

Appendix A

Conducting Literature Reviews and Finding Information

*Social Research Foundations—
How to Conduct a Literature Review*

Case Study: Arrest and Domestic Violence

How do we find prior research on questions of interest? You may already know some of the relevant material from prior coursework or your independent reading, but that would not be enough. When you are about to launch an investigation of a new research question, you must apply a very different standard than when you are studying for a test or just seeking to learn about domestic violence. You need to find reports of previous investigations that sought to answer the same research question that you wish to answer, not just those that were about a similar topic. If there are no prior studies of exactly the same research question on which you wish to focus, you should seek to find reports from investigations of very similar research questions. Once you have located reports from prior research similar to the research you wish to conduct, you may expand your search to include investigations about related topics or studies that used similar methods.

Sometimes, you will find that someone else has already reviewed the literature on your research question in a special review article or book chapter. For example, Chalk and Garner (2001) published an excellent

review of the research on arrest and domestic violence in the journal *New Directions for Evaluation*. Most of the research articles you find will include a literature review. These reviews can help a lot, but they are no substitute for reviewing the literature yourself. No one but you can decide what is relevant for your research question and the research circumstances you will be facing; the setting you will study, the timing of your study, the new issues that you want to include in your study, and your specific methods. And you cannot depend on any published research review for information on the most recent work. New research results about many questions appear continually in scholarly journals and books, in research reports from government agencies and other organizations, and on Web-sites all over the world; you will need to check for new research such as this yourself.

Finding Information

Conducting a thorough search of the research literature and then reviewing critically what you have found is an essential foundation for any research project. Fortunately, much of this information can be identified online, without leaving your desktop, and an increasing number of published journal articles can be downloaded directly to your own computer (depending on your particular access privileges). But just because there is a lot available online does not mean that you need to find it all. Keep in mind that your goal is to find reports of prior research investigations, which means that you should focus on scholarly journals that choose articles for publication after they have been reviewed by other social scientists: “refereed” journals. Newspaper and magazine articles just will not do, although you may find some that raise important issues or even that summarize social science research investigations.

Every year, the Web offers more and more useful material, including indexes of the published research literature. You may find copies of particular rating scales, reports from research in progress, papers that have been presented at professional conferences, and online discussions of related topics. This section reviews the basic procedures for finding relevant research information in both the published literature and on the Web, but keep in mind that the primary goal is to identify research articles published in refereed journals.

Searching the Literature

The social science literature should be consulted at the beginning and end of an investigation. Even while an investigation is in progress, consultations with the literature may help to resolve methodological problems or facilitate supplementary explorations. As with any part of the research process, the method you use will affect the quality of your results. You should try to ensure that your search method includes each of the steps below.

Specify your research question. Your research question should be neither so broad that hundreds of articles are judged relevant nor so narrow that you miss important literature. “Is informal social control effective?” is probably too broad. “Does informal social control reduce rates of burglary in large cities?” is probably too narrow. “Is informal social control more effective in reducing crime rates than policing?” provides about the right level of specificity.

Identify appropriate bibliographic databases to search. *Criminal Justice Abstracts* and *Sociological Abstracts* may meet many of your needs, but if you are studying a question about medical consequences or other health issues, you should also search in *Medline*, the database for searching the medical literature. If your focus is on mental health, you will also want to include a search in the online *Psychological Abstracts* database, *PsycINFO*, or the version that also contains the full text of articles since

1985, *PsycARTICLES*. To find articles that refer to a previous publication, such as Sherman and Berk's (1984) study of the police response to domestic violence, the *Social Science Citation Index* would be helpful. In addition, the search engine Google now offers anyone with Web access Google Scholar (which indexes and searches the full text of selected journals) and Google Print (which digitizes and searches the full text of the books that are owned by selected research libraries). (At the time this book went to press, the Google Print project was on hold due to copyright concerns raised by some publishers, while the search engine and directory Yahoo! was starting a similar venture that focused only on older books that are no longer covered by copyright law; Hafner, 2005: C1.)

Choose a search technology. For most purposes, an online bibliographic database that references the published journal literature will be all you need. However, searches for unpopular topics or very recent literature may require that you also search Websites or bibliographies of relevant books.

Create a tentative list of search terms. List the parts and subparts of your research question and any related issues that you think are important: “informal social control,” “policing,” “influences on crime rates,” and perhaps “community cohesion and crime.” List the authors of relevant studies. Specify the most important journals that deal with your topic.

Narrow your search. The sheer number of references you find can be a problem. For example, searching for “social capital” resulted in 2,293 citations in *Sociological Abstracts*. Depending on the database you are working with and the purposes of your search, you may want to limit your search to English-language publications, to journal articles rather than conference papers or dissertations (both of which are more difficult to acquire), and to materials published in recent years.

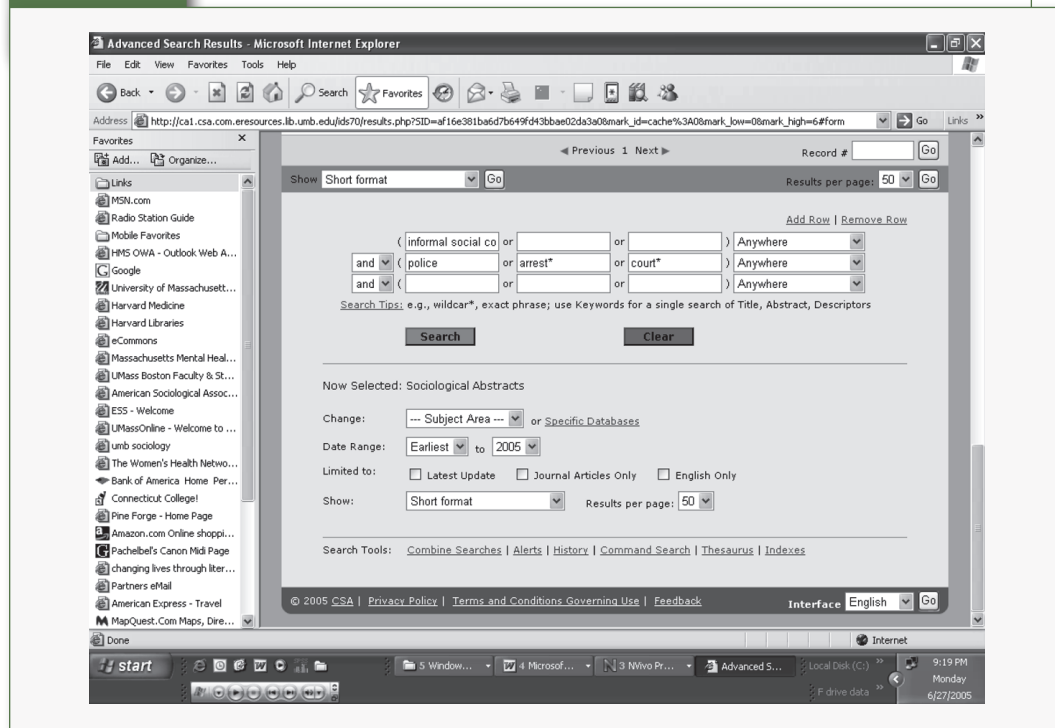
Refine your search. Learn as you go. If your search yields too many citations, try specifying the search terms more precisely. If you have not found much literature, try using more general terms. Whatever terms you search first, do not consider your search complete until you have tried several different approaches and have seen how many articles you find. A search for “domestic violence” in *Sociological Abstracts* on September 11, 2005, yielded 1,569 hits; adding “effects” or “influences” as required search terms dropped the number of hits to 370.

Use Boolean search logic. It is often a good idea to narrow down your search by requiring that abstracts contain combinations of words or phrases that include more of the specific details of your research question. Using the Boolean connector “and” allows you to do this, whereas using the connector “or” allows you to find abstracts containing different words that mean the same thing. Exhibit A.1 provides an example.

Use appropriate subject descriptors. Once you have found an article that you consider to be appropriate, take a look at the “descriptors” field in the citation (see Exhibit A.2). You can then redo your search after requiring that the articles be classified with some or all of these descriptor terms.

Check the results. Read the titles and abstracts you have found, and identify the articles that appear to be most relevant. If possible, click on these article titles and generate a list of their references. See if you find more articles that are relevant to your research question but that you have missed so far. You will be surprised (I always am) at how many important articles your initial online search missed.

1. *Read the articles.* Now, it is time to find the full text of the articles of interest. If you are lucky, some of the journals you need will be available to patrons of your library in online versions, and you will be able

Exhibit A.1 Use of Boolean Connectors in a Literature Search

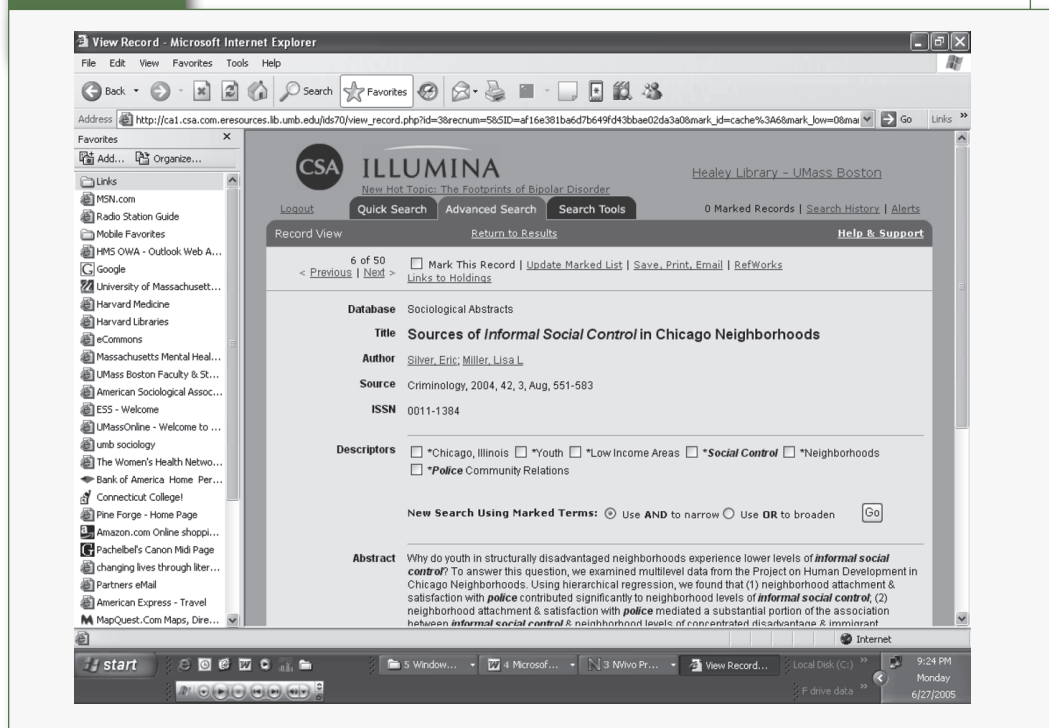
to link to the full text just by clicking on a “full text” link. But many journals, specific issues of some journals, or both will be available only in print; in this case, you will have to find them in your library or order a copy through interlibrary loan.

Refer to a good book for even more specific guidance. Fink’s (2004) *Conducting Research Literature Reviews: From the Internet to Paper* is an excellent guide.

You may be tempted to write up a “review” of the literature based on reading the abstracts or using only those articles available online, but you will be selling yourself short. Many crucial details about methods, findings, and theoretical implications will be found only in the body of the article, and many important articles will not be available online. To understand, critique, and really learn from previous research studies, you must read the important articles, no matter how you have to retrieve them.

If you have done your job well, you will now have more than enough literature as background for your own research, unless it is on a very obscure topic (see Exhibit A.3). (Of course, ultimately your search will be limited by the library holdings you have access to and by the time you have to order or find copies of journal articles, conference papers, and perhaps dissertations that you cannot obtain online.) At this point, your main concern is to construct a coherent framework in which to develop your research question, drawing as many lessons as you can from previous research. You may use the literature to identify a useful theory and hypotheses to be reexamined, to find inadequately studied specific research questions, to explicate the disputes about your research question, to summarize the major findings of prior research, and to suggest appropriate methods of investigation.

Exhibit A.2 Checking Standard Subject Matter Descriptors



Be sure to take notes on each article you read, organizing your notes into standard sections: Theory, Methods, Findings, Conclusions. In any case, write the literature review so that it contributes to your study in some concrete way; do not feel compelled to discuss an article just because you have read it. Be judicious. You are conducting only one study of one issue; it will only obscure the value of your study if you try to relate it to every tangential point in related research.

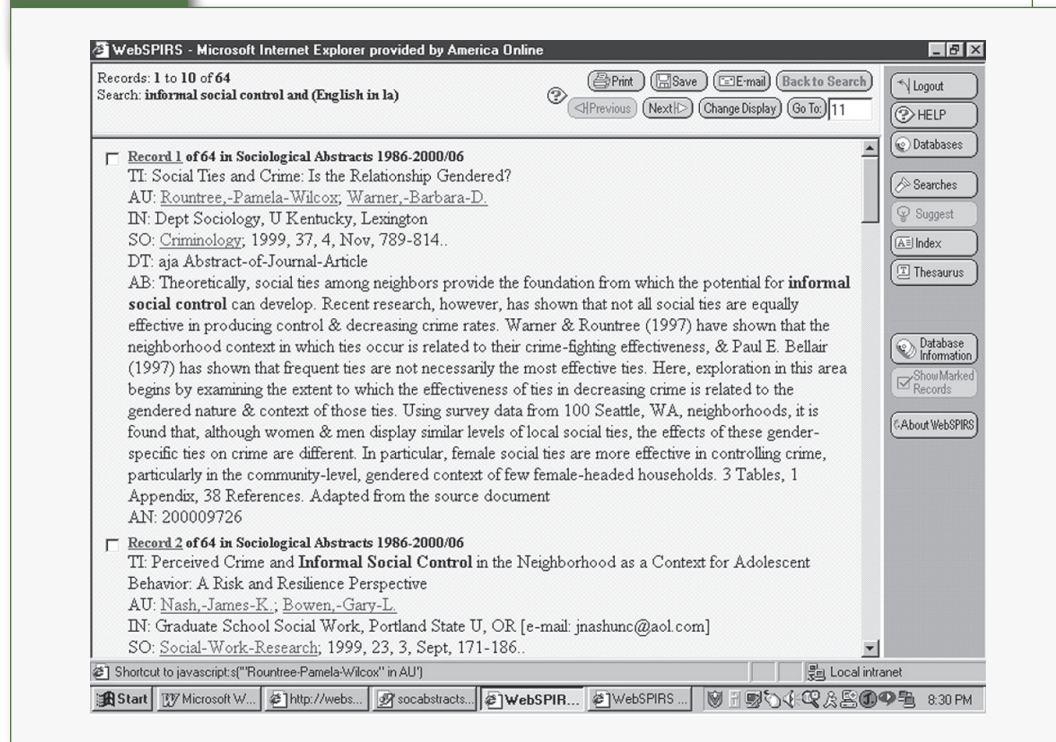
Don't think of searching the literature as a one-time-only venture, something that you leave behind as you move on to your "real" research. You may encounter new questions or unanticipated problems as you conduct your research or as you burrow deeper into the literature. Searching the literature again to determine what others have found in response to these questions or what steps they have taken to resolve these problems can yield substantial improvements in your own research. There is so much literature on so many topics that often it is not possible to figure out in advance every subject you should search the literature for or what type of search would be most beneficial.

Another reason to make searching the literature an ongoing project is that the literature is always growing. During the course of one research study, whether it takes only one semester or several years, new findings will be published and relevant questions will be debated. Staying attuned to the literature and checking it at least when you are writing up your findings may save your study from being outdated.

Searching the Web

The World Wide Web provides access to vast amounts of information of many different sorts (Ó Dochartaigh 2002). You can search the holdings of other libraries and download the complete text of

Exhibit A.3 A Search in *Sociological Abstracts* on Informal Control

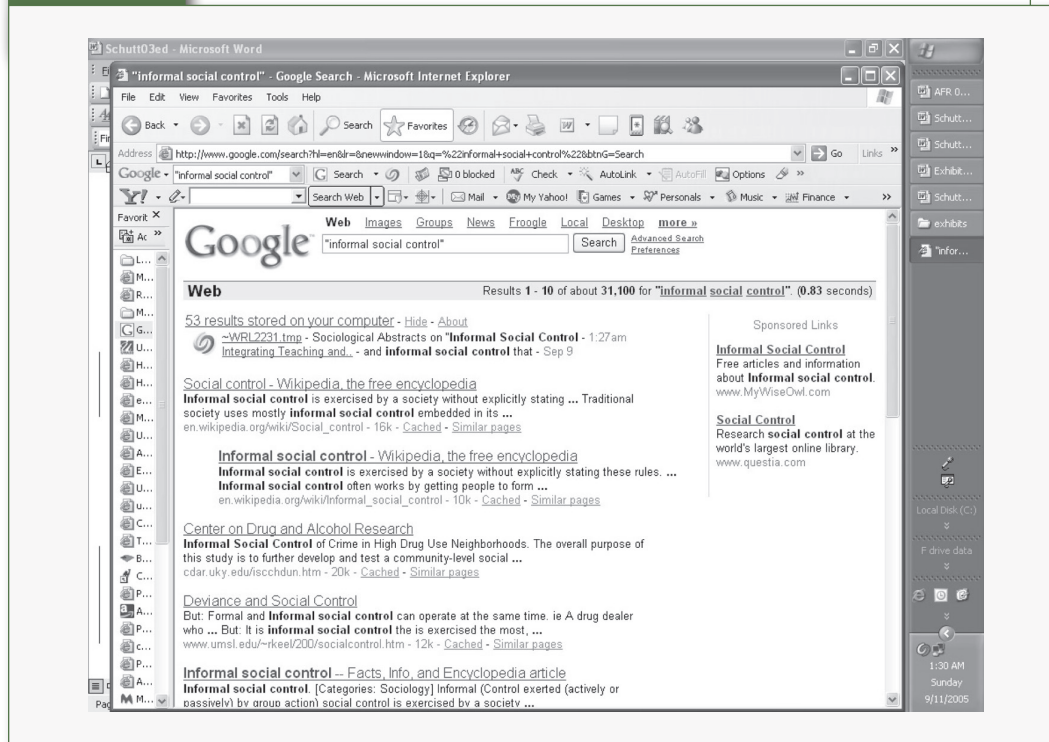


government reports, some conference papers, and newspaper articles. You can find policies of local governments, descriptions of individual social scientists and particular research projects, and postings of advocacy groups. It is also hard to avoid finding a lot of information in which you have no interest, such as commercial advertisements, third-grade homework assignments, or college course syllabi. In 1999, there were already about 800 million publicly available pages of information on the Web (Davis 1999). Today, there may be as many as 15 billion pages on the Web (Novak 2003).

After you are connected to the Web with a browser such as Microsoft Internet Explorer or Netscape Navigator, you can use three basic strategies for finding information: direct addressing (i.e., typing in the address, or uniform resource locator [URL], of a specific site); browsing (i.e., reviewing online lists of Websites); and searching (i.e., Google is currently the most popular search engine for searching the Web). For some purposes, you will need to use only one strategy; for other purposes, you will want to use all three.

Exhibit A.4 illustrates the first problem that you may encounter when searching the Web: the sheer quantity of resources that are available. It is a much bigger problem than when searching bibliographic databases. On the Web, less is usually more. Limit your inspection of Websites to the first few pages that turn up in your list (they are ranked by relevance). See what those first pages contain, and then try to narrow your search by including some additional terms. Putting quotation marks around a phrase that you want to search will also help to limit your search; for example, searching for “informal social control” on Google (on September 11, 2005) produced 31,100 sites, compared to the roughly 15,500,000 sites retrieved when we omitted the quotes wherein Google searched “informal” and “social” and “control.”

Exhibit A.4

A Search in *Sociological Abstracts* on Informal Control

Remember the following warnings when you conduct searches on the Web:

- *Clarify your goals.* Before you begin the search, jot down the terms that you think you need to search for as well as a statement of what you want to accomplish with your search. This will help to ensure that you have a sense of what to look for and what to ignore.
- *Quality is not guaranteed.* Anyone can post almost anything, so the accuracy and adequacy of the information you find are always suspect. There is no journal editor or librarian to evaluate quality and relevance.
- *Anticipate change.* Websites that are not maintained by stable organizations can come and go very quickly. Any search will result in attempts to link to some URLs that no longer exist.
- *One size does not fit all.* Different search engines use different procedures for indexing Websites. Some attempt to be all-inclusive, whereas others aim to be selective. As a result, you can get different results from different search engines (e.g., Google or Yahoo!) even though you are searching for the same terms.
- *Be concerned about generalizability.* You might be tempted to characterize police department policies by summarizing the documents you find at police department Websites. But how many police departments are there? How many have posted their policies on the Web? Are these policies representative of all police departments? To answer all these questions, you would have to conduct a research project just on the Websites themselves.

- *Evaluate the sites.* There is a lot of stuff out there, so how do you know what is good? Some Websites contain excellent advice and pointers on how to differentiate the good from the bad.
- *Avoid Web addiction.* Another danger of the enormous amount of information available on the Web is that one search will lead to another and to another and so on. There are always more possibilities to explore and one more interesting source to check. Establish boundaries of time and effort to avoid the risk of losing all sense of proportion.
- *Cite your sources.* Using text or images from Web sources without attribution is plagiarism. It is the same as copying someone else's work from a book or article and pretending that it is your own. Record the Web address (URL), the name of the information provider, and the date on which you obtain material from the site. Include this information in a footnote to the material that you use in a paper.

Reviewing Research

Effective review of the prior research you find is an essential step in building the foundation for new research. You must assess carefully the quality of each research study, consider the implications of each article for your own plans, and expand your thinking about your research question to take account of new perspectives and alternative arguments. It is through reviewing the literature and using it to extend and sharpen your own ideas and methods that you become a part of the social science community. Instead of being just one individual studying an issue that interests you, you are building on an ever-growing body of knowledge that is being constructed by the entire community of scholars.

The research information you find on various Web sites comes in a wide range of formats and represents a variety of sources. *Caveat emptor* (buyer beware) is the watchword when you search the Web; following review guidelines such as those we have listed will minimize, but not eliminate, the risk of being led astray. By contrast, the published scholarly journal literature that you find in databases such as *Sociological Abstracts* and *Psychological Abstracts* follows a much more standard format and has been subject to a careful review process. There is some variability in the contents of these databases: some journals publish book reviews, comments on prior articles, dissertation abstracts, and conference papers. However, most literature you will find on a research topic in these databases represents peer-reviewed articles reporting analyses of data collected in a research project. These are the sources on which you should focus. This section concentrates on the procedures you should use for reviewing these articles. These procedures also can be applied to reviews of research monographs: books that provide much more information from a research project than that contained in a journal article.

Reviewing the literature is really a two-stage process. In the first stage, you must assess each article separately. This assessment should follow a standard format such as that represented by the “Questions to Ask About a Research Article” in Appendix B. However, you should keep in mind that you cannot adequately understand a research study if you just treat it as a series of discrete steps, involving a marriage of convenience among separate techniques. Any research project is an integrated whole, so you must be concerned with how each component of the research design influenced the others, for example, how the measurement approach might have affected the causal validity of the researcher's conclusions and how the sampling strategy might have altered the quality of measures.

The second stage of the review process is to assess the implications of the entire set of articles (and other materials) for the relevant aspects of your research question and procedures and then to write an integrated review that highlights these implications. Although you can find literature reviews that consist simply of assessments of one published article after another—that never get beyond stage one in the review

process—your understanding of the literature and the quality of your own work will be much improved if you make the effort to write an integrated review.

In the next two sections, we will show how you might answer many of the questions in Appendix B as we review a research article about domestic violence. We will then show how the review of a single article can be used within an integrated review of the body of prior research on this research question. Because at this early point in the text you will not be familiar with all the terminology used in the article review, you might want to read through the more elaborate article review in Appendix C later in the course.

A Single-Article Review: Formal and Informal Deterrents to Domestic Violence

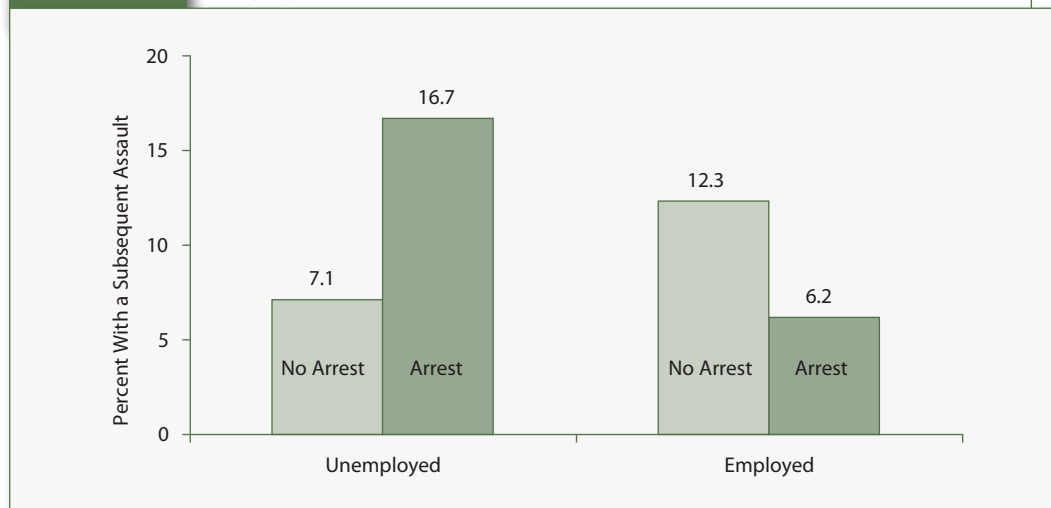
Anthony Pate and Edwin Hamilton at the National Police Foundation designed one of the studies funded by the U.S. Department of Justice to replicate the Minneapolis Domestic Violence Experiment. This section examines the article that resulted from that replication, which was published in the *American Sociological Review* (Pate & Hamilton 1992). The numbers in brackets refer to the article review questions in Appendix B.

The Research Question. Like Sherman and Berk's (1984) original Minneapolis study, Pate and Hamilton's (1992) Metro-Dade spouse assault experiment sought to test the deterrent effect of arrest in domestic violence cases, but with an additional focus on the role of informal social control [1]. The purpose of the study was explanatory because the goal was to explain variation in the propensity to commit spouse abuse [2]. Deterrence theory provided the theoretical framework for the study, but this framework was broadened to include the proposition by Williams and Hawkins (1986) that informal sanctions such as stigma and the loss of valued relationships augment the effect of formal sanctions such as arrest [3]. Pate and Hamilton's literature review referred, appropriately, to the original Sherman and Berk research, to the other studies that attempted to replicate the original findings, and to research on informal social control [4].

There is no explicit discussion of ethical guidelines in the article, although reference is made to a more complete unpublished report [6]. Clearly, important ethical issues had to be considered, given the experimental intervention in the police response to serious assaults, but the adherence to standard criminal justice procedures suggests attention to the welfare of victims as well as the rights of suspects. We will consider these issues in more detail later in this chapter.

The Research Design. Developed as a follow-up to the original Minneapolis experiment, the Metro-Dade experiment exemplified the guidelines for scientific research that were presented in Chapter 2 [5]. It was designed systematically, with careful attention to specification of terms and clarification of assumptions, and focused on the possibility of different outcomes rather than certainty about one preferred outcome. The major concepts in the study, formal and informal deterrence, were defined clearly [7] and then measured with straightforward indicators: arrest or nonarrest for formal deterrence and marital status and employment status for informal deterrence. However, the specific measurement procedures for marital and employment status were not discussed, and no attempt was made to determine whether they captured adequately the concept of informal social control.

Three hypotheses were stated and also related to the larger theoretical framework and prior research [8]. The study design focused on the behavior of individuals [11] and collected data over time, including records indicating subsequent assault up to 6 months after the initial arrest [12]. The project's experimental design was used appropriately to test for the causal effect of arrest on recidivism [13]. The research project involved all eligible cases, rather than a sample of cases, but there were a number of eligibility criteria that narrowed the ability to generalize these results to the entire population of domestic assault cases in the

Exhibit A.5**Percentage of Suspects With a Subsequent Assault by Employment Status and Arrest Status**

Metro-Dade area or elsewhere [14]. There is a brief discussion of the 92 eligible cases that were not given the treatment to which they were assigned, but it does not clarify the reasons for the misassignment [15].

The Research Findings and Conclusion. Pate and Hamilton's (1992) analysis of the Metro-Dade experiment was motivated by concern with effect of social context because the replications in other cities of the original Minneapolis domestic violence experiment had not had consistent results [19]. Their analysis gave strong support to the expectation that informal social control processes are important: As they had hypothesized, arrest had a deterrent effect on suspects who were employed but not on those who were unemployed (see Exhibit A.5). However, marital status had no such effect [20]. The subsequent discussion of these findings gives no attention to the implications of the lack of support for the effect of marital status [21], but the study represents an important improvement over earlier research that had not examined informal sanctions [22]. The need for additional research is highlighted, and the importance of the findings for social policy are discussed: Pate and Hamilton suggest that their finding that arrest deters only those who have something to lose (e.g., a job) must be taken into account when policing policies are established [23].

Overall, the Pate and Hamilton (1992) study represents an important contribution to understanding how informal social control processes influence the effectiveness of formal sanctions such as arrest. Although the use of a population of actual spouse assault cases precluded the use of very sophisticated measures of informal social control, the experimental design of the study and the researchers' ability to interpret the results in the context of several comparable experiments distinguishes this research as exceptionally worthwhile. It is not hard to understand why these studies continue to stimulate further research and ongoing policy discussions.

An Integrated Literature Review: When Does Arrest Matter?

The goal of the second stage of the literature review process is to integrate the results of your separate article reviews and develop an overall assessment of the implications of prior research. The integrated literature review should accomplish three goals: (1) summarize prior research, (2) critique prior research, and (3) present pertinent conclusions (Hart 1998: 186–187).

Summarize prior research. Your summary of prior research must focus on the particular research questions that you will address, but you also may need to provide some more general background. Hoyle and Sanders (2000: 14) begin their *British Journal of Criminology* research article about mandatory arrest policies in domestic violence cases with what they term a “provocative” question: What is the point of making it a crime for men to assault their female partners and ex-partners? They then review the different theories and supporting research that has justified different police policies: the “victim choice” position, the “pro-arrest” position, and the “victim empowerment” position. Finally, they review the research on the “controlling behaviors” of men that frames the specific research question on which they focus: how victims view the value of criminal justice interventions in their own cases (p. 15).

Ask yourself three questions about your summary of the literature:

1. *Have you been selective?* If there have been more than a few prior investigations of your research question, you will need to narrow your focus to the most relevant and highest quality studies. Do not cite a large number of prior articles “just because they are there.”
2. *Is the research up-to-date?* Be sure to include the most recent research, not just the “classic” studies.
3. *Have you used direct quotes sparingly?* To focus your literature review, you need to express the key points from prior research in your own words. Use direct quotes only when they are essential for making an important point (Pyrzrak 2005: 51–59).

Critique prior research. Evaluate the strengths and weakness of the prior research. In addition to all the points you develop as you answer the Article Review Questions in Appendix B, you should also select articles for review that reflect work published in peer-reviewed journals and written by credible authors who have been funded by reputable sources. Consider the following questions as you decide how much weight to give each article:

1. *How was the report reviewed prior to its publication or release?* Articles published in academic journals go through a rigorous review process, usually involving careful criticism and revision. Top refereed journals may accept only 10% of submitted articles, so they can be very selective. Dissertations go through a lengthy process of criticism and revision by a few members of the dissertation writer’s home institution. A report released directly by a research organization is likely to have had only a limited review, although some research organizations maintain a rigorous internal review process. Papers presented at professional meetings may have had little prior review. Needless to say, more confidence can be placed in research results that have been subject to a more rigorous review.
2. *What is the author’s reputation?* Reports by an author or team of authors who have published other work on the research question should be given somewhat greater credibility at the outset.
3. *Who funded and sponsored the research?* Major federal funding agencies and private foundations fund only research proposals that have been evaluated carefully and ranked highly by a panel of experts. They also often monitor closely the progress of the research. This does not guarantee that every such project report is good, but it goes a long way toward ensuring some worthwhile products. On the other hand, research that is funded by organizations that have a preference for a particular outcome should be given particularly close scrutiny (Locke, Silverman, & Spirduso 1998: 37–44).

Present pertinent conclusions. Do not leave the reader guessing about the implications of the prior research for your own investigation. Present the conclusions you draw from the research you have reviewed. As you do so, follow several simple guidelines:

- Distinguish clearly your own opinion of prior research from conclusions of the authors of the articles you have reviewed.
- Make it clear when your own approach is based on the theoretical framework you are using rather than on the results of prior research.
- Acknowledge the potential limitations of any empirical research project. Do not emphasize problems in prior research that you cannot avoid either (Pyrzczak 2005: 53–56).
- Explain how the unanswered questions raised by prior research or the limitations of methods used in prior research make it important for you to conduct your own investigation (Fink 2004: 190–192).

A good example of how to conclude an integrated literature review is provided by an article based on the replication in Milwaukee of the Minneapolis Domestic Violence Experiment. For this article, Paternoster et al. (1997) sought to determine whether police officers' use of fair procedures when arresting assault suspects would lessen the rate of subsequent domestic violence. Paternoster et al. conclude that there has been a major gap in the prior literature: "Even at the end of some seven experiments and millions of dollars, then, there is a great deal of ambiguity surrounding the question of how arrest impacts future spouse assault" (p. 164). Specifically, they note that each of the seven experiments focused on the effect of arrest itself but ignored the possibility that "particular kinds of police procedure might inhibit the recurrence of spouse assault" (p. 165).

So Paternoster et al. (1997) ground their new analysis in additional literature on procedural justice and conclude that their new analysis will be "the first study to examine the effect of fairness judgments regarding a punitive criminal sanction (arrest) on serious criminal behavior (assaulting one's partner)" (p. 172).

2 Searching the Web

To find useful information on the Web, you have to be even more vigilant than when you search the literature directly. With billions of webpages on the Internet, there is no limit to the amount of time you can squander and the volume of useless junk you can find as you conduct your research on the Web. However, we can share with you some good ways to avoid the biggest pitfalls.

Direct Addressing

Knowing the exact address (i.e., URL) of a useful Web site is the most efficient way to find a resource on the Web.

Professional Organizations

- American Society of Criminology (<http://www.asc41.com>)

- American Sociological Association (<http://www.asanet.org>)
- American Psychological Association (<http://www.apa.org>)

Government Sites

- U.S. Office of Justice Programs (<http://www.ojp.usdoj.gov>)
- U.S. Bureau of the Census (<http://www.census.gov>)

Journals and Newspapers

- *Annual Review of Sociology* (<http://www.annualreviews.org>)
- *The New York Times* (<http://www.nytimes.com>)

Bibliographic Formats for Citing Electronic Information

- Electronic reference formats suggested by the American Psychological Association (<http://www.apastyle.org/elecref.html>)
- Karla Tonella's Guide to Citation Style Guides (<http://bailiwick.lib.uiowa.edu/journalism/cite.html>) contains more than a dozen links to online style guides
- Style Sheets for Citing Resources (print and electronic) (<http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Style.html>)

When you find Web sites that you expect you will return to often, you can save their addresses as “bookmarks” or “favorites” in your Web browser. However, since these can very quickly multiply, you should try to be selective.

Browsing Subject Directories

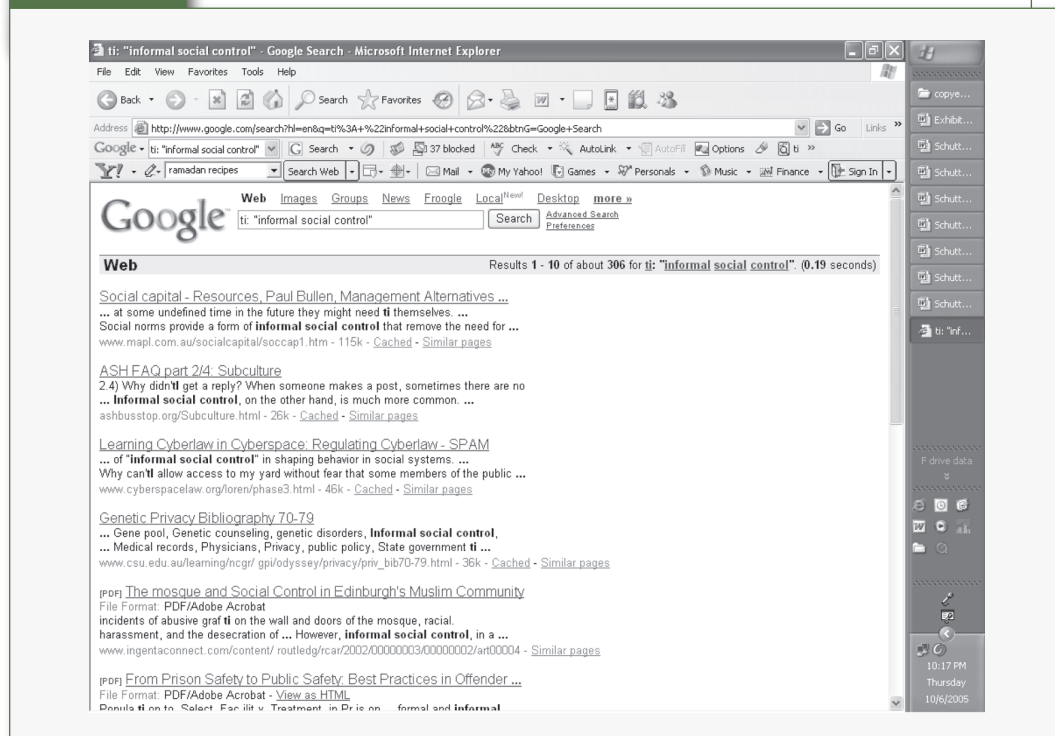
Subject directories (also called guides, indexes, or clearinghouses) contain links to other Web resources that are organized by subject. They vary in quality and authoritativeness, but a good one can be invaluable to your research and save you much time. The main advantage to using subject directories is that they contain links to resources that have been selected, evaluated, and organized by human beings and thus present a much more manageable number of resources. If the person managing the guide is an expert in the field of concern, or just a careful and methodological evaluator of Web resources, the guide can help you to identify good sites that contain useful and trustworthy information, and you can avoid wading through thousands of “hits” and evaluating all the sites yourself.

There are general and specialized directories. The following are three examples of general directories:

- Yahoo! (<http://www.yahoo.com>) is often mistaken for a search engine, but it is actually a subject directory, and a monster one at that. It also functions as a portal or a gateway for a collection of resources that can be customized by the user. Unlike search engines, when you search Yahoo!, you are not searching across the Web but rather just within the Web pages that Yahoo! has cataloged. Yahoo! has a subject directory for the social sciences with more specific listings, including one for social work (http://dir.yahoo.com/social_science/social_work/). Yahoo! also links to

Exhibit A.6

The Results of a Google Title Search



versions of its site in about 20 countries, which would be good to go to when conducting extensive research on one of those countries (<http://world.yahoo.com/>).

- Open Directory (<http://dmoz.org>) is the largest Web directory with four million sites (Hock 2004), and unlike Yahoo!, it is not a portal. In fact, other directories and search engines such as Yahoo! and Google use it. It has 16 top-level categories, including Social Sciences.
- Librarians' Index to the Internet (<http://lii.org>) is a small and highly selective Web directory produced by the Library of California.

The following are some examples of specialized subject directories:

- Argus Clearinghouse (<http://www.clearinghouse.net/searchbrowse.html>) is a guide to subject directories on the Internet, and it classifies them under subject headings.
- BUBL INK (<http://bubl.ac.uk/link>) contains over 12,000 links covering all academic areas.
- Social Sciences Virtual Library (<http://www.clas.ufl.edu/users/gthursby/socsci/>) includes listings for anthropology, demographics, psychology, social policy and evaluation, sociology, women's studies, and other areas.

- INFOMINE: Scholarly Internet Resource Collections (<http://infomine.ucr.edu/>) is produced by librarians across several campuses of the University of California system, and it includes a subject directory for the social sciences.
- SOSIG, Social Science Information Gateway (<http://www.sosig.ac.uk>), is a British site that aims to be comprehensive. It is classified according to the Dewey Decimal System, the classification system used by most public libraries.

Many other Internet subject directories are maintained by academic departments, professional organizations, and individuals. It is often hard to determine whether a particular subject directory such as this is up-to-date and reasonably comprehensive, but you can have some confidence in subject directories published by universities or government agencies. *The Internet Research Handbook* is an excellent source for more information on subject directories (Ó Dochartaigh 2002).

Search Engines

Search engines are powerful Internet tools. It is already impossible to imagine life without them. The biggest problem is the huge number of results that come back to you. If the number of results is still unmanageable, you can try a title search. Exhibit A.6 shows the results of typing the following into the Google search box: ti: “informal social control.” This search will retrieve those pages that have that phrase in their title as opposed to anywhere in the page. This practice usually results in a dramatically smaller yield of results. If you are looking for graphical information such as a graph or a chart, you can limit your search to those pages that contain an image. On Google, this just requires clicking on the “Images” link located above the search box.

There are many search engines, and none will give you identical results when you use them to search the Web. Different search engines use different strategies to find Web sites and offer somewhat different search options for users. Due to the enormous size of the Web and its constantly changing content, it simply is not possible to identify one search engine that will give you completely up-to-date and comprehensive results. You can find the latest information about search engines at <http://searchenginewatch.com>. Hock’s (2004) *The Extreme Searcher’s Internet Handbook* contains a wealth of information on specific search engines. Although there are many search engines, you may find the following to be particularly useful for general searching:

- Google (<http://www.google.com>) has become the leading search engine for many users in recent years. Its coverage is relatively comprehensive, and it does a good job of ranking search results by their relevancy (based on the terms in your search request). Google also allows you to focus your search just on images, discussions, or directories.
- AlltheWeb (<http://www.alltheweb.com>) is a more recent comprehensive search engine that also does a good job of relevancy ranking and allows searches restricted to images and so on.
- Microsoft’s search engine (<http://search.msn.com>) adds a unique feature: Editors review and pick the most popular sites. As a result, your search request may result in a Popular Topics list that can help you to focus your search.
- Teoma (<http://teoma.com>) is one of the newest search engines and has a unique Resources section that links users to specialized directories.

In conclusion, use the appropriate tool for your searches. Do not use a search engine in place of searching literature that is indexed in tools such as *Sociological Abstracts*. Bookmark the key sites that you find in your area of interest. Become familiar with subject directories that cover your areas of interest, and look there before going to a search engine. And when you do use a search engine, take a moment to learn about how it works and what steps you should take to get the best results in the least amount of time.