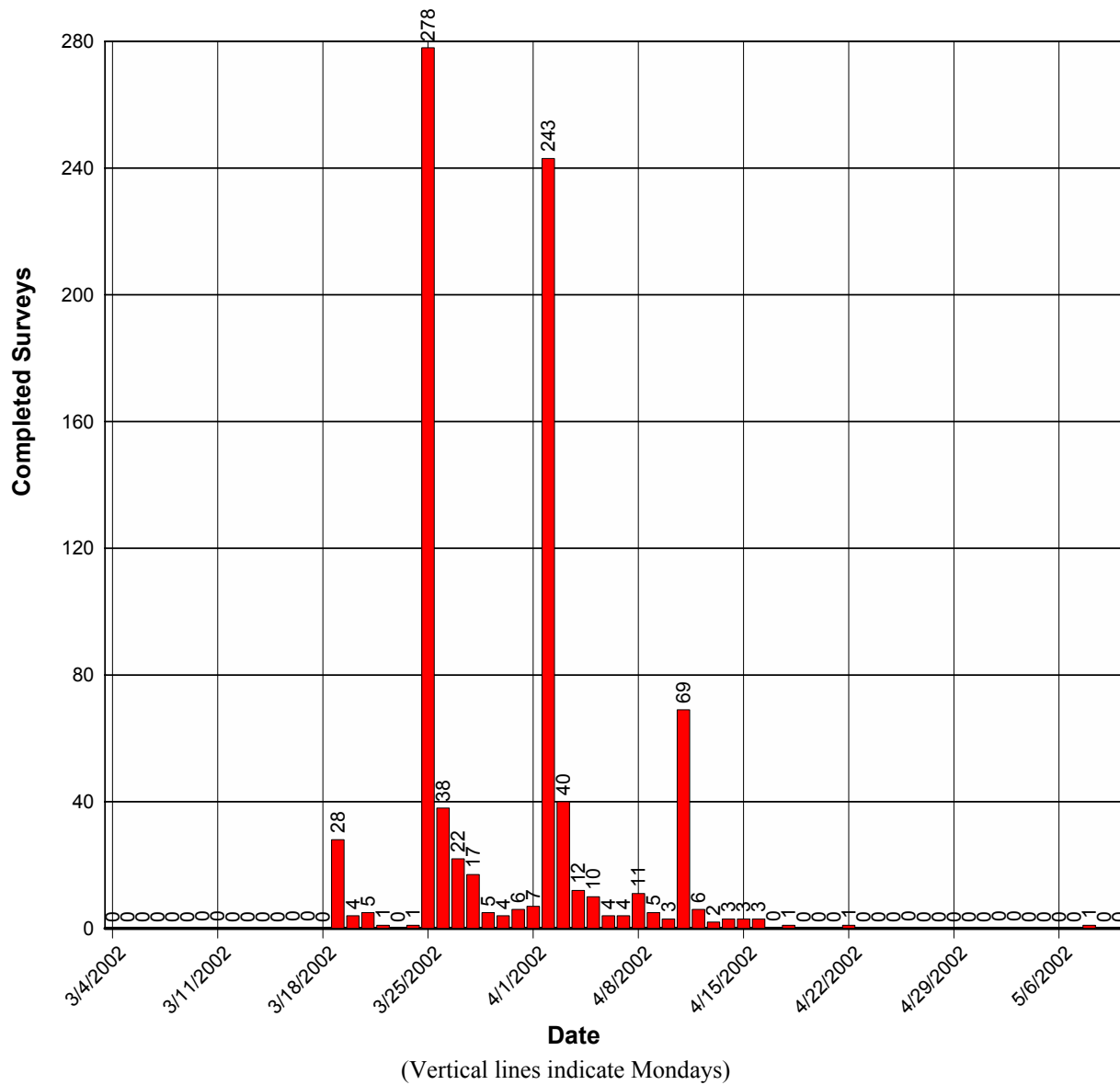
This bar chart shows the completion rate and viewing rates for each page of the survey instrument. The brief chart below the graphic lists the number and percentage of respondents who viewed each page of the survey and completed the survey.



<u>Page Viewed</u>	<u>Page Viewed</u>	<u>Percentage</u>
Page 1 Viewed	1,203	100.00%
Page 2 Viewed	1,082	89.94%
Page 3 Viewed	1,013	84.21%
Page 4 Viewed	837	69.58%
Survey Completed	837	69.58%
Total:	1,203	

2.2 Surveys Completed By Date

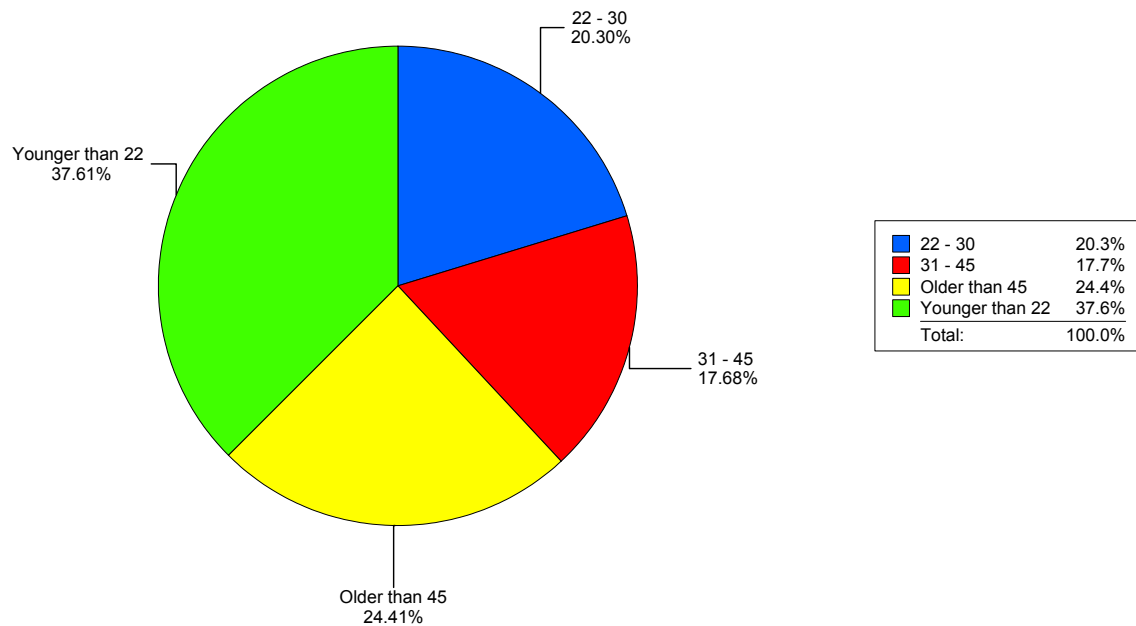
The bar chart below shows the number of surveys that were completed on each day of the survey run. Vertical lines indicate Mondays, traditionally the best day for sending out announcements and reminders to survey participants.



3. Demographic Analysis

3.1 Respondents by Age (Includes Library Staff)

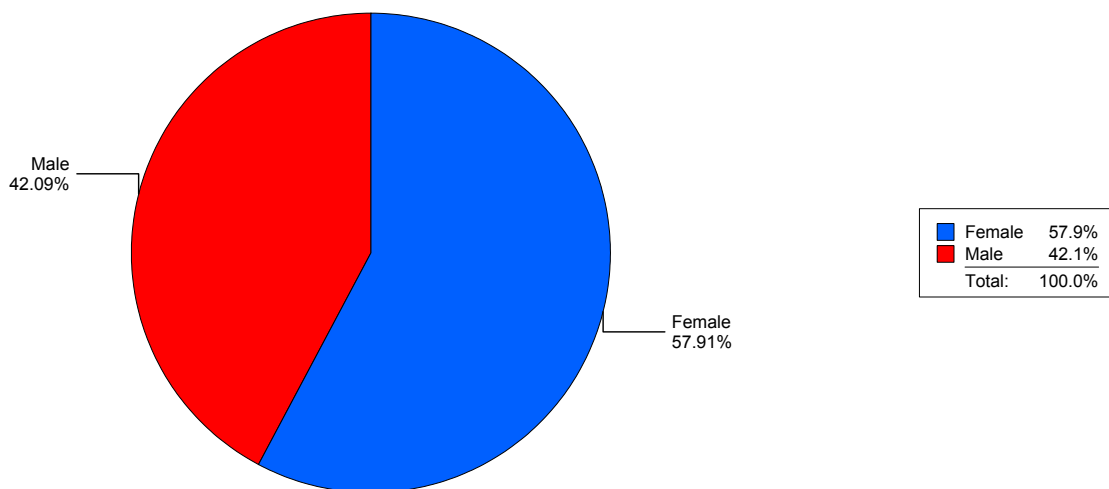
This pie chart shows a breakdown of survey respondents by age. Ages are grouped into four categories: Younger than 22, 22-30, 31-45 and Older than 45.



<u>Age</u>	<u>Respondents</u>	<u>Percentage</u>
Younger than 22	302	37.61%
22 - 30	163	20.30%
31 - 45	142	17.68%
Older than 45	196	24.41%
Total:	803	100.00%

3.2 Respondents by Sex (Includes Library Staff)

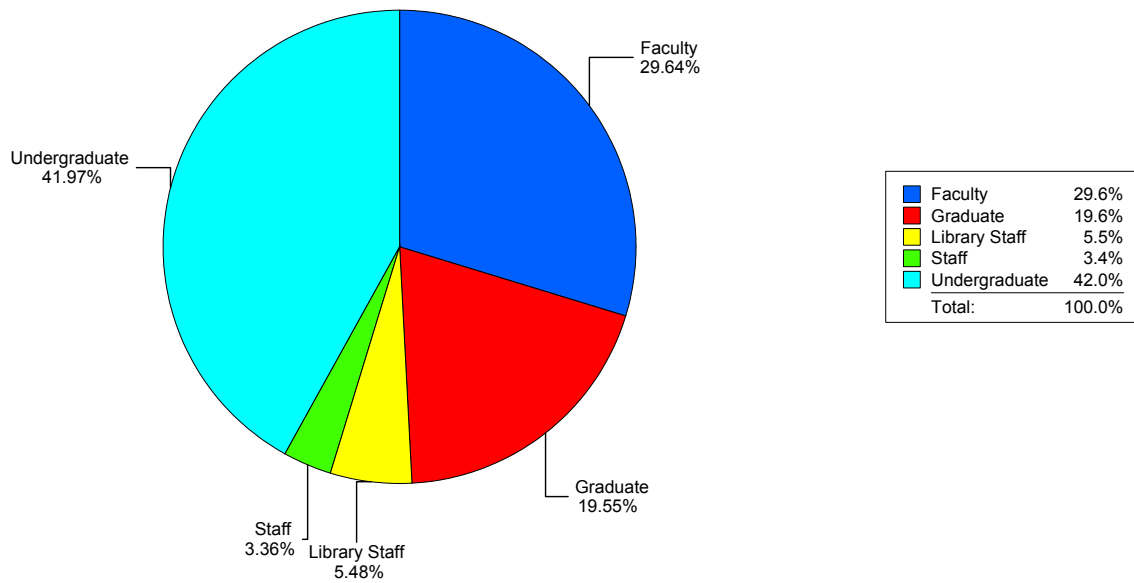
The pie chart below shows a breakdown of survey respondents by sex, based on responses to the demographic questions at the beginning of the survey instrument.



<u>Sex</u>	<u>Respondents</u>	<u>Percentage</u>
Female	465	57.91%
Male	338	42.09%
Total:	803	100.00%

3.3 Respondents by User Group

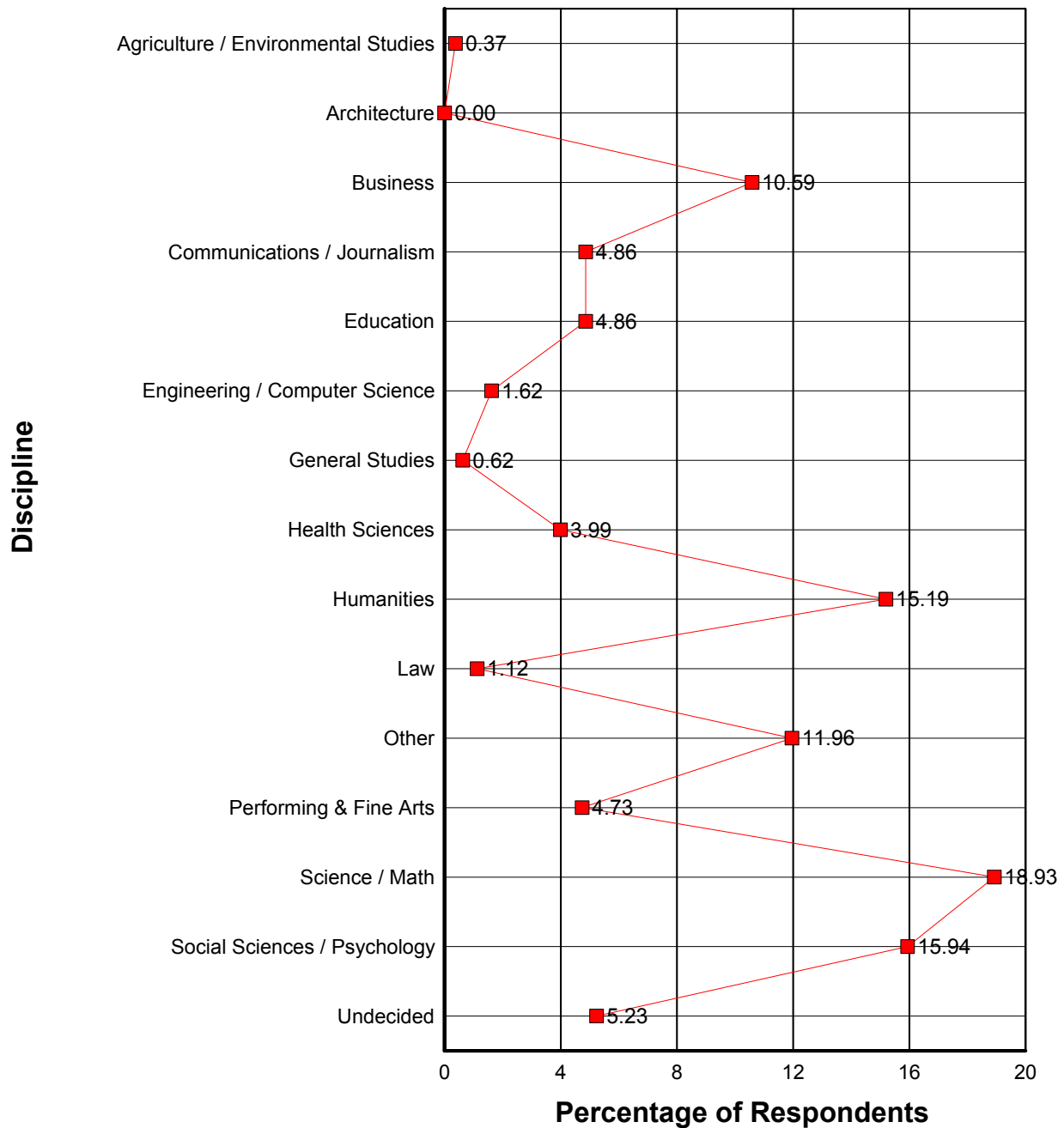
This chart shows the number and percentage of Wake Forest University, Z. Smith Reynolds Library respondents by user group, such as undergraduates, graduate students, faculty, etc.



User Group	Respondents	Percentage
Undergraduate	337	41.97%
Graduate	157	19.55%
Faculty	238	29.64%
Library Staff	44	5.48%
Staff	27	3.36%
Total:	803	100.00%

3.4 Respondents by Discipline (Includes Library Staff)

This chart displays discipline information (academic major or area of focus) for all Wake Forest University, Z. Smith Reynolds Library respondents.



<u>Discipline</u>	<u>Respondents</u>	<u>Percentage</u>
Agriculture / Environmental Studies	3	0.37%
Architecture	0	0.00%
Business	85	10.59%
Communications / Journalism	39	4.86%
Education	39	4.86%
Engineering / Computer Science	13	1.62%
Health Sciences	32	3.99%
Humanities	122	15.19%
Law	9	1.12%
Performing & Fine Arts	38	4.73%
Science / Math	152	18.93%
Social Sciences / Psychology	128	15.94%
General Studies	5	0.62%
Undecided	42	5.23%
Other	96	11.96%
Total:	803	100.00%

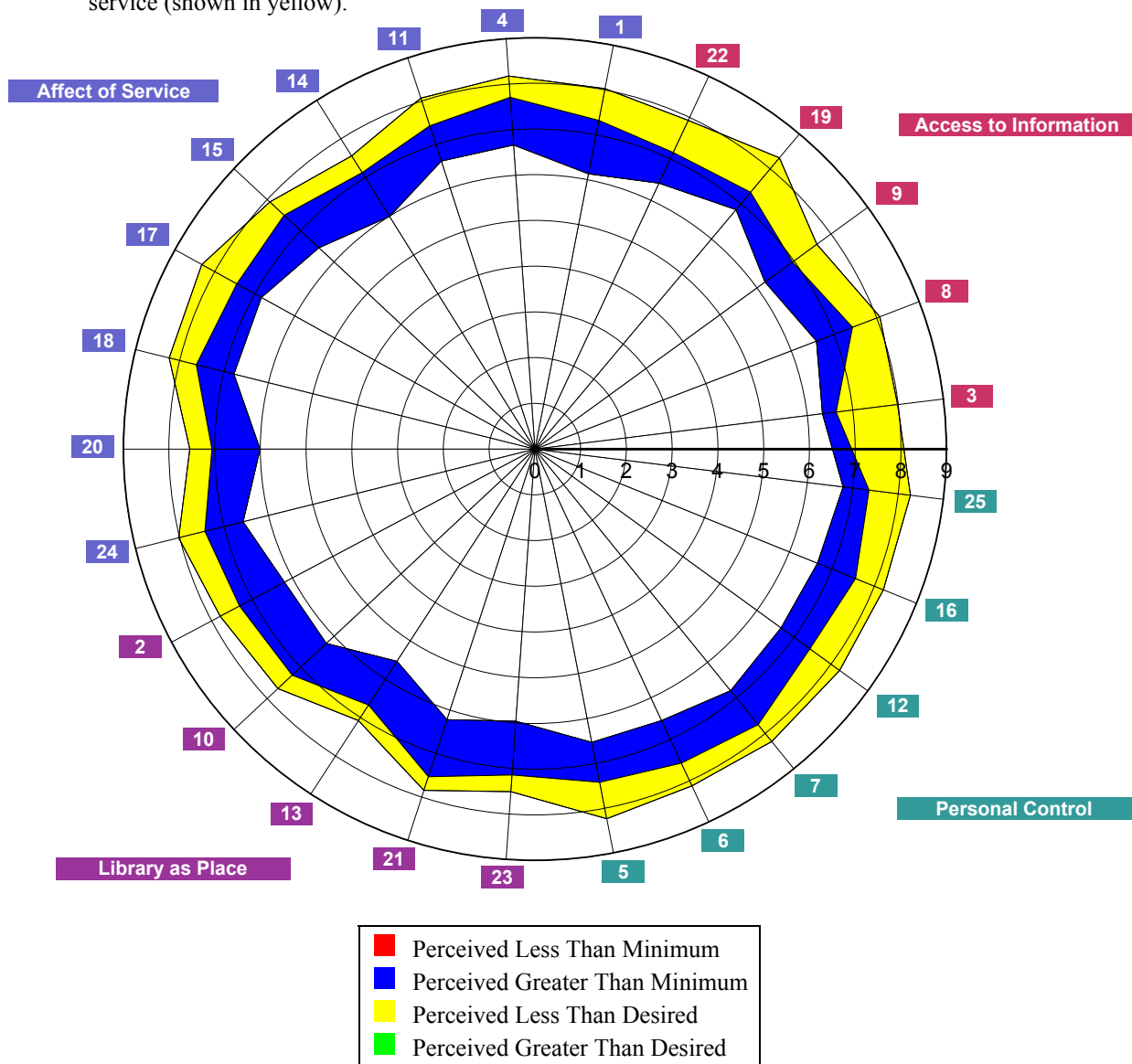
4. Item Analysis By User Group

4.1 All User Groups (Excludes Library Staff)

4.1.1 Item Summary

This radar chart shows results for all 25 survey questions for Wake Forest University, Z. Smith Reynolds Library. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).



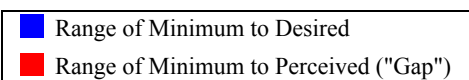
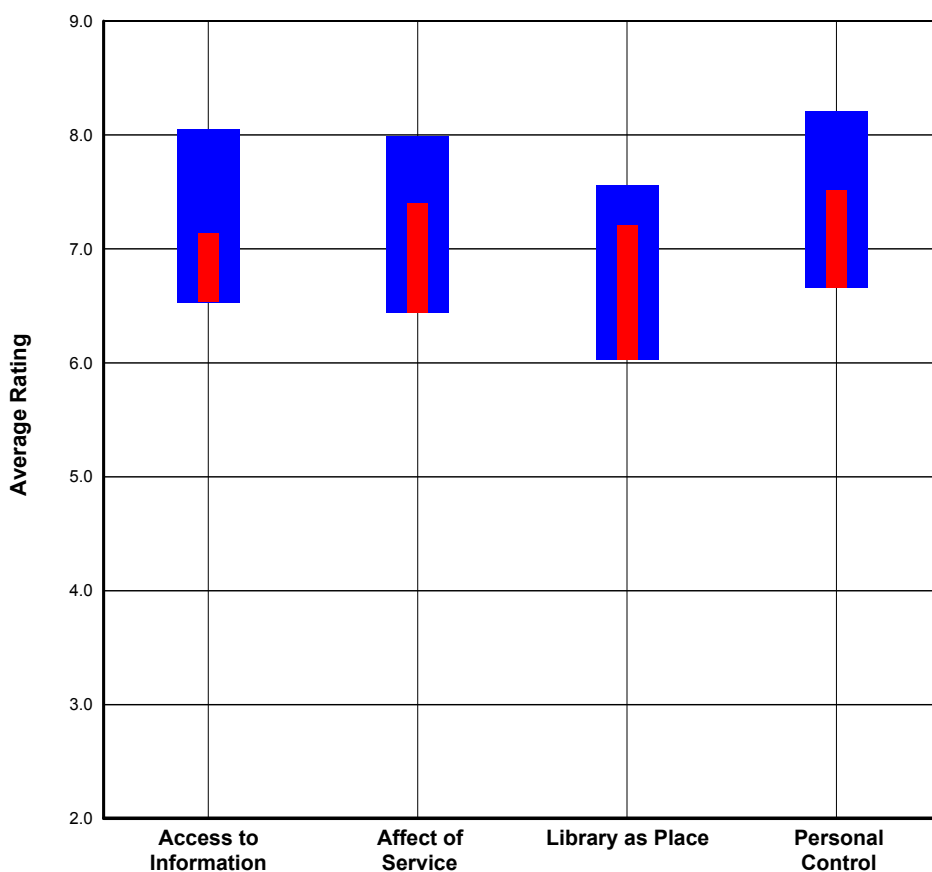
No.	Question Text	Minimum	Desired	Perceived	Gap
Access to Information					
3)	Complete runs of journal titles	6.33	7.99	6.63	0.30
8)	Timely document delivery/interlibrary loan	6.59	8.08	7.44	0.84
9)	Interdisciplinary library needs being addressed	6.22	7.62	6.96	0.75
19)	Convenient business hours	6.84	8.31	7.33	0.49
22)	Comprehensive print collections	6.42	7.93	7.16	0.74
Affect of Service					
1)	Willingness to help users	6.13	8.03	7.32	1.19
4)	Employees who are consistently courteous	6.67	8.18	7.71	1.05
11)	Dependability in handling users' service problems	6.62	8.07	7.43	0.81
14)	Giving users individual attention	6.00	7.56	7.13	1.13
15)	Employees who deal with users in a caring fashion	6.46	7.92	7.50	1.04
17)	Employees who have the knowledge to answer user questions	6.84	8.32	7.45	0.61
18)	Readiness to respond to users' questions	6.78	8.24	7.63	0.85
20)	Employees who instill confidence in users	6.01	7.54	7.06	1.05
24)	Employees who understand the needs of their users	6.58	8.02	7.43	0.86
Library as Place					
2)	Space that facilitates quiet study	6.20	7.79	7.31	1.11
10)	A haven for quiet and solitude	6.23	7.68	7.25	1.02
13)	A place for reflection and creativity	5.54	7.08	6.67	1.14
21)	A comfortable and inviting location	6.22	7.85	7.53	1.31
23)	A contemplative environment	5.97	7.51	7.14	1.18
Personal Control					
5)	Making electronic resources accessible from my home or office	6.53	8.23	7.42	0.89
6)	Modern equipment that lets me easily access the information I need	6.55	8.13	7.58	1.02
7)	A library website enabling me to locate information on my own	6.80	8.23	7.75	0.96
12)	Easy-to-use access tools that allow me to find things on my own	6.65	8.23	7.43	0.78
16)	Making information easily accessible for independent use	6.66	8.22	7.56	0.90
25)	Convenient access to library collections	6.79	8.27	7.36	0.57

Number of Records: 759

4.1.2 Dimension Summary

On this chart, scores for each dimension of library service quality have been plotted graphically. The blue bars represent the range of minimum to desired scores for each dimension. The interior red bars represent the range of minimum to perceived scores, or the "gap," for each dimension of library service quality.

The four dimensions measured were Affect of Service (9 items), Personal Control (6 items), Access to Information (5 items), and Library as Place (5 items). A complete listing of the survey questions and their dimensions can be found in Appendix B.

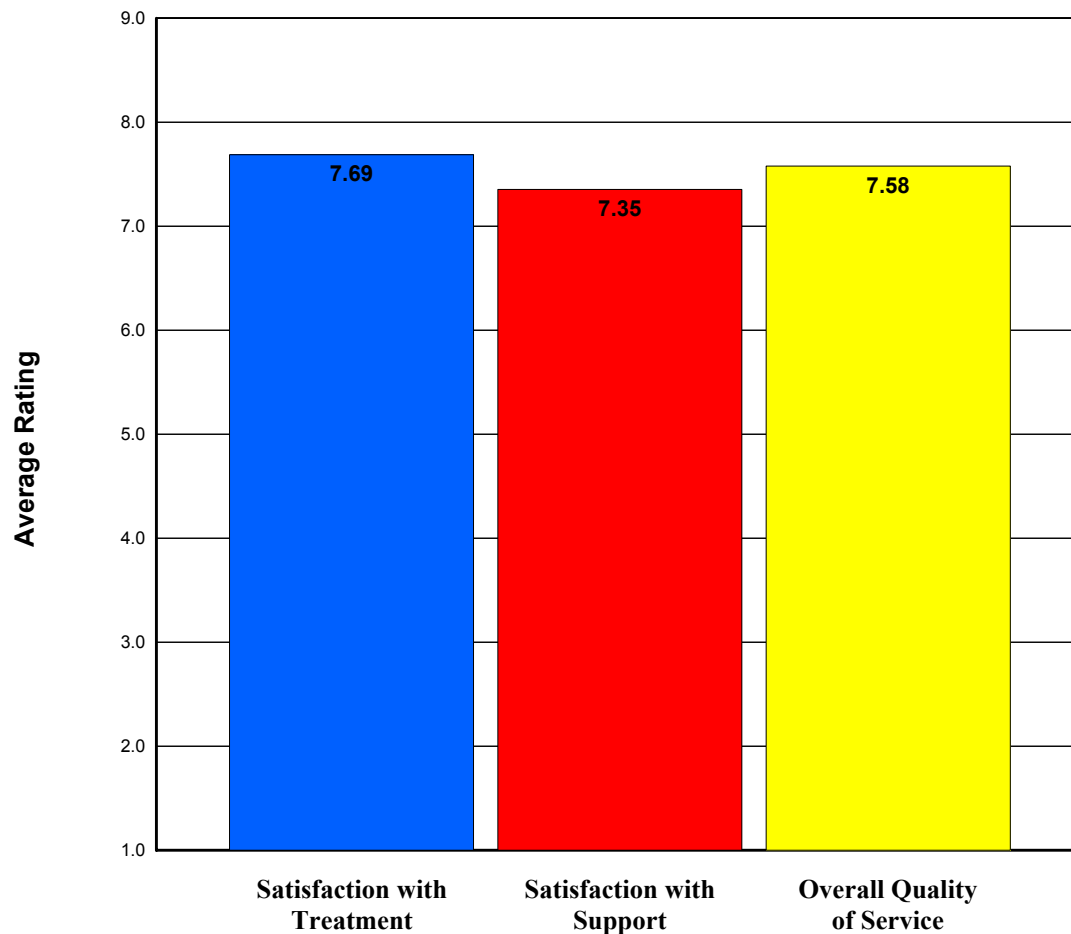


<u>Dimension</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information	6.53	8.05	7.14	0.60
Affect of Service	6.44	7.99	7.40	0.96
Library as Place	6.03	7.56	7.21	1.18
Personal Control	6.66	8.20	7.52	0.86

Number of Records: 759

4.1.3 General Satisfaction

This chart displays scores for three areas of general satisfaction: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service. These scores are calculated from responses to three questions on page four of the survey, in which respondents rated their levels of general satisfaction from 1-9, with 1 being "strongly disagree" and 9 representing "strongly agree".

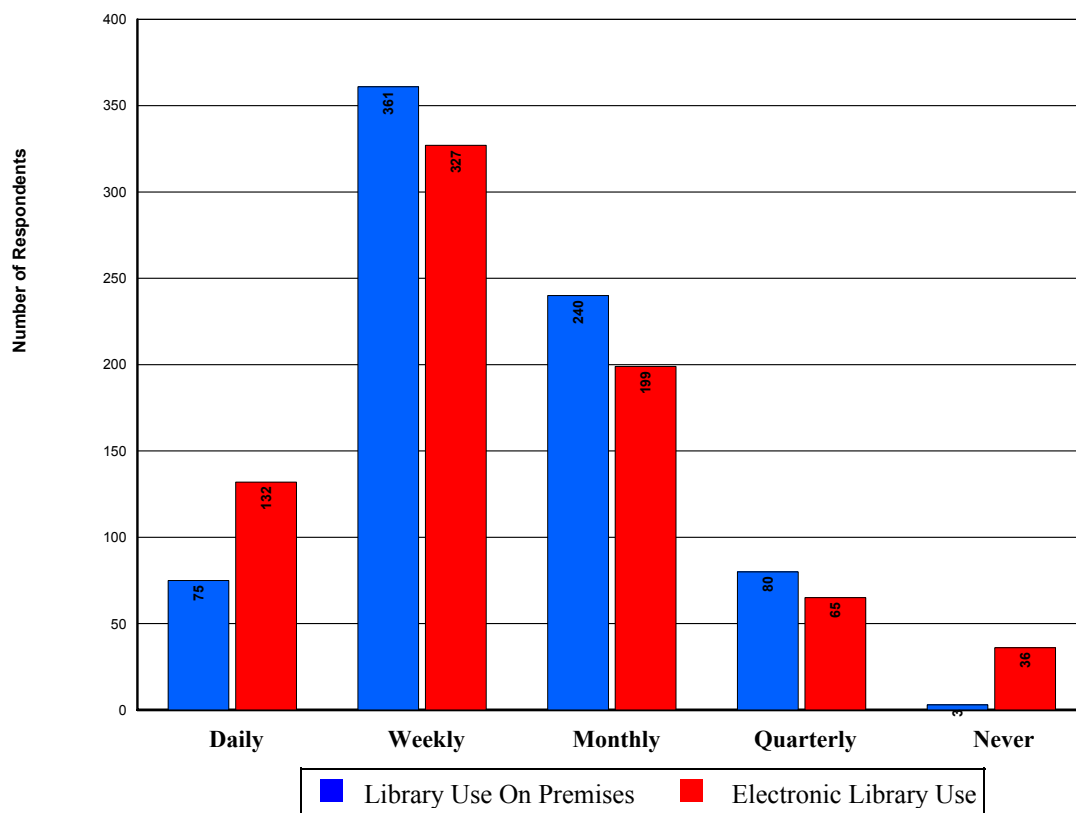


<u>Aspect of Satisfaction</u>	<u>Average Rating</u>
Satisfaction with Treatment	7.69
Satisfaction with Support	7.35
Overall Quality of Service	7.58

Number of Records: 759

4.1.4 Library Use

This chart shows a graphic description of library use, both on the premises and electronically. Bars represent the frequency with which Wake Forest University, Z. Smith Reynolds Library respondents report using the library: Daily, Weekly, Monthly, Quarterly, or Never. The brief table below the graphic also includes the number and percentage of respondents who selected each option.



<u>Frequency</u>	<u>Type of Library Use</u>	<u>Respondents</u>	<u>Percentage</u>
Daily	Library Use On Premises	75	9.88%
	Electronic Library Use	132	17.39%
Weekly	Library Use On Premises	361	47.56%
	Electronic Library Use	327	43.08%
Monthly	Library Use On Premises	240	31.62%
	Electronic Library Use	199	26.22%
Quarterly	Library Use On Premises	80	10.54%
	Electronic Library Use	65	8.56%
Never	Library Use On Premises	3	0.40%
	Electronic Library Use	36	4.74%

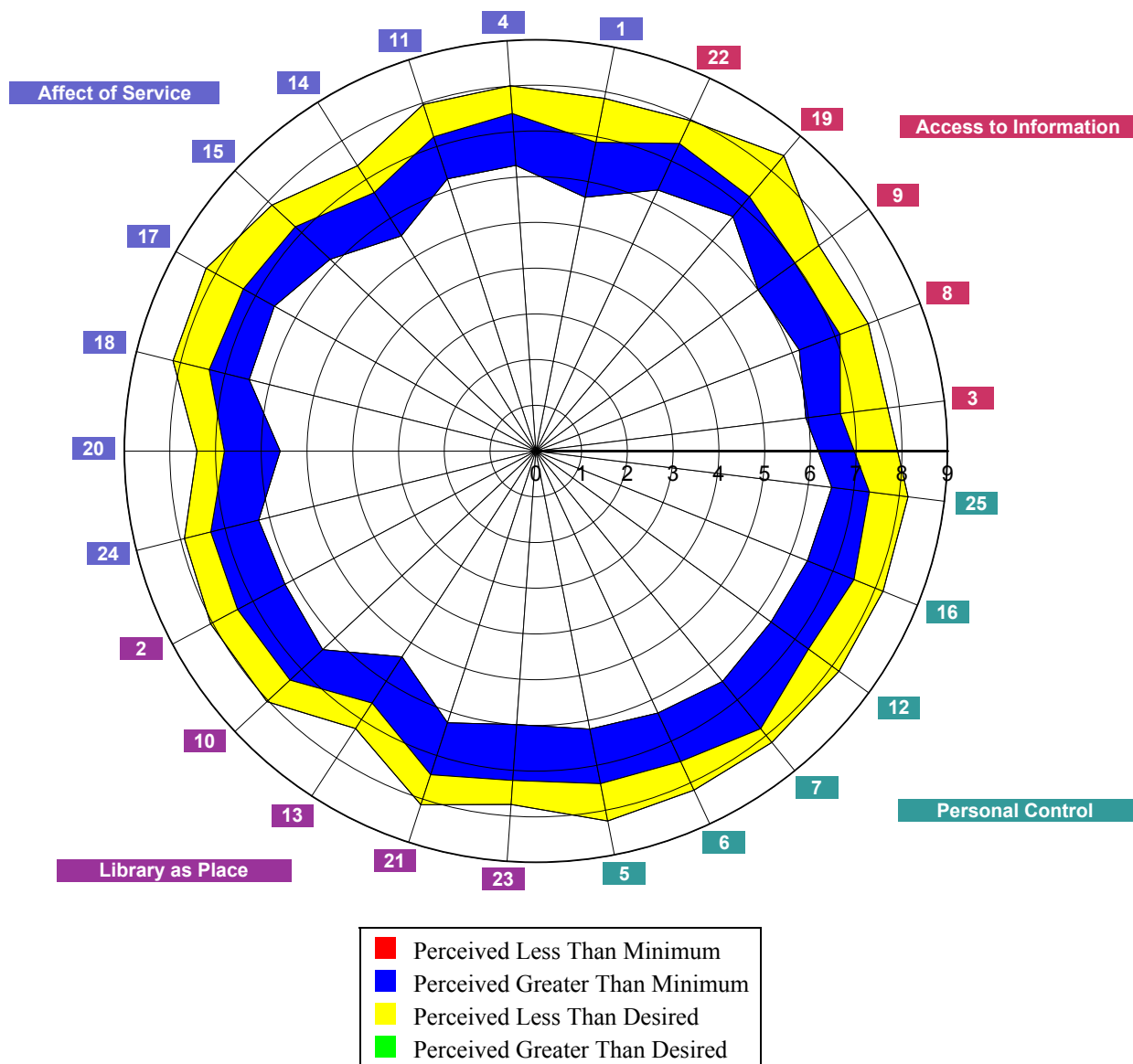
Number of Records: 759

4.2 Undergraduate

4.2.1 Item Summary

This radar chart shows Undergraduate results for all 25 survey questions. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).



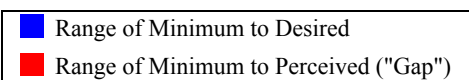
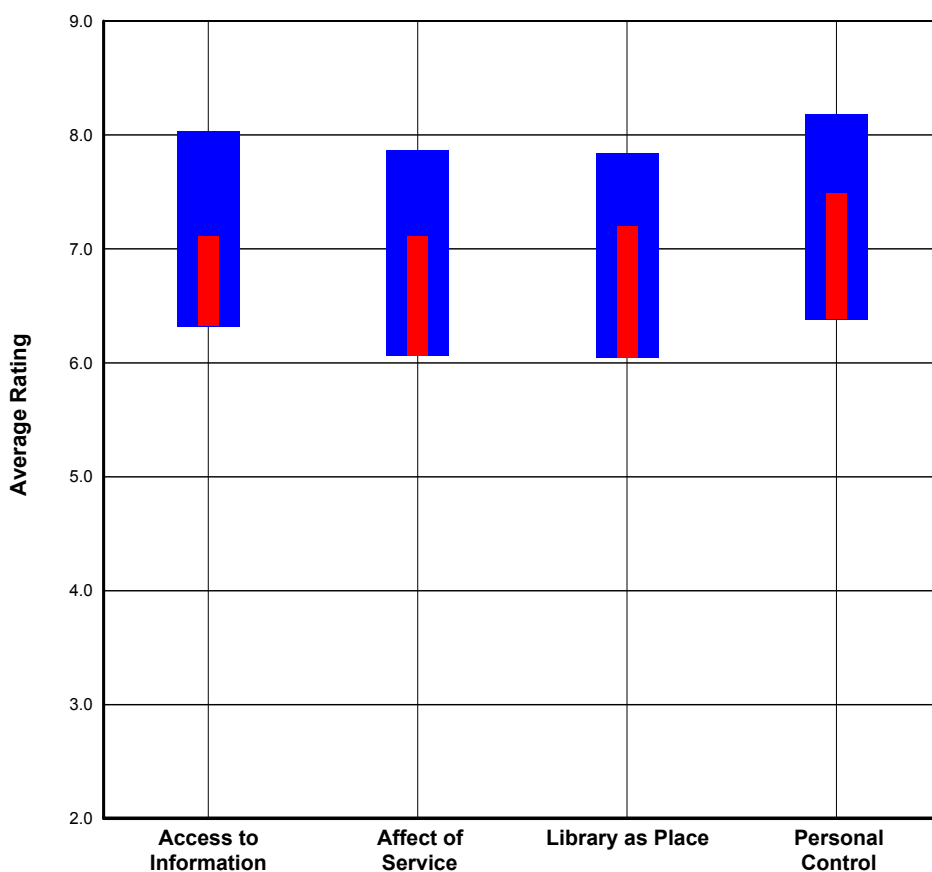
No.	Question Text	Minimum	Desired	Perceived	Gap
Access to Information					
3)	Complete runs of journal titles	5.95	7.75	6.71	0.76
8)	Timely document delivery/interlibrary loan	6.17	7.78	7.13	0.96
9)	Interdisciplinary library needs being addressed	6.01	7.65	6.99	0.99
19)	Convenient business hours	6.70	8.43	7.26	0.56
22)	Comprehensive print collections	6.30	7.98	7.42	1.12
Affect of Service					
1)	Willingness to help users	5.65	7.86	6.88	1.23
4)	Employees who are consistently courteous	6.26	8.01	7.40	1.14
11)	Dependability in handling users' service problems	6.26	7.97	7.23	0.97
14)	Giving users individual attention	5.55	7.36	6.67	1.12
15)	Employees who deal with users in a caring fashion	6.15	7.88	7.19	1.04
17)	Employees who have the knowledge to answer user questions	6.54	8.24	7.31	0.78
18)	Readiness to respond to users' questions	6.46	8.17	7.36	0.90
20)	Employees who instill confidence in users	5.59	7.41	6.81	1.22
24)	Employees who understand the needs of their users	6.25	7.92	7.32	1.08
Library as Place					
2)	Space that facilitates quiet study	6.21	8.05	7.38	1.17
10)	A haven for quiet and solitude	6.37	8.03	7.35	0.98
13)	A place for reflection and creativity	5.37	7.23	6.57	1.20
21)	A comfortable and inviting location	6.25	8.13	7.44	1.19
23)	A contemplative environment	6.00	7.75	7.22	1.22
Personal Control					
5)	Making electronic resources accessible from my home or office	6.19	8.24	7.41	1.22
6)	Modern equipment that lets me easily access the information I need	6.32	8.18	7.49	1.17
7)	A library website enabling me to locate information on my own	6.48	8.20	7.81	1.33
12)	Easy-to-use access tools that allow me to find things on my own	6.36	8.19	7.37	1.01
16)	Making information easily accessible for independent use	6.41	8.18	7.50	1.10
25)	Convenient access to library collections	6.52	8.19	7.34	0.83

Number of Records: 337

4.2.2 Dimension Summary

On this chart, Undergraduate scores for each dimension of library service quality have been plotted graphically. The blue bars represent the range of minimum to desired scores for each dimension. The interior red bars represent the range of minimum to perceived scores, or the "gap," for each dimension of library service quality.

The four dimensions measured were Affect of Service (9 items), Personal Control (6 items), Access to Information (5 items), and Library as Place (5 items). A complete listing of the survey questions and their dimensions can be found in Appendix B.

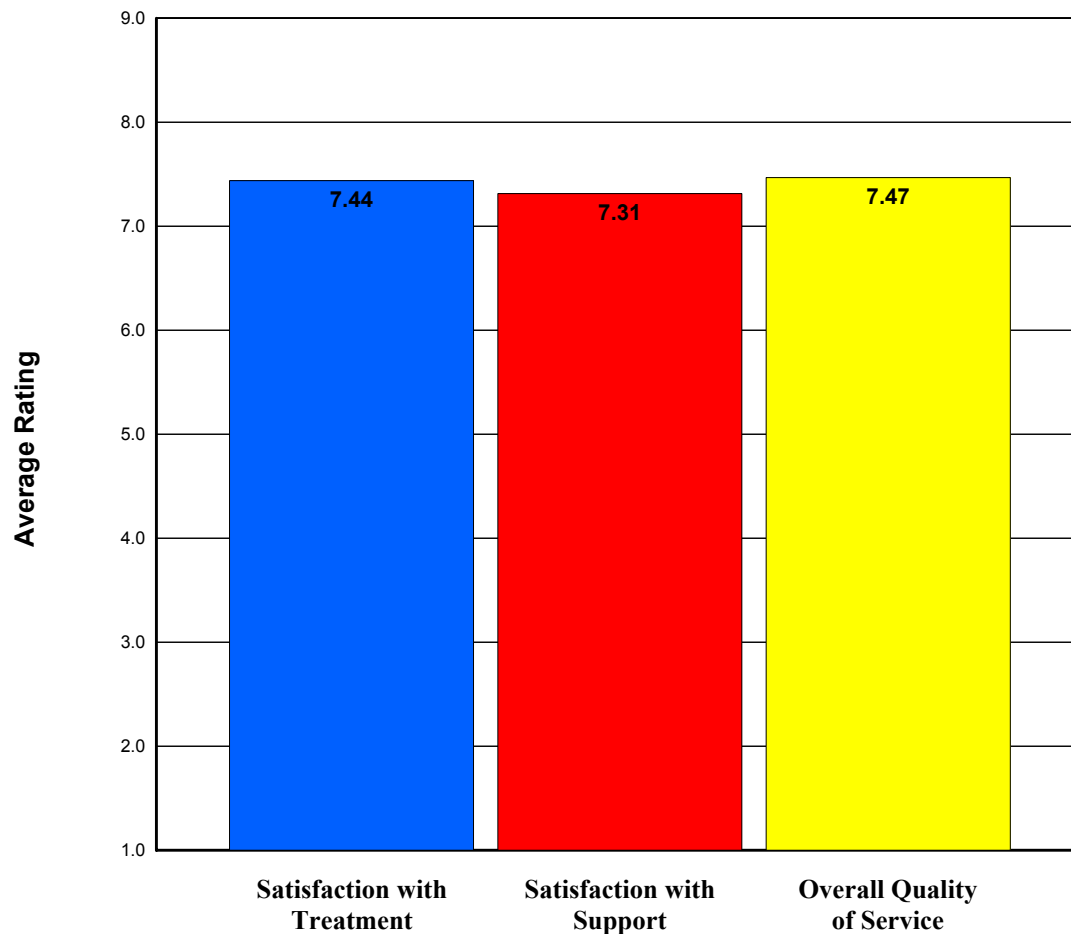


<u>Dimension</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information	6.32	8.03	7.11	0.79
Affect of Service	6.06	7.87	7.11	1.05
Library as Place	6.05	7.84	7.20	1.15
Personal Control	6.38	8.19	7.49	1.11

Number of Records: 337

4.2.3 General Satisfaction

This chart displays Undergraduate scores for three areas of general satisfaction: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service. These scores are calculated from responses to three questions on page four of the survey, in which respondents rated their levels of general satisfaction from 1-9, with 1 being "strongly disagree" and 9 representing "strongly agree".

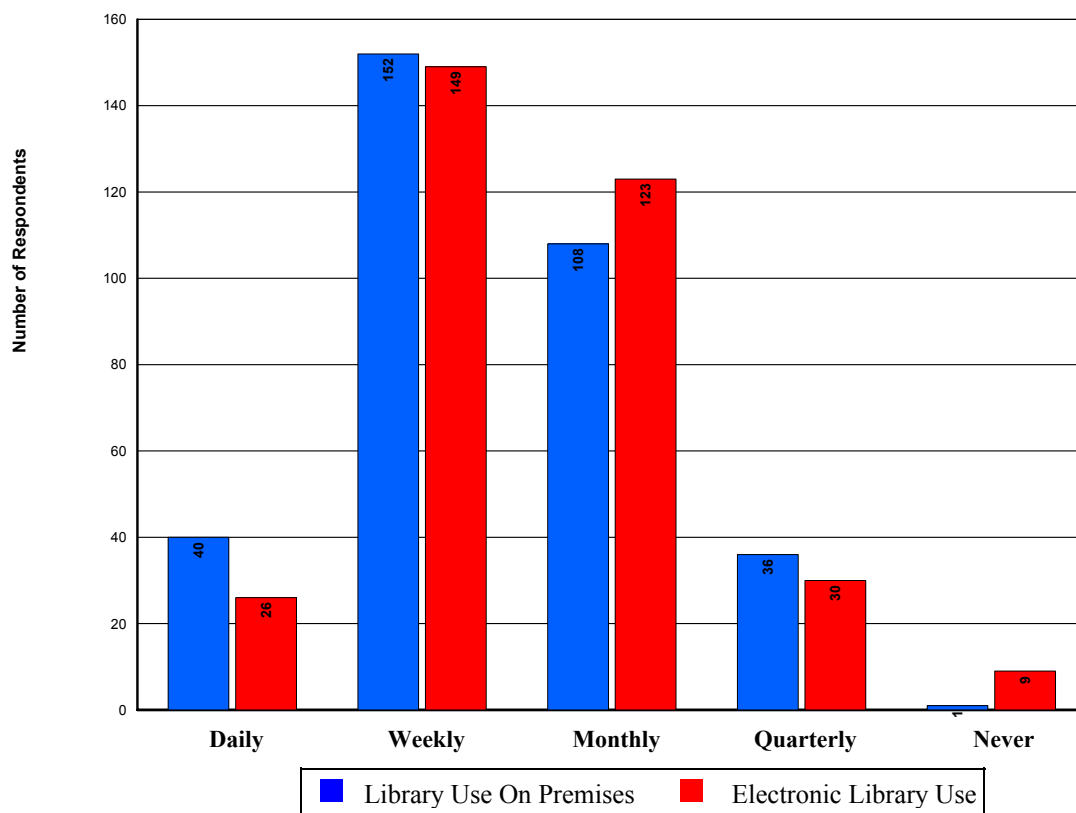


<u>Aspect of Satisfaction</u>	<u>Average Rating</u>
Satisfaction with Treatment	7.44
Satisfaction with Support	7.31
Overall Quality of Service	7.47

Number of Records: 337

4.2.4 Library Use

This chart shows a graphic description of library use, both on the premises and electronically. Bars represent the frequency with which Undergraduate respondents report using the library: Daily, Weekly, Monthly, Quarterly, or Never. The brief chart below the graphic also includes the number and percentage of respondents who selected each option.

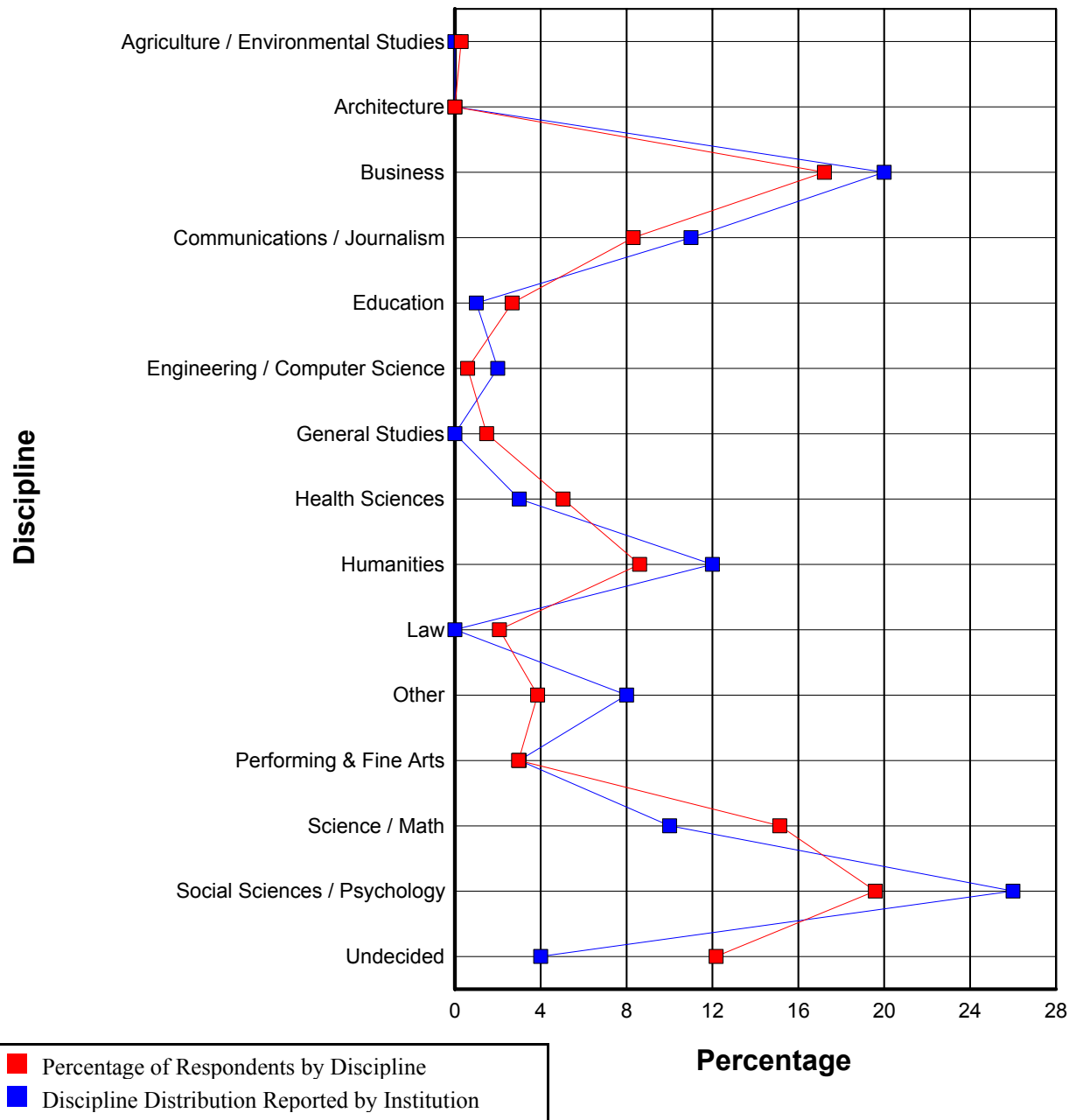


<u>Frequency</u>	<u>Type of Library Use</u>	<u>Respondents</u>	<u>Percentage</u>
Daily	Library Use On Premises	40	11.87%
	Electronic Library Use	26	7.72%
Weekly	Library Use On Premises	152	45.10%
	Electronic Library Use	149	44.21%
Monthly	Library Use On Premises	108	32.05%
	Electronic Library Use	123	36.50%
Quarterly	Library Use On Premises	36	10.68%
	Electronic Library Use	30	8.90%
Never	Library Use On Premises	1	0.30%
	Electronic Library Use	9	2.67%

Number of Records: 337

4.2.6 Respondents and Collected Demographics by Discipline for Undergraduate

This chart displays discipline information (academic major or area of focus) for all Wake Forest University, Z. Smith Reynolds Library respondents.



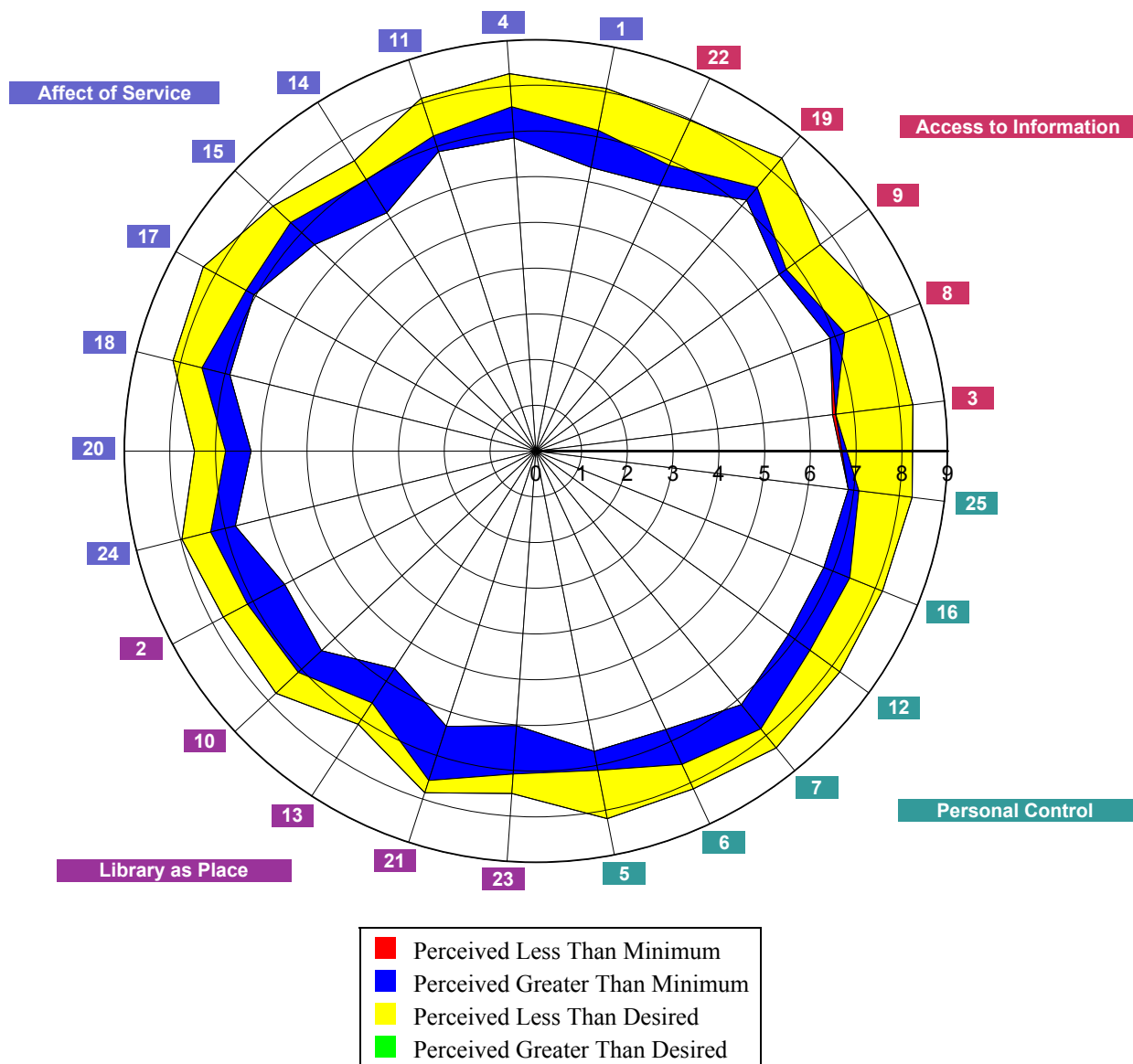
<u>Discipline</u>	<u>Respondents</u>	<u>Respondent Percentage</u>	<u>Reported Percentage</u>
Agriculture / Environmental Studies	1	0.30%	0.00%
Architecture	0	0.00%	0.00%
Business	58	17.21%	20.00%
Communications / Journalism	28	8.31%	11.00%
Education	9	2.67%	1.00%
Engineering / Computer Science	2	0.59%	2.00%
Health Sciences	17	5.04%	3.00%
Humanities	29	8.61%	12.00%
Law	7	2.08%	0.00%
Performing & Fine Arts	10	2.97%	3.00%
Science / Math	51	15.13%	10.00%
Social Sciences / Psychology	66	19.58%	26.00%
General Studies	5	1.48%	0.00%
Undecided	41	12.17%	4.00%
Other	13	3.86%	8.00%
Total:	337	100.00%	100.00%

4.3 Graduate

4.3.1 Item Summary

This radar chart shows Graduate results for all 25 survey questions. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).



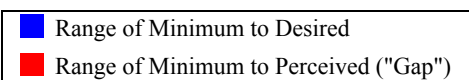
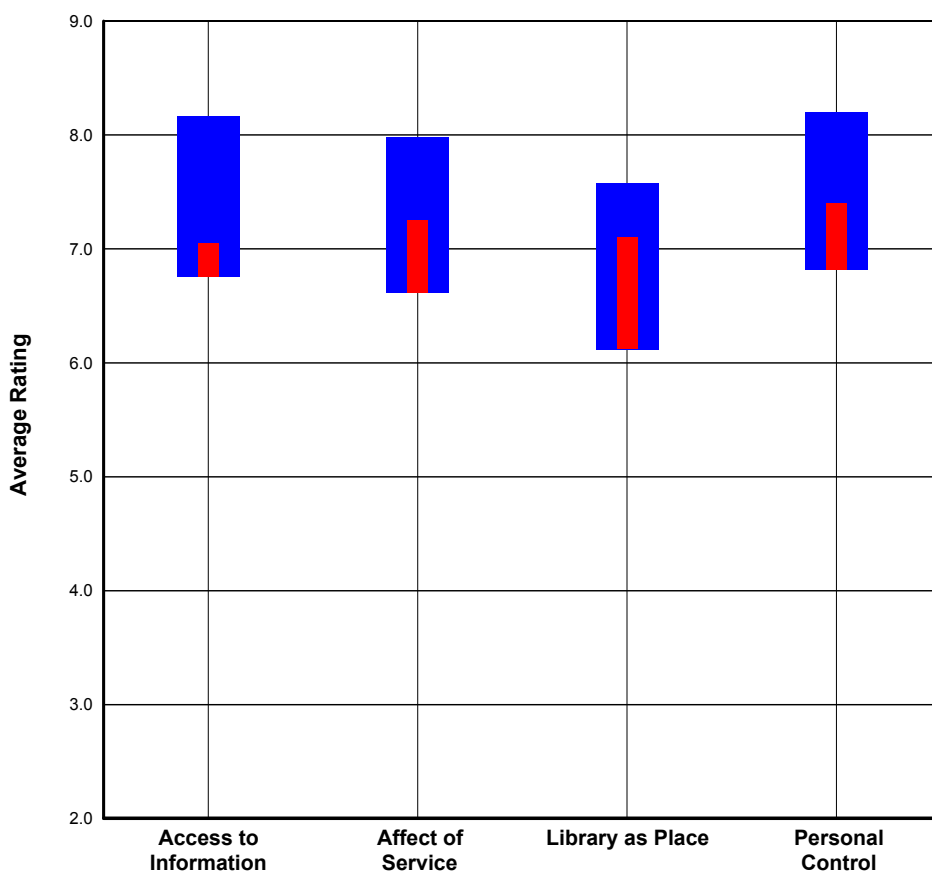
No.	Question Text	Minimum	Desired	Perceived	Gap
Access to Information					
3)	Complete runs of journal titles	6.60	8.30	6.53	-0.07
8)	Timely document delivery/interlibrary loan	6.89	8.27	7.23	0.34
9)	Interdisciplinary library needs being addressed	6.58	7.68	6.76	0.19
19)	Convenient business hours	7.17	8.36	7.53	0.36
22)	Comprehensive print collections	6.41	7.98	6.90	0.49
Affect of Service					
1)	Willingness to help users	6.32	8.08	7.15	0.83
4)	Employees who are consistently courteous	6.87	8.27	7.55	0.68
11)	Dependability in handling users' service problems	6.88	8.11	7.25	0.36
14)	Giving users individual attention	6.15	7.49	6.99	0.85
15)	Employees who deal with users in a caring fashion	6.62	7.86	7.33	0.71
17)	Employees who have the knowledge to answer user questions	7.05	8.31	7.24	0.20
18)	Readiness to respond to users' questions	6.89	8.17	7.52	0.63
20)	Employees who instill confidence in users	6.23	7.46	6.78	0.56
24)	Employees who understand the needs of their users	6.77	7.97	7.32	0.55
Library as Place					
2)	Space that facilitates quiet study	6.22	7.74	7.14	0.92
10)	A haven for quiet and solitude	6.40	7.77	7.10	0.70
13)	A place for reflection and creativity	5.67	7.12	6.57	0.90
21)	A comfortable and inviting location	6.33	7.86	7.57	1.24
23)	A contemplative environment	6.02	7.51	7.08	1.06
Personal Control					
5)	Making electronic resources accessible from my home or office	6.69	8.19	7.11	0.42
6)	Modern equipment that lets me easily access the information I need	6.72	8.15	7.56	0.84
7)	A library website enabling me to locate information on my own	7.14	8.35	7.81	0.68
12)	Easy-to-use access tools that allow me to find things on my own	6.83	8.21	7.41	0.58
16)	Making information easily accessible for independent use	6.79	8.17	7.40	0.61
25)	Convenient access to library collections	6.88	8.28	7.11	0.23

Number of Records: 157

4.3.2 Dimension Summary

On this chart, Graduate scores for each dimension of library service quality have been plotted graphically. The blue bars represent the range of minimum to desired scores for each dimension. The interior red bars represent the range of minimum to perceived scores, or the "gap," for each dimension of library service quality.

The four dimensions measured were Affect of Service (9 items), Personal Control (6 items), Access to Information (5 items), and Library as Place (5 items). A complete listing of the survey questions and their dimensions can be found in Appendix B.

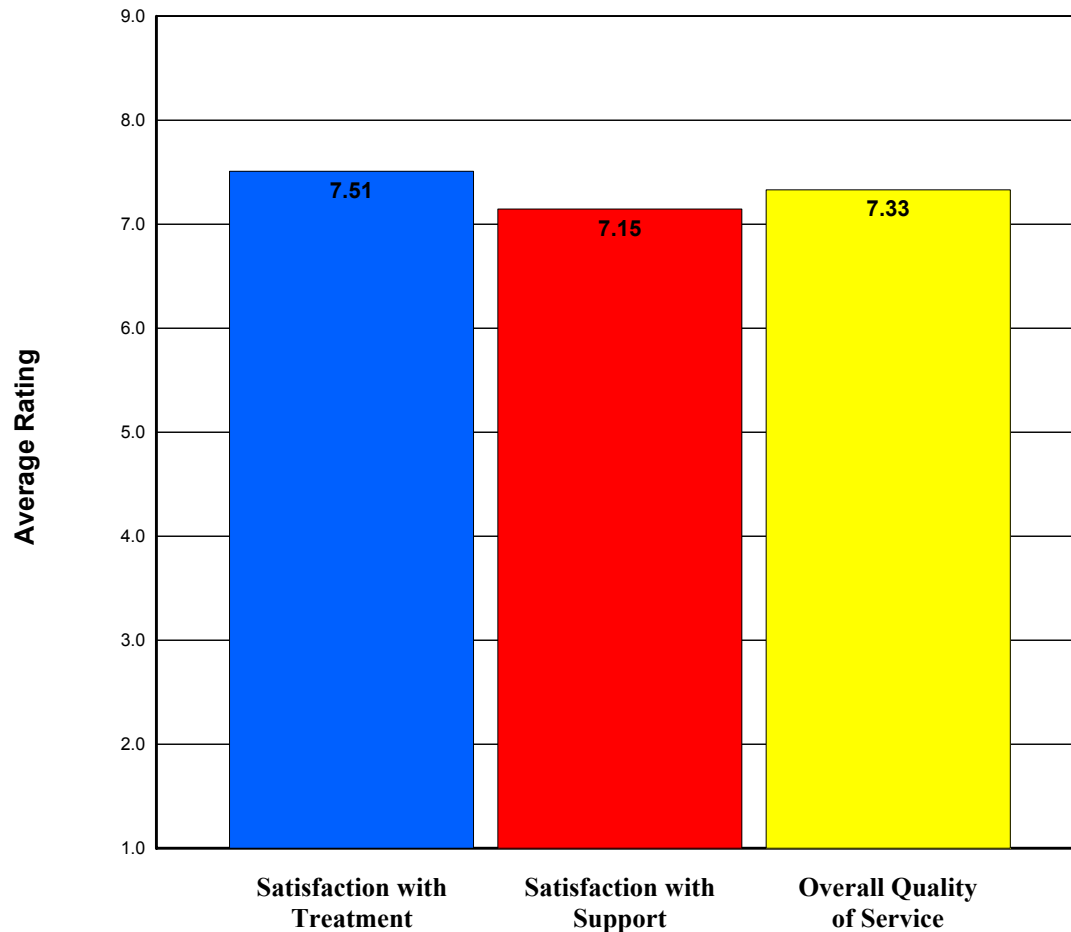


<u>Dimension</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information	6.76	8.17	7.05	0.30
Affect of Service	6.61	7.98	7.25	0.64
Library as Place	6.12	7.58	7.10	0.98
Personal Control	6.82	8.20	7.40	0.58

Number of Records: 157

4.3.3 General Satisfaction

This chart displays Graduate scores for three areas of general satisfaction: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service. These scores are calculated from responses to three questions on page four of the survey, in which respondents rated their levels of general satisfaction from 1-9, with 1 being "strongly disagree" and 9 representing "strongly agree".

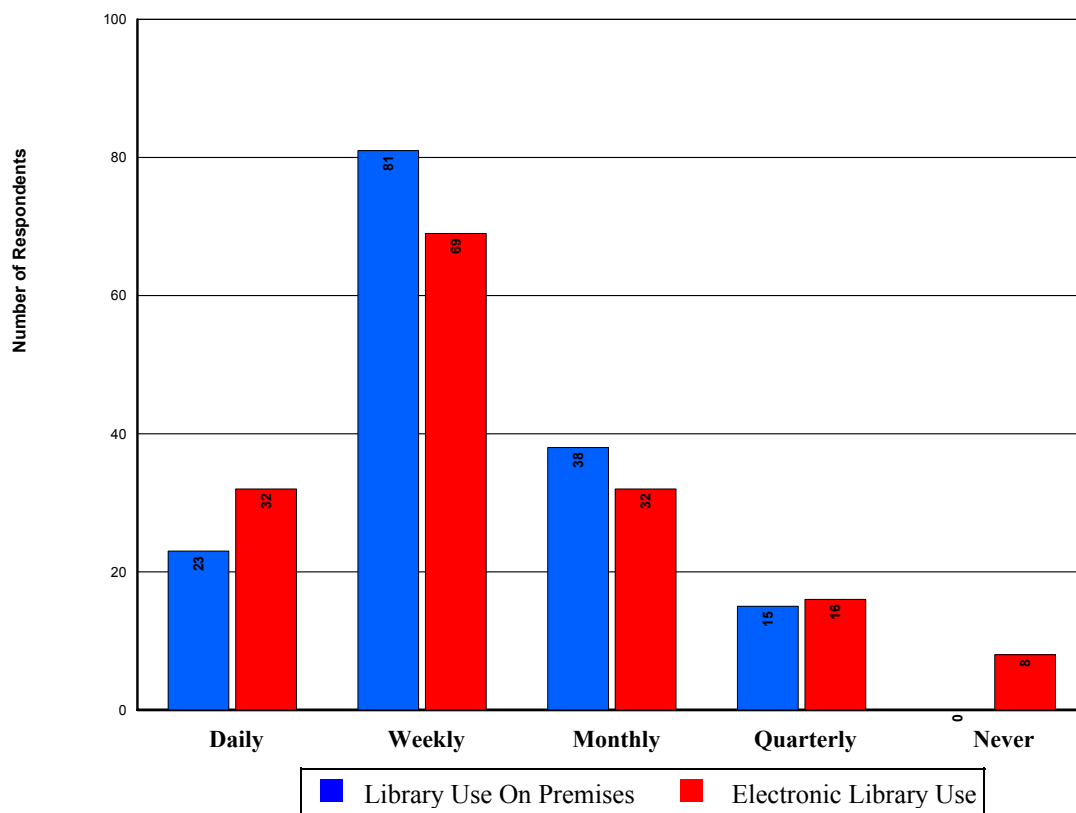


<u>Aspect of Satisfaction</u>	<u>Average Rating</u>
Satisfaction with Treatment	7.51
Satisfaction with Support	7.15
Overall Quality of Service	7.33

Number of Records: 157

4.3.4 Library Use

This chart shows a graphic description of library use, both on the premises and electronically. Bars represent the frequency with which Graduate respondents report using the library: Daily, Weekly, Monthly, Quarterly, or Never. The brief chart below the graphic also includes the number and percentage of respondents who selected each option.

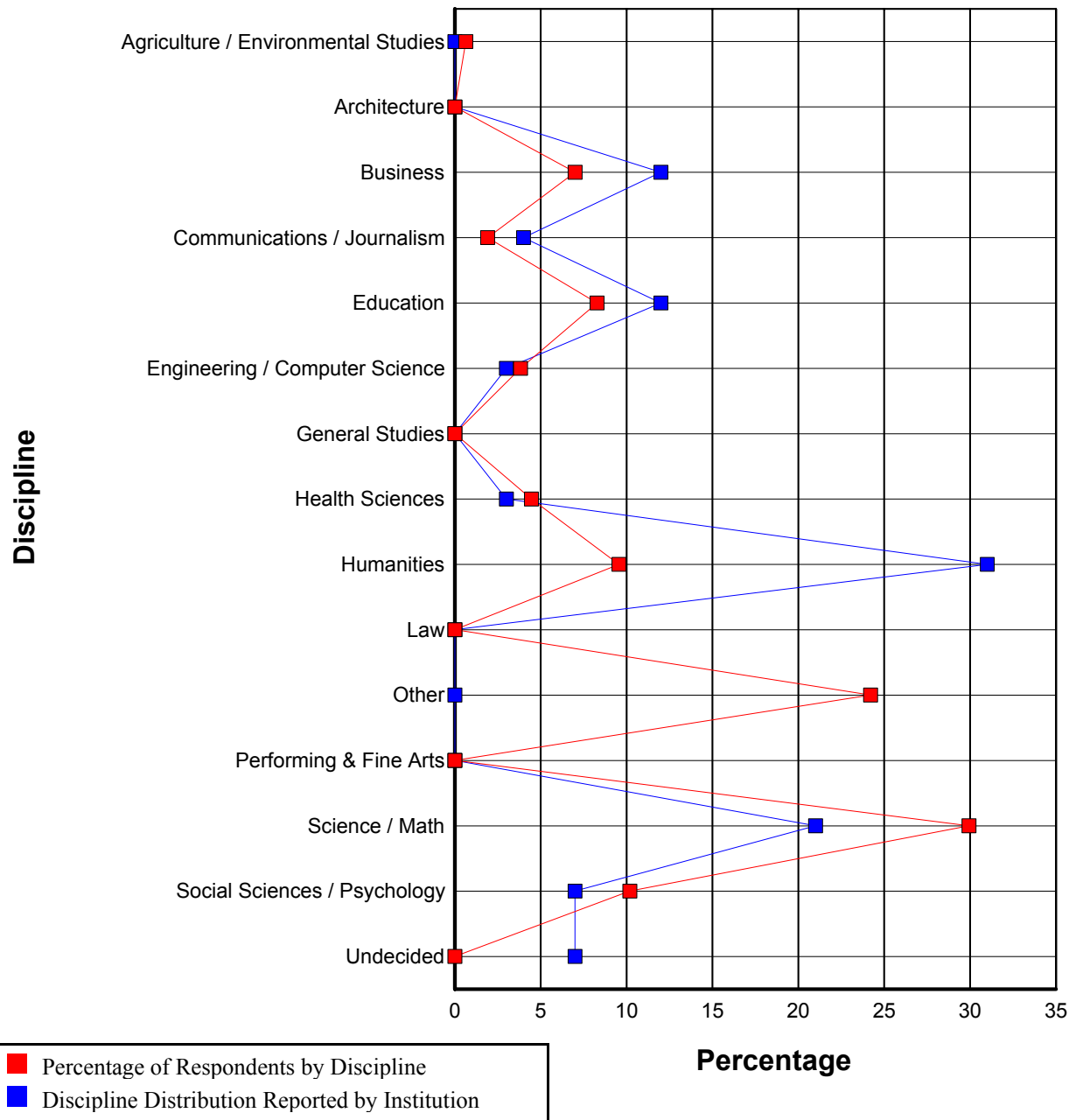


<u>Frequency</u>	<u>Type of Library Use</u>	<u>Respondents</u>	<u>Percentage</u>
Daily	Library Use On Premises	23	14.65%
	Electronic Library Use	32	20.38%
Weekly	Library Use On Premises	81	51.59%
	Electronic Library Use	69	43.95%
Monthly	Library Use On Premises	38	24.20%
	Electronic Library Use	32	20.38%
Quarterly	Library Use On Premises	15	9.55%
	Electronic Library Use	16	10.19%
Never	Library Use On Premises	0	0.00%
	Electronic Library Use	8	5.10%

Number of Records: 157

4.3.6 Respondents and Collected Demographics by Discipline for Graduate

This chart displays discipline information (academic major or area of focus) for all Wake Forest University, Z. Smith Reynolds Library respondents.



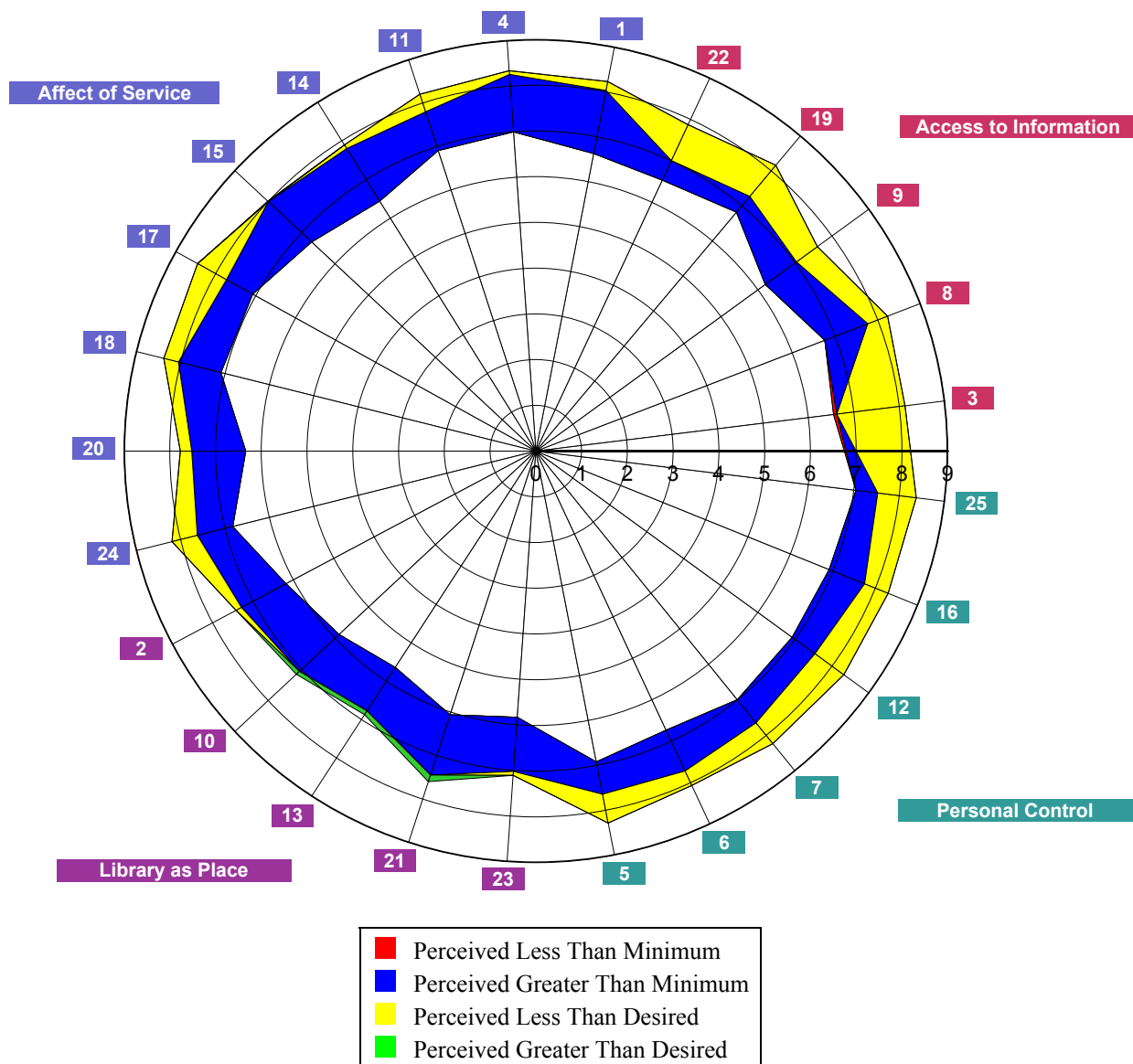
<u>Discipline</u>	<u>Respondents</u>	<u>Respondent Percentage</u>	<u>Reported Percentage</u>
Agriculture / Environmental Studies	1	0.64%	0.00%
Architecture	0	0.00%	0.00%
Business	11	7.01%	12.00%
Communications / Journalism	3	1.91%	4.00%
Education	13	8.28%	12.00%
Engineering / Computer Science	6	3.82%	3.00%
Health Sciences	7	4.46%	3.00%
Humanities	15	9.55%	31.00%
Law	0	0.00%	0.00%
Performing & Fine Arts	0	0.00%	0.00%
Science / Math	47	29.94%	21.00%
Social Sciences / Psychology	16	10.19%	7.00%
General Studies	0	0.00%	0.00%
Undecided	0	0.00%	7.00%
Other	38	24.20%	0.00%
Total:	157	100.00%	100.00%

4.4 Faculty

4.4.1 Item Summary

This radar chart shows Faculty results for all 25 survey questions. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).



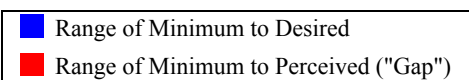
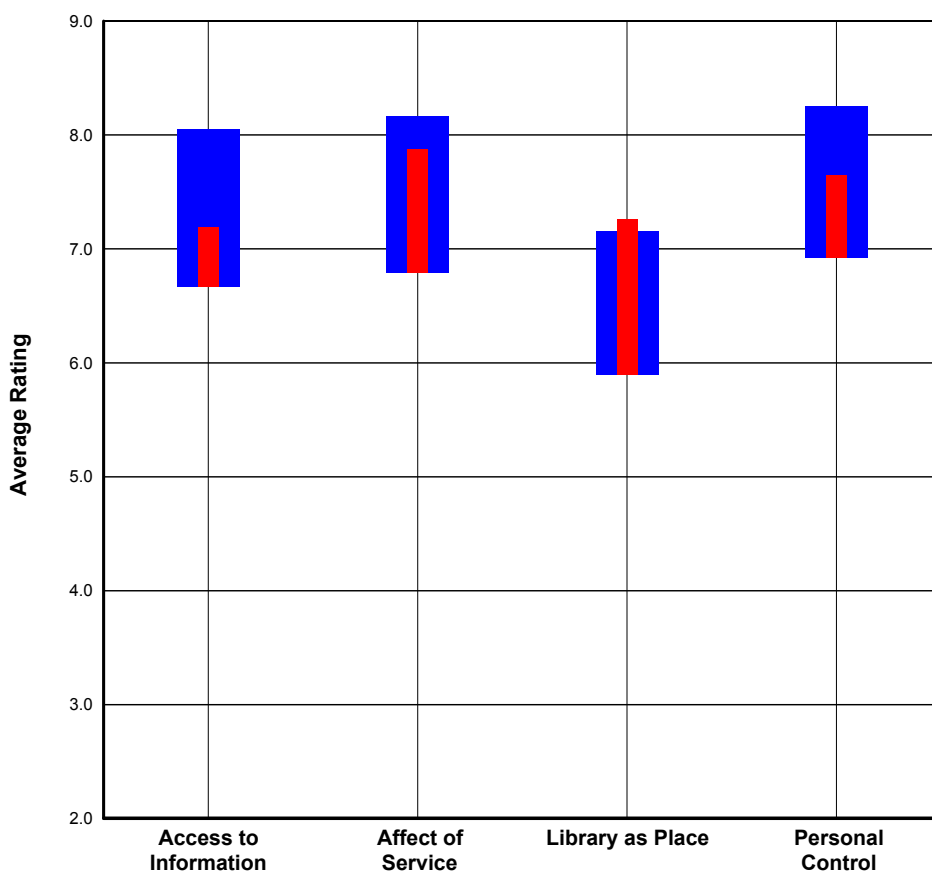
No.	Question Text	Minimum	Desired	Perceived	Gap
Access to Information					
3)	Complete runs of journal titles	6.63	8.13	6.56	-0.07
8)	Timely document delivery/interlibrary loan	6.76	8.24	7.77	1.01
9)	Interdisciplinary library needs being addressed	6.20	7.61	7.04	0.84
19)	Convenient business hours	6.82	8.16	7.27	0.45
22)	Comprehensive print collections	6.54	7.87	7.01	0.48
Affect of Service					
1)	Willingness to help users	6.63	8.23	8.03	1.41
4)	Employees who are consistently courteous	7.00	8.34	8.26	1.26
11)	Dependability in handling users' service problems	6.91	8.20	7.80	0.89
14)	Giving users individual attention	6.44	7.89	7.80	1.36
15)	Employees who deal with users in a caring fashion	6.70	8.00	8.01	1.31
17)	Employees who have the knowledge to answer user questions	7.08	8.45	7.73	0.65
18)	Readiness to respond to users' questions	7.09	8.38	8.05	0.96
20)	Employees who instill confidence in users	6.34	7.77	7.52	1.18
24)	Employees who understand the needs of their users	6.83	8.19	7.62	0.80
Library as Place					
2)	Space that facilitates quiet study	6.18	7.42	7.28	1.10
10)	A haven for quiet and solitude	5.88	7.06	7.16	1.27
13)	A place for reflection and creativity	5.64	6.77	6.88	1.23
21)	A comfortable and inviting location	6.06	7.45	7.60	1.54
23)	A contemplative environment	5.84	7.11	7.02	1.19
Personal Control					
5)	Making electronic resources accessible from my home or office	6.93	8.29	7.64	0.72
6)	Modern equipment that lets me easily access the information I need	6.74	8.07	7.72	0.98
7)	A library website enabling me to locate information on my own	7.00	8.23	7.65	0.65
12)	Easy-to-use access tools that allow me to find things on my own	6.93	8.32	7.54	0.61
16)	Making information easily accessible for independent use	6.92	8.31	7.75	0.83
25)	Convenient access to library collections	7.05	8.38	7.53	0.48

Number of Records: 238

4.4.2 Dimension Summary

On this chart, Faculty scores for each dimension of library service quality have been plotted graphically. The blue bars represent the range of minimum to desired scores for each dimension. The interior red bars represent the range of minimum to perceived scores, or the "gap," for each dimension of library service quality.

The four dimensions measured were Affect of Service (9 items), Personal Control (6 items), Access to Information (5 items), and Library as Place (5 items). A complete listing of the survey questions and their dimensions can be found in Appendix B.

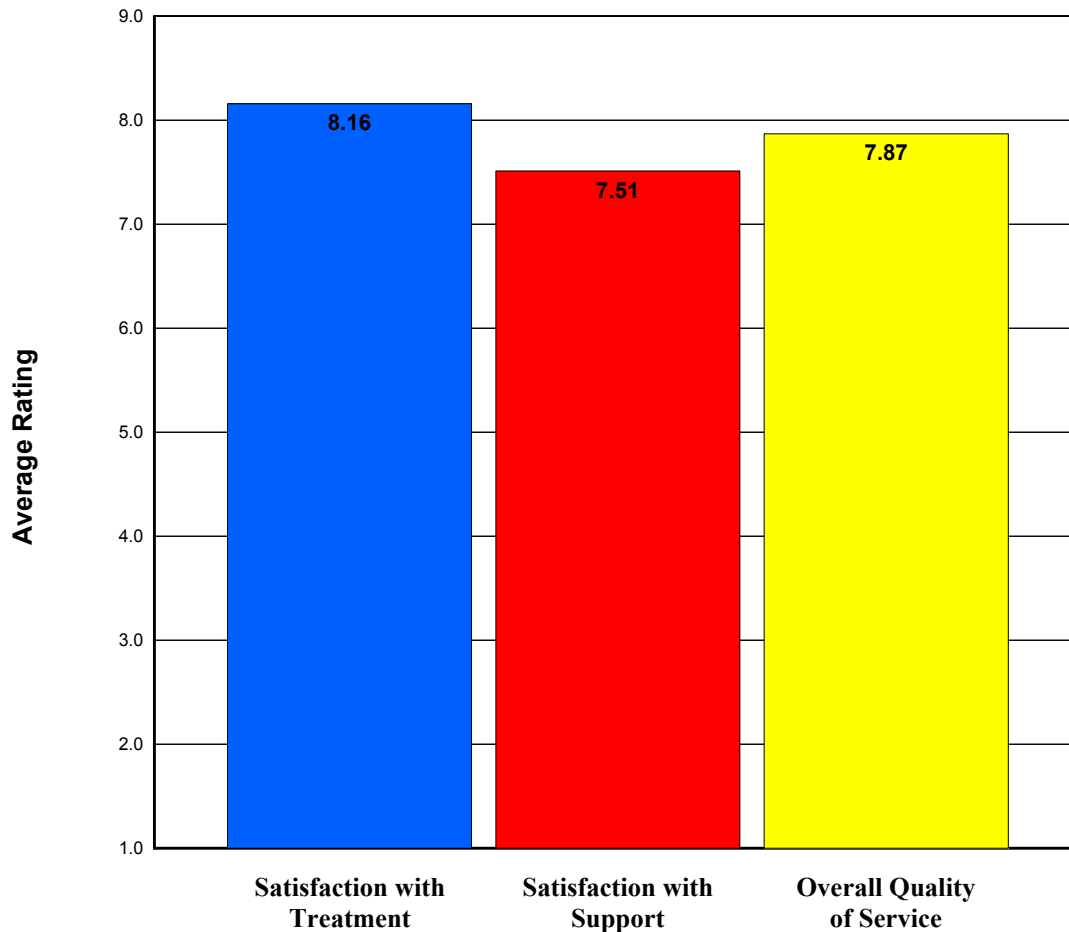


<u>Dimension</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information	6.67	8.05	7.19	0.53
Affect of Service	6.79	8.16	7.88	1.09
Library as Place	5.90	7.15	7.26	1.36
Personal Control	6.92	8.26	7.64	0.72

Number of Records: 238

4.4.3 General Satisfaction

This chart displays Faculty scores for three areas of general satisfaction: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service. These scores are calculated from responses to three questions on page four of the survey, in which respondents rated their levels of general satisfaction from 1-9, with 1 being "strongly disagree" and 9 representing "strongly agree".

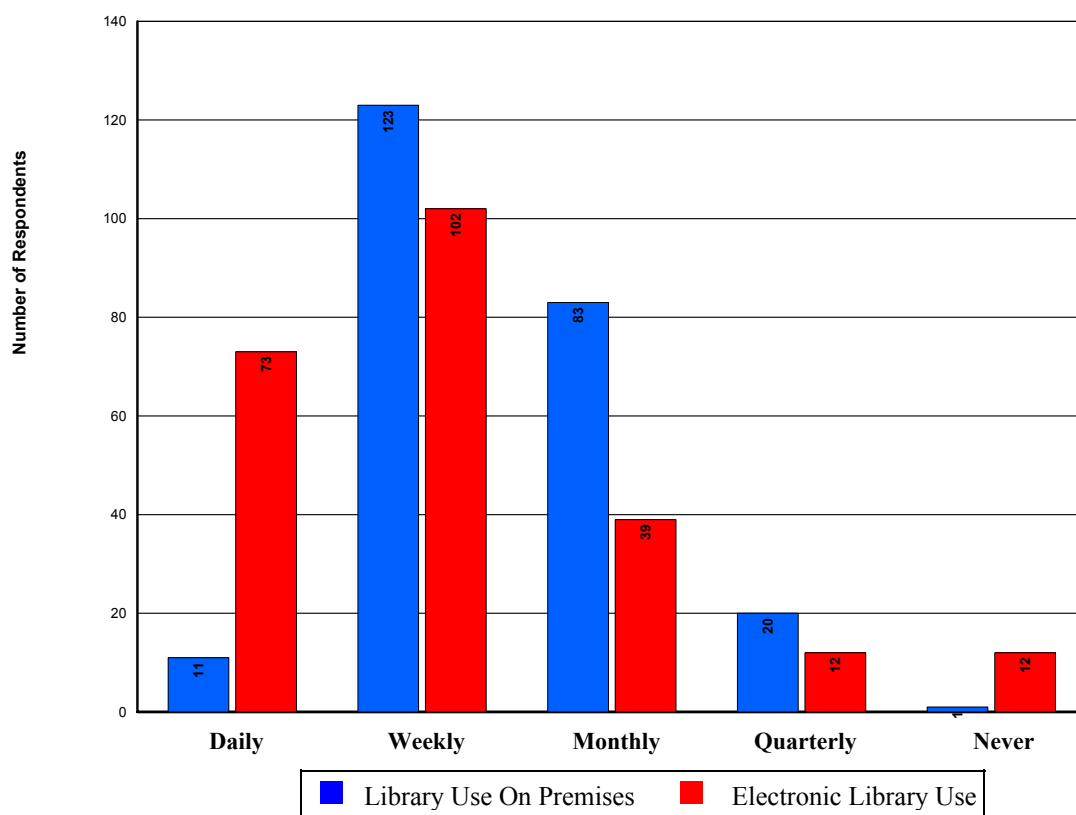


<u>Aspect of Satisfaction</u>	<u>Average Rating</u>
Satisfaction with Treatment	8.16
Satisfaction with Support	7.51
Overall Quality of Service	7.87

Number of Records: 238

4.4.4 Library Use

This chart shows a graphic description of library use, both on the premises and electronically. Bars represent the frequency with which Faculty respondents report using the library: Daily, Weekly, Monthly, Quarterly, or Never. The brief chart below the graphic also includes the number and percentage of respondents who selected each option.

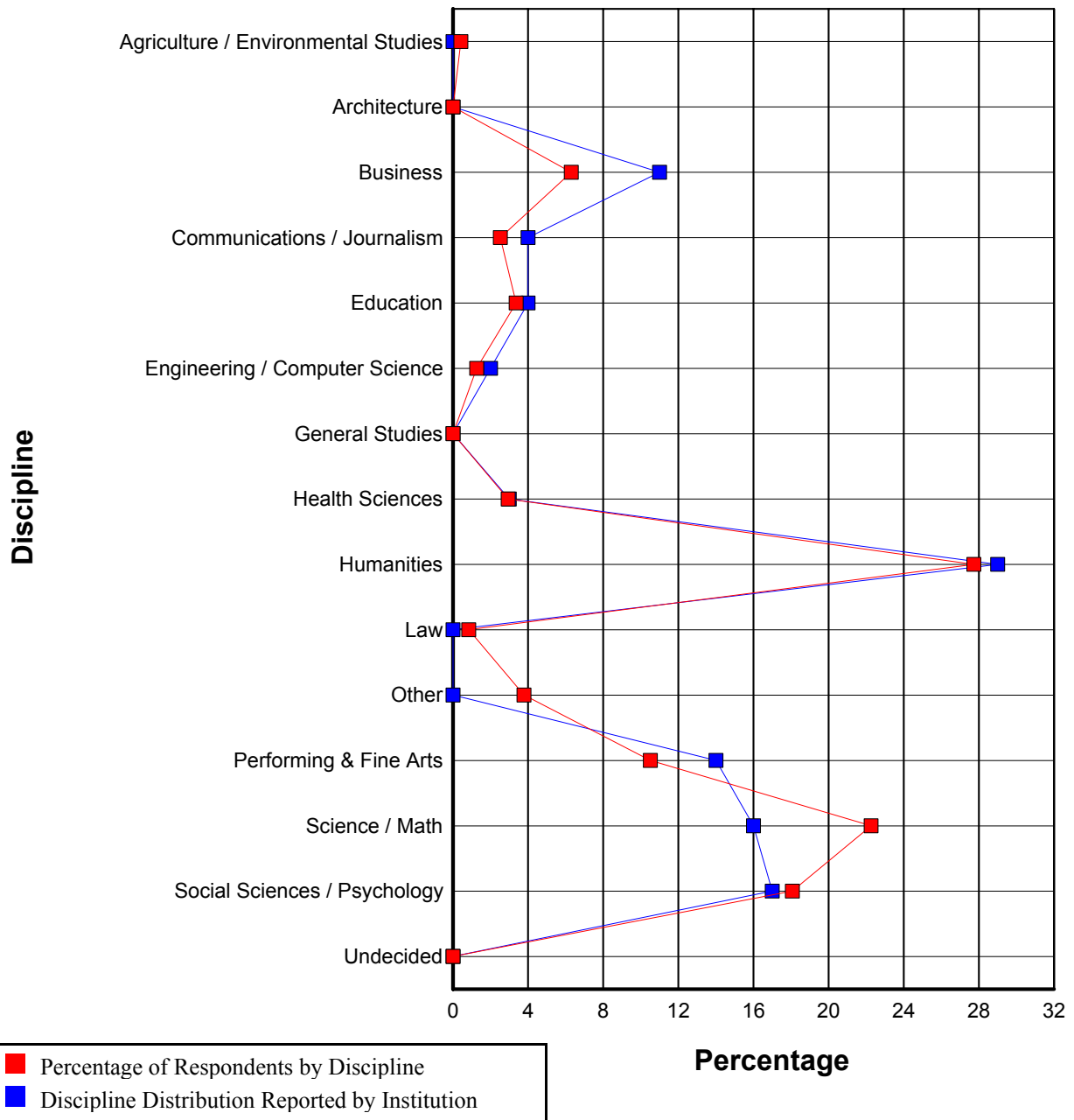


<u>Frequency</u>	<u>Type of Library Use</u>	<u>Respondents</u>	<u>Percentage</u>
Daily	Library Use On Premises	11	4.62%
	Electronic Library Use	73	30.67%
Weekly	Library Use On Premises	123	51.68%
	Electronic Library Use	102	42.86%
Monthly	Library Use On Premises	83	34.87%
	Electronic Library Use	39	16.39%
Quarterly	Library Use On Premises	20	8.40%
	Electronic Library Use	12	5.04%
Never	Library Use On Premises	1	0.42%
	Electronic Library Use	12	5.04%

Number of Records: 238

4.4.6 Respondents and Collected Demographics by Discipline for Faculty

This chart displays discipline information (academic major or area of focus) for all Wake Forest University, Z. Smith Reynolds Library respondents.



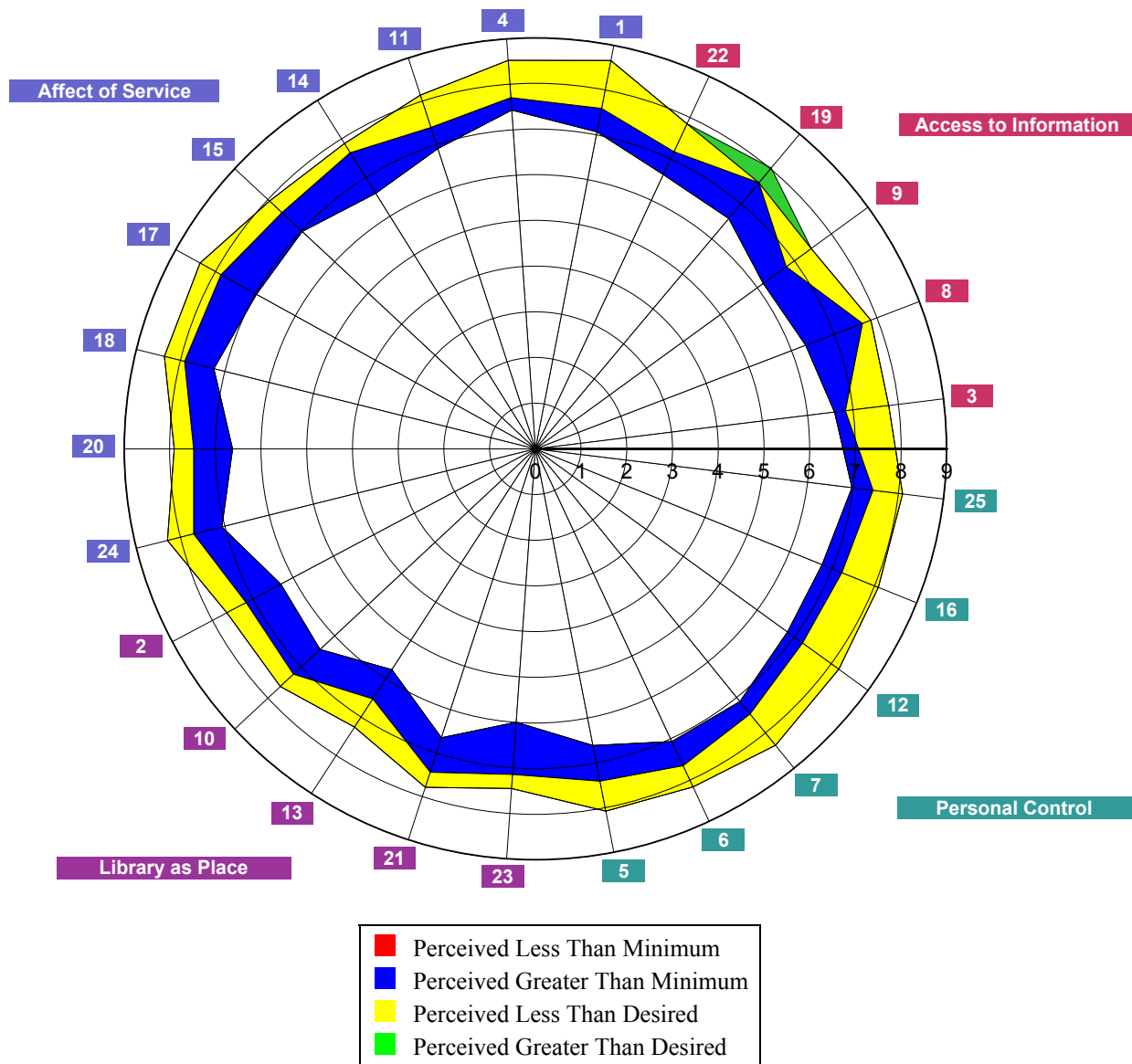
<u>Discipline</u>	<u>Respondents</u>	<u>Respondent Percentage</u>	<u>Reported Percentage</u>
Agriculture / Environmental Studies	1	0.42%	0.00%
Architecture	0	0.00%	0.00%
Business	15	6.30%	11.00%
Communications / Journalism	6	2.52%	4.00%
Education	8	3.36%	4.00%
Engineering / Computer Science	3	1.26%	2.00%
Health Sciences	7	2.94%	3.00%
Humanities	66	27.73%	29.00%
Law	2	0.84%	0.00%
Performing & Fine Arts	25	10.50%	14.00%
Science / Math	53	22.27%	16.00%
Social Sciences / Psychology	43	18.07%	17.00%
General Studies	0	0.00%	0.00%
Undecided	0	0.00%	0.00%
Other	9	3.78%	0.00%
Total:	238	100.00%	100.00%

4.5 Library Staff

4.5.1 Item Summary

This radar chart shows Library Staff results for all 25 survey questions. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).



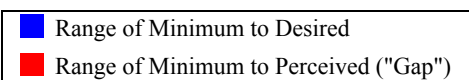
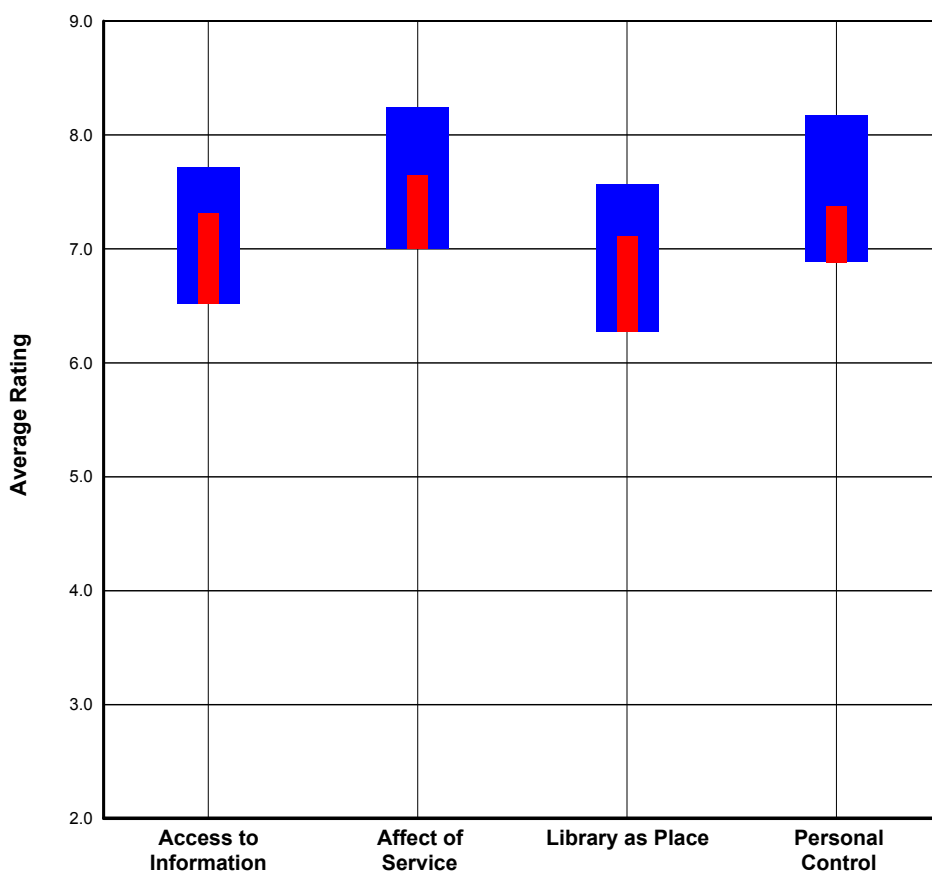
No.	Question Text	Minimum	Desired	Perceived	Gap
Access to Information					
3)	Complete runs of journal titles	6.60	7.79	6.83	0.24
8)	Timely document delivery/interlibrary loan	6.33	7.86	7.67	1.33
9)	Interdisciplinary library needs being addressed	6.16	7.46	6.78	0.62
19)	Convenient business hours	6.58	7.60	8.02	1.44
22)	Comprehensive print collections	6.63	7.85	7.18	0.55
Affect of Service					
1)	Willingness to help users	7.07	8.66	7.59	0.52
4)	Employees who are consistently courteous	7.43	8.52	7.70	0.27
11)	Dependability in handling users' service problems	6.91	8.14	7.40	0.49
14)	Giving users individual attention	6.60	7.88	7.64	1.05
15)	Employees who deal with users in a caring fashion	6.98	7.95	7.58	0.60
17)	Employees who have the knowledge to answer user questions	6.98	8.39	7.86	0.89
18)	Readiness to respond to users' questions	7.25	8.36	7.91	0.66
20)	Employees who instill confidence in users	6.63	7.90	7.48	0.85
24)	Employees who understand the needs of their users	7.07	8.30	7.70	0.64
Library as Place					
2)	Space that facilitates quiet study	6.31	7.64	7.17	0.86
10)	A haven for quiet and solitude	6.44	7.63	7.23	0.79
13)	A place for reflection and creativity	5.76	7.26	6.53	0.76
21)	A comfortable and inviting location	6.65	7.79	7.44	0.79
23)	A contemplative environment	6.00	7.45	7.14	1.14
Personal Control					
5)	Making electronic resources accessible from my home or office	6.62	8.08	7.41	0.79
6)	Modern equipment that lets me easily access the information I need	7.07	8.16	7.65	0.58
7)	A library website enabling me to locate information on my own	7.12	8.35	7.47	0.35
12)	Easy-to-use access tools that allow me to find things on my own	6.82	8.20	7.23	0.41
16)	Making information easily accessible for independent use	6.77	8.09	7.23	0.47
25)	Convenient access to library collections	6.98	8.09	7.44	0.47

Number of Records: 44

4.5.2 Dimension Summary

On this chart, Library Staff scores for each dimension of library service quality have been plotted graphically. The blue bars represent the range of minimum to desired scores for each dimension. The interior red bars represent the range of minimum to perceived scores, or the "gap," for each dimension of library service quality.

The four dimensions measured were Affect of Service (9 items), Personal Control (6 items), Access to Information (5 items), and Library as Place (5 items). A complete listing of the survey questions and their dimensions can be found in Appendix B.

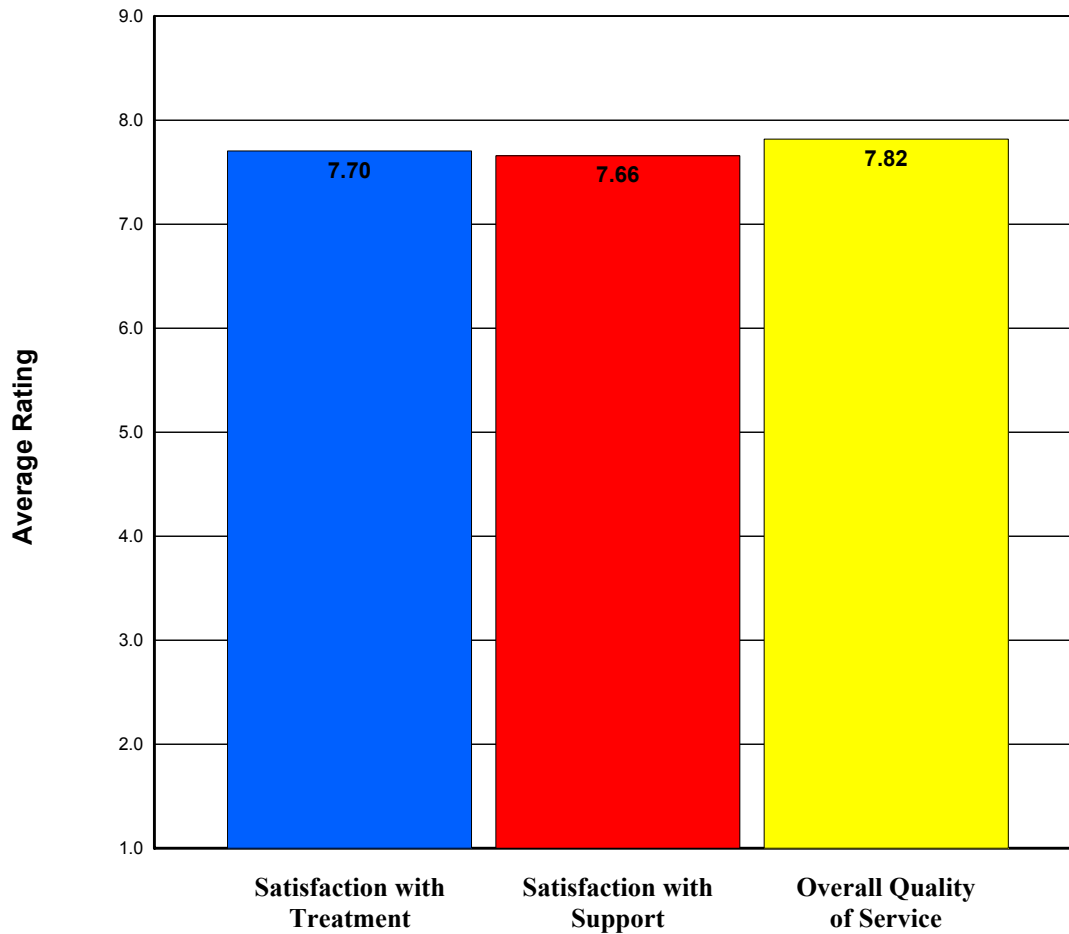


<u>Dimension</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information	6.52	7.71	7.31	0.80
Affect of Service	7.00	8.24	7.65	0.65
Library as Place	6.27	7.57	7.11	0.84
Personal Control	6.88	8.17	7.38	0.50

Number of Records: 44

4.5.3 General Satisfaction

This chart displays Library Staff scores for three areas of general satisfaction: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service. These scores are calculated from responses to three questions on page four of the survey, in which respondents rated their levels of general satisfaction from 1-9, with 1 being "strongly disagree" and 9 representing "strongly agree".

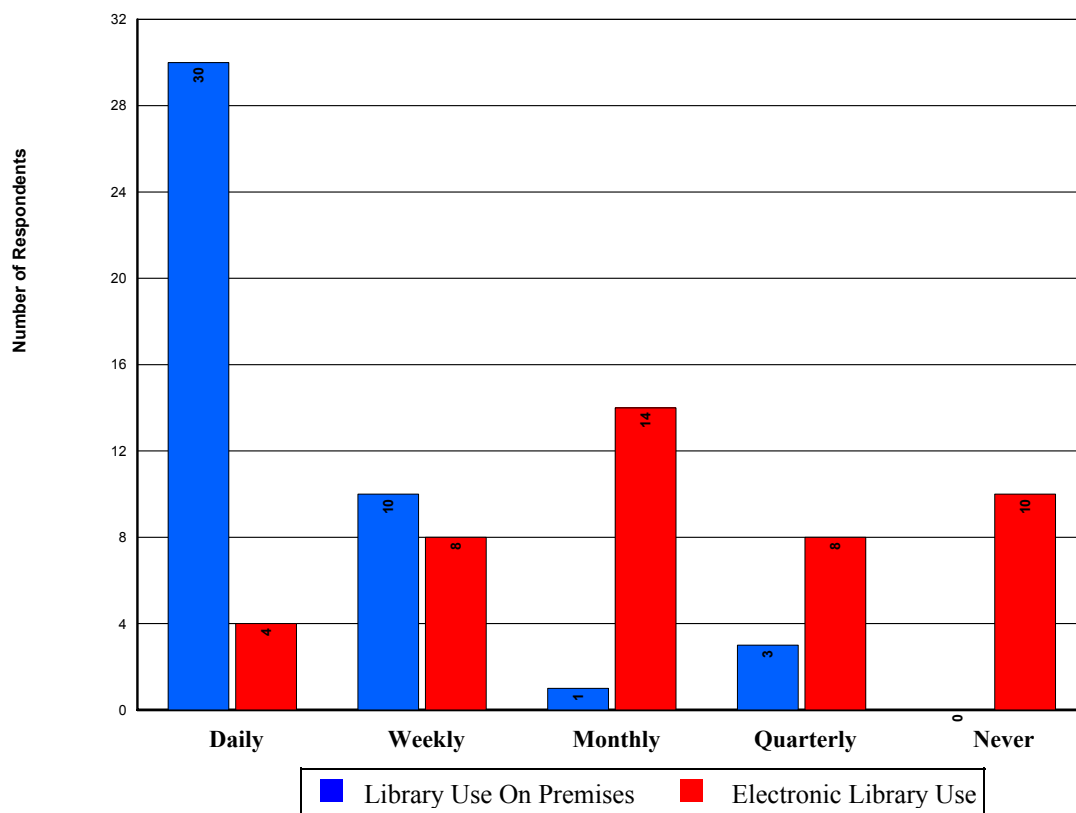


<u>Aspect of Satisfaction</u>	<u>Average Rating</u>
Satisfaction with Treatment	7.70
Satisfaction with Support	7.66
Overall Quality of Service	7.82

Number of Records: 44

4.5.4 Library Use

This chart shows a graphic description of library use, both on the premises and electronically. Bars represent the frequency with which Library Staff respondents report using the library: Daily, Weekly, Monthly, Quarterly, or Never. The brief chart below the graphic also includes the number and percentage of respondents who selected each option.

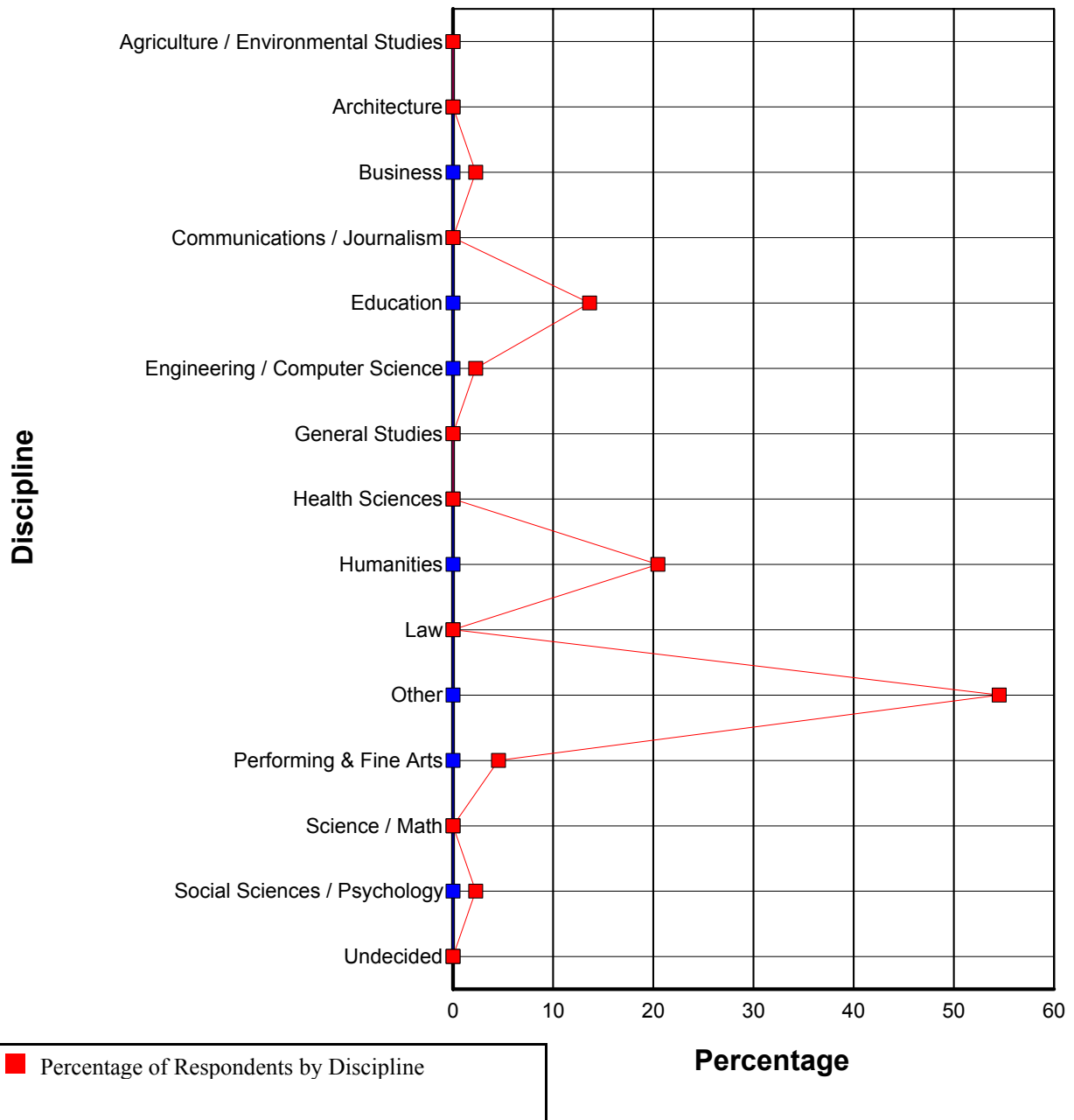


<u>Frequency</u>	<u>Type of Library Use</u>	<u>Respondents</u>	<u>Percentage</u>
Daily	Library Use On Premises	30	68.18%
	Electronic Library Use	4	9.09%
Weekly	Library Use On Premises	10	22.73%
	Electronic Library Use	8	18.18%
Monthly	Library Use On Premises	1	2.27%
	Electronic Library Use	14	31.82%
Quarterly	Library Use On Premises	3	6.82%
	Electronic Library Use	8	18.18%
Never	Library Use On Premises	0	0.00%
	Electronic Library Use	10	22.73%

Number of Records: 44

4.5.6 Respondents and Collected Demographics by Discipline for Library Staff

This chart displays discipline information (academic major or area of focus) for all Wake Forest University, Z. Smith Reynolds Library respondents.



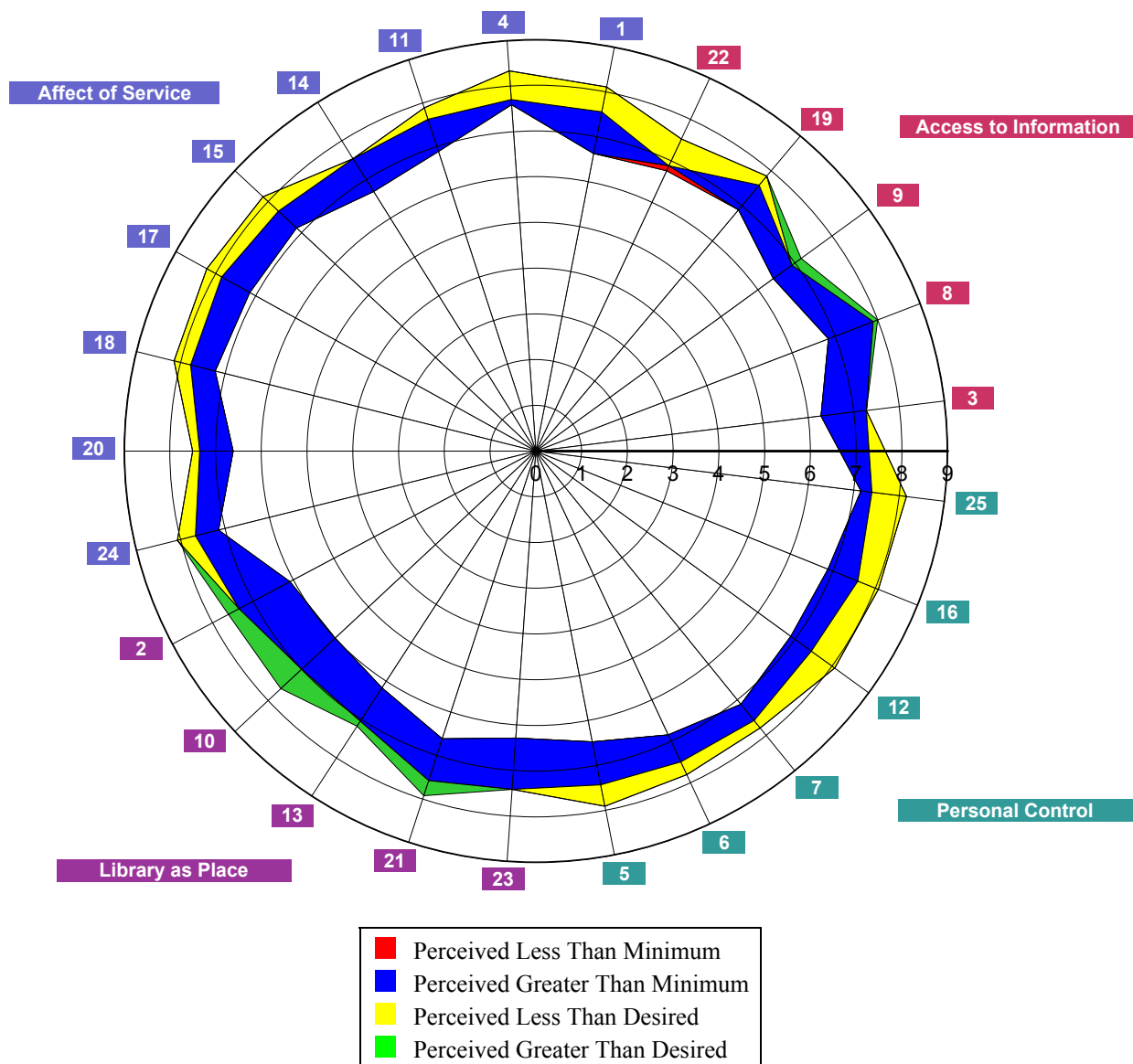
<u>Discipline</u>	<u>Respondents</u>	<u>Respondent Percentage</u>
Agriculture / Environmental Studies	0	0.00%
Architecture	0	0.00%
Business	1	2.27%
Communications / Journalism	0	0.00%
Education	6	13.64%
Engineering / Computer Science	1	2.27%
Health Sciences	0	0.00%
Humanities	9	20.45%
Law	0	0.00%
Performing & Fine Arts	2	4.55%
Science / Math	0	0.00%
Social Sciences / Psychology	1	2.27%
General Studies	0	0.00%
Undecided	0	0.00%
Other	24	54.55%
Total:	44	100.00%

4.6 Staff

4.6.1 Item Summary

This radar chart shows Staff results for all 25 survey questions. Each axis represents one question (question numbers are displayed at the outer point of each axis). While questions for each dimension of library service quality are scattered randomly throughout the survey, here they are grouped in quadrants: Affect of Service, Access to Information, Library as Place, and Personal Control.

On each axis, respondents' minimum, desired, and perceived levels of service quality are plotted, and the resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. Generally, a desirable radar graph is shaded blue and yellow, indicating that users' perceptions of service fall within the "zone of tolerance," i.e., above their minimum expectations (represented in blue) but below their desired level of service (shown in yellow).

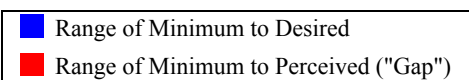
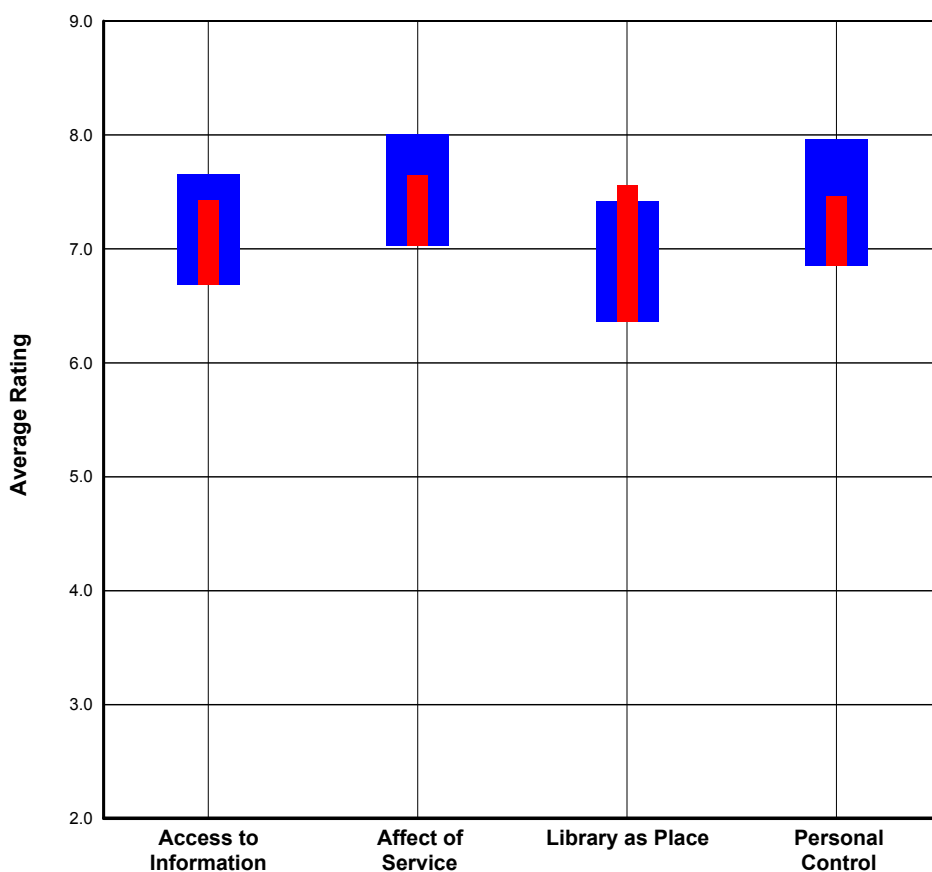


<u>No.</u>	<u>Question Text</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information					
3)	Complete runs of journal titles	6.28	7.28	7.28	1.00
8)	Timely document delivery/interlibrary loan	6.85	7.90	8.00	1.15
9)	Interdisciplinary library needs being addressed	6.42	6.92	7.17	0.75
19)	Convenient business hours	6.89	7.85	7.59	0.70
22)	Comprehensive print collections	6.88	7.53	6.76	-0.12
Affect of Service					
1)	Willingness to help users	6.63	8.11	7.56	0.93
4)	Employees who are consistently courteous	7.59	8.33	7.70	0.11
11)	Dependability in handling users' service problems	6.89	7.89	7.63	0.74
14)	Giving users individual attention	6.69	7.54	7.54	0.85
15)	Employees who deal with users in a caring fashion	7.15	8.15	7.69	0.54
17)	Employees who have the knowledge to answer user questions	7.15	8.22	7.85	0.70
18)	Readiness to respond to users' questions	7.22	8.15	7.78	0.56
20)	Employees who instill confidence in users	6.62	7.50	7.35	0.73
24)	Employees who understand the needs of their users	7.15	8.07	7.67	0.52
Library as Place					
2)	Space that facilitates quiet study	6.09	7.35	7.61	1.52
10)	A haven for quiet and solitude	6.00	7.00	7.62	1.62
13)	A place for reflection and creativity	6.17	7.04	7.17	1.00
21)	A comfortable and inviting location	6.62	7.58	7.92	1.31
23)	A contemplative environment	6.29	7.42	7.42	1.13
Personal Control					
5)	Making electronic resources accessible from my home or office	6.48	7.91	7.43	0.96
6)	Modern equipment that lets me easily access the information I need	6.85	7.81	7.50	0.65
7)	A library website enabling me to locate information on my own	7.13	7.79	7.58	0.46
12)	Easy-to-use access tools that allow me to find things on my own	6.89	8.07	7.44	0.56
16)	Making information easily accessible for independent use	6.89	8.07	7.59	0.70
25)	Convenient access to library collections	7.16	8.16	7.40	0.24
Number of Records: 27					

4.6.2 Dimension Summary

On this chart, Staff scores for each dimension of library service quality have been plotted graphically. The blue bars represent the range of minimum to desired scores for each dimension. The interior red bars represent the range of minimum to perceived scores, or the "gap," for each dimension of library service quality.

The four dimensions measured were Affect of Service (9 items), Personal Control (6 items), Access to Information (5 items), and Library as Place (5 items). A complete listing of the survey questions and their dimensions can be found in Appendix B.

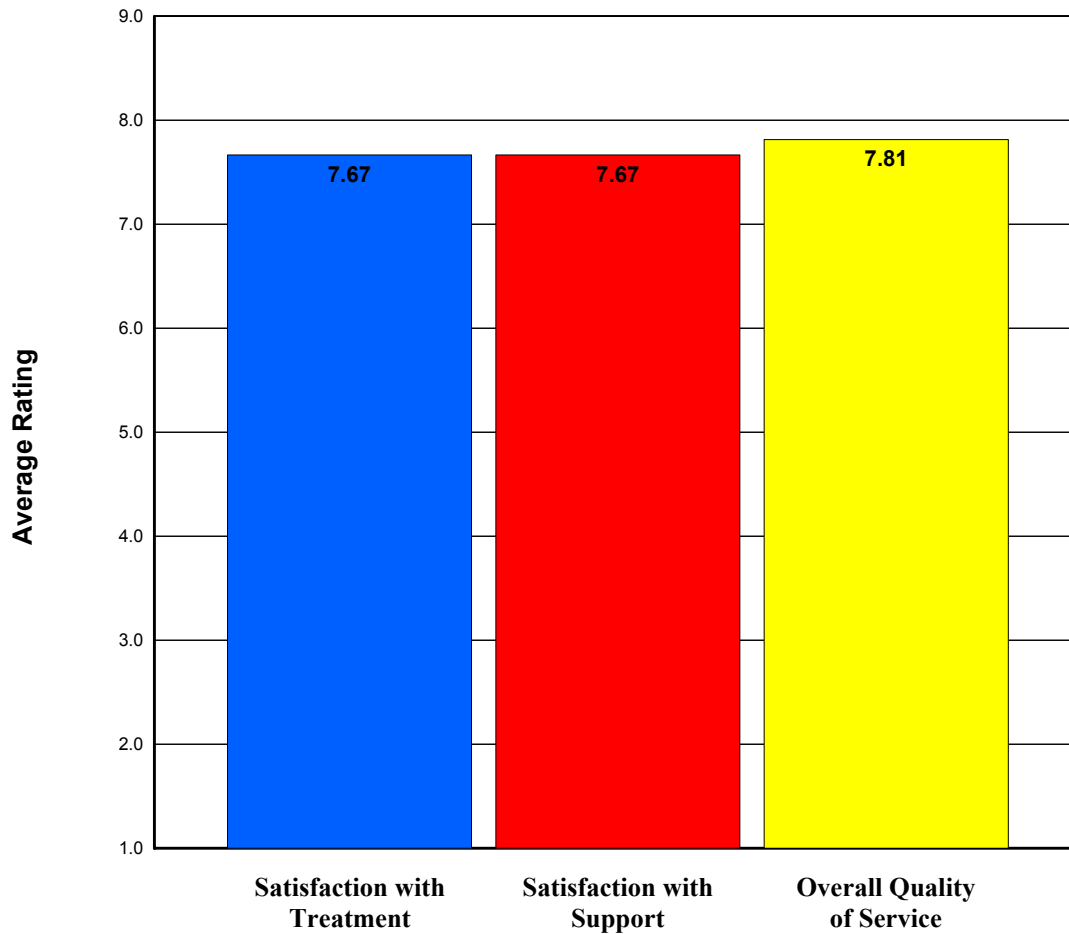


<u>Dimension</u>	<u>Minimum</u>	<u>Desired</u>	<u>Perceived</u>	<u>Gap</u>
Access to Information	6.69	7.66	7.43	0.74
Affect of Service	7.03	8.01	7.64	0.62
Library as Place	6.36	7.42	7.56	1.20
Personal Control	6.85	7.96	7.46	0.61

Number of Records: 27

4.6.3 General Satisfaction

This chart displays Staff scores for three areas of general satisfaction: Satisfaction with Treatment, Satisfaction with Support, and Satisfaction with Overall Quality of Service. These scores are calculated from responses to three questions on page four of the survey, in which respondents rated their levels of general satisfaction from 1-9, with 1 being "strongly disagree" and 9 representing "strongly agree".

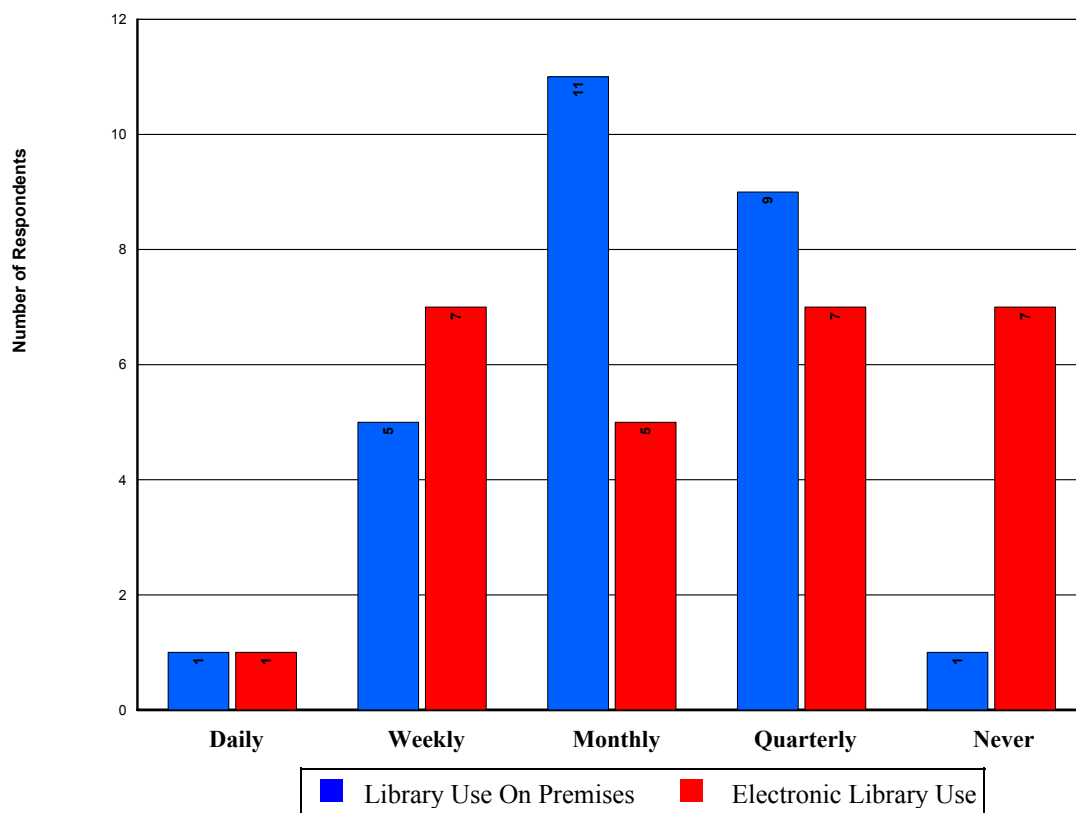


<u>Aspect of Satisfaction</u>	<u>Average Rating</u>
Satisfaction with Treatment	7.67
Satisfaction with Support	7.67
Overall Quality of Service	7.81

Number of Records: 27

4.6.4 Library Use

This chart shows a graphic description of library use, both on the premises and electronically. Bars represent the frequency with which Staff respondents report using the library: Daily, Weekly, Monthly, Quarterly, or Never. The brief chart below the graphic also includes the number and percentage of respondents who selected each option.

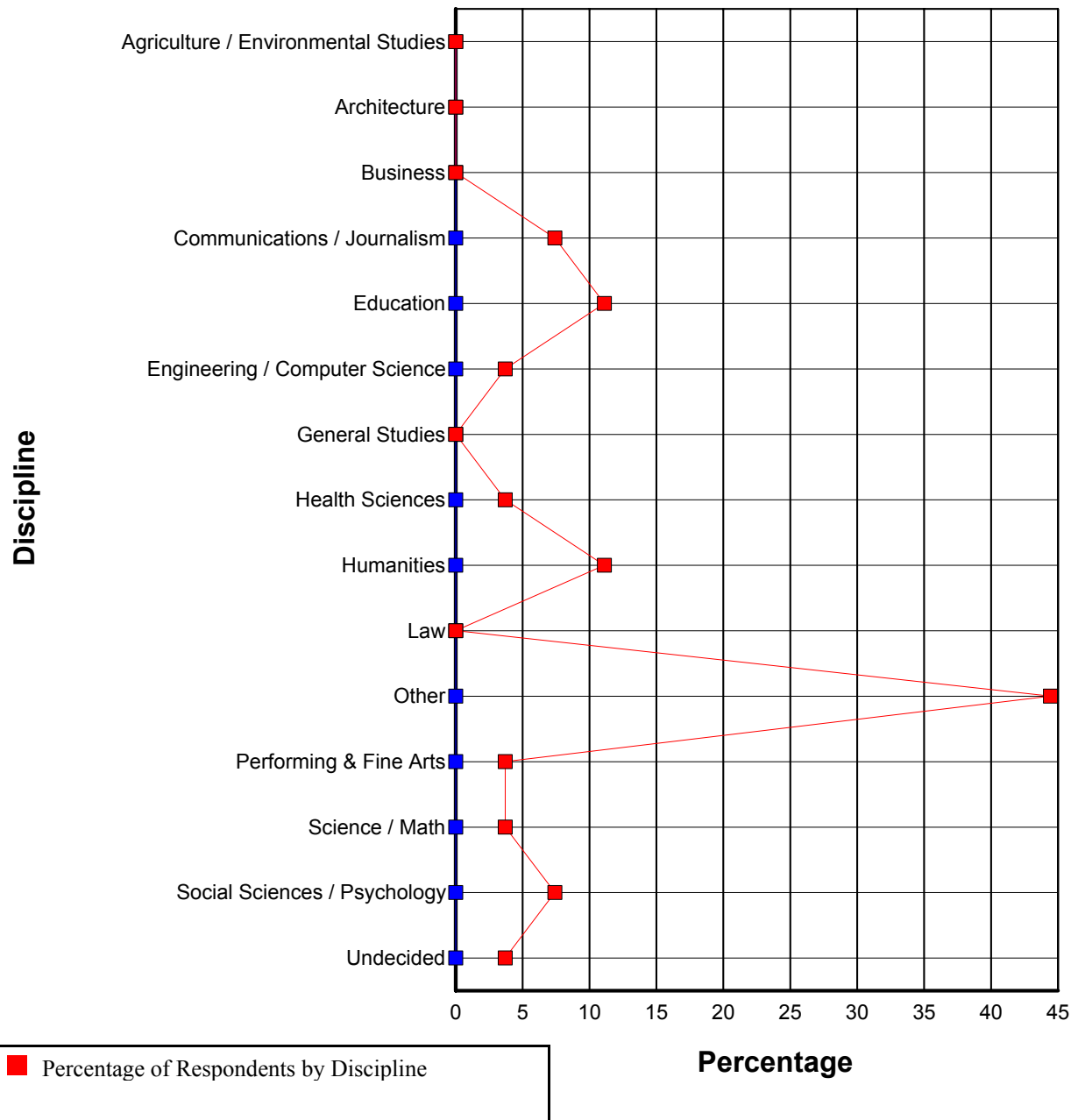


<u>Frequency</u>	<u>Type of Library Use</u>	<u>Respondents</u>	<u>Percentage</u>
Daily	Library Use On Premises	1	3.70%
	Electronic Library Use	1	3.70%
Weekly	Library Use On Premises	5	18.52%
	Electronic Library Use	7	25.93%
Monthly	Library Use On Premises	11	40.74%
	Electronic Library Use	5	18.52%
Quarterly	Library Use On Premises	9	33.33%
	Electronic Library Use	7	25.93%
Never	Library Use On Premises	1	3.70%
	Electronic Library Use	7	25.93%

Number of Records: 27

4.6.6 Respondents and Collected Demographics by Discipline for Staff

This chart displays discipline information (academic major or area of focus) for all Wake Forest University, Z. Smith Reynolds Library respondents.



<u>Discipline</u>	<u>Respondents</u>	<u>Respondent Percentage</u>
Agriculture / Environmental Studies	0	0.00%
Architecture	0	0.00%
Business	0	0.00%
Communications / Journalism	2	7.41%
Education	3	11.11%
Engineering / Computer Science	1	3.70%
Health Sciences	1	3.70%
Humanities	3	11.11%
Law	0	0.00%
Performing & Fine Arts	1	3.70%
Science / Math	1	3.70%
Social Sciences / Psychology	2	7.41%
General Studies	0	0.00%
Undecided	1	3.70%
Other	12	44.44%
Total:	27	100.00%

5. Appendix A: Print Version of the Survey

5.1 Description

The LibQUAL+™ survey is a five-page, web-based instrument. A print version of the survey is included below and on the following pages.

Page 1 is an introduction and general description of the LibQUAL+™ survey.

Page 2 contains the demographic information for the survey.

Page 3 contains the core survey questions, 1-25. Questions relating to each dimension of library service quality (Library as Place, Personal Control, etc.) are distributed randomly throughout the survey.

Page 4 of the survey contains any local questions specific to this institution's membership in a consortium, questions relating to user satisfaction and usage patterns, and allows respondents to add any additional comments they may have about library services.

Page 5, the final page of the survey instrument, thanks the respondents for completing the survey and provides them with an opportunity to include their e-mail address if they would like to enter the prize drawing.

5.2 Print Version of 4-Year Institution Survey - Page 1, Introduction



Welcome!

Please help us. Your participation in this survey will allow us to improve library services. Better understanding your expectations will help us tailor services to your needs.

We are conducting this survey to measure library service quality and identify best practices through the Association of Research Libraries' LibQUAL+™ program. Partial funding for this project is provided by the U.S. Department of Education's Fund for the Improvement of Postsecondary Education (FIPSE).

Please answer all items. The survey will take about **10 minutes** to complete.

5.3 Print Version of 4-Year Institution Survey - Page 2, Demographics

Your responses will only be used for aggregate survey analyses and we will treat them with the strictest confidentiality. Individual responses will not be given to anyone for any purpose. For each item, please select the value that most closely describes you.

Age:

- | | |
|--|--|
| <input type="checkbox"/> Younger than 22 | <input type="checkbox"/> 31-45 |
| <input type="checkbox"/> 22-30 | <input type="checkbox"/> Older than 45 |

Sex:

- | | |
|-------------------------------|---------------------------------|
| <input type="checkbox"/> Male | <input type="checkbox"/> Female |
|-------------------------------|---------------------------------|

Discipline:

- | | |
|--|---|
| <input type="checkbox"/> Agriculture/Environmental Studies | <input type="checkbox"/> Humanities |
| <input type="checkbox"/> Architecture | <input type="checkbox"/> Law |
| <input type="checkbox"/> Business | <input type="checkbox"/> Performing and Fine Arts |
| <input type="checkbox"/> Communications/Journalism | <input type="checkbox"/> Science/Math |
| <input type="checkbox"/> Education | <input type="checkbox"/> Social Sciences/Psychology |
| <input type="checkbox"/> Engineering/Computer Science | <input type="checkbox"/> General Studies |
| <input type="checkbox"/> Health Sciences | <input type="checkbox"/> Undecided |
| | <input type="checkbox"/> Other |

Undergraduate:

- | | |
|---|--|
| <input type="checkbox"/> Freshman (Year 1) | <input type="checkbox"/> Junior (Year 3) |
| <input type="checkbox"/> Sophomore (Year 2) | <input type="checkbox"/> Senior (Year 4) |

Graduate:

- | | |
|-----------------------------------|--|
| <input type="checkbox"/> Masters | <input type="checkbox"/> Non-degree or Undecided |
| <input type="checkbox"/> Doctoral | |

Faculty:

- | | |
|--|--|
| <input type="checkbox"/> Assistant Professor | <input type="checkbox"/> Professor |
| <input type="checkbox"/> Associate Professor | <input type="checkbox"/> Other Academic Status |
| <input type="checkbox"/> Lecturer | |

Library Staff:

- | | |
|--|---|
| <input type="checkbox"/> Administrator | <input type="checkbox"/> Systems |
| <input type="checkbox"/> Manager, Head of Unit | <input type="checkbox"/> Technical Services |
| <input type="checkbox"/> Public Services | |

Staff:

- | | |
|---|--|
| <input type="checkbox"/> Research Staff | <input type="checkbox"/> Other staff positions |
|---|--|

5.4 Print Version of 4-Year Institution Survey - Page 3, Core Questions

Please rate the following statements by selecting your choices from the pull-down menus to indicate:

- **Minimum** -- the number that represents the *minimum* level of service that you would find acceptable.
- **Desired** -- the number that represents the level of service that *you personally want*.
- **Perceived** -- the number that represents the level of service that *you believe* our library currently provides.

You must EITHER rate all three columns OR Identify the item as N/A.

When it comes to...		My Minimum Service Level Is		My Desired Service Level Is		Perceived Service Performance Is		N/A
		<i>low</i>	<i>high</i>	<i>low</i>	<i>high</i>	<i>low</i>	<i>high</i>	
1)	Willingness to help users	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
2)	Space that facilitates quiet study	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
3)	Complete runs of journal titles	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
4)	Employees who are consistently courteous	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
5)	Making electronic resources accessible from my home or office	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
6)	Modern equipment that lets me easily access the information I need	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
7)	A library website enabling me to locate information on my own	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
8)	Timely document delivery/interlibrary loan	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
9)	Interdisciplinary library needs being addressed	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A
10)	A haven for quiet and solitude	1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		1 2 3 4 5 6 7 8 9		N/A

Continued...

5.6 Print Version of 4-Year Institution Survey - Page 5, Email Address

Thank you for completing the survey!

Please provide your e-mail address below if you would like to enter an optional drawing for a prize (not required).

E-mail Address: _____

6. Appendix B: LibQUAL+™ Dimensions

6.1 Description

LibQUAL+™ measures dimensions of perceived library quality - that is, each survey question is part of a broader category (a dimension), and scores within those categories are analyzed in order to derive more general information about library users' perceptions of service.

These dimensions were first based on the original SERVQUAL survey instrument (the framework for the LibQUAL+™ survey tool; for more information on the origins of LibQUAL+™, go to <http://www.libqual.org/pubs/>).

The LibQUAL+™ survey dimensions have evolved with each iteration, becoming more refined and focused for application specifically to the research library context. The 2002 iteration of the LibQUAL+™ survey has four dimensions. (Dimensions for each iteration of the LibQUAL+™ survey are outlined below.)

6.2 LibQUAL+™ 2000 Dimensions

The 2000 iteration of the LibQUAL+™ survey, which had 41 questions, measured eight separate dimensions:

- Assurance (the knowledge and courtesy of employees, and their ability to convey trust and confidence)
- Empathy (caring, individual attention)
- Library as Place (library as a sanctuary/haven or site for learning and contemplation)
- Reliability (ability to perform the promised service dependably and accurately)
- Responsiveness (willingness to help customers and provide prompt service)
- Tangibles (appearance of physical facilities, equipment, personnel and communications materials)
- Instructions/Custom Items
- Self-Reliance

6.3 LibQUAL+™ 2001 Dimensions

After careful analysis of the results from the 2000 survey, the dimensions were further refined to re-ground the SERVQUAL items in the library context. Four sub-dimensions resulted for the 2001 iteration:

- Service Affect (nine items, such as "willingness to help users")
- Library as Place (five items, such as "a haven for quiet and solitude")
- Personal Control (six items, such as "website enabling me to locate information on my own"), and
- Information Access (five items, such as "comprehensive print collections" and "convenient business hours")

6.4 LibQUAL+™ 2002 Dimensions

For the 2002 iteration of the LibQUAL+™ survey, the dimensions were once again refined based on analysis of the previous year's results. While the same four dimensions were retained, their titles were changed slightly to more clearly represent the questions and data. The list below displays the dimensions, along with the questions that relate to each of the four dimensions.

Access to Information (5 questions)

- 3) Complete runs of journal titles
- 8) Timely document delivery/interlibrary loan
- 9) Interdisciplinary library needs being addressed
- 19) Convenient business hours
- 22) Comprehensive print collections

Affect of Service (9 questions)

- 1) Willingness to help users
- 4) Employees who are consistently courteous
- 11) Dependability in handling users' service problems
- 14) Giving users individual attention
- 15) Employees who deal with users in a caring fashion
- 17) Employees who have the knowledge to answer user questions
- 18) Readiness to respond to users' questions
- 20) Employees who instill confidence in users
- 24) Employees who understand the needs of their users

Library as Place (5 questions)

- 2) Space that facilitates quiet study
- 10) A haven for quiet and solitude
- 13) A place for reflection and creativity
- 21) A comfortable and inviting location
- 23) A contemplative environment

Personal Control (6 questions)

- 5) Making electronic resources accessible from my home or office
- 6) Modern equipment that lets me easily access the information I need
- 7) A library website enabling me to locate information on my own
- 12) Easy-to-use access tools that allow me to find things on my own
- 16) Making information easily accessible for independent use
- 25) Convenient access to library collections