Workforce Issues in Library & Information Science

WILIS

WILIS 1 Full Career Survey Toolkit

WILIS is a partnership of the UNC School of Information and Library Science and the UNC Institute on Aging.

UNC SCHOOL OF INFORMATION AND LIBRARY SCIENCE

UNC IOA Institute on Aging

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WILIS Study Team Members

The School of Library and Information Science (SILS) at the UNC-Chapel Hill and the University of North Carolina Institute on Aging (IOA) are partners for the **Workforce Issues in Library and Information Science (WILIS)** studies. The first study **(WILIS 1)** was designed as a detailed retrospective study of the career patterns of those graduating from LIS programs in North Carolina from 1964-2007. **WILIS 2** is a follow-up study to develop an alumni tracking system aimed at recent graduates (last five years) that can potentially be used by all LIS programs. WILIS is funded by the Institute of Museum and Library Services through its Librarians for the 21st Century Program.

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Introduction

If you are a dean, director, or chair of an LIS program, this toolkit will provide practical advice to help you and your faculty better plan and implement a detailed retrospective study of the career patterns of your graduates. It will help you:

- Define the scope of your survey
- Gather and verify contact information for your alumni
- Publicize your survey
- Customize your survey
- Administer the survey
- Follow up with non-respondents

What is WILIS?

Background

The Workforce Issues in Library and Information Science (WILIS 1) project, funded by the Institute of Museum and Library Services (IMLS) Librarians for the 21st Century program, began as a comprehensive study of the long-term career patterns of graduates of six library and information science (LIS) programs in North Carolina. The team is using the lessons learned from WILIS 1 to conduct a follow up study known as WILIS 2. During WILIS 2, LIS programs in other locations will develop and test a recent graduates' survey based on the WILIS 1 methodology and survey instrument with the goal of developing a transferable model suitable for implementation in any LIS master's program.

WILIS 1 Goals

The goals of WILIS 1 were to:

- Develop a theoretical model for a retrospective study of LIS careers
- Pilot a comprehensive career survey instrument
- Administer the career survey instrument to NC LIS alumni
- Make recommendations on the feasibility of implementing a career tracking system that could potentially be used by all LIS programs

Study population

We surveyed alumni who graduated from one of the six North Carolina LIS programs from 1964-2005. We included alumni even if they no longer work in library and information science so that we could isolate factors affecting retention. We surveyed graduates of programs with and without ALA accreditation as well as one paraprofessional program. One program, North Carolina Central University, is located in a Historically Black College and University (HBCU) increasing the ability of the study to detect factors that influence minority career development and retention. The range of programs in North Carolina made the state an excellent study site. See the following table for more information.

Table 1: North Carolina Library and Information Science Programs

Program	ALA Accredited (MLS, MIS)	NCATE/ AASL Accredited (Master: School Library Media Specialist)	Library Technician (Associate)	Bachelor	Ph.D.
Appalachian State University, Library Science Program		1989-1998		√	
Central Carolina Community College, Library and Information Technology Program			√		
East Carolina University, Department of Library Science and Instructional Technology		1992-Present			
North Carolina Central University, School of Library and Information Science	1975-Present	1991-Present			
UNC Chapel Hill, School of Information and Library Science	1932-Present			√	√
UNC Greensboro, Department of Library and Information Studies	1982-Present	1990-Present			

Preliminary results

Preliminary results from the WILIS 1 study are available on the Web at http://www.wilis.unc.edu/results.html. These results include summaries by type of employer (non-library, special libraries, public libraries, school libraries, and academic libraries.) These reports could serve as templates for how to report findings from your survey.

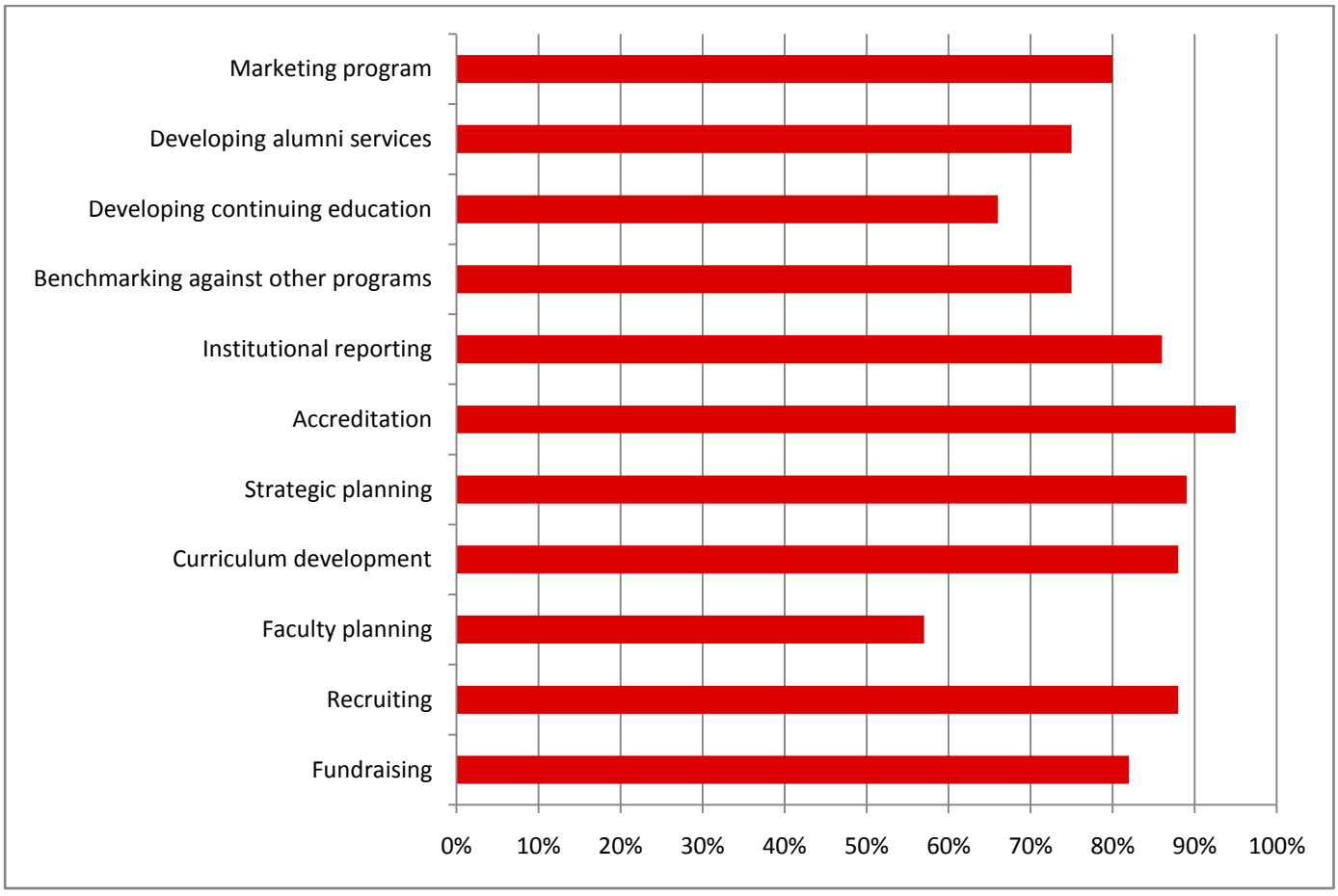
How Can We Survey Our Own Alumni?

Defining purpose and scope

A full career survey following the WILIS 1 model incorporates many variables and many graduates. The survey instrument was developed so that it could be adapted by other LIS programs knowing that the needs of institutions may vary.

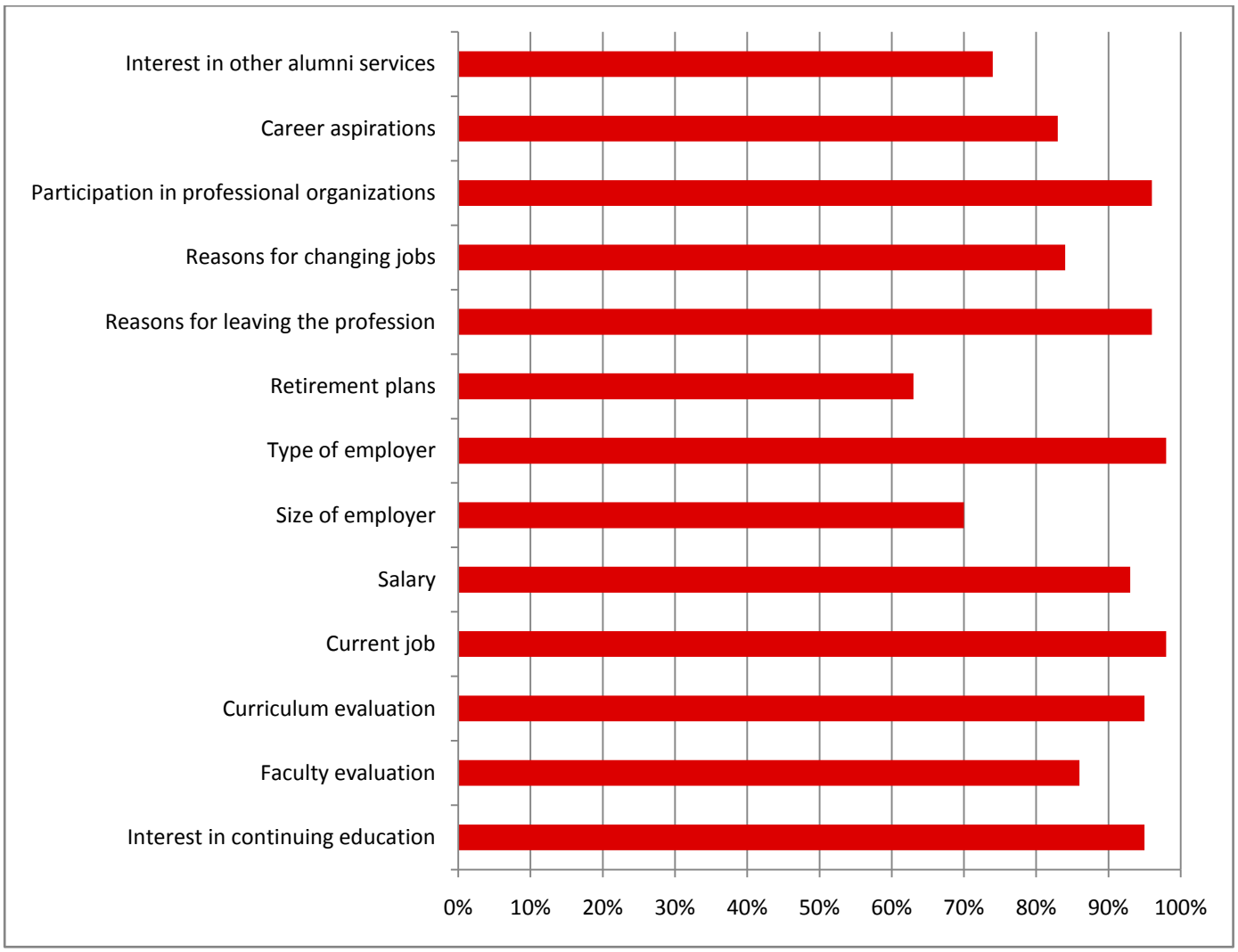
We surveyed a group of 99 Deans and Directors of LIS programs in North America to determine their level of interest in gathering alumni information. The following chart indicates the ways they anticipated using alumni information.

Figure 1: Purposes for Gathering Alumni Information (n=55)



The following graph shows the amount of interest (as expressed "somewhat or very interested") LIS Deans and Directors showed in certain types of alumni information.

Figure 2: Alumni Information of Interest (n=55)



Some questions to consider as you determine the purpose and scope of your own survey include:

- What are the main goals of the survey? Be specific!
- Which degree names will your subjects hold? Will you include Masters in Library Science and/or Information Science, Bachelors or Certificate Programs, and Doctorates?
- What graduation years will be included? Consider the available budget as well as the need to represent changes in the program when selecting the sample.
- Should you over-sample certain subgroups to make comparisons between degree concentrations or to address other questions of unique interest to stakeholders at your institution?
- Will you include survey incentives? How will the cost of incentives change your budget and sample size?
- Which functions will be outsourced? Will someone in-house with expertise in survey design agree to assist with the project?
- When must study results be available? How might your timelines influence scope and sample size?

Selecting a survey consultant

Quality survey design yields quality data. Although tools are available to create and administer your own Web surveys, we recommend using a survey consultant. See Appendix 5 for reasons why "do-it-yourself" surveys can lead to trouble. We selected Survey Sciences Group to assist with our survey for several reasons. The company had a focus on scientific rigor, particularly in the area of Web-based survey design and the survey process. Staff members were experienced in conducting large-scale, national academic surveys. Importantly, we had developed a good working relationship with this company on other projects. We recommend that as you select a consultant you carefully research the capabilities of each firm and seek references from other customers.

Obtaining IRB/REB approval

Before initiating research involving human subjects, the law requires researchers to receive approval from an independent review board. Regulations define these groups as Institutional Review Boards (IRBs) in the United States and Research Ethics Boards (REBs) in Canada. Since IRB/REB policies and forms differ by institution, this document will not provide step-by-step guidance. However, you may want to review sample template wording in Appendix 1 as you prepare your IRB/REB application.

Obtaining contact information

Gathering information from existing alumni lists

Your alumni records should contain the following fields. The record should be as complete as possible.

Table 2: Alumni Contact Data Fields

First Name	Country
Middle Name	Phone Number
Last Name	Email Address
Maiden Name	Degree Name
Address Line 1	Graduation Year
Address Line 2	Graduation Month
City	Gender
State	Race/Ethnicity
Zip Code	Date of Birth

The file format for these records is very important. Do not use a single field for the full name or address, but instead split this information into separate fields. We recommend that you use a spreadsheet with a row for each graduate and a column for each field listed above. This will simplify activities such as creating mail merge letters used to invite alumni to take the survey. Either you or your survey consultant will also add a CUSTOMID field for each alumnus. This ID will appear on survey invitation and reminder notices if you do a web-based survey. It will also help ensure confidentiality of survey responses.

Publicizing the survey

Generating publicity for your survey yields multiple benefits. Publicity can increase stakeholder support as well as alumni motivation to respond to the survey. Alumni otherwise unreachable may hear of the study and provide updated contact information, further increasing response rates. Eager anticipation of study results, generated by effective publicity, can broaden the return on investment when findings are finally published.

Generating a press kit

Invest the time to generate a quality publicity/press kit, including graphics, blurbs, and press releases. Once developed, use the interchangeable parts for websites, newsletters, and emails. See the following page for a sample postcard using standard graphics and text from the WILIS 1 press kit.

Figure 3: Sample Postcard

WORKFORCE ISSUES *in* LIBRARY *and* INFORMATION SCIENCE

To better understand the careers of library and information science graduates, we need your help.

As a graduate of one of six Library and Information Science programs in North Carolina, we are requesting your input to a research study spanning 40 years of LIS education. The results of the study will assist educators and employers as they address workforce and education issues both locally and nationally.

To participate in this important study, we would like your permission to contact you with more information. Please send your name and e-mail address to:

wilis@unc.edu

For more information, contact Joanne Marshall, WILIS Principal Investigator, at: wilis@unc.edu; or consult the Web site at: http://www.wilis.unc.edu/

Make a difference to the future of our profession!

Workforce Issues in Library and Information Science (WILIS) is a collaborative research project of the University of North Carolina at Chapel Hill's School of Information and Library Science and the Institute on Aging, and the six LIS programs in North Carolina. The study is funded by the Institute of Museum and Library Services.

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Chapel Hill, NC 27599-1030

Alerting the media

Distribute your press release to as many targeted media as possible. Include the school website, alumni newsletter, and websites and newsletters for professional organizations. We sent press releases to the following organizations. You should target the state/province/regional organizations in your area.

Table 3: Press Release Distribution List

North Carolina

North Carolina Library Association (including NCLA divisions)
http://www.nclaonline.org/
NC Academic Libraries
http://statelibrary.dcr.state.nc.us/library/univers.htm
NC Community Colleges
http://statelibrary.dcr.state.nc.us/library/nccclist.htm
North Carolina Associations of School Librarians
http://www.nclaonline.org/ncasl/
NC Public libraries:
http://statelibrary.dcr.state.nc.us/library/publib.htm
North Carolina Public Library Directors Association
http://statelibrary.dcr.state.nc.us/ncplda/ncplda.htm
Raleigh News and Observer

National Associations

Association of Research Libraries http://www.arl.org/
Medical Library Association http://www.mlanet.org/
Society of American Archivists http://www.archivists.org/
Library & Information Technology Association
http://www.lita.org/LITAMAINTemplate.cfm?Section=lita
American Society for Information Science and Technology
http://www.asis.org/
Black Caucus of ALA http://www.bcala.org/
Special Library Association http://www.sla.org/
American Association of Law Libraries http://www.aallnet.org/
American Library Association http://www.ala.org/

ALA Discussion List http://lp-web.ala.org:8000/
News http://www.ala.org/Template.cfm?Section=news

ALA Divisions

American Association of School Librarians (AASL)
Association for Library Collections & Technical Services (ALCTS)
Association for Library Service to Children (ALSC)
Association for Library Trustees and Advocates (ALTA)
Association of College and Research Libraries (ACRL)
Association of Specialized and Cooperative Library Agencies (ASCLA)
Library Administration and Management Association (LAMA)
Library and Information Technology Association (LITA)
Public Library Association (PLA)
Reference and User Services Association (RUSA)
Young Adult Library Services Association (YALSA)

Journals

College and Research Libraries
College & Research Libraries News
ALA Magazine –section on news items

Weblogs

LISnews http://www.lisnews.com/
Librarian's Internet Index -News section
http://lii.org/pub/htdocs/home.htm
Library Stuff http://www.librarystuff.net/
Resource Shelf http://www.resourceshelf.com/
The Kept-up Academic Librarian
http://keptup.typepad.com/academic/

Benefit from listservs

We found professional library and information science-related listservs particularly helpful in reaching alumni. We recommend including the following listservs.

Table 4: Professional Listservs

ARCHIVES	LAW-LIB
ACQNET-L	LIBADMIN-L
ASIS-L	LIBREF-L
AUTOCAT	LM_NET
CIRCPLUS	MEDLIB-L
COLLDV-L	PUBLIB-NET
DC-GENERAL	SERIALST
EDUCAT	SLA-DSOC
GOVDOC-L	SLA-DSOL
ILI-L	SLA-ST
INFOCOMMONS-L	SYSLIB-L
JESSE	

Verifying contact information

There are many approaches to verifying contact information for alumni. This toolkit will describe methods used for WILIS 1 along with evaluation of their comparative effectiveness.

Outsourcing

Several alumni tracking vendors offer to search public databases for a fee. In selecting a vendor, we considered reputation, cost and ability to handle large batches (approximately 5,000 alumni.) Our study decided to use AlumniFinder (http://www.alumnifinder.com) to update mailing addresses, phone numbers and email addresses. AlumniFinder charged a base service fee plus a fee for each updated record. A batch of approximately 4900 cases cost around $2,000 in 2006. Ask your university or alumni association if a similar updating service is already in use for your graduates to avoid duplication of effort and expense. Programs with relatively few alumni might find it more cost-effective to partner with other departments or programs to keep the cost per case low.

Online searching

Online searching can be a useful method of updating alumni records. Not all online search strategies are equally effective, however.

Unfruitful online methods

Several methods did not prove useful in locating email addresses for our pilot sample. Neither "email locator" engines nor free email/address/phone directories provided any electronic contact information for our sample. We were able to locate some names on "free" public records search sites, but we found that details displayed only for a fee and without any guarantee of a valid email.

Recommended online searching method

Use online searching with care and limit the amount of time spent on each record. Manual searches are expensive in terms of time and effort. A 20-hour search of approximately 400 people using the intuitive approach described in Appendix 2 yielded only 59 emails (15%.)

Mailing postcards

Send a postcard to each alumnus, and invest in the additional fee for Return Service Requested. This simple step can accomplish three goals:

- Test the accuracy of the postal contact information
- Obtain updated postal information via Return Service Request
- Request email addresses from alumni

Contact your post office or campus postal service for pricing and requirements. See Figure 3: Sample Postcard on page 9.

Consulting professional membership directories

Membership directories for professional associations are not always accessible to the public. We were able to search one regional organization's membership list. Ask your program's faculty and staff about their professional associations; some may have access to membership directories otherwise unavailable.

Testing data quality

Always test the accuracy of contact information. We recommend testing both postal and email addresses by sending letters, postcards or emails advertising the upcoming survey.

Comparison of data verification methods

See the table below for a comparison of data verification methods used for alumni of four schools with LIS Master's programs. Note that online searching and professional membership directories were used only in the pilot test; the other methods were used in both the pilot phase and full study of the survey.

Table 5: Data Verification Effectiveness

Method	Number of Cases	Number Updated	Percent Updated
Outsourcing to alumni tracking vendors*	5358	4925	91.9
Online searching	400	59	14.8
Use a mailed postcard	5358	1197	22.3
Professional membership directories	400	37	9.3
LIS listservs	5358	172	3.2
Publicity/press	5358	0	0.0

*Verified and/or updated 4892 cases and identified 33 as deceased.

Recommendations

Based on our experience, we recommend the following:

- Try to maximize the number of alumni with email addresses.
- Use an alumni tracking vendor.
- Use LIS listservs to solicit contact information and advertise the study.
- Test the quality of your contact information before you distribute questionnaires.

Customizing the survey

Learning from the WILIS survey theoretical model

The framework for WILIS survey design has been used extensively in studying career progression. This life course model spans the full career from education through retirement and encompasses multiple factors that can influence career development. Individuals respond to changes in economics, family transitions, and job satisfaction. Further information about the theoretical perspective may be found in Appendix 3.

We consulted key stakeholders, including educators and administrators in LIS programs, leaders in professional organizations, and library and non-library employers. This information supplemented the theoretical model to ensure that the survey would include important variables and deliver actionable information to stakeholders.

Understanding the WILIS 1 survey structure

The WILIS 1 survey is available at http://www.wilis.unc.edu/docs/wilis1careersurvey.pdf. The survey is lengthy and comprehensive. In addition to the educational and career histories of respondents, questions addressed demographics, specific details of jobs held, breaks in employment, continuing education, opinions about trends in LIS, and satisfaction with LIS as a career. Recent graduates gave perspectives on their LIS programs and their entry into the workforce.

Survey sections include the following:

- Education (Section A)
- Career Outline (Section B)
- Job Detail (Sections C-I)
- Life and Work (Section J)
- Overall Career (Section K)
- Continuing Education (Section L)
- Future of LIS (Sections M and N)
- Recent Graduates (Sections P-R)

Respondents identified up to five specific jobs in terms of the following categories:

- Job immediately before the LIS program
- Job immediately after the LIS program
- Current job (or last job, depending on employment status)
- Longest job
- Highest-achieving job

Based on the number and types of jobs, respondents were directed to specific sections of the survey. While the Web enables complex skip patterns in response to each answer, expertise must be available either in-house or from a research firm to design and program Web surveys. See Appendix 5 for more information about Web surveys.

Structured and open-text responses were collected on a variety of job aspects. All job sections contained questions about the nature of the work and job setting, salary, level of employment, benefits, control and autonomy, and reasons for leaving. The sections for current job and last job were expanded to include more questions on specific job functions, work environment, benefits, career development, retirement plans, and views on older and younger workers.

Customizing the survey to meet local needs

Tailor your survey to the goals set by your stakeholders. Keep in mind that the depth of information possible in a long survey can come at the price of lower response rates. Despite this, you must make the survey long enough to capture the most important information.

Programs targeting students with families might want to include or even expand on the questions in the Life and Work section. If your institution has a research interest in how race, age, and disability influence treatment at work (and retention as a result,) then you may find valuable questions in the Job Detail section. If your primary goal is to evaluate the success of your program for recent graduates, you might eliminate questions about the future of LIS. At the same time, you might add questions to address recent changes or certain specializations unique to your program. If your focus is on recruitment, then perhaps the sections on continuing education are less relevant. The possible combinations are limitless.

Designing for controlled costs

Certain choices about survey format can determine the resources needed for survey administration and analysis. For instance, if you choose to survey by mail, then you must provide human and physical resources to code the responses plus the costs of printed surveys and postage to and from respondents. If you plan a web survey with complex skip-patterns, then you must provide for personnel (in-house or outsourced) to program those patterns. Including free-response questions adds depth but increases costs over a multiple-choice only format, since someone must group responses for pattern analysis. Unless you pay to outsource any telephone surveys, you must have access to sufficient phone lines and personnel, and you must pay for labor and long-distance costs.

Testing the survey design

The WILIS 1 survey instrument underwent several rounds of testing before the pilot was fielded. This proofing/testing was performed not only by research team members but also by independent individuals uninfluenced by the team's discussions. Many questions and answers were reworded and new options added as a result. We found it especially important to assign individuals to take on roles with different career histories to test the skip patterns.

We selected a random sample of 750 graduates from one LIS program to take the pilot survey. Since we could find no potentially valid contact information for 29 graduates, we were left with a sample of 721. We mailed an invitation letter with a $2 bill incentive and followed up with reminders (to be discussed in the non-response section below.) After the pilot study, we again optimized wording and added options for several questions/answers. In addition, we received quality feedback that suggested we should add two significant question types. The first concerned the type of library (e.g. public, academic, school, or special.) The second concerned the type of organization for the employee (e.g. private for-profit, private non-profit, government, or self-employment.)

Administering the survey and addressing non-response

Reaping the benefits of outsourcing

Consider outsourcing elements of survey design and administration, especially if you will perform a Web-based study. A reputable survey firm will have expertise in the mathematical, behavioral, and technical aspects of survey design and implementation. A good survey partner will work with you to design the most powerful survey possible within your budget constraints. A survey company understands elements such as randomization of responses, skip-pattern design, the need to make the survey accessible to those with disabilities, and other aspects of presentation. The company can distribute invitations and follow-up with non-respondents so that you can concentrate on interpreting data, not gathering it. We chose Survey Sciences Group (http://www.surveysciences.com) to administer the WILIS study based on its experience with similar assessments.

Impact of non-response

Non-response can potentially bias the sample so that it is no longer representative of the population as a whole. During pilot testing, we experimented to determine the impact of certain variables on the rate of response. We sent the original survey invitation by mail with a $2 incentive in envelopes labeled one of three ways. We then followed up with systematically varied reminders to test the impact of these reminders on non-response. Finally, after all reminders were complete, we initiated a detailed non-response study to determine the reasons for poor response.

Potential Demographic Bias Due to Non-response

If possible, try to reach your non-respondents and survey them to find out why they did not complete your survey. An understanding of the barriers to survey completion can allow you to improve your study design. If you will not conduct a formal non-respondent survey, you should at least compare the profiles of those who responded to those who did not, so that you can feel confident that your surveyed sample is still representative.

We recommend that you compare at least the following variables between groups:

- Gender
- Race
- US citizenship
- LIS program attended

If you conduct a non-response study and have updated information, add the following variables if possible:

- Marital status
- Employment status
- Type of work
- Left the LIS field
- Salary
- Career satisfaction

Note that the graduation date and birth date might be expected to correlate with non-response, since there is a greater chance that less recent graduates have moved and the contact information might no longer be valid. We did not conduct comparisons of these variables.

We compared respondents to the pilot study and a non-response survey for the ten variables recommended above. The only statistically significant difference between the groups was gender composition ($X^2=4.34$, $p<0.05$.) A higher percentage of males completed the pilot survey (16%) versus the non-response study (10%.) All other variables indicated representativeness.

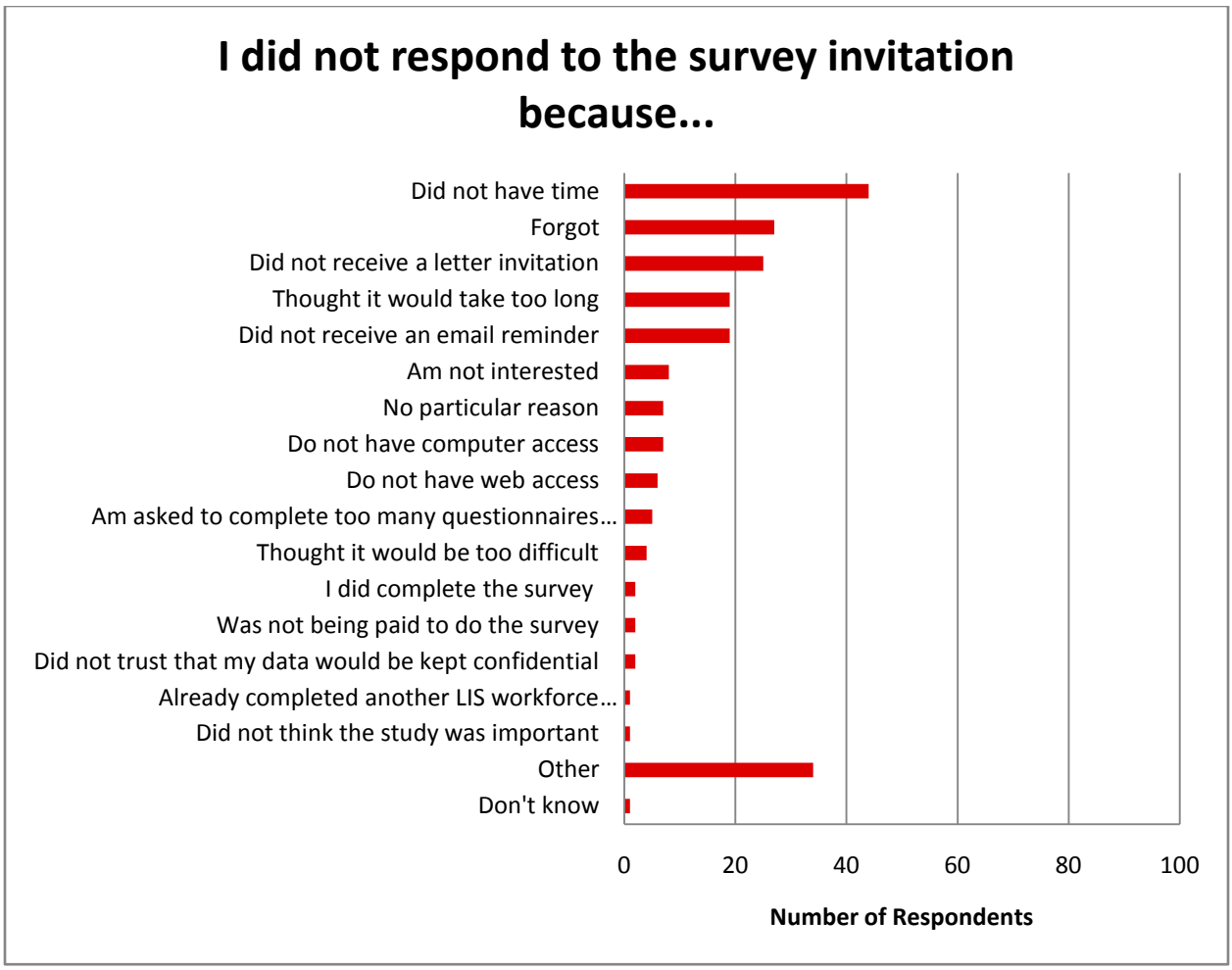
Non-response Surveys and Method of Communication Experiments

Pilot non-response survey

After two reminders, 69% had still not responded to the pilot survey request. We randomly selected 400 of the 497 non-respondents for a non-response study. The initial mailed invitation for the non-response study contained a $5 bill as incentive. Two weeks after mailing, we began calling those who did not respond. Before the third

call attempt, we sent an email (when contact information was available) and we mentioned that email when we reached the alumnus or left a phone message. Up to eight phone follow-ups were made. Of the 400 selected for the study, 36% (144) participated in our non-response survey. Of those, 141 provided information about the reason(s) they did not respond to the survey invitation.

Figure 4: Results of non-response survey



The most frequently cited reason was a lack of time. Many people claimed they simply forgot.

Even though we took steps to verify contact information before mailing invitations and emailing reminders, we were interested in determining the impact of contact information accuracy on non-response.

For our non-response study, postal mail was the most reliable contact method; 99.5% of non-respondent records contained postal addresses, and only 3.5% of these were invalid. By contrast, 47.3% of the non-respondents had an email address on file, and only half of those email addresses were correct.

In the survey, we asked if participants remembered receiving mailed invitations or email reminders. For the 40 who did not recall receiving a mailed invitation, 90% of them confirmed that the address we had on file was correct. For the 37 who did not recall receiving an email, we had the correct email for only 32% of them. Those who did not recall receiving an email were more likely to use spam filters than those who did recall seeing the email reminder.

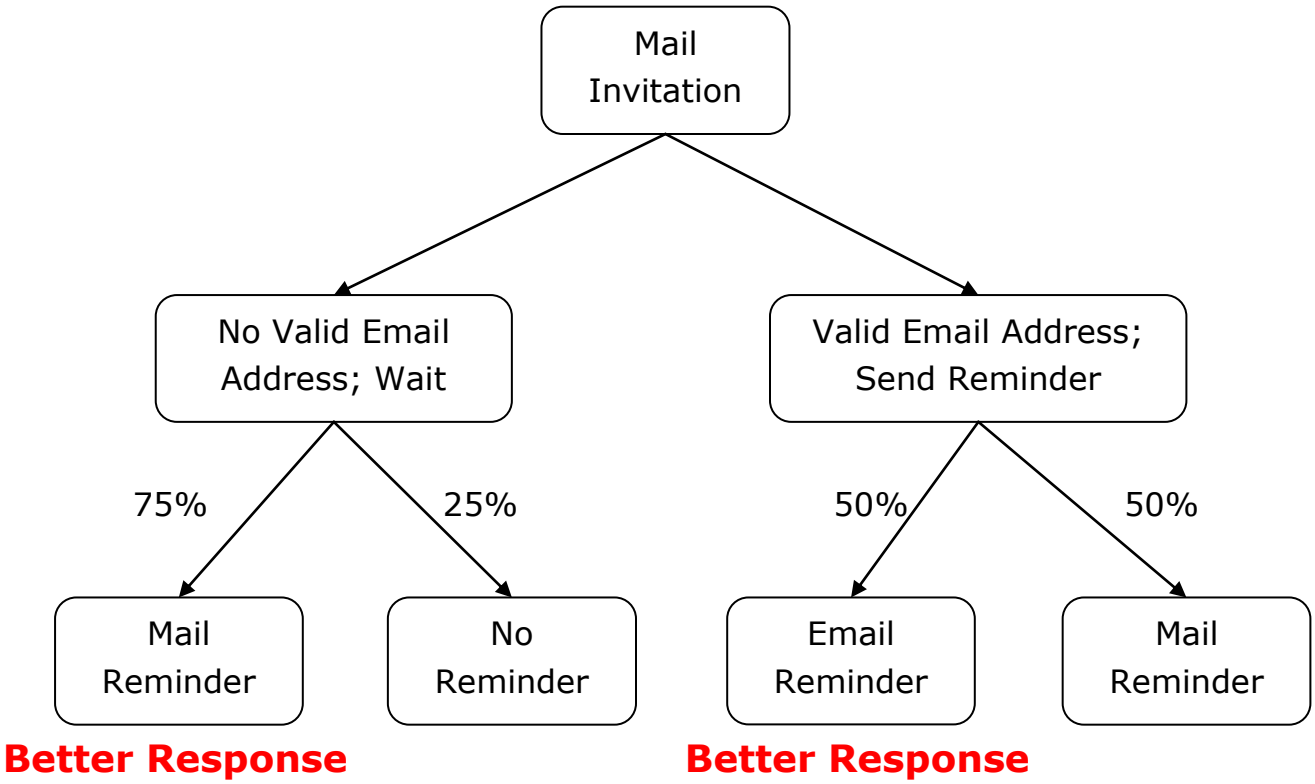
We also asked initial survey non-respondents what they first look at before deciding to discard an unopened letter or email. Most people (86%) decide to discard a letter based on who sent it. Indications of bulk mail such as a meter instead of a stamp or a barcode were much less important. Similar trends were cited for email; 69% delete unopened emails based on who sent them as opposed to other factors such as the subject line.

These results underscore the importance of sending multiple reminders in various formats when possible. The non-response survey was an effective reminder, and prompted 57 more people to complete the pilot survey. This increased the total pilot completion rate from 31% to 39%. Because twelve respondents did not complete the 25 questions in the section A (Education,) they had provided insufficient information for analysis and were removed from the response rate. This decreased the response rate for the pilot to 37%.

Sequence of reminders experiment

During the pilot, we conducted an experiment to test the relative effectiveness of email and postal reminders. See the following figure.

Figure 5: Reminder experiment



For those who did not respond to the mailed invitation, we sent an email reminder (reminder #1.) After no response, we further divided the non-respondents into groups. Those who had valid postal addresses but no email address were separated into two groups; 75% received a reminder letter by mail, and 25% received no such reminder. Perhaps not surprisingly, we found that those who received a reminder were more likely to follow up with a response. Those who did possess valid emails were divided into two groups; half received an email reminder and the other half a postal reminder letter. We found that email reminders were more effective than postal reminders in stimulating response.

When we conducted the full study, we sent initial invitations to take the survey by both email and letter. We then followed up with a letter reminder and up to three email reminders.

Full study non-response experiment

In the full study, we conducted an experiment on the method of survey communication using recent graduates of the University of North Carolina program. Alumni from 2006-2007 received all survey communication via email and thus received no incentive for participation. We compared the response rates to 2004-2005 alumni, who received postal communications including an incentive followed by email reminders. We found no difference in the response rate between these two groups.

Envelope design experiment

We conducted an experiment to see if envelope design would have any impact on the response rate. For the pilot study, we split the respondents into three groups. One group of alumni received an envelope with only the study name (Workforce Issues in Library and Information Science) appearing as the sender's name. Envelopes for the second group contained both the study name and the name of their LIS program. The third group was sent envelopes bearing both the study name and the UNC-Chapel Hill name. Half of the third group included the UNC logo, while the other half did not. We found that envelope design did not influence response rate, and we decided to include only the UNC name on the envelope for the full study.

Sample invitation/reminder templates

See Appendix 4 for sample invitation and reminder templates (letter and email.)

Where can I find more information?

WILIS is funded by a grant from the IMLS Librarian's for the 21st Century Program. For more information on that program, visit: http://www.imls.gov.

The WILIS project has placed several resources online at http://www.wilis.unc.edu/index.html. In particular, you can find information about related studies at http://www.wilis.unc.edu/related.html and a project bibliography at http://www.wilis.unc.edu/bibliography.html.

If you will do any customization of the survey, we recommend that you consult with a survey company or other expert in survey design. If you wish to have a broad overview of some important issues in survey design, the following web sites may be helpful. The American Institute for Public Opinion Research has published a brief best

practices guide at http://www.aapor.org/bestpractices. For issues specific to Web survey design, consult http://www.websm.org.

Our survey consultant was Survey Sciences Group, which may be reached at http://www.surveysciences.com.

Contact information for our alumni was verified by AlumniFinder, which may be reached at http://www.alumnifinder.com.

Appendix 1: IRB/REB Support Text

Note that this information is provided as background only. Institutional Review Board/Research Ethics Board requirements may vary by institution.

Description of study design/method

We plan to gather lists of graduates of the [degree name] programs from [time period]. After verifying contact information for the graduates via [method], we plan to proceed with conducting the survey of graduates: [number of sample] graduates of the [degree name] programs will receive an invitation to participate by email and letter (draft attached). The alumni survey (draft attached) will be made available on the web for participants with Internet access, and will be delivered by mail for participants who do not have Internet access. Notes and correspondence will be retained in locked files or on a secure server as appropriate in order to document the research process and facilitate continuing communication with respondents. The completed web surveys will be stored on a secure server; completed print surveys will be stored in locked files. All survey participants will be assigned an ID number; no respondent names will be included in reports without consent of participants. ID keys will be stored on a secure server.

Inducements for participation

The alumni survey has a $2 per participant incentive.

Benefits to subjects and/or society

In this phase, there is no direct benefit to the individual subject. The overall study has the potential to improve career tracking of graduates of LIS programs by informing educators about the needs of graduates.

Full description of risks and measures to minimize risks

The risks are limited to breach of confidentiality. There are no sensitive subjects covered in the survey.

Personal identifiers to be collected as part of the study

Personal identifiers will include: names, telephone numbers, dates directly related to an individual, geographic subdivisions smaller than a state, email addresses.

Data sharing

Members of the study team will have access to the LIS graduate lists – with identifying information – for use only in fielding the survey later in the study. Completed alumni web surveys will be stored on a secure server, and completed print surveys will be stored in a locked cabinet. The reports summarizing and analyzing the survey responses will not contain any personally identifiable information about survey participants. No alumni data will be shared.

Confidentiality of the data

Graduate lists will be stored on a secure password protected server. Paper copies will be stored in locked filing cabinets in locked offices. Data can be shared among research staff using our secure password protected server and file system. Survey participants and non-respondents are free to complete the survey in the privacy of their home or office. Notes and correspondence will be retained in locked files or on a secure server as appropriate in order to document the research process and facilitate continuing communication with respondents. The completed web surveys will be stored on a secure server; completed print surveys will be stored in locked files. All survey participants will be assigned a number; no respondent names will be included in reports without consent of participants. Surveys only include ID numbers; keys linking ID to respondent will be stored on a secure server.

Justification of waiver of written (signed) consent

Postal and email letters will be used. The invitational letter, reminder letter and email inform the alumni that completion of the survey connotes consent to participate in this study.

Appendix 2: Recommended Online Search Method

Although the goal of web searching is to verify the current name(s) and most recent postal and email addresses, you may find searching more effective if you add the following information to your files: position/title, place of employment, work address, work telephone number, work email address.

This is an iterative process, and one that requires an awareness and balance of time, as it is very easy to spend too much time and energy on enticing clues that never quite uncover that elusive alumnus.

See the flow chart on the following pages for our recommended search sequence.

Do a **REVERSE ADDRESS LOOKUP** on www.whitepages.com for the listed address.

Match: Stop search.	**No match**: look at other street numbers and verify street name and spelling (www.mapquest.com.) If no match, proceed to #2.

Do a **PEOPLE SEARCH** on www.whitepages.com. Use different permutations of initials, first, middle and last or prior name, and search in town and state given.

Match: stop search. Unless the name is unusual, this search is usually not fruitful.	**No match:** expand search to entire state of LIS program (or other listed state) or even entire US, if name is unique. Sometimes person will be located in a nearby town or state. If still no match, proceed to #3.

Do a search on www.google.com for the person's entire name in **quotations**: **"Cynthia Eunice Doe."** Keep removing elements of the full name until there are hits to explore, i.e., "Cynthia E. Doe;" "Cynthia Doe;" "Eunice Doe;" "Cindy Doe." It is trial and error, but usually one name will surface as a likely suspect.

(flowchart continues on the following page)

With each probable name search, add one of the terms: **library, librarian, archives or "library media."** Example: "Eunice Doe" librarian

If there are still too many hits, add other likely associated terms such as the school from which s/he graduated or degree: **MLS, NC, NCCU, UNC**, etc.

Hits: Most often, a hit is not straightforward. The person's current **whereabouts** are still a mystery. For example, a hit might be his post to a listserv, or a note in a meeting agenda mentioning her retirement, or an article in a newsletter that mentions her participation in a workshop. Finding this type of clue is the FIRST STEP.

Following up hits: From brief notes about a person, further clues may become apparent: a name change, a current employer, a city/state of residence, membership in a professional association, etc**. Using these clues, go to associated websites.** For example, the school or university of employment will have an employee directory, or a departmental website. Email addresses are usually available from these websites. A name change or city of residence may necessitate a revised Google search or another search of www.whitepages.com.

Appendix 3: Study Design Background

Prior LIS Studies

Over the last decade the LIS literature has reflected an increasing concern with workforce issues including the aging of the workforce (Berry, 2003; Lynch, 2000; J. Marshall, 2005; Matarazzo, 2000); the lack of minority presence in the field (Alire, 1996; Winston, 1998); and the need for succession planning (Curran, 2003; Wilder, 2003; Young, Hernon & Powell, 2004). In response to these concerns, IMLS launched an initiative to recruit the next generation of LIS professionals (Eberhart, 2002) and funded a National Study on the Future of Librarians in the Workforce in October 2004 (hereafter referred to as the IMLS National Study).

Theoretical Perspective

As a framework for the research, WILIS uses the life course perspective, a social science approach that has been used extensively to study occupational careers. This perspective spans various stages in the life course ranging from education to work transitions through the retirement transition (Elder, Johnson & Crosnoe, 2003; V. Marshall, Heinz, Krueger & Verma, 2001) and has recently been used to address labor force policy issues (V. Marshall & Mueller, 2002). In the context of changing social conditions and demography, the life course perspective directs attention to an individual's experiences over time, examining stability and change in the occupational career.

The use of the life course perspective acknowledges that a complex set of factors influence recruitment and retention behavior. Life course researchers have challenged older models of occupational careers, which assumed that most workers have stable occupational histories, i.e. a brief period of 'churning' followed by settling into a 'career job' until retirement at or near age 65. Increasingly, workers are now moving in and out of the workforce, either voluntarily or involuntarily due to changing economic conditions, restructuring and downsizing in work settings (Cappelli, et al. 1997, Doeringer, 1990, V. Marshall, et al. 2003). Acknowledging this lack of standardized career patterns is especially important for occupations with predominantly female composition, as these older models do not incorporate interruptions in careers. This emphasis on contingency may also be important when attempting to understand the careers of underrepresented groups in LIS, as the

impact of family transitions and circumstances may differ by race and ethnic background. Life course research has also shown that end-stage developments, such as retirement timing, job satisfaction and income are contingent on the nature of working experiences and transitions earlier in life. Retirement behavior is related not just to the immediate circumstances prior to retirement itself, but to the broader context of the career (Hayward, Friedman & Chen, 1998; V. Marshall & Mueller, 2002). Most people now retire before age 65, but increasing proportions of workers seek reemployment. Occupational patterns throughout life, but especially as older workers facing the retirement transition, are strongly influenced by benefits packages and pension conditions (Hardy & Hazelrigg, 1999). Understanding complex reemployment and retirement intentions and behavior is likely to inform workforce planning related to potential workforce shortages in fields such as LIS.

Study Design

In the first phase of WILIS, the research study aimed at building an in-depth understanding of educational, workplace, career and retention issues faced by LIS graduates. The data collection was designed for application to the LIS field. While factors that lead to recruitment were investigated, the major focus of this study was on those factors that lead individuals to remain in LIS. The study measured factors that may be important both earlier and later in the LIS professional's career. It also assessed changes in career motivation and commitment and the fit between aspirations and achievement in relation to exit and re-entry patterns from the LIS workforce. For example, through the WILIS data one could identify those respondents who were no longer employed in LIS, but still expressed an interest in re-engaging with the field. Therefore, the study can provide information that can be used to facilitate efforts to draw people back into LIS careers. As a field, LIS has a history of attracting individuals with other advanced degrees or those who are seeking a career switch from another field. The WILIS data can be used to describe the career patterns of such “second career” individuals. The WILIS data can be used in these and various other ways to inform recruitment, education and retention strategies in the LIS field. Overall, we hope that the research results will help LIS educators to design degree programs and lifelong learning opportunities in response to changing educational and career needs.

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Appendix 4: Invitation/Reminder Templates

Templates for invitation and reminder correspondence may be found on the following pages. These are the actual letters and emails used for the full WILIS 1 survey. Text in curly brackets { } represents fields which were mail merged into Microsoft Word from information in the contact database.

Mailed Invitation

Date

{UserData:FirstName} {UserData:LastName}
{UserData:Address1}
{UserData:Address2}
{UserData:City}, {UserData:State} {UserData:ZipCode}

Dear {UserData:FirstName} {UserData:LastName}:

You have been selected to participate in a very important study of {StudyName}. Your participation is critical to the success of the study even if you have retired or left the field temporarily or permanently. {StudyName} is exploring the educational, workplace and career issues faced by graduates of {LIS_program}. Sharing your story will contribute to a better overall understanding of the career paths and transitions made by LIS graduates – an understanding that will help to improve educational and workforce planning in the future.

You can be a part of this unique study by completing a Web-based survey questionnaire. On any computer that can access the Internet, please do the following:

1. Type the following link into the address or location field at the top of the Web browser: {WebSurveyURL}
2. Enter the following ID: {UserData:CUSTOMID}
3. Click the START SURVEY button to begin.

The questionnaire may take from 30 to 60 minutes or more, depending on the length of your career. It is possible to log back in to the survey if you cannot complete it at one login. Participation is voluntary. You are free to skip any question and have the right to withdraw at any time. Responding to the survey indicates your consent to participate in the study. Your individual responses will be strictly confidential. Only aggregated data will be shared and no individual responses will be identified. There are no anticipated risks or benefits to you; however, there will be benefits to your LIS program and to the profession in general. Summaries of the study results will be

made available through conference presentations, publications and on the study website at {StudyWebsite}.

If you have any questions about the study or know of others who would like to participate, please do not hesitate to contact the study coordinator at {CoordinatorPhone}. All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns you may contact, anonymously if you wish, the Institutional Review Board at {IRBPhone} or by email to {IRBEmail}.

Thank you on behalf of your LIS program and your profession. By sharing your story you are making a positive contribution to the future of the field. A $2 bill is enclosed as a sign of our appreciation.

Sincerely,

{Insert_Signature}
{DeanName}
{DeanTitle}
{ProgramName}
{Program2Name}
{UniversityName}

Emailed Invitation

From: {Dean_Name}
To: {UserData:FirstName} {UserData:LastName}
Subject: {StudyName}

Dear {UserData: FirstName} {UserData: LastName},

You have been selected to participate in a very important study of {StudyName}. Your participation is critical to the success of the study even if you have retired or left the field temporarily or permanently. {StudyName} is exploring the educational, workplace and career issues faced by graduates of {LIS_program}. Sharing your story will contribute to a better overall understanding of the career paths and transitions made by LIS graduates – an understanding that will help to improve educational and workforce planning in the future.

You can be a part of this unique study by completing a Web-based survey. On any computer that can access the Internet, please do the following:

Please follow the instructions below to complete the survey:

1. Click on this link to enter the study website: {WebSurveyURL}
2. In the ID field of the login box, enter the following ID: {UserData: CUSTOMID}
3. Click the START SURVEY button on the screen to proceed with the study.

NOTE: If you are unable to click on the link directly, please type the entire link into the address or location field at the top of your web browser, and press the ENTER key on your keyboard to access the study website.

The survey may take between 30 to 60 minutes, on average, depending on the length of your career. It is possible to log back in to the survey if you cannot complete it at one login. Participation is voluntary. You are free to skip any particular question and have the right to withdraw at any time. Responding to the survey indicates your consent to participate in the study.

Your individual responses will be strictly confidential. Only aggregated data will be shared and no individual responses will be identified. There are no anticipated risks or benefits to you; however, there will be benefits to your LIS program and to the profession in general. Summaries of the results will be made available through conference presentations, publications and on the web at {StudyWebsite}.

If you have any questions about the study or know of others who would like to participate, please do not hesitate to contact the Coordinator at {CoordinatorPhone}. Please refer to the {StudyName} study and provide your Study ID: {UserData: CUSTOMID}

All research is reviewed by a committee at UNC that works to protect your rights and welfare. If you have questions or concerns you may contact, anonymously if you wish, the Institutional Review Board at {IRBPhone}or by email to {IRBEmail}.

Thank you on behalf of your LIS program and your profession. By sharing your story you are making a positive contribution to the future of the field.

Sincerely,

{Insert_Signature}
{DeanName}
{DeanTitle}
{ProgramName}
{Program2Name}
{UniversityName}

Mailed Reminder

Date

{UserData:FirstName} {UserData:LastName}
{UserData:Address1}
{UserData:Address2}
{UserData:City}, {UserData:State} {UserData:ZipCode}

Dear {UserData:FirstName} {UserData:LastName}:

So you received a degree in Library and Information Science (LIS). How has this education served you? Have you been able to apply what you learned to your career? What have you done since graduation?

These, among others, are questions that are important for the LIS field to learn. The {StudyName} study is doing just that.

Please note that you participation is critical to the success of the study even if you have retired or left the field temporarily or permanently. Hundreds of LIS professionals (and ex-LIS professionals) have responded thus far and they are telling us that this survey was enjoyable and helped them to reflect on their career.

We would like to give you one more opportunity to be part of this tremendous effort. Please follow the instructions below to complete the survey:

1. Type the following link into the address or location field at the top of the Web browser: {WebSurveyURL}
2. Enter the following ID: {UserData: CUSTOMID}
3. Click the START SURVEY button to begin.

The survey may take between 30 to 60 minutes, on average, depending on the length of your career. It is possible to log back in to the survey if you cannot complete it at one login. Participation is voluntary. You are free to skip any particular question and have the right to withdraw at any time. Responding to the survey indicates your consent to participate in the study.

Your individual responses will be strictly confidential. Only aggregated data will be shared and no individual responses will be identified. There are no anticipated risks or benefits to you; however, there will be benefits to your LIS program and to the

profession in general. Summaries of the study results will be made available through conference presentations, publications and on the study website at {StudyWebsite}.

If you have any questions about the study or know of others who would like to participate, please do not hesitate to contact the study coordinator at {CoordinatorPhone}. Please refer to the {StudyName} study and provide your Study ID: {UserData: CUSTOMID}.

All research is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns you may contact, anonymously if you wish, the Institutional Review Board at {IRBPhone}or by email to {IRBEmail}.

Thank you on behalf of your LIS program and your profession.

Sincerely,

{Insert_Signature}
{DeanName}
{DeanTitle}
{ProgramName}
{Program2Name}
{UniversityName}

Emailed Reminder #1 and #2

From: {Dean_Name}
To: {UserData:FirstName} {UserData:LastName}
Subject: {LIS_program}

Dear {UserData: FirstName} {UserData: LastName},

Recently we contacted you to request your participation in a unique study on {StudyName}. You may have already completed the Web-based survey and, if so, we thank you. If not, we are writing to encourage you to respond as soon as possible. Please note that your participation is critical to the success of the study even if you have retired or left the field temporarily or permanently.

The {StudyName} study focuses on the educational, workplace and career issues faced by graduates of {LIS_program}. Since LIS is not a licensed profession, we know very little about what happens to our graduates. Hearing your career story will help us to improve education and workforce planning in the future.

Please follow the instructions below to complete the survey:

1. Click on this link to enter the study website: {WebSurveyURL}
2. In the ID field of the login box, enter the following ID: {UserData: CUSTOMID}
3. Click the START SURVEY button on the screen to proceed with the study.

NOTE: If you are unable to click on the link directly, please type the entire link into the address or location field at the top of your web browser, and press the ENTER key on your keyboard to access the study website.

The survey may take between 30 to 60 minutes, on average, depending on the length of your career. It is possible to log back in to the survey if you cannot complete it at one login. Participation is voluntary and your individual responses will be strictly confidential. You are free to skip any particular question and have the right to withdraw at any time. Responding to the survey indicates your consent to participate in the study.

If you have any questions, please contact the Coordinator at {CoordinatorPhone}. All research on human volunteers is reviewed by a committee at UNC that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at {IRBPhone}or by email to {IRBEmail}. If you have any technical difficulty while taking this survey, please contact us be sending an email to {TechSupportEmail}. Please refer to the {StudyName} study and provide your Study ID: {UserData: CUSTOMID}.

Thank you on behalf of your LIS program and your profession.

Sincerely,

{Insert_Signature}
{DeanName}
{DeanTitle}
{ProgramName}
{Program2Name}
{UniversityName}

Emailed Reminder #3

From: {Dean_Name}
To: {UserData:FirstName} {UserData:LastName}
Subject: {StudyName}

Dear {UserData: FirstName} {UserData: LastName},

The study on {StudyName} is currently underway. We really need your input. Hearing about your career experiences as an LIS graduate is essential to the success of the study even if you have left the field temporarily or permanently. Since large numbers of retirements are expected to take place in the profession in the coming decades, doing a workforce study at this time is especially important.

Don't miss out on your opportunity to contribute to this important study. To participate in the study, follow these steps:

1. Click on this link to enter the study website: {WebSurveyURL}
2. In the ID field of the login box, enter the following ID: {UserData: CUSTOMID}
3. Click the START SURVEY button on the screen to proceed with the study.

NOTE: If you are unable to click on the link directly, please type the entire link into the address or location field at the top of your web browser, and press the ENTER key on your keyboard to access the study website.

If you have any questions about the study, please do not hesitate to contact the Coordinator at {CoordinatorPhone}. All research on human volunteers is reviewed by a committee at UNC that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at {IRBPhone}or by email to {IRBEmail}. If you have any technical difficulty while taking this survey, please contact us by sending an email to {TechSupportEmail}. Please refer to the {StudyName} study and provide your Study ID: {UserData: CUSTOMID}.

Thank you on behalf of your LIS program and your profession.

Sincerely,

{Insert_Signature}
{DeanName}
{DeanTitle}
{ProgramName}

{Program2Name}
{UniversityName}

Appendix 5: Why to Avoid Do-It-Yourself Surveys

SURVEY SCIENCES GROUP

1. **DIY Systems Can't Write Good Questions or Questionnaires**. Survey research is an art and a science. Bad questions yield bad data. While DIY systems give you some of the capability to conduct a survey, they fail to provide any guidance on quality questionnaire writing, especially in areas where survey mode plays a role.

2. **Poor Design.** Web surveys require a combination of good web survey research methodology plus good user interface design. Poor designs have been shown time and time again to have significant effects on the results of a web survey. When we think about design, we include screen layout, font style, color, as well as things like use of progress indicators, graphics, etc. On the Web, researchers lose some control over how questions are displayed for respondents, so working with someone who knows the differences and implications of various designs is important.

3. **No Solid Survey Testing Protocol.** While DIY systems provide a capability to program and field simple surveys, they completely miss at providing a good quality testing protocol. This includes logic and validation testing, as well as a preliminary dataset review. Conducting Web-based surveys without adequate testing can lead to catastrophe.

4. **Lack of Respondent Customization.** Managing respondent flow through the questionnaire is frequently important. This requires the use of preloaded data about the respondent, as well as calculations that are completed while the survey is in progress. Every question has the potential for making people decide that they no longer want to participate... and all they have to do is "Quit". If we use what we know about the respondent, we can minimize the questions and reduce their burden.

5. **No DIY Methodological Knowledgebase**. It takes years of reading the literature, going to professional conferences, and doing your own methodological research to fully understand how to best do web surveys. And with today's quick pace of change in the "web" world, only organizations committed to the conduct of high quality Web-based surveys have the time and resources to keep up.

6. **Minimal Sample Management** (e.g., selection, tracking, prompting, etc.) This requires skills that are very specific to the nature of a survey sample. Most DIY systems to do allow for advanced sample management capabilities.

7. **Lack of Access Control**. Most DIY systems do not have the ability to uniquely identify respondents, and as a result, do not allow for preloaded data or tracking of who has responded. As a result, researchers look like they are inadequate when they "remind" individuals who have already responded. And even worse, they then lack the control to keep them from responding a second time.

8. **Lack of Quality User Support.** Must be prompt and knowledgeable about the specific project at hand. As people continue to become accustomed to doing things online, support is important. Toll free telephone support as well as an e-mail or website support is crucial.

9. **Lack of Design Flexibility.** Research has shown that respondents are more likely to respond to surveys that are thought to be government/educational/non-profit sponsored. Free survey design tools do not provide for the flexibility of "branding" a survey to the sponsoring organization.

10. **Multi Mode Survey Flexibility**. Any good web survey researcher understands that not all research needs can be solved by web surveys. In many situations, the web can be used to collect good quality data, but only if properly implemented in a multi-mode approach. This takes researchers who are familiar with mode comparison issues, as well as systems that can handle multi mode data collections. DIY approaches fail to accommodate these needs.