

Running head: Internet Research Ethics

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Ethical Issues in Internet Research

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ETHICAL ISSUES IN INTERNET RESEARCH

At the turn of this century, Nosek, Banaji, and Greenwald (2002) captured much attention from the mainstream media and shocked the research community by conducting a controversial Internet-mediated study on implicit attitudes, which used a sample of over a half million web participants during a two year period. In fact, a variety of research teams continue to perform remarkable feats through Internet-mediated research studies that could not otherwise be achieved in the traditional laboratory setting, including examining the factor structure of the Big Five personality traits using a sample of over a hundred thousand adults, reaching out to hundreds of HIV-positive Hispanic gay men, or sampling thousands of Australians overnight (Fernández et al., 2004; Hoerger, 2009; Srivastava, John, Gosling, & Potter, 2003).

Clearly, the rapid pace of technological advancement has afforded psychologists unforeseen opportunities for conducting high-powered studies involving a broad range of samples. Although computer programmers have the technical knowledge to implement elaborate online studies, the scope of their expertise rarely covers research ethics. Similarly, although many psychologists are familiar with the ethics code of the American Psychological Association (APA, 2002) and local Internal Review Board (IRB) standards, too often their technical skills are lacking (Flanagan, 1999). As Keller and Lee (2003, p. 211) emphasize in their review, “rapid technological changes are proceeding at a pace that challenges the industry’s ability to understand the moral issues, let alone address them.”

The purpose of this chapter is to narrow the gap between Internet technology and research ethics so that psychologists can strive to meet exemplary ethical standards and, at the very least, avoid many of the common ethical pitfalls of Internet-mediated research. Although advanced methodological issues are beyond the scope of this chapter, basic design considerations

are explored to the extent that they are aligned with ethical decision making. Similarly, although the importance of Internet research is considered periodically throughout this chapter, relevant reviews would be more useful in highlighting the utility of this particular methodology (e.g., Birnbaum, 2001; Skitka & Sargis, 2006). Related topics involving the interaction between technology and ethics, such as telehealth and distance learning, are considered elsewhere in this volume (see chapters on telehealth and academic cultures, respectively, this volume). Upon completing this review, the reader will have a greater understanding of basic terminology and technical issues, the online informed consent process, privacy and confidentiality protections, debriefing procedures, issues involving participant respect, beneficence and justice considerations, and resource allocation strategies necessary for conducting most Internet research studies in an ethical manner. More information on general ethical issues in research can be found in the chapter on Overview of Ethical Issues in Research (this volume).

TERMINOLOGY AND TECHNICAL ISSUES

Having a basic understanding of terminology and major technical issues relevant to web-based research is central to one's ability to discuss and resolve ethical dilemmas that will occur in the research context. This section begins with an overview on sampling options, types of web-based research, and survey design options. Additionally, examples of web coding and technical data, such as IP addresses, are described in order to facilitate problem resolution with programmers and local IRB panels. Understanding these basic concepts is necessary for considering the ethical issues raised in this chapter in greater detail.

Sampling Options

The types of ethical issues encountered in conducting research on the web will vary depending on the particular type of sample participating in the study. Although a variety of

gradations exist, it can be useful to consider three types of web samples: those involving college students, the general public, and specialized groups. Sampling college students, as opposed to other populations, raises several ethical issues involving confidentiality, coercion, and departmental resource allocation being most salient. Capitalizing on the widespread availability of the Internet, researchers will often cast a wider net, drawing upon samples of the general public. In most cases, public samples are less likely to be coerced due to the relative ease of discontinuing participation without repercussion. As opposed to college samples, however, the general public tends to know less about psychological research, which elevates the importance of carefully considering the processes of informed consent, deception, and debriefing. Occasionally researchers will use the invasive reach of the Internet to seek out large samples of specialized groups of participants, such as owners of exotic pets, anabolic steroid users, or people with particular diagnoses (Nosek & Banaji, 2002). In such cases, the research may require greater attention to issues involving vulnerability, such as confidentiality, justice, and respect. Thus, sampling considerations carry vast implications for the types of ethical risks researchers are most likely to encounter.

Forms of Internet Research

Psychological research conducted on the web can be classified according to two broad types of studies: Internet-mediated research and phenomenological research (Skitka & Sargis, 2006). Phenomenological research simply refers to studies that examine the Internet as a unique phenomenon in its own right. Examples include studies exploring chat room behavior, blogging, or online sexual role playing (Blanchard, 2004; Cooper, Galbreath, & Becker, 2004; Galegher, Sproull, & Kiesler, 1998). In contrast, Internet-mediated research refers to studies that are simply conducted via the web, rather than through the use of some alternative instrument, such

as traditional paper-and-pencil measures. Internet-mediated studies have evolved from simple e-mail surveys to more complex web-based surveys with conditional logic and participant feedback as well as a variety of experimental studies. As such, Internet-mediated research covers a broad range of domains in psychology, including research on personality, social cognition, and emotion. Because the majority of web-based studies involve Internet-mediated research, rather than phenomenological research, this chapter focuses substantially more on the former domain than the latter.

Study Design Methods

Although e-mail based research was more common in the past, modern Internet-mediated studies tend to make use of pre-designed web survey applications or computer programming using some type of web coding language. The survey applications include various online study design tools, such as SurveyMonkey (surveymonkey.com), Zoomerang (zoomerang.com), EZSurvey (raosoft.com), and numerous competitors. These subscription-based sites include basic survey design templates, often capable of including a wide variety of survey question formats, as well as images, sound, and video. The pricing is reasonable, and these applications are about as user-friendly as most office software.

These pre-made survey design applications are rapidly improving in terms of customizability; nonetheless, their central weakness is that they are only capable of implementing a finite set of pre-defined tasks. Researchers who wish to gather reaction time data, make extensive use of multimedia features, improve interactivity, use complex conditional logic, or provide participant feedback will likely need to design online studies from scratch using some form of web coding. Although, coding strategies provide for greater complexity and flexibility, the cost of hiring a programmer can be substantial.

Online Study Design Coding

It can be helpful for researchers to attain a rudimentary understanding of web coding, both to safeguard against ethical violations as well as to improve methodology. There are a number of different codes available for designing web sites, with each coding language allowing for a slightly different set of functions (Fraley, 2003). Most Internet-mediated studies draw upon several different codes, acting in concert. When using a pre-made survey design application (e.g., SurveyMonkey), the application writes all of the coding behind the scenes, though researchers are able to input very basic elements of code (e.g., to make text bold, or change colors) on a limited basis. In contrast, when designing a survey from scratch, the researcher or programmer compiles all of the necessary code.

Understanding coding basics can enhance one's own design coding or facilitate communication with a computer programmer, both of which bridge the gap between technology and research ethics (Fraley, 2003). The most common code is Hyper Text Markup Language, ordinarily referred to as HTML, which has been used to code most web pages since the 1980s. HTML is very basic and allows one to modify text and background formatting, insert hyperlinks and images, or create tables. For example, the HTML code `Text` would alter the color of the word "Text" to be blue. A code called JavaScript is commonly used to provide slightly more complex processes. For example, when a participant attempts to submit a survey, JavaScript can be used to ensure that all questions have been answered before advancing to the next page. Additionally, codes such as Hypertext Preprocessor (PHP) and Perl are responsible for various tasks that involve processing form data, such as saving it online, summing scale scores, providing survey feedback, and various other operations. Although an extensive understanding of these codes is not required, a perfunctory awareness of these different

types of codes lays the foundation for troubleshooting numerous ethical and methodological dilemmas, to be discussed in greater detail later.

Personally Identifiable Information

When researchers ask participants for personally identifiable information, they are required to seek informed consent and must uphold strict standards of confidentiality. In standard laboratory-based research, participants often provide their name, student identification number, and personal contact information, all of which are clear forms of personally identifiable information. However, in web-based research, the situation is often much more ambiguous, particularly if the researcher (or computer programmer) is unfamiliar with the implications of collecting particular types of technical information (Kraut et al., 2004). In fact, several authoritative sources on Internet research ethics disagree on whether e-mail addresses, online pseudonyms, referring web addresses, and IP addresses constitute personally identifiable information (Keller & Lee, 2003; Kraut et al., 2004; Nosek & Banaji, 2002). As such, we consider each of these variables separately.

Researchers may desire to ask participants for their e-mail addresses or various usernames to facilitate follow-up contact. Employer and university e-mail addresses often consist of obvious identifying information, such as one's partial or full name and affiliation (rogers23km@msu.edu). Furthermore, even when e-mail addresses are not overtly identifying (soccerfan3328@gmail.com), they may be readily linked to an array of identifying information through a simple Internet query. The same holds true for various online pseudonyms or usernames (e.g., PrimaBallerina212).

Additionally, many web sites have the option of automatically collecting data on the participant's referring web address (the web site they used to link to the survey). If the

researcher is advertising the survey online, it can be beneficial for the researcher to identify which referring sources are most fruitful. This type of information is not typically uniquely identifying; however, when a participant is referred to the survey by e-mail, a personal blog, or web journal, the referring web address may actually contain the participant's name or username (e.g. Jane Doe's name embedded within her e-mail's referring web address, <http://salt.merit.edu/wm/mail/read.html?sessionid=60ajmp&mbox=user.Jane.Doe&origop=>).

Of each of these types of technical data, researchers (and IRB panels) are least likely to be familiar with the genuine implications of collecting IP addresses. An IP address (short for Internet Provider address) is a numeric value used for identifying particular computers (e.g., 144.32.78.101). In general, computers on the web can be divided into two types: clients and servers. When web users access a particular web site (e.g., apa.org), their personal computer is the client, and the company hosting the web site (e.g., APA) maintains a large system of computers storing the web site data, called a server. Both the client and the server have IP addresses, and the server uses the client's IP address to send the web page data to the correct computer. Although this is analogous to how the post office uses an individual's street address to send mail to the correct household, IRB panels should be aware that for a variety of reasons, IP addresses are more complex than postal addresses and generally less uniquely identifying.

Importantly, IP addresses come in several types, depending on how Internet providers configure their particular network. If static IP addresses are used, an individual computer will have the same IP address each time the computer is used, even if the computer or modem is restarted. Static IP addresses are generally the most identifying and are typically used on networks where the same set of people will regularly access the web (e.g., college dorms). In situations where many different people access the web intermittently, network administrators

may cut costs by instead assigning various IP addresses dynamically. Dynamic IP addresses are typically reassigned each time a computer or modem is restarted, so they tend to be less identifying. Many commercial Internet providers use various hybrids, called sticky IP addresses. Sticky IP addresses generally remain the same over long periods of time but can also be reassigned. Thus, the extent to which an IP address is identifying depends on the particular type of IP address being used. Additionally, even when static IP addresses are being used, they may not be strictly identifying because (a) information is needed from the network administrator to link the IP address to the computer's owner, and (b) knowing a computer's owner does not necessarily indicate who was using the computer. The music industry, in corroboration with college administrators, has used IP addresses to prosecute students for illegal downloading, and the government has occasionally used IP addresses, with the assistance of Internet providers, to investigate individuals for sex offenses or online defamation. In absence of a detailed investigation, however, various web sites, such as ip-address.com, can only pinpoint an IP address to a particular town (e.g., Pittsburgh), and even this information is occasionally in error.

In summary, it is recommended that researchers characterize IP addresses as only modestly identifying, whereas e-mail addresses, online pseudonyms, and referring web addresses should always be classified as personally identifying information, given that they can occasionally directly provide this type of information. Although certainly the collection of IP addresses carries various risks, IP addresses are typically only as identifying as other demographic information, particularly when a well-funded, thorough criminal investigation probing the researcher's data is unlikely.

INFORMED CONSENT

At the highest standard, informed consent is a dynamic processes whereby the researcher

attempts to relate the nature and scope of the research study to the participant in a way that the participant understands the study, has all relevant questions answered, and can make an educated decision whether or not to continue with the study (Brody, 2001). In traditional laboratory studies, researchers commonly fall far from this ideal, often seeking a mere participant signature on a consent form that has been skimmed and only minimally understood (Pittenger, 2003; Varnhagen et al., 2005). A limitation of web-based research is that participants are rarely in the presence of the project investigator, so the odds of achieving Brody's ethical ideal are generally slim. Fortunately, the web does afford a number of advantages in terms of interactivity and organizing relevant information, enabling the web-savvy researcher to establish informed consent in a highly ethical process that likely beats current practices of what is actually occurring in many laboratory settings. To optimize the informed consent process, researchers should be aware of the circumstances under which informed consent is required, the logistics of conducting consent processes on the web, strategies for ensuring that consent is truly informed, and methods for handling high-risk studies.

Informed Consent and Anonymity

The history of research involving human subjects, both inside and outside of psychology, is plagued by numerous examples of people participating in research without their knowledge or consent, often under situations of substantial risk (Goodwin, 2005, p. 50-52). To guard against future research abuse, the APA (2002) ethics code (section 3.08) now requires informed consent for all research involving human subjects, except under rare circumstances where studies meet all four of the following criteria: (a) participation entails only minimal risk; (b) participation is anonymous; (c) responses are not likely to be damaging; and (d) confidentiality is strictly upheld. Issues involving confidentiality carry a number of implications and are considered in their own

right later in this chapter (see Privacy and Confidentiality). Similarly, issues involving risk are subsumed under the umbrella section of Beneficence and Justice. Here, the issue of anonymity is considered in detail because it carries implications primarily for the decision to forgo the informed consent process.

Participation in research is only considered anonymous if the researcher opts to avoid collecting personally identifiable information. As previously detailed in the Technical Issues section of this chapter, a participant's e-mail address, online pseudonym, and referring web address should generally be considered forms of personally identifiable information. Although IP addresses are argued to have only modest identifying properties, local IRBs may hold varying opinions on this matter. Thus, the collection of some of these types of technical information may require informed consent. Researchers having no use for this type of information are urged to actively ensure that their surveys do not inadvertently collect such data, as many standard survey design programs collect IP address information and referring web addresses by default. If a computer programmer is contracted, the researcher should also make clear whether this type of information should be collected, as the ethical implications of gathering this type of data during the course of a research study may not occur to a programmer.

In many cases, researchers have an important methodological need for this type of technical information, which can be used to track participants. Tracking participants can be useful in several ways. For example, recording IP addresses can help the researcher to detect and remove multiple submissions that may occur if a participant (accidentally or maliciously) submits a survey form more than once (Murray & Fisher, 2002). Tracking usernames or e-mail addresses can also be useful in linking together multiple data files, as in the case of multi-part studies. It would seem that this type of situation creates a conflict between ethical and

methodological rigor. Fortunately, with a bit of technical innovation, several strategies for tracking users anonymously, can help researchers wishing to forgo the consent process or merely increase data security. If a researcher wishes to track a participant for the purposes of matching multiple phases of data, a simple solution is to have the participant create an anonymous linkage code from several enduring pieces of participant data. For example, a participant might be asked to combine the second letter of their mother's name (e.g., "a" for Sarah), with the last digit of the year they were born (e.g. "3" for 1973), with the last two digits of their home phone number (e.g. "10" for 987-654-3210) to create a relatively unique linkage code of "a310" that is ambiguous enough to avoid being considered personally identifying.

If a researcher is using a computer programmer to assist with the survey design (rather than relying on a pre-made design application), a more elegant strategy can be used to generate a unique identifier. For example, using the programming language Perl, we created a small web application for our departmental research web site that uses the time on the participant's computer to generate a code number (for example, if the time is 11:44:33am on October 22, a code number of "3344112210" is produced) that is non-identifying and unique (as long as two participants do not begin the study at the exact same second). Perl displays the code number for the participant, which the participant then used throughout later phases of the study. A sample version of the code appears as follows:

```
($second, $minute, $hour, $dayOfMonth, $month) = localtime();
my $month = $month+1;
my $hour = $hour+2;
my $codenumber = $second.$minute.$hour.$dayOfMonth.$month;
```

Although this type of coding may be beyond the interest or know-how of many psychologists, generating this type of code number would be relatively simple for any programmer with experience in the Perl or PHP programming languages.

In single-phase studies, researchers may wish to track participants simply to avoid multiple submissions of the same survey data (which could dramatically artificially inflate effect sizes for correlational results). For example, in a recent study, a single malicious participant apparently submitted the same survey data over 50 times in a single day (Hoerger, 2009). A novel solution for tracking multiple submissions without collecting IP addresses is to track what shall be termed a *partial IP address*. Rather than recording an entire IP address (e.g., 347.26.34.191), which could potentially identify a particular computer, it is proposed that researchers consider creating a code number similar to the IP address, but with one or two of the final digits dropped (e.g. 34702603419) so as to avoid identifying a particular computer. Again, this type of task can be accomplished using a surprisingly small (though bizarrely concocted) string of code in a programming language such as Perl:

```
my $cip = $ENV{"REMOTE_ADDR"};
$cip =~ tr/./d;
chop($cip);
```

Thus, although e-mail addresses, usernames, and IP addresses have identifying properties, researchers who are willing to delve into some of the technical issues in web design are able to find methods for collecting technical information that serves a similar purpose without compromising anonymity.

Online Consent Forms

For most web-based studies, informed consent will ultimately be required, and this is typically achieved using online consent forms, which are similar to paper-and-pencil versions used in laboratory settings. Local IRB requirements vary considerably, but typically participants are asked to read the consent form online and indicate their consent by typing their name in a form, clicking a link, or marking a checkbox next to a consent statement, such as “Checking this

box indicates that you are at least 18 years old and voluntarily agree to participate in this study. You have read, as well as understood, the information provided” (Keller & Lee, 2003; Kraut et al., 2004; Varnhagen et al., 2005). A potential concern, regardless of whether consent forms are supplied online or in person, is that participants are known for skimming consent forms and having difficulty comprehending the nature of many research studies (Pittenger, 2003; Varnhagen et al., 2005). In the lab setting, consent can be viewed as a more dynamic process, where the researcher can clarify ambiguous details by answering questions. Because this type of interaction is less feasible on the web, researchers have a greater obligation to implement several safeguards for ensuring informed consent. Potential solutions include quizzing participants over aspects of the consent form, formatting important text in bold or color (often requiring basic HTML code, described previously), summarizing an overview of the study using a bullet point list, supplementing text with audiovisual information, and emphasizing various methods for contacting the researcher should questions arise (Kraut et al., 2004; Varnhagen et al., 2005).

Ensuring Informed Participation

A central limitation of many Internet-mediated studies is that they are posted online as a stand-alone unit, where participants travel linearly through the study, beginning with the consent form, then response pages, and finally debriefing. In order to enhance ethical rigor, improve participant enjoyment, and increase web traffic, psychologists would benefit from thinking more like web developers. In fact, Nosek and Banaji (2002) suggest that researchers should consider embedding their studies within a broader research study web site, which could include pages with additional information, such as researcher and IRB contact information, links to related web sites, lists of relevant publications, IRB approval documentation, updates on study results, and a Frequently Asked Questions (FAQs) section.

Voluntary, informed participation in research is only possible to the extent that participants are able to have their questions answered during the entirety of the study. Several researchers emphasize that researcher contact information should be readily accessible throughout the course of the study, not merely on consent forms, underscoring the importance of embedding studies within the context of a broader web site (Childress & Asamen, 1998; Michalak & Szabo, 1998). Nonetheless, simply posting contact information falls short of an ethical ideal, as researchers are unlikely to be available at all hours of each day. This is where a FAQs section of a web site can be instrumental (Nosek & Banaji, 2002). The researcher can have a lengthy list of responses to a variety of commonly asked questions, increasing the probability that participant concerns will be allayed.

Risk Management

Inevitably, conducting consent procedures online, rather than in person, carries a slightly different set of challenges. A common concern among researchers and IRB panels is how to handle moderate- to high-risk web-based studies, those that carry more than minimal risk of harm or are inherently too complex to be understood in an online consent form. These concerns tend to be heightened by the related concern that when consent forms are completed online, children and adolescents may be able to illegitimately access research studies, for which genuine consent from an adult is needed.

When methodology cannot be successfully altered to reduce risk of harm, one solution is to divide the study into two components, such that participants first complete consent procedures in person or by phone and then are given access to the study web site. This helps ensure that all questions are answered, risks are clearly explicated, and minors are deterred from participation. Additionally, for the rare web-based study intended to purposefully draw upon child or

adolescent participants, this two-phase procedure could be used to allow for parental consent and child assent prior to the child participating in the study online.

When an adult-oriented study is not particularly risky, however, researchers may still wish to conduct consent procedures online while simultaneously protecting underage people from participating. The general consensus is to use some form of age verification before participants are allowed to enter the study (Keller & Lee, 2003; Kraut et al., 2004; Mathy, Kerr, & Haydin, 2003; Nosek & Banaji, 2002; Pittenger, 2003; Varnhagen et al., 2005). The complexity of the age verification technique needed likely depends on the relative risks of harm and the probability of an underage person stumbling upon the study. For studies using public samples, an important first step would be to only advertise the study on sites of interest primarily to adults (Mathy et al., 2003). Upon accessing the research web site, a simple method for deterring underage participants involves merely asking people to indicate their age or date of birth (Keller & Lee, 2003). Conditional logic features are built into many survey-design applications, such as SurveyMonkey, and are easily accomplished through web programming using JavaScript, Perl, or PHP. Using conditional logic, participants indicating that they are underage can be redirected away from the study. This would not deter relentless, underage participants from lying and sneaking into the study, but as Kraut et al. (2004) remind us, some degree of risk is present even in the laboratory setting where investigators rarely check identification to ensure that all young college participants are at least 18 years old. Nonetheless, in circumstances where a study could be highly detrimental, researchers can consider using credit card age verification, though such procedures are expensive and technically sophisticated (Pittenger, 2003).

PRIVACY AND CONFIDENTIALITY

The integrity of research psychologists rests in part on their ability to hold participant responses in confidence. Indeed, section 4.01 of the APA ethics code reiterates that researchers have a fundamental obligation to “take reasonable precautions to protect confidential information” (APA, 2002, p. 1066). Because technology is rapidly advancing, psychologists may be vulnerable to either overreacting to improbable, high-risk concerns (e.g., hacking), or underestimating legitimate risks involving data collection, transmission, and storage (Binik, Mah, & Kiesler, 1999; Keller & Lee, 2003). With increased awareness of genuine risks to confidentiality and solutions for overcoming them, psychologists can conduct research online that is at least as safe as standard laboratory settings in upholding confidentiality.

E-mail

The advent of user-friendly survey design applications has led to a decline in the use of e-mail based surveys; however, their use is considered briefly. The central vulnerability of e-mail is that many organizations, universities, and businesses back-up e-mail for several days on network computers, which may be vulnerable to third party interception (Keller & Lee, 2003; Pittenger, 2003). Specifically, many employers have explicit policies that e-mail can be monitored by network administrators. Similarly, under the Freedom of Information Act (FOIA), under certain circumstances ordinary citizens may request transcripts of e-mail sent by public employees (Theoharis, 1998). IRBs that permit e-mail based research should generally consider requiring that consent forms document a waiver of confidentiality. Because e-mail should not be viewed as a confidential form of communication, researchers corresponding with participants by e-mail for any reason may also wish to include a disclaimer regarding confidentiality.

Departmental Access

The expense of pre-made survey design applications (e.g. SurveyMonkey) may lead

multiple research teams to consider pooling their resources for a shared survey account. However, the same security restrictions applied to paper-and-pencil forms should similarly apply to electronic records. Increasingly, IRBs are requiring that anyone with access to stored data should be noted on the IRB research proposal, indicating that shared departmental survey accounts, while fiscally desirable, are unlikely to meet ethical standards.

DECEPTION AND DEBRIEFING

The issue of deception in research has long been debated in psychology, with one side focusing on the immediate and pragmatic methodological needs of ongoing research, and the other focusing on participant rights and the long-term integrity of the field (Hertwig & Ortmann, 2008; Pittenger, 2003). When well-contrived and used sparingly, the general consensus within the field is that deception is ethically permissible in psychological research, as long as participants consent to being potentially misled, non-deceptive alternatives are impractical, and the researcher debriefs the participant after the study (APA, 2002; Pittenger, 2003; Sieber, Iannuzzo, & Rodriguez, 1995). The choice to use deception is inherently more complicated in Internet-mediated research because the researcher is not physically present to debrief participants at the end of a study. Despite this complication, an estimated 17% of web-based studies utilize some form of deception (Skitka & Sargis, 2006, p. 546). More information on deception in research can be found in the chapter on Deception in Research (this volume).

Post-Study Debriefing

Ethical debriefing can be handled using strategies similar to those for providing consent. For studies involving minimal risk and no use of deception, it may be adequate for researchers to provide a simple debriefing or thank you page and restate the researcher's contact information. However, for riskier studies or those involving deception, it may be useful for researchers to take

additional precautions to ensure that participants are adequately debriefed and not suffering from distress. For minor concerns, participants can be requested to call or e-mail during specified office hours. For urgent concerns, participants can be supplied with crisis hotline information or a mobile phone number for a member of the research team. In a recent personality study involving over 10,000 participants, only 2 participants phoned the researcher directly and were non-urgent in nature, suggesting that fears of dramatic side effects may be slightly overblown (Hoerger, 2009).

Voluntary Dropout

Debriefing pages may be successful for participants who complete the entire course of a study, but they do not adequately address the concerns of participants who are so distressed as to abandon the study prior to completion. Fortunately, Nosek and Banaji (2002) have identified several strategies to ensure that participants have the option of debriefing, even if they voluntarily dropout of the study. At a minimum, researchers should consider making basic contact information readily accessible, such as in a header or footer on each page of the study. If the study is embedded within the context of a research web site, the contact information could be provided on the homepage or a contact information page. Another strategy is to include a link on each page of the study entitled, "Exit this Study," which can automatically link to debriefing information. The consent form can be used to orient participants to the exit link. In fact, Varnhagen et al. (2005) emphasize that it may be useful to emphasize important information, such as voluntary dropout procedures, in the consent form using bold text or colors that draw extra attention from the reader.

Involuntary Dropout

Though generally rare, participants may be disconnected from a web-based study

involuntarily due to a computer freeze, power outage, Internet connection problem, or a glitch in the study's web site. As with many ethical dilemmas, prevention is key, and researchers can prevent many foreseeable programming glitches by thoroughly piloting their studies across a variety of web browsers (Michalak & Szabo, 1998). Nonetheless, some technical problems will be unavoidable. To accommodate this issue, Nosek and Banaji (2002) suggest embedding the study within a web site that includes a Frequently Asked Questions (FAQs) page or a debriefing page, which participants can view should they later return to the site.

RESPECT FOR PERSONS

The APA (2002) ethics code describes respect for the rights and dignity of people as an underlying value of the profession, and respect for human dignity is much of the basis of Kantian ethics (Janosky, Leininger, Hoerger, & Libkuman, 2009, p. 69-71). Whereas this value holds general implications for psychology research and practice, Internet-mediated research raises several unique concerns for respecting individuals.

Respecting Public Community Space

Recently, several undergraduate students raised an ethical issue regarding a psychology professor who chose to open the first day of class with an “Embarrassing Facebook Photo Slideshow,” which displayed an array of unbecoming student pictures the instructor found posted publicly on the popular web-based social networking site. The instructor's failure to recognize the mere possibility that students would henceforth view him as a “creeper” – a sort of Internet peeping Tom – shows a clear lack of understanding of modern Internet mores. Internet users and their various online communities represent a unique system of subcultures, with complex and constantly evolving values, customs, and norms (Pittenger, 2003; Porter, 1996). Keller and Lee (2003) argued that psychologists have difficulty understanding and addressing modern technico-

ethical issues. Similarly, prior ethical guidelines for web-based research have emphasized that researchers must make greater efforts to understand and respect basic online community norms (Kraut et al., 2004). As the students' reaction to the opening Facebook example would suggest, an overarching norm among online communities is that much information, even when technically available to the public, is intended only for good faith use by members within the community. In the same way that citizens do not ethically rifle through each other's trash or stare into bedroom windows, there is also a great need for what we term "private public space" on the web, areas that though within public view are consciously respected for privacy. Though some experts disagree (see Kraut et al., 2004, p. 110), researchers wishing to extract data from public discussion forums, chat rooms, listservs, and social networking sites should try to gain approval from relevant online community members before using the information for research purposes (Keller & Lee, 2003; Pittenger, 2003). Similar guidelines are found in the literature on multicultural research ethics, which reiterate the importance of respecting norms of cultures and subcultures in conducting ethical research (APA, 2003; Paniagua, 2005; U.S. Department of Health and Human Services, 2001). When researchers are ignorant of subcultural norms, multicultural guidelines indicate that they would be advised to consult with a community leader prior to initiating the study (Paniagua, 2005; Pittenger, 2003).

Research Spam

In the same vein of respecting Internet etiquette, researchers should avoid using "spam" to advertise their online studies. Spam includes a variety of tactics for abusing electronic messaging systems, including the sending of unsolicited bulk e-mail (e-mail spam) or the posting of links on irrelevant blogs (blog spam), Wikipedia pages (wiki spam), discussion forums (Internet forum spam), online classified ads (ad spam), or social networking pages (social

networking spam). Study notifications sent through relevant listservs or posted on relevant web sites are not considered spam, and in accordance with local IRB guidelines, would be ethically permissible (Pittenger, 2003). Although research spam may seem of minimal consequence, its far-reaching and abusive nature can lead the general public to have a negative opinion toward psychology (Morimoto & Chang, 2006). More recently, psychology researchers have begun spamming others psychologists regarding studies on training experiences, professional knowledge, and attitudes, an ethically questionable trend with the potential to create a backlash against Internet-mediated research altogether.

BENEFICENCE AND JUSTICE

The principles of beneficence and justice have played a long-standing role in leading ethical meta-theories involving utilitarianism and fairness (Janosky et al., 2009; Rawls, 1971; Rosen, 2003). The APA ethics code describes that a major mission of psychologists is enhancing societal well-being, and research plays a vital role in meeting this end (APA, 2002). Further, the code indicates that the benefits of a particular study must be carefully weighed against the risk of potential harm, or foreseeable negative consequences of participation. Researchers minimize risk by upholding basic ethical standards, such as informed consent and confidentiality, as well as by making sound methodological decisions. In addition to maximizing the utility of research studies (Rosen, 2003), the principle of justice dictates that the costs and benefits of research should be fairly distributed among members of society (Rawls, 1971).

Risk of Harm

Although a variety of reviews document the fundamental benefits of Internet-mediated research (Birnbaum, 2001; Fraley, 2003; Murray & Fisher, 2002; Skitka & Sargis, 2006), these advantages must be carefully weighed against potential harms. On the whole, web-based

research tends to be very low risk, with a majority of studies examining personality traits and other individual difference variables (Kraut et al., 2004). In general, people enjoy participating in psychological research (Bowman & Waite, 2003), and this is particularly true for web-based research (Hoerger, 2009; Michalak & Szabo, 1998; Naglieri et al., 2004; Nosek & Banaji, 2002). Participants report mainly enjoying contributing to research because it furthers their education and piques their interest in psychology (Bowman & Waite, 2003). Michalak and Szabo (1998) have argued that web-based research holds much potential in this regard because researchers can post relevant links or study results directly on the study web site, helping to develop participants' burgeoning research interests.

In contrast to the majority of web-based studies, several high-risk projects have been conducted to date, including those examining implicit attitudes (Nosek, Banaji, & Greenwald, 2002), stress-induction (Hanggi, 2004), and cyber ostracism (Williams, Cheung, & Choi, 2000). For example, Williams et al. designed an online game of "catch" in which a group of computerized confederates ignored throwing to the research participant. Sample comments from participants include, "No one likes me... I feel really rejected and sad" (p. 758) and "their behavior will surely make them feel guilty when they will notice I went away. As I leave I remember it is quite the same in my real life... and this is the most painful!" (p. 752). Clearly, these sorts of studies push the ethical boundaries of Internet-mediated research, though outraged ethicists should keep in mind that the anonymity of the web (real or perceived) allows participants to provide negative feedback to researchers that might not otherwise occur under the demand characteristics of the lab (Quirk, Subramanian, & Hoerger, 2007; Skitka & Sargis, 2006).

Voluntary Participation

Inevitably, some participants will experience at least minor harm, such as boredom, as a result of any experiment. In the laboratory setting, participants may feel obligated to complete studies despite modest harm because demand characteristics of the lab setting are known to foster steadfast compliance (Nosek et al., 2002; Quirk et al., 2007; Skitka & Sargis, 2006). As Nosek and Banaji observe, “implicit situational pressures in most research designs (such as politeness norms) may well discourage participants from prematurely discontinuing participation” (p. 164). An ethical advantage of Internet-mediated research, particularly for studies involving public rather than university samples, is that participants are under minimal to no situational pressure to complete an entire study against their own best interest. Unlike standard laboratory research where dropout is extremely rare, approximately 50% of web participants will drop out upon reading a consent form; additionally, of those consenting to participate, 10-30% will typically drop out before completing the entire study (Hanggi, 2004; Hoerger, 2009).

Justice and Multiculturalism

A key strength of Internet-mediated research is its potential to improve justice in research by extending the risks and benefits of participation to cultural groups that have historically been underrepresented in psychological research. In particular, the web provides a number of advantages for attracting ethnically diverse participants, people who speak languages other than English, and people from countries outside the United States (Fawcett, Schultz, Carson, & Renault, 2003; Hoerger, 2009; Muñoz et al., 2006). Additionally, groups that are accustomed to stigmatization are less likely to participate in laboratory studies where self-disclosure is likely. The increased privacy of web-based studies has helped reduce barriers to participation for a number of historically stigmatized groups (Hoerger, 2009; Mathy, Schillace, Coleman, &

Berquist, 2002; Nosek et al, 2002; Skitka & Sargis, 2006). Similarly, the web has facilitated the study of low base rate phenomena, and helped reduce barriers to access for those with difficulty physically attending lab sessions (Mathy et al., 2002; Skitka & Sargis, 2006).

A potential justice concern for web-based research is that people who have Internet access are disproportionately likely to be young, well-educated, White, and parents (Kraut et al., 2004; Naglieri et al., 2004; Skitka & Sargis, 2006). Thus, the haphazard use of this methodology could potentially inflate injustice, particularly if the results are unjustifiably generalized to populations other than those used in the research sample. To combat this concern at the micro level, researchers should make strong efforts to recruit participants from diverse backgrounds, and consider conducting research specifically designed to benefit groups who have historically faced injustice, such as by using Internet-mediated community-based participatory research (Fawcett et al., 2003). At the macro level, researchers can advocate for greater public access to the Internet, whether via public computer terminals or city-wide wireless access (Eng et al., 1998). For example, in a clinical research trial in San Francisco, researchers are looking to improve clinical services for Latino/as by implementing an online psychoeducational treatment for depression, in Spanish, through public computer terminals in the hospital (L. Torres, personal communication, March 25, 2009).

Democratizing Research

Based on the principle of justice and a desire for scientific integrity, the field of psychology strives to ensure that the best studies are conducted and published, regardless of extraneous factors, such as personal or institutional finances and prestige. In fact, in a recent review, Kraut et al. (2004) observed that:

The Internet has democratized data collection. Researchers no longer need access

to introductory psychology classes to recruit research subjects and often do not need grant money to pay them. One consequence is that faculty at small schools, independent research scholars, graduate students, and undergraduates can all potentially contribute to research. (p. 106)

Clearly, in automatizing data collection, a greater wealth of information can be gathered, substantially accelerating the acquisition of new knowledge in the field. Further, psychology students will be able to conduct meaningful, high-powered studies earlier in their training, perhaps increasing their enthusiasm for research. One potential concern is that more research does not necessarily mean better research, so advisors, dissertation chairs, IRBs, and reviewers will need to continuously safeguard the methodological rigor of psychological research.

RESOURCE ALLOCATION

An essential reason psychologists have rapidly begun to conduct more studies on the web is to improve research efficiency, a goal with fundamental roots in utilitarian philosophy and the principle of beneficence (APA, 2002; Rosen, 2003). Essentially, research assistants are no longer needed to run participants or enter data manually. Barriers to partaking in research are also reduced as participants can complete studies in the comfort of their own homes, rather than traveling to research laboratories – particularly important for community participants, commuter students, working students, and students with disabilities (Hanggi, 2004; Nosek & Banaji, 2002). Although the use of general public samples has several foreseeable psychometric advantages, the potential cost and difficulty of advertising effectively online can be prohibitive, leading many web-based researchers to continue using university samples (Skitka & Sargis, 2006). This section describes potential advantages and disadvantages of Internet-mediated research in terms of resource allocation among individual research teams as well as psychology departments.

Efficiency of Online Research

Internet-mediated research provides a number of benefits over traditional laboratory research. These include greater efficiency in participant recruitment, decreased research time and costs, greater sample heterogeneity, improved external validity, environmental benefits, reduced barriers to access for participants, increased ability to gather time-sensitive data, and atomization of basic data analyses (Birnbaum, 2001; Fraley, 2003; Hoerger, 2007, 2009; Hoerger, Quirk, Lucas, & Carr, 2009; Murray & Fisher, 2002; Skitka & Sargis, 2006). These advantages make web-based research appealing to psychologists in a variety of research domains. In fact, if efficient use of available resources is an ethical imperative in psychological research, the failure to use Internet-mediated research when methodologically practical would be ethically questionable.

Departmental Subject Pools

A potential side effect of this efficiency, particularly when university samples are used, is that departmental subject pools are being overburdened. As Skitka and Skitka (2006, p. 14) remind us, “with the increasing emphasis on research comes an increasing need for a stable research participant pool.” Despite that 75% of graduate psychology programs rely on some form of a departmental subject pool, the literature on the ethics of these pools is relatively scant (Bowman & Waite, 2003; Roskos-Ewoldsen, Burton, Bichsel, Willis, & Spruill, 1998; Sieber & Saks, 1989). Thus, we explore several options for handling the gap between the Internet-mediated researcher’s demand for additional participants in light of a departmental subject pool’s limited supply. Most departments will likely adopt an amalgamation of these strategies.

One solution involves increasing the supply of available research participants by increasing course requirements or incentives for participation. Presumably, the ethical rationale

for departmental subject pools is that psychological research is valuable both to the field and to society, and undergraduates should gain applied exposure to research endeavors to enhance their knowledge and appreciation of research (Bowman & Waite, 2003; McCord, 1991; Roskos-Ewoldsen et al., 1998; Sieber & Saks, 1989). As psychological research continues to expand, the importance of research training also increases, perhaps justifying *periodic* changes designed to increase research participation. Obviously, *frequent* semester-to-semester changes in subject pool obligations, at the bequest of researchers' demands, would serve little educational rationale and function coercively (McCord, 1991). Given the low ethical standards of current departmental subject pools (for reviews, see McCord, 1991; Roskos-Ewoldsen et al., 1998), any strategies for increasing participant recruitment should be met by improved alternatives to participating in research studies. More discussion on subject pools can be found in the chapter on Academic Environments (this volume).

A second solution to the supply-demand imbalance is to place stricter caps on the maximum number of participants researchers can enroll in individual studies. Often, IRB panels require researchers to include a power analysis with their studies to guard against the frivolous recruitment of research participants. The limitation of this solution is that a weak capping system fails to solve the problem, and an overly restrictive capping program imposes barriers on conducting sophisticated high-powered studies, which are becoming increasingly important in the era of structural equation modeling. Thus, overly rigid capping systems threaten to harm the quantity and quality of research, which falls contrary to psychologists' ethical obligation to defend "the central importance of freedom of inquiry and expression in research" (APA, 2002, p. 1062).

Some departments have considered a third solution that involves providing differential

incentives for laboratory and web-based studies, such that participants earn more subject pool credit for completing studies conducted in a lab. Presumably this compensates participants for the greater effort needed to physically attend laboratory sessions. Unfortunately, this merit structure tends to reinforce notions that web-research is second-class or that lab research is inherently burdensome. Additionally, in the free market of research, voluntary participation and researcher innovation are both hindered by providing undue subsidies for lab research (or taxes on web-based research).

In a final solution, web-based researchers largely opt to transcend the departmental subject pool system, favoring public samples over those drawn from universities. This option prevents ethical dilemmas arising from subject pools, particularly helping to guard against coercion. Brief studies or those of broad public interest are likely to be successfully conducted online. In fact, it is suspected that many current web studies are currently being conducted with undergraduate participants rather than public samples, merely because subject pools are convenient and researchers have felt little push to change.

CONTINUING EDUCATION

The APA (2002) ethics code emphasizes the importance of maintaining professional competence. This is particularly necessary for meeting ethical demands in light of ongoing technological advancements in Internet-mediated research, and continuing education affords opportunities for meeting this objective (Jerome et al., 2000). At the same time, researchers should not be overwhelmed by web-based technology. Though web surveys, for example, have become increasingly popular and more aesthetically pleasing in recent years, much of the underlying web coding has changed little in the past 15 years. In taking modest efforts to seek ongoing continuing education, Internet-mediated researchers will be well-equipped for handling

new ethical and methodological issues as they emerge.

SUMMARY RECOMMENDATIONS

In closing, this review provides a series of recommendations for conducting ethical and successful Internet-mediated research.

1. Avoid unnecessary technical difficulties by piloting studies extensively
2. Draw upon public samples to promote generalizability, reduce coercion, enhance justice, decrease burdens on subject pools, and improve public knowledge of psychological research
3. Use the pervasive power of the web to conduct studies with diverse participants
4. Understand what types of technical information are considered personally identifiable
5. Conduct studies anonymously when feasible
6. Embed studies within the context of a broader research web site that also includes pages devoted to contact information, Frequently Asked Questions (FAQs), debriefing materials, and related links
7. Monitor ongoing research, ethical, and technical issues in the field of Internet-mediated research to maintain competence
8. Bridge the gap between research and technology by learning basic web coding
9. Enhance the existing ethical standards for departmental subject pools, as they are likely to require further safeguards as researchers become more productive
10. Use technological innovation to conduct studies on the web that would be impossible given other methodologies

REFERENCES

- American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist, 57*, 1060-1073.
- American Psychological Association (2003). Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists. *American Psychologist, 58*, 377-402.
- Binik, Y., Mah, K., & Kiesler, S. (1999). Ethical issues in conducting sex research on the Internet. *The Journal of Sex Research, 36*, 82–90.
- Birnbaum, M. H. (2001). *Introduction to behavioral research on the Internet*. Upper Saddle River, NJ: Prentice Hall.
- Blanchard, A. L. (2004). Virtual behavior settings: An application of behavior settings theories to virtual communities. *Journal of Computer-Mediated Communication, 9*. Retrieved 07 October 2009 from <http://jcmc.indiana.edu/vol9/issue2/blanchard.html>.
- Bowman, L., & Waite, B. (2003). Volunteering in research: Student satisfaction and educational benefits. *Teaching of Psychology, 30*, 102-106.
- Brody, B. A. (2001). Making informed consent meaningful. *IRB Ethics & Human Research, 25*, 1-5.
- Childress, C., & Asamen, J. (1998). The emerging relationship of psychology and the internet: Proposed guidelines for conducting internet intervention research. *Ethics & Behavior, 8*, 19-35.
- Cooper, A., Galbreath, N., & Becker, M. A. (2004). Sex on the Internet: Furthering our understanding of men with online sexual problems. *Psychology of Addictive Behavior, 18*, 223-30.

- Eng, T. R., Maxfield, A., Patrick, K., Deering, M. J., Ratzan, S. C., Gustafson, D. H. (1998). Access to health information and support: A public highway or a private road? *Journal of the American Medical Association*, *280*, 1371-1375.
- Fawcett, S. B., Schultz, J. A., Carson, V., & Renault, V. (2003). Using Internet-based tools to build capacity for community-based participatory research and other efforts to promote community health and development. In M. Minkler & N. Wallerstern (Eds.), *Community-based participatory research for health* (pp. 155-178). San Francisco: Jossey-Bass
- Fernández, M. I., Varga, L. M., Perrino, T., Collazo, J. B. Subiaul, F., Rehbein, A., Torres, H., Castro, M., & Bowen, G. S. (2004). The Internet as recruitment tool for HIV studies: Viable strategy for reaching at-risk Hispanic MSM in Miami? *AIDS Care*, *16*, 953-963.
- Flanagan, P. S. L. (1999). Cyberspace: The final frontier? *Journal of Business Ethics*, *19*, 19–35.
- Fraley, R. C. (2003). *How to conduct psychological research over the Internet: A beginner's guide to HTML and CGI/Perl*. New York: Guilford
- Galegher, J., Sproull, L., & Kiesler, S. (1998). Legitimacy, authority, and community in electronic support groups. *Written Communication*, *15*, 493–530.
- Goodwin, C. J. (2005). *Research in Psychology: Methods and Design – 4th Ed.* New York: Wiley.
- Hanggi, Y. (2004). Stress and emotion recognition: An Internet experiment using stress induction. *Swiss Journal of Psychology*, *63*, 113-125.
- Hertwig, R., & Ortmann, A. (2008). Deception in experiments: Revisiting the arguments in its defense. *Ethics & Behavior*, *18*, 59-92.
- Hoerger, M. (2007). *Predicted and experienced emotional reactions in schizotypy*. Unpublished master's thesis, Central Michigan University, Mount Pleasant, MI.

- Hoerger, M. (2009). *Delaying Gratification Inventory*. Unpublished doctoral dissertation, Central Michigan University, Mount Pleasant, MI.
- Hoerger, M., Quirk, S. W., Lucas, R. E., & Carr, T. H. (2009). Immune neglect in affective forecasting. *Journal of Research in Personality, 43*, 91-94
- Janosky, J. E., Leininger, S. L., Hoerger, M., Libkuman, T. M. (2009). *Single subject designs in biomedicine*. New York: Sage.
- Jerome, L. W., DeLeon, P. H., James, L. C., Folen, R., Earles, J., Gedney, J. J. (2000). The coming of age of telecommunications in psychological research and practice. *American Psychologist, 55*, 407-421.
- Keller, H., & Lee, S. (2003). Ethical issues surrounding human participants research using the internet. *Ethics & Behavior, 13*, 211-219.
- Kraut, R., Olson, J., Banaji, M., Bruckman, A., Cohen, J., & Couper, M. (2004). Psychological research online: Report of Board of Scientific Affairs' Advisory Group on the conduct of research on the internet. *American Psychologist, 59*, 105-117.
- Mathy, R., Kerr, D., & Haydin, B. (2003). Methodological rigor and ethical considerations in internet-mediated research. *Psychotherapy: Theory, Research, Practice, Training, 40*, 77-85.
- Mathy, R. M., Schillace, M., Coleman, S. M., Berquist, B. E. (2002). Methodological rigor with Internet samples: new ways to reach underrepresented populations. *Cyberpsychology and Behavior, 5*, 253-66.
- McCord, D. (1991). Ethics-sensitive management of the university human subject pool. *American Psychologist, 46*, 151.
- Michalak, E., & Szabo, A. (1998). Guidelines for internet research: An update. *European*

- Psychologist*, 3, 70-75.
- Morimoto, M., & Chang, S. (2006). Consumers' attitudes toward unsolicited commercial e-mail and postal direct mail marketing methods: Intrusiveness, perceived loss of control, and irritation. *Journal of Interactive Advertising*, 7, 8-20.
- Muñoz, R. F., Lenert, L. L., Delucchi, K., Stoddard, J., Perez, J. E., Penilla, C., Pérez-Stable, E. J. (2006). Toward evidence-based Internet interventions: A Spanish/English Web site for international smoking cessation trials. *Nicotine & Tobacco Research*, 8, 77-87.
- Murray, D. M., & Fisher, J. D. (2002). The Internet: A virtually untapped tool for research. *Journal of Technology in Human Services*, 19, 5-18.
- Naglieri, J., Drasgow, F., Schmit, M., Handler, L., Prifitera, A., Margolis, A., et al. (2004). Psychological testing on the internet: New problems, old solutions. *American Psychologist*, 59, 150-162.
- Nosek, B., & Banaji, M. (2002). E-research: Ethics, security, design, and control in psychological research on the internet. *Journal of Social Issues*, 58, 161-176.
- Nosek, B., Banaji, M., & Greenwald, A. (2002). Harvesting implicit group attitudes and beliefs from a demonstration web site. *Group Dynamics*, 6, 101-115.
- Paniagua, F. A. (2005). *Assessing and treating culturally diverse clients: A practical guide. Third Edition*. Thousand Oaks, CA: Sage.
- Pittenger, D. (2003). Internet research: An opportunity to revisit classic ethical problems in behavioral research. *Ethics & Behavior*, 13, 45-60.
- Porter, D. (1996). *Internet culture*. New York: Routledge.
- Quirk, S. W., Subramanian, L., & Hoerger, M. (2007). Effects of situational demand upon social enjoyment and preference in schizotypy. *Journal of Abnormal Psychology*, 116, 624-631.

- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Belknap Press of Harvard University Press.
- Rosen, F. (2003). *Classical utilitarianism from Hume to Mill*. New York: Routledge
- Roskos-Ewoldsen, B., Burton, P., Bichsel, J., Willis, S., & Spruill, J. (1998). Coordinating the psychology human research participant pool. *Teaching of Psychology, 25*, 14-19.
- Sieber, J., Iannuzzo, R., & Rodriguez, B. (1995). Deception methods in psychology: Have they changed in 23 years? *Ethics & Behavior, 5*, 67-85.
- Sieber, J., & Saks, M. (1989). A census of subject pool characteristics and policies. *American Psychologist, 44*, 1053-1061.
- Skitka, L., & Sargis, E. (2006). The internet as psychological laboratory. *Annual Review of Psychology, 57*, 529-555.
- Srivastava, S., John, O. P., Gosling, S. D., & Potter, J. (2003). Development of personality in adulthood: Set like plaster or persistent change? *Journal of Personality and Social Psychology, 84*, 1041-53.
- Theoharis, A. (1998). *A culture of secrecy: The government versus the people's right to know*. Lawrence, KS: University Press of Kansas.
- U.S. Department of Health and Human Services. (2001). *Mental health: Culture, race, and ethnicity*. Rockville, MD: Author.
- Varnhagen, C., Gushta, M., Daniels, J., Peters, T., Parmar, N., Law, D., et al. (2005). How informed is online informed consent? *Ethics & Behavior, 15*, 37-48.
- Williams, K., Cheung, C., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*, 748-762.