GUIDELINES FOR CONDUCTING WEB-BASED SURVEY RESEARCH

The University of New Hampshire (UNH) Institutional Review Board (IRB) for the Protection of Human Subjects in Research is a standing faculty committee responsible for protecting the rights and welfare of people who are subjects in UNH research activities. UNH's policy regarding the use of human subjects states: **All UNH research activities proposing to involve human subjects must be reviewed and receive written, unconditional approval from the IRB before commencing. This applies to all research activities conducted under the auspices of UNH involving human subjects regardless of discipline or whether or not the activities are funded.**

The World Wide Web (WWW or "the Web") presents researchers with an unprecedented tool for collecting data (Schmidt, 1997). However, conducting research via the Web raises unique concerns, and ethical and technological challenges, such as obtaining valid informed consent from participants. Though there are many benefits to conducting research via the Web, such as access to a large population of individuals and savings of time and money, problems also exist. These include, but are not limited to, biases in the population that frequently accesses the Web, threats to participant confidentiality, missing data, unacceptable responses, and Web abuse (Schmidt, 1997). Qualitative research using Internet communities also raises ethical questions pertaining to privacy and informed consent (Eysenbach and Till, 2001).

When conducting survey research using the Web, researchers must adhere to the same ethical principles protecting human subjects as mandated in more traditional research situations. These principles are: Respect for Persons, Beneficence, and Justice, and are described in The Belmont Report (available at [http://www.hhs.gov/ohrp/policy/belmont.html](http://www.hhs.gov/ohrp/policy/belmont.html)). These ethical principles are reflected in procedures that seek and obtain informed consent, protect privacy of participants, maintain confidentiality of data, minimize risks, assure fairness, and prevent coercion.

Areas of Concern to the Institutional Review Board

In reviewing a research protocol involving a Web-based survey, the UNH IRB will look to make sure all the required elements of a research protocol are adequately addressed (see *General*), as well as focus on specific concerns relating to informed consent, privacy, and security of data. Researchers should address these specific areas of concern in the appropriate section(s) of their research protocol.

**General**

As with surveys conducted face-to-face, by telephone, or through the mail, researchers conducting surveys via the Web need to address all the required elements of a research protocol, including recruitment, risks, benefits, informed consent, participants' privacy, and confidentiality of data. In addition, researchers need to address issues unique to the medium, to the technology used (hardware, software, etc.), and the processes employed to collect, handle, transmit, and store data.

*Researchers need to address how they will:*

- Make people aware of the survey. Recruitment procedures may include notifications to listservs or online discussion groups, and/or submission of the survey's website information to the most popular Web database search engines (see Schmidt for more information on publicizing a Web survey).
- Inform participants that the survey is part of a research project. Researchers need to explicitly state this information in both the survey's introductory page/screen and in the informed consent information. Researchers may want to add a hyperlink to their institution on the introductory page/screen to demonstrate their affiliation.
• Provide a mechanism for participants to contact the researcher(s) with questions or concerns. This can be accomplished by placing email links the researcher(s) throughout the screens containing the introduction, consent, and/or debriefing information. As email links may cause problems with confidentiality, a telephone number for the researcher should also be provided.

• Provide feedback (debriefing) to participants at the end of the survey. Effective feedback should: Acknowledge participation, thank participants, sum up the purpose of the research, provide participants with instructions to request results (if applicable), relay any special instructions, provide hyperlinks to webpages containing related information, and provide an email link to the researcher(s) in case of any questions. To ensure that after reading the debriefing information participants want to keep their submitted responses as part of the data file, researchers can present participants with options to either keep in, or remove from, the data file their responses before existing the site. (See Appendix C.)

Informed Consent
As with research conducted in more traditional settings, researchers employing Web-based surveys have a responsibility to obtain informed consent from prospective participants in accordance with federal regulations. Researchers must realistically assess the complexities of obtaining informed consent from those who would contribute data to their Web-based survey.

As it is not practical in most Web-based surveys to get a consent form signed by participants, researchers need to request from the IRB a waiver of the requirement for obtaining a signed consent form from each participant. The IRB has the authority to waive this requirement, but in order to do so, it must ensure that the study meets the requirements as stated in Title 45, Code of Federal Regulations, Part 46, Section 117 (http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html).

Informed consent can be readily obtained prior to responding to the actual survey by having the first page as an information sheet and consent form rather than the actual survey. The screen displaying the informed consent information can be designed so that the participant is required to take an action to signify their acknowledgment of the consent information. Many surveys are designed so that participants are confronted with an on-screen button that says “I consent/agree to participate” to click on if they accept the terms of the consent information. Participants then proceed to the actual survey. This format has ample precedents; it is widely used in lieu of a signature when entering credit card information on the Web or when accepting software licensing terms prior to installation (Mueller, 1997). Alternatively, researchers can place a link after the consent information to take participants to the survey. Ideally, once participants have read and acknowledged the consent information, they can request a copy of, or print, the consent document, (see section on Privacy of Participants and Security of Data below).

Another method of obtaining informed consent in Web-based surveys is to have participants read the consent document and indicate whether or not they agree to participate by supplying and submitting a valid email address. Upon receipt, participants are sent a confirmation of their consent to participate via email and provided with the survey’s Web address. If researchers retain the email addresses (they should notify potential participants they are doing this, and the purpose for doing so), they need to log them separately from the participants’ survey responses to ensure confidentiality and privacy (Schmidt, 1997).

Informed consent must contain all elements required by federal regulations (information available at http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.116 or see the UNH IRB document, Informed Consent Format and Checklist available at http://unh.edu/research/irb-application-resources). Feedback (debriefing) should be provided to participants as well. When developing consent and debriefing information, researchers need to consider the format; keep the information as brief as possible, avoid jargon and acronyms, and keep the screens simple and uncluttered (see the UNH IRB document, Tips for Writing Easy-to-Read Informed Consent Documents available at http://unh.edu/research/irb-application-resources).

Examples of Web-based consent forms (Appendix B) and debriefing information (Appendix C) are at the end of this document. These are only guides; researchers need to tailor them to meet their needs (but remember to include all the required elements).
Privacy of Participants and Security of Data

Other significant issues associated with Web-based research relate to privacy and security. When aspects of the research relate to matters that could influence insurability, employability, or reputation within an organization, or that have potential legal ramifications if the information became known, researchers need to ask whether the Web is the appropriate medium for collecting this data. For example, some organizations track the computer activity of employees during work time, including Web sites visited and email transmissions. If an employee was tracked visiting a Web site hosting a research survey entitled, “Coping Strategies for Alcoholics,” even if they did not complete the survey, the potential exists for the employee’s future employment to be adversely affected.

There are many concerns regarding the security of data transmitted via the Internet and stored on computers that can be accessed via the Internet (i.e., public Web servers). Therefore, researchers need to delineate the steps they will take to assure the security of information transmitted over the Web and stored digitally. Researchers should consider the likelihood that the survey’s response rate will be higher if prospective participants are reassured that their identity and the confidentiality of their responses are protected, especially if the topic is sensitive or they are being asked to submit private identifiable information.

The most likely occasions for security breaches to occur are during data transmission and subsequent storage on a Web server. There are computer programs designed to detect and retrieve packets of data during transmission, such as social security numbers, credit card numbers, or bank account numbers. If data are stored on a non-secure public Web server, they are vulnerable to anyone who has access to that server. Therefore, researchers need to address security issues when designing their research projects, especially if they require participants to submit private identifiable information.

Security during transmission of data from the browser (participant’s machine) to the Web server can be addressed by using a secure server; that is, a Web server that employs encryption technology, such as a Secure Socket Layer (SSL) protocol. SSL is a complex process of negotiation between the browser and Web server resulting in the encoding (encryption) of data so that anyone intercepting the transmission can not read the data. All this is accomplished without the user or researcher needing to know anything about encryption. (However, researchers need to be sure the Web server used supports encryption technology, and they need to know that different versions of Web browsers support different levels of encryption.). In addition, if the Web server is a different machine from the one on which the data will be analyzed, researchers need to address security measures during the transmission of the data to that machine. For example, once collected, survey data will be emailed from the Web server to another computer for analysis, researchers need to address security issues during the email transmission. If encryption is not feasible for all transmission routes, researchers should reconsider requiring participants to supply private identifiable information or redesign their data collection and/or transmission processes.

Another issue is the security of the data once they have been transmitted from the browser to the Web server, and while they are stored on the Web server. Once the Web server has received the encrypted data and decoded it, either immediately or at a later time, to forward to the researcher, the data are no longer safe unless other security measures are in place. Researchers should ensure that the Web server used is securely configured and operated to protect data stored on it from access by unauthorized individuals.

At a minimum, the computer on which data will be analyzed should be password protected with the password known only to the researchers. This is essentially the same as saying “data will be stored in a locked room to which only the researchers have access.” As with any research involving digital records and University-owned technological resources, researchers must be cognizant of the implications of the UNH Policy on Privacy and Security of Technological Resources (http://usnholpm.unh.edu/UNH/VI.Prop/F.htm#4) in regard to access to data. In addition, researchers should also be aware that the delete function may not erase data from their computer’s hard drive immediately. “Deleted” data can remain on a hard drive for an indefinite amount of time.

Protecting the privacy of participants is also an issue when conducting surveys using the Internet, both via the Web and through email. When participants submit survey response data to the Web server, information identifying the respondent is often attached, depending on the configuration of the browser. Researchers
should know what identifying data will be transmitted with the responses (i.e., IP address, email address), and delineate how it will be secured.

If contracting with an Internet Service Provider (ISP) or other Web survey hosting organization (see Appendix A) to host the Web survey, researchers need to make sure that they understand the procedures and processes used by the organization so they can make an informed decision as to whether there are adequate security measures in place to protect privacy of participants and confidentiality of data. Questions researchers should consider asking their Web hosting organization include:

- What security measures (software and processes used) are in place to protect data during transmission from the browser to the Web server, and during transmission to the researcher's computer? Does the organization use SSL technology?
- What security measures (software and processes used) are in place to protect data stored on the Web server?
- What does the organization do with the information it gathers about site visitors?
- How long are log files kept?
- Is data received date and time stamped?
- What are the organization's data storage and back-up policies and processes?
- What are the organization's privacy and confidentiality policies?
- Who in the organization has access to the data being gathered and stored?
- What happens to the copy of the data file the organization has (from the back-up) when the research project is finished?
- Who in the organization is available if other questions arise?

Researchers need to address the following privacy and confidentiality issues:

- Briefly describe the hardware and software setup(s), the physical location of the computer receiving the data (if different from the researchers'), the security measures in place to protect data during initial transmission from participants’ computers to the Web server, how the Web server data storage location is protected, how often data are backed up, where back-ups are stored, who has access to data and backups, what data the Web server log files collect, how it is used, how often log files are downloaded and cleared from the Web server, who has access to the log files, how data are transmitted to the researchers' computer(s), the security measures in place to protect data during this transmission process, who has access to the researchers’ computer(s), and how this data storage location is protected.
- Once participants are recruited, outline the different steps they go through to participate in the survey, such as logging on, consenting to participate, entering identifying information, answering survey questions, reading the debriefing page, and exiting the survey website. Submit printouts of screens for IRB review. The screen containing consent information should appear before participants have to provide identifiable data so that if they choose not to participate, identifiable data is not transmitted to the researchers.
- Detail what identifying data participants will be asked to provide. Will it be highly identifying data such as legal name, address, date of birth, etc.? If so, why is it being collected? Will it be general demographic data, such as sex, approximate age range, and general geographic location by broadly defined regions? Submit printouts of the relevant screens.
- Describe the steps that will be taken to ensure that all data collected will remain private and confidential, including security measures during transmission (if not described in first bullet), the point at which any identifying data are separated from other survey data, how identifying data are stored (i.e. separately from survey data) and the form (as submitted or coded), and the point at which identifying data are
destroyed (if at all). If data are transferred to the researchers with identifiers attached, explain why this is necessary and at what point the researchers will strip identifiers from data (i.e. after verification that the participant completed the survey for compensation purposes).

- Describe how data will be reported. At what level will they be aggregated, what data will be reported, and how will researchers address data that may identify unique individuals?
- Describe how participants’ requests for results will be handled. Will information entered by participants to request survey results be stored in a separate data file from responses? The IRB needs to ascertain whether or not requests can be matched to specific survey responses.

Other Considerations

- Despite the advantage of access to a large population, biases are known to exist in the population that frequently accesses the Web. Demographic information about Web users is available from several sources, including Georgia Tech's Graphics, Visualization, and Usability Center (GVU) (Schmidt, 1997). Since its beginning in 1994, the GVU WWW User Survey has accumulated a unique store of historical and up-to-date information on the growth and trends in Internet usage. It provides a view of developing Web demographics, culture, user attitudes, and usage patterns. Recently the focus of the Survey has been expanded to include commercial uses of the Web, including advertising, electronic commerce, intranet Web usage, and business-to-business transactions.

- Researchers need to design studies knowing that children may be exposed to the material. Researchers who want a controlled sample or want to restrict respondent access to their research website can do so via a password system or other measures, such as screening respondents on-line or off-line. Researchers can require potential respondents to meet certain criteria before they can access the survey, or select respondents via conventional methods and refer them to the on-line survey (Schmidt, 1997).

- To allow participants to review and edit their responses, researchers should consider providing a summary of the participant's responses before submission. If this feature is available in the software, optimal placement would be at the end of the survey, before the debriefing page.

- With a potential world-wide reach, some participants will be reading the survey in a second language, and many may have slow modem connections. Therefore, to address these issues and to facilitate participant comprehension, researchers need to keep the consent document, survey screens, and debriefing pages simple, uncluttered, free of jargons and acronyms where possible, and concise (see the UNH IRB document, Tips for Writing Easy-to-Read Informed Consent Documents available at http://unh.edu/research/irb-application-resources).

References


Appendix A
Resources

Inclusion on this list does not imply the UNH IRB’s approval of content or endorsement of the organization, study, or information presented.

Background Information

Ethical and Legal Aspects of Human Subjects Research in Cyberspace -

Companies Providing Web Survey Services

SurveyCat - http://survey.unh.edu/surveycat/index.cfm?fuseaction=login.login&timeout=1 (for UNH faculty, staff and students only)

Psychdata – https://www.psychdata.com/

SurveyMonkey - http://www.surveymonkey.com/


UNH Survey Center - http://www.unh.edu/survey-center/
Appendix B
(Insert Title of Study)
Informed Consent Information

You have been invited to participate in a research project that will study (insert study's objective(s)). This project is being conducted by (insert your name), a (insert your position) in the Department of (insert department) at the University of New Hampshire (UNH). The use of human subjects in this project has been approved by the UNH Institutional Review Board (IRB) for the Protection of Human Subjects in Research. Please read the following statements. If you understand them and agree to participate, please click on the link at the bottom to indicate your consent and go to the first screen of the survey.

- There are anticipated to be (insert number) of participants in this research project.

- Participation in this project requires you to (1) provide identifiable information, and (2) respond to survey questions (modify sentence to reflect actual situation).

- Participation in this research project requires you to (insert explanation of information subject will be required to supply prior to survey). This identifying information will be kept separately from your responses to the actual survey which is anonymous (keep this clause if appropriate; if not appropriate, explain actual situation in regard to identifying data).

- The survey will take approximately (insert time commitment). You should understand that some questions in the survey will ask you about (insert broad topic areas of questions asked) that may cause you discomfort (keep this clause if appropriate).

- The results of this research may be published or reported to scientific bodies, and that any such reports or publications will be reported in a group format. Thus, no individual identity will be determinable through demographic variables such as age or gender (change preceding language to reflect actual situation).

- Your participation is purely voluntary, you are free to refuse to answer any question, and you are free to withdraw your consent and discontinue participation at any time.

- Participation in this project is not expected to present any greater risk of your loss of personal privacy than you would encounter in everyday life when sending and/or receiving information over the Internet. While it is not possible to identify all risks in such research, all reasonable efforts have been undertaken to minimize any such potential risks.

- Any form of communication over the Internet does carry a minimal risk of loss of confidentiality. The responses that you provide will not be encrypted (use the preceding encryption clause if appropriate; if not appropriate, modify sentence to reflect actual situation) but that the following steps have been taken to minimize any risk to confidentiality: (1) identifying information, such as your name, collected for compensation purposes will be stored separately from responses to the actual survey which is anonymous, (2) information provided for compensation purposes is removed daily from the server and destroyed after reported to receive compensation, and (3) ALL of the information provided will be stored in a password protected environment and that password is known only to the principal investigator, named above (change language in (1), (2), or (3) to reflect actual situation).

- You are not expected to receive any direct benefits from your participation (other than compensation stated) (change preceding language to reflect actual situation) but that the investigator hopes that the information gained here may benefit society indirectly.

- If at any time you have questions or concerns about any procedure in this project, you may e-mail the investigator by clicking here, speak with the investigator by calling (insert contact phone number) or ask them at the end of the survey. You should also understand that you will be able to request a summary of the findings (change preceding language to reflect actual situation). If you have questions about your rights as a research subject, you may contact Julie Simpson in UNH Research Integrity Services, 603-862-2003 or at julie.simpson@unh.edu

CLICK HERE if you have read these statements, understand them, and consent to participate.
Appendix C  
(Insert Title of Study)  
Debriefing Sheet

Thank you for completing the survey!! This page will further explain the purpose of the survey research you have just participated in. After you are finished viewing this page and have submitted your answers by clicking on the button at the bottom of the page, it is recommended you exit or quit your Web browser to eliminate the possibility (which varies depending on your computer and browser) that your responses could be viewed by hitting the "back" button.

Please do not discuss or show the information on this page with any of your friends who might complete the survey or speak with someone else who might. This is to avoid invalidating the results of the study. We would like to remind you that all the data you just provided will be kept in a confidential and anonymous manner and that any identifying information you provided will be used ONLY to provide the appropriate compensation, and will be destroyed immediately following this notification (modify sentence to reflect actual situation).

Because you have invested time in this study, you may have an interest in what we hope to find from your results. The purpose of this study is to (insert study's objective(s)).

If you have questions about this survey or would like a copy of the results (available (insert appropriate date)), please click now or call me at the number below. Thank you again for your interest and participation. Now, it's time to submit your answers.

CLICK HERE if you have read this information and want to keep your responses to the survey.

CLICK HERE if you have read this information and want to remove your responses from the data file.

Principal Investigator: (insert your name)  
University of New Hampshire  
Department of (insert name)  
(insert address)  
Phone: (insert appropriate information)  
Fax: (insert appropriate information)  
Email: (insert appropriate information)