**Common Pitfalls of Primary Research**

**Summary:** Primary research involves collecting data about a given subject directly from the real world. This section includes information on what primary research is, how to get started, ethics involved with primary research and different types of research you can do. It includes details about interviews, surveys, observations, and analysis.

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There are a few issues that researchers must confront all of the time. Here are some of the most common ones:

**Over generalizing your results**

It is impossible to make sweeping generalizations about groups of people based solely on a few interviews, observations, or surveys. You can find general patterns or trends, but should never assume that what you have found is what exists or what will always exist. In fact, it is hard to make concrete generalizations about any occurrence that relates to people because people themselves are dynamic and situations are always changing.

**Biased methodology**

If you create a biased survey or ask biased questions, you’ll get biased results. See the "creating good survey and interview questions" section for tips on how to make your questions non-biased.

**Correlation does not imply causation**

Remember that just because two results have a relationship between them does not necessarily mean that one causes another to occur. For example, although video games and violent behaviors are shown to have a link, it has not been proven that video games cause violent behavior (instead, it could be that individuals who are predisposed toward violent activity are drawn to violent video games).

**Not considering other related factors**

It is very difficult to be able to study all the factors that relate to a specific group of people, event, or occurrence. Even so, if you do not include these factors within your primary research, they should still be considered when you begin to analyze your data. For example, if you are studying the parking issue on campus and look at the amount of cars being parked on campus vs. the student population, you are omitting other factors like the amount of commuter students, the number of faculty who drive, accessibility of public transportation and many others.

**Being able to know what data is valid**

Some participants in your research may not take it seriously and will provide silly, inaccurate answers or engage in purposely aberrant behaviors. This most likely occurs with surveys that individuals complete but occasionally can occur during interviews or even with observations. These answers can throw off your entire research project, so it is very important that you examine your surveys or interviews for this type of erroneous information. If you find information that is highly questionable, it is best to not include it in your analysis of results.

**Reported behavior vs. actual behavior**

What people report as their behavior might not actually how they behave. People will often report their own behavior in a more positive light than it may actually be. For example, if you are surveying college students about their study habits, they may report that they study for more hours than they actually do.

**Analysis**

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Analysis is a type of primary research that involves finding and interpreting patterns in data, classifying those patterns, and generalizing the results. It is useful when looking at actions, events, or occurrences in different texts, media, or publications. Analysis can usually be done without considering most of the ethical issues discussed in the overview, as you are not working with people but rather publicly accessible documents. Analysis can be done on new documents or performed on raw data that you yourself have collected.

**Here are several examples of analysis:**

* Recording commercials on three major television networks and analyzing race and gender within the commercials to discover some conclusion.
* Analyzing the historical trends in public laws by looking at the records at a local courthouse.
* Analyzing topics of discussion in chat rooms for patterns based on gender and age.

**Methods**

Analysis research involves several steps:

* Finding and collecting documents.
* Specifying criteria or patterns that you are looking for.
* Analyzing documents for patterns, noting number of occurrences or other factors.

**Analyzing Your Primary Data**

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* Now that you've collected your primary data, it’s time to figure out what that data means and what you can learn from it. The keys when analyzing your data is to pull out information that is the most pertinent to your writing, information you can highlight and discuss, and information that will support your claims (if you are making any).

**Interviews**

* Interviews are fairly easy to analyze, as you simply have to go back through the answers you received and decide how to use them within your writing. You can group the answers into categories and create a chart of how those answers may best fit within your paper or article.
* If you recorded the interview with a tape or digital recorder, you may want to listen to it and type a transcript of the interview. Since transcription is a tedious process, only use this option if you need to.

**Surveys**

* When analyzing surveys, you want to get the raw data into form that you can manipulate. If you were using a numerical system or yes/no answer system for your survey, you may find it helpful to enter the results into a spreadsheet program such as Microsoft Excel. If the survey was an open-ended question style, see if you can fit your answers into categories of responses.

**Observations**

* Observations are more difficult to analyze because when you are taking notes, you often write down everything that you see. Start by organizing your notes into categories or by some criteria. Once you have everything organized, see if you can make some generalizations about what you have observed.

**Over-generalizing your results**

* Your first attempts at primary research will most likely include small groups of people and may not be representative of the population as a whole. It is important to remember not to over-generalize your findings--in other words, don't assume that your findings are necessarily true of every person within the group or every person in a society.

**Triangulation of Data**

* One of the benefits of combining primary research with secondary research is in the area of data triangulation. Data triangulation is when a piece of data, a finding, or a generalization is able to be verified with several different research methods. This helps add to your credibility and makes your findings stronger.
* For example, you are studying binge drinking on campus. You find national averages that indicate that 45% of college students binge drink nationwide. You conduct your own research at the Purdue campus. You find that 47% of the individuals you surveyed drink; you also interview a counselor on campus who reports that approximately 1/3 of the students who he sees suffer from a drinking problem. Thus, your results from an interview with an expert and your own survey support the national averages.

**MLA Tables, Figures, and Examples**

**Summary:** MLA (Modern Language Association) style is most commonly used to write papers and cite sources within the liberal arts and humanities. This resource, updated to reflect the MLA Handbook for Writers of Research Papers (7th ed.) and the MLA Style Manual and Guide to Scholarly Publishing (3rd ed.), offers examples for the general format of MLA research papers, in-text citations, endnotes/footnotes, and the Works Cited page.

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The purpose of visual materials or other illustrations is to enhance the audience's understanding of information in the document and/or awareness of a topic. Writers can embed several types of visuals using the most basic word processing software: diagrams, musical scores, photographs, or, for documents that will be read electronically, audio/video applications.

**General Guidelines**

* **Collect sources.** Gather the source information required for MLA Documentation for the source medium of the illustration (e.g. print, web, podcast).
* **Determine what types of illustrations best suit your purpose.** Consider the purpose of each illustration, how it contributes to the purpose of the document and the reader's understanding, and whether or not the audience will be able to view and/or understand the illustration easily.
* **Use illustrations of the best quality.** Avoid blurry, pixilated, or distorted images for both print and electronic documents. Often pixilation and distortion occurs when writers manipulate image sizes. Keep images in their original sizes or use photo editing software to modify them. Reproduce distorted graphs, tables, or diagrams with spreadsheet or publishing software, but be sure to include all source information. Always represent the original source information faithfully and avoid unethical practices of false representation or manipulation.
* **Use illustrations sparingly.** Decide what items can best improve the document's ability to augment readers' understanding of the information, appreciation for the subject, and/or illustration of the main points. Do not provide illustrations for illustrations' sake. Scrutinize illustrations for how potentially informative or persuasive they can be.
* **Do not use illustrations to boost page length.** In the case of student papers, instructors often do not count the space taken up by visual aids toward the required page length of the document. Remember that texts explain, while illustrations enhance. Illustrations cannot carry the entire weight of the document.

**Labels, Captions, and Source Information**

Illustrations appear directly embedded in the document, except in the case of manuscripts that being prepared for publication. (For preparing manuscripts with visual materials for publication, see Note on Manuscripts below.) Each illustration must include, a label, a number, a caption and/or source information.

* **The illustration label and number should always appear in two places:** the document main text (e.g. see fig. 1) and near the illustration itself (Fig. 1).
* **Captions** provide titles or explanatory notes.
* **Source information** documentation will always depend upon the medium of the source illustration. If you provide source information with all of your illustrations, you do not need to provide this information on the Works Cited page.

**Source Information and Note Form**

For source information, MLA lists sources in note form. These entries appear much like standard MLA bibliographic entries with a few exceptions:

* Author names are in First\_Name Last\_Name format.
* Commas are substituted for periods (except in the case of the period that ends the entry).
* Publication information for books (location: publisher, year) appears in parentheses.
* Relevant page numbers follow the publication information.

**Note:** Use semicolons to denote entry sections when long series of commas make these sections difficult to ascertain as being like or separate. (See examples below.) The *MLA Handbook for Writers of Research Papers* 7th edition states that if the table or illustration caption provides complete citation information about the source and the source is not cited in the text, authors do not need to list the source in the Works Cited list.

**Examples - Documenting Source Information in "Note Form"**

**Book**

Tom Shachtman, *Absolute Zero and the Conquest of Cold* (Boston: Houghton Mifflin, 1999) 35. Print.

**Website (using semicolons to group like information together)**

United States; Dept. of Commerce; Census Bureau; Manufacturing, Mining, and Construction Statistics; *Housing Units Authorized by Building Permits*; US Dept. of Commerce, 5 Feb. 2008; Web; 23 Dec. 2008; table 1a.

In this example, the commas in *Manufacturing, Mining, and Construction Statistics* prompt the need for semicolons in order for the series information to be read easily. Even if *Manufacturing, Mining, and Construction Statistics* had not appeared in the entry, the multiple "author names" of *United States*, *Dept. of Commerce*, and *Census Bureau* would have necessitated the use of a semicolon before and after the title and between ensuing sections to the end of the entry.

Furthermore, the publisher and date in a standard entry are separated by a comma and belong together; thus, their inclusion here (*US Dept. of Commerce, 5 Feb. 2008*) also necessitates the semicolons.

**MLA Documentation for Tables, Figures, and Examples**

MLA provides three designations for document illustrations: tables, figures, and examples (see specific sections below).

**Tables**

* Refer to the table and its corresponding numeral in-text. Do not capitalize the word *table*. This is typically done in parentheses (e.g. "(see table 2)").
* Situate the table near the text to which it relates.
* Align the table flush-left to the margin.
* Label the table Table and provide its corresponding Arabic numeral. No punctuation is necessary after the label and number (see example below).
* On the next line, provide a caption for the table, most often the table title. Use standard capitalization rules.
* Place the table below the caption, flush-left, making sure to maintain basic MLA style formatting (e.g. one-inch margins).
* Below the title, signal the source information with the descriptor *Source*, followed by a colon, then provide the correct MLA bibliographic information for the source in note form (see instructions and examples above). Use a hanging indent for lines after the first. If you provide source information with your illustrations, you do not need to provide this information on the Works Cited page.
* If additional caption information or explanatory notes is necessary, use lowercase letters formatted in superscript in the caption information or table. Below the source information, indent, provide a corresponding lowercase letter (not in superscript), a space, and the note.
* Labels, captions, and notes are double-spaced.

**Table Example**

In-text reference:

In 1985, women aged 65 and older were 59% more likely than men of the same of age to reside in a nursing home, and though 11,700 less women of that age group were enrolled in 1999, men over the same time period ranged from 30,000 to 39,000 persons while women accounted for 49,00 to 61,500 (see table 1).

Table reference:

Table 1 Rate of Nursing Home Residence Among People Age 65 or Older, By Sex and Age Group, 1985, 1995, 1997, 1999a



Image Caption: Example Table

Source: Federal Interagency Forum on Aging-Related Statistics, *Older Americans 2008: Key Indicators of Well-Being*, Federal Interagency Forum on Aging-Related Statistics, Mar. 2008, Web, table 35A.

a. Note: Rates for 65 and over category are age-adjusted using the 2000 standard population. Beginning in 1997, population figures are adjusted for net underenumeration using the 1990 National Population Adjustment Matrix from the U.S. Census Bureau. People residing in personal care or domiciliary care homes are excluded from the numerator.

**Figures**

* All visuals/illustrations that are not tables or musical score examples (e.g. maps, diagrams, charts, videos, podcasts, etc.) are labeled *Figure* or *Fig*.
* Refer to the figure in-text and provide an Arabic numeral that corresponds to the figure. Do not capitalize *figure* or *fig.*
* MLA does not specify alignment requirements for figures; thus, these images may be embedded as the reader sees fit. However, continue to follow basic MLA Style formatting (e.g. one-inch margins).
* Below the figure, provide a label name and its corresponding arabic numeral (no bold or italics), followed by a period (e.g. Fig. 1.). Here, *Figure* and *Fig.* are capitalized.
* Beginning with the same line as the label and number, provide a title and/or caption as well as relevant source information in note form (see instructions and examples above). If you provide source information with your illustrations, you do not need to provide this information on the Works Cited page.

**Figures Example**

In-text reference:

Some readers found Harry’s final battle with Voldemort a disappointment, and recently, the podcast, *MuggleCast* debated the subject (see fig. 2).

Figure caption (below an embedded podcast file for a document to be viewed electronically):

Fig. 2. Harry Potter and Voldemort final battle debate from Andrew Sims et al.; “Show 166”; *MuggleCast*; MuggleNet.com, 19 Dec. 2008; Web; 27 Dec. 2008.

* **Examples**
* The descriptor *Example* only refers to musical illustrations (e.g. portions of a musical score). Example is often abbreviated *Ex.*
* Refer to the example in-text and provide an Arabic numeral that corresponds to the example. Do not capitalize *example* or *ex.*
* Supply the illustration, making sure to maintain basic MLA Style formatting (e.g. one-inch margins).
* Below the example, provide the label (capitalized *Example* or *Ex.*) and number and a caption or title. The caption or title will often take the form of source information along with an explanation, for example, of what part of the score is being illustrated. If you provide source information with your illustrations, you do not need to provide this information on the Works Cited page.

## MLA Works Cited: Other Common Sources

#### An Interview

Interviews typically fall into two categories: print or broadcast published and unpublished (personal) interviews, although interviews may also appear in other, similar formats such as in email format or as a Web document.

**Personal Interviews**

Personal interviews refer to those interviews that you conduct yourself. List the interview by the name of the interviewee. Include the descriptor Personal interview and the date of the interview.

Purdue, Pete. Personal interview. 1 Dec. 2000.

**Published Interviews (Print or Broadcast)**

List the interview by the name of the interviewee. If the name of the interview is part of a larger work like a book, a television program, or a film series, place the title of the interview in quotation marks. Place the title of the larger work in italics. If the interview appears as an independent title, italicize it. Determine the medium of publication (e.g., print, Web, DVD) and fill in the rest of the entry with the information required by that medium. For books, include the author or editor name after the book title.

Note: If the interview from which you quote does not feature a title, add the descriptor Interview (unformatted) after the interviewee’s name. You may also use the descriptor Interview by to add the name of the interview to the entry if it is relevant to your paper.

Gaitskill, Mary. Interview with Charles Bock. Mississippi Review 27.3 (1999): 129-50. Print.

Amis, Kingsley. “Mimic and Moralist.” Interviews with Britain’s Angry Young Men. By Dale Salwak. San Bernardino, CA: Borgo, 1984. Print.

**Online-only Published Interviews**

List the interview by the name of the interviewee. If the interview has a title, place it in quotation marks. Cite the remainder of the entry as you would other exclusive Web content. Place the name of the Website in italics, give the publisher name (or sponsor), the publication date, the medium of publication (Web), and the date of access. Remember that if no publisher name is give, insert the abbreviation n.p.

Note: If the interview from which you quote does not feature a title, add the descriptor Interview (unformatted) after the interviewee’s name. You may also use the descriptor Interview by to add the name of the interview to the entry if it is relevant to your paper.

Zinkievich, Craig. Interview by Gareth Von Kallenbach. Skewed & Reviewed. Skewed & Reviewed, 2009. Web. 15 Mar. 2009.

#### A Painting, Sculpture, or Photograph

Include the artist's name. Give the title of the artwork in italics. Provide the date of composition. If the date of composition is unknown, place the abbreviation n.d. in place of the date. Finally, provide the name of the institution that houses the artwork followed by the location of the institution.

Goya, Francisco. The Family of Charles IV. 1800. Museo del Prado, Madrid.

For photographic reproductions of artwork (e.g. images of artwork in a book), cite the bibliographic information as above followed by the information for the source in which the photograph appears, including page or reference numbers (plate, figure, etc.).

Goya, Francisco. The Family of Charles IV. 1800. Museo del Prado, Madrid. Gardener's Art Through the Ages. 10th ed. By Richard G. Tansey and Fred S. Kleiner. Fort Worth: Harcourt Brace. 939. Print.

For artwork in an online format, consult “An Image (Including a Painting, Sculpture, or Photograph)” by following the link Works Cited: Electronic Sources at the bottom of this page.