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**OBJECTIVES**

This course is intended to help you learn how to design and carry out research in sociology, including conceptualization and operationalization, measurement, sampling, data analysis, writing proposals and research reports. It is also intended to give you a deeper understanding of empirical research and the skills necessary to read and understand empirical research articles and books. A main focus will be on developing the knowledge and skills to write a successful research proposal, including a thesis or dissertation proposal and a research grant application.

**ASSIGNED READING**

- \* Allison, Paul 1999. *Multiple Regression: A Primer*. Thousand Oaks, CA: Pine Forge. Multiple regression is so widely used in sociology that I think you will be helped by reading this very clear and easy to follow book in addition to what you did in Soc 901.
- American Sociological Association. 1998. Code of Ethics. Washington, D.C. American Sociological Association. This is available on the ASA website, <http://www.asanet.org>
- American Sociological Association. 2007. *American Sociological Association Style Guide*. Washington, DC: American Sociological Association. Refer to this for all written assignments so that you can follow the ASA format exactly. This is available on Blackboard
- \* Creswell, John, 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, Second Edition. Third edition. Thousand Oaks, CA: Sage. Creswell gives equal treatment to quantitative and qualitative approaches, which is useful for the multiplicity of approaches to sociological research. He also emphasizes writing research proposals. This book is more of a proposal-writing guide than a research methods textbook. You may find it useful to have a resource such as this one to organize your proposal. I will emphasize one particular type of proposal, so some of this resource is not directly relevant for Sociology 902
- \* Miller, Delbert C. and Salkind, Neil 2002. *Handbook of Research Design & Social Measurement*, Sixth Edition. Thousand Oaks, CA: Sage. This is an important resource handbook for social scientists. While it includes information on research design and could be used as a textbook, I find it more valuable as a comprehensive resource tool, and I will use it in that way. You will turn to this book often in your research careers.
- \* Singleton, Royce Jr. and Straits, Bruce 1999. *Approaches to Social Research*, Third Edition. New York: Oxford. This is a good, comprehensive research methods textbook. It has been written to be used for both undergraduate and graduate level courses; the more advanced sections of the book are for the more advanced courses. We will read the entire book this semester. This will be an important resource for your research work throughout the program and in the design

of your research for your MA thesis or PhD dissertation.

The suggested sequence of readings on the next page and the sequence of the lectures and seminar discussions are only loosely parallel. It is mainly to serve as a reminder of where you need to be as the semester moves on because trying to cram all that in just before the exam is likely to be a disaster.

### **SEMINAR PROCEDURE**

**Send Written Assignments As Email Attachments.** I will return them to you with my comments in the margins (which is much better than deciphering my handwriting). Each file should start with your last name, followed by the assignment name. Examples of file names to use: Jones – Abstract 1.doc.; Jones - Archive data proposal.doc

**Meetings With Me.** There will be a sign up schedule for an informal discussion about your paper at two of the seminar meetings. I welcome meeting other times with you. I am in my office almost all the time except Wednesdays. You can just drop in, or you can phone for an appointment.

**Exam And Grades.** The examination will be open-notes, i.e. you can bring notes and outlines that you have prepared, but not book. It will be two hour exam. I will provide an example of a previous examination. The exam will be about  $\frac{3}{4}$  of the way through the semester. This enables you to have the contents of the assigned readings available to you to help you write the best paper. It also frees up time during exam week for you to work on the revision of your paper. If you have a laptop, I prefer your using that for the exam. Send it at the end of the exam time.

GRADES will be based 6% on the abstracts, 4% on the archived data proposal, 30% on the exam, and 60% on the paper.

**Mixed Method Using Qualitative Data.** Qualitative methods are covered in another seminar. Therefore, for this seminar, if you propose a mixed method design (which I encourage, but do not require), you can give only a brief description of how you will obtain and analyze the qualitative data. But you should provide full detail on how you will relate the qualitative and quantitative data to each other using the categories presented in the Creswell book

## SEMINAR SCHEDULE

Date	Topic (L = Lecture by Straus)	DUE	Reading
Jan 20	L Sociological theory and formulation of research problems L Use of archived data ("secondary analysis") * SIGN UP TO MEET INDIVIDUALLY WITH ME during week 4		Singleton 1, 2 Miller 1, 2 Cresswell 1,2
Jan 27	L Research design & research proposals	<u>Journal contents pages</u> marked to show use of archived data <u>Abstract 1</u> - article using archived data	Cresswell 3, 4 Singleton 3, 4, 12 Miller 5*
Feb 3	No lecture. Meet individually with me to discuss research ideas	<u>One page proposal</u> for archived data study	Singleton 6, 7 Miller 4 Cresswell 5, 6
Feb 10	Discussion of preliminary research proposals	<u>Abstract 2</u>	Singleton 8, 9 Miller 3 Cresswell 7, 8
Feb 17	Discussion of preliminary research proposals	1. <u>One page statement</u> that you will develop into research proposal 2. <u>Abstract 3</u> -	Singleton 11, 13 Miller 8* Cresswell 9, 10 Allison 1, 2
Feb 24	L Measurement of social characteristics		Singleton 5, 10 Miller 7* Allison 3, 4, 5
Mar 3	L Multivariate Analysis L Mediator & moderator effects, Effect size * SIGN UP TO MEET WITH ME		Singleton 14,15 Miller 6* Allison 6, 7
Mar 10	Meet individually with me to discuss your paper		Singleton 17 Allison 8, 9
Mar 17	Spring Break		
Mar 24	L Research Writing		Singleton 18 Example grant applications
Mar 31	L Ethical Issues, including protection of human subjects		ASA code of ethics Singleton 17
Apr 7	EXAMINATION on core reading and Lectures	<u>Papers for Apr 14</u> due Friday 10 <sup>th</sup>	
Apr 14	Proposal Review Committee meeting	<u>Papers for Apr 21</u> due Friday 17	
Apr 21	Proposal Review Committee meeting	<u>Papers for April 28</u> due Friday 24	
Apr 28	Proposal Review Committee meeting		
May 5-11	Meet individually for consultation on revising your paper.	Final paper. Due 2 days before the end of exam period	

For chapters in the Miller Handbook marked \* (1) Skim the chapter (2) Pick about 5 pages that interest you and read them carefully. This is intended to familiarize you enough with what is there to enable you to draw on it for your seminar paper and during your career

## ABSTRACTS OF RECENT ARTICLES

In the first few weeks of the semester you will write abstracts of three empirical research articles that fit the following specifications:

- Published in the previous 12 months
- One should be of a study that used a cross sectional design, one that used an experimental design (true experiment, not a quasi experiment), and one that used a longitudinal design in the sense that it measured change over time in a dependent variable
- At least one of the three articles must be based on using archived data (but not census data).
- At least one must report the results of testing for a moderator effect or a mediator effect.

Try to abstract articles that are related, even if indirectly, to your research interests and proposal. If that requires abstracting an article that was published more than a year ago, discuss it with me first.

Select the articles to abstract from issues of any sociological journal by a sociologist in the Previous 12 months. (Students from other disciplines may use the journals of their discipline.) Sociologists do not do many experiments, so they are the most difficult to find. A good source is the SOCIAL PSYCHOLOGY QUARTERLY, published by the American Sociological Association. An excellent journal, but not as good for our purposes because the articles are almost all by psychologists, is the JOURNAL OF EXPERIMENTAL SOCIAL PSYCHOLOGY.

**Archived Data Article.** In recent years, a large percent of articles in the three leading sociology journals have been based on archived data. However, if you have trouble finding one on a topic that interests published in the last 12 months, you can abstract a older article. You can also check the hundreds of articles that have been written based on data from the General Social Survey or the National Longitudinal Study of Youth. Both these organizations have websites with bibliographies. The GSS address is <http://www.icpsr.umich.edu/GSS/>. The NLYS address is <http://www.nlsbibliography.org>. The NLYS bibliography is easier to search.

## OUTLINE FOR ABSTRACTS OF EMPIRICAL RESEARCH ARTICLES

The entire abstract should be on **one** single space page. If the article contains too much to fit on one page, for example tested six hypotheses, choose what you think is the most important hypothesis and abstract that. Type the headings in full caps - as in this outline. If the article gives information needed for the abstract in brief enough form, you can quote those parts i.e. there is no need to paraphrase unless you wish to. Be sure to put quoted sentences in quotation marks.

Send the abstract to me as an email attachment. **Name the file** starting with your last name, followed by Abstract 1 (or 2, or 3) and send it to me as an email attachment.

**REFERENCE:** Give the complete citation. Use the American Sociological Association style exactly, but if your discipline is not sociology, use the style of your discipline.

**HYPOTHESIS:** Give the hypothesis tested by the author, regardless of whether you agree with it. If a formal hypothesis is not given in the article, state the research problem as succinctly as possible. If there are numerous hypotheses, try to subsume them under one, two or three general hypotheses. (Sometimes abstracts are prepared to summarize only one or two of many hypotheses tested in a study; if so, indicate this.).

**SAMPLE:** Describe the sampling method (i.e., how the sample was selected) and key characteristics of the sample used to test the hypothesis(es) you are abstracting. It is not necessary to describe pre-test or preliminary study samples.

**RESEARCH DESIGN:** 1. Classify the research design as either cross sectional, longitudinal, experimental, some combination of these, or possibly other. 2. Mention briefly any other aspects of the research which are necessary to understand the results, or any unusual procedures which are of interest in their own right.

**INDEPENDENT VARIABLE (OR VARIABLES):** The variable(s) who's hypothesized effect on other variables is the primary focus of your study. State what the variable is, and how it is measured. If the study is an experiment, summarize how the independent variable was "manipulated" i.e. made to vary. Note that "cause" is a theoretical concept. It is not necessary that the study you are abstracting has proved that there is actually a causal relationship.

**DEPENDENT VARIABLE (OR VARIABLES):** The variable which is hypothesized to be the effect in the sense of caused by or influenced by changes in the independent variable. State what the variable is and how it is measured.

**MEDIATING AND MODERATING VARIABLES (IF ANY).** A “moderator effect” is the same as an interaction effect. It refers to a relationship between x and y that is contingent on the value of a third variable, the “moderator variable.”

Mediating variables are the intervening variables in a path model or structural equation model testing a hypothesis about indirect effects. A mediating effect can also be established by whether including the hypothesized mediating variable results in a reduction in the regression coefficient for independent variable. The difference between the coefficient with and without the mediating variable measures the extent of a mediating effect. See

**CONTROL VARIABLES AND OTHER FACTORS:** Control variable is the name given to an independent variable that is not a theoretical focus of the study, but is included to rule out “spurious” relationships. If there are many and there is not enough space to give them all, give one or two examples and say how many were included in the study.

**FINDINGS:** See section in this syllabus on Guideline For Describing Statistical Results. Give the literal facts or relationships found, not the author's opinions about the results (that goes in the Discussion section). State the findings without using statistics. For example "First born children have higher social responsibility scores than later born children." However, you may also use specific figures if that is necessary and they can be given briefly. Use "propositional" format if possible, e.g. "The more of X, the more (or less) of Y". See section in this syllabus on Describing Statistical Results for more on propositional format.

**DISCUSSION:** The interpretation of the findings. Examples of things that are under the heading of “discussion” are (1) What accounts for the findings, (2) What do the findings mean, (3) What is the importance of the findings. Example: "The findings are consistent with and support the theory that parents have stricter expectations for first-born children, and tend to let later-born children get away with more. Thus first-borns grow up....." As in the case of the HYPOTHESIS this should be a summary of the author's discussion. (But, if you do include your own view or evaluation, it should be clearly labeled as such.)

**ABSTRACTORS NAME AND DATE:**

## SEMINAR PROJECT ON USE OF ARCHIVED DATA AND MEASUREMENT

These are simple content analysis of two characteristics of the leading sociology journals: the extent to which the articles use archived data, and the extent to which they use reliable and valid composite indicator measures. Each of you will pick or be assigned a journal to search on these two topics. You should search two issues published in the most recent year. Choose the first two issues of the year. If someone else is doing those two issues, pick the next two issues.

Copy the pager or pages with table of contents.

Write your name and the date on top left of the Table of Contents

Examine each article to determine if it used archived data. To determine if it used archived data, read the acknowledgement footnote and the part of the Methods section that describes the sample. If an article used archived data, write “Archive” next to it on the right side of the Table of Contents. If in doubt, include it as an example of a study using archived data, but with a question mark following.

Make a copy of the first page of each article that used archived data. The abstract or acknowledgment footnote will often give the source of the data. If not, also copy the page with the sample description and write the name of the first author in the top margin.

At the top right of the table of contents page, write the number of articles that used archived data followed by a slash and the number of articles in that issue, like this 1/6 2/8. Convert that to a percentage and write it in.

Count Research Notes as articles, but do not count Letters to the Editor or book reviews.

Bring this to the next class and we will tabulate what each of you found to determine what percent of articles used archived data that year and how much it differs from journal to journal.

## Measures Used In Sociological Research

Later in the semester, after measurement has been covered in the assigned reading and after I have talked about measurement, you will go back over the issues of the journal that you examined for archived data to examine them for the methods to measure the main independent and dependent variables. I will provide specific instructions when I lecture on measurement.

### BRIEF PROPOSAL FOR A STUDY USING ARCHIVED DATA

#### (One single space page of text, plus a causal model)

The largest archive is maintained by the Interuniversity Consortium For Political And Social Research. Their web site describes each study and provides a list of the variables. There are many other archives. See the list on Blackboard. Pick a study that has variables that interest you and write a one-page proposal for a study using that data, Use the following headings

**Send the proposal to me as an email attachment.** Name the file starting with your last name, followed by Archived Data Proposal and send it to me as an email attachment.

**TITLE:** For purposes of this proposal, the title should usually consist of a word or phrase to indicate the independent variable or variables, the word AND, followed by a word or phrase to indicate the independent variable or variables. If there is some other interesting feature that you can work into the title, that is great. Do not use the phrase "a study of" or similar phrases.

**THE MAIN RESEARCH QUESTION OR HYPOTHESIS:** If you use hypotheses (which is usually, but not always, best) for a cross-sectional study use the present tense. Avoid saying "positively" or "negative" relationship. Instead, whenever appropriate state the hypothesis in "propositional" format (the more X the more Y). See section on presenting quantitative results later in this syllabus. If you are proposing a longitudinal or experimental study, future tense is appropriate.

**DATA SET AND SAMPLE:** A one or two sentence description of the sample and number of cases, such as "A random sample of all households in Detroit Michigan in 1955. N+1,244.

**RESEARCH DESIGN OF THE ORIGINAL STUDY;** 1. Classify the research design as either cross sectional, longitudinal, experimental, some combination of these, or possibly other. 2. Describe briefly any other aspects of the research which are necessary to understand the results, or any unusual procedures which are of interest in their own right.

**DATA ANALYSIS METHOD THAT MIGHT BE USED:** For example, OLS regression, logistic regression, analysis of variance or covariance, multi-level modeling.

**INDEPENDENT VARIABLE (OR VARIABLES):** State what the variable is, and if you can find that information without a large time investment, say how it was measured, such as a single question or a composite scale, or an experimentally "manipulated" condition.

**DEPENDENT VARIABLE (OR VARIABLES):** As above

**MEDIATING AND/OR MODERATING VARIABLE.** Your proposal should specify testing either a mediating (i.e. indirect) effect, or testing for a "moderator" (i.e., interaction"), or both.

**CONTROL VARIABLES AND OTHER FACTORS:** Name at least one control variable, but more is better. You do not need to say how these were measured.

**CAUSAL MODEL:** See example at the end of this syllabus

### PRELIMINARY RESEARCH PROPOSAL

#### (One single space page of text + a causal model)

**Note:** (1) The sole purpose of the preliminary proposal is to help you get started and to facilitate the discussion of your research by the seminar. It will not be used for grading. (2) The research you propose does **not** need to use archived data, although it can if that is what you want to do. (3) You are not committed to writing the final paper on the topic you choose for this preliminary proposal. (4) The length should be one single space page, plus a causal model on a second page. Use the headings given below. If you have trouble

providing any of the needed information, you can put ??? after the heading and we will work on it with you during the seminar discussion and during my meeting with each of you individually.

**TITLE:** See this heading in archive data proposal outline

**THE MAIN RESEARCH QUESTION OR HYPOTHESIS.** See instruction in Archive Data proposal.

**THE IMPORTANCE OR VALUE OF THE RESULTS.** For purposes of this seminar, the study must make a theoretical contribution in the sense of *testing an explanation* of why some social phenomena occurs or the consequences of some social phenomenon. Best of all would be if, in addition to testing a specific explanation, the study could help resolve some controversy or inconsistency connected with the issue you are investigating, and if the research is presented as being carried out within a some more general theoretical framework, such as conflict theory, social disorganization theory, social capital theory, functionalist theory, etc. If the study might also provide information that can help social policy or practice, that is even better, but it is not a seminar requirement.

**POSSIBLE TYPE OF SAMPLE,** including number of cases

**RESEARCH DESIGN.** See instruction in Archive Data proposal.

**INDEPENDENT VARIABLE (OR VARIABLES):** State what the variable is and how you might measure it, such as a single question or a composite scale, or an experimentally "manipulated" condition.

**DEPENDENT VARIABLE (OR VARIABLES):** As above

**MEDIATING AND/OR MODERATING VARIABLE:** See instruction in Archive Data proposal

**CONTROL VARIABLES AND OTHER FACTORS:** See instruction in Archive Data proposal

**CAUSAL MODEL.** See example at the end of this syllabus

## GUIDELINES FOR DESCRIBING STATISTICAL RESULTS

**Put statistics in tables.** Try to put all statistics in a table, not in running text. The main exception is when there are only one or two statistics, for example the percentage or mean for Group A and Group B. A table is silly for that. But sometimes there are a series or sets of one or two which should be in table. For example if you are writing about SES groups, and the data is what percent read Time magazine, put the percent for each group in running text. But if you are also presenting what percent read Newsweek, and People Magazine, and three other magazines, make up a table with the SES groups as one dimension and the Magazine as the other dimension.

**Describe results without using numbers** whenever possible. Do not repeat statistics in the text. Do not say "Table 3 shows that 29% of Group A, 34% of Group B, and 10% of Group C believed that....." Instead, say what these percentages show (without using numbers to say it); for example: "Table 3 shows that Group C had the lowest percentage who believed that....."

**Mention the table, and (if a complicated table) the part of the table** at the beginning of the presentation of the results. For example: Table 3 shows that...., or: The first column of Table 3 shows that....

**Focus on the "effect size"** (difference between means or percentages, correlations, regression coefficients), more than the significance levels. Give priority to describing the extent to which X and Y are related, or how much group A and B differ from each other. The significance test tells you how much confidence you can have in those associations or differences. It can be misinterpreted because, if the N is big enough, a test of significance can mean that you can have a lot of confidence in a tiny difference.

**Use "propositional format"** for presenting correlation and regression coefficients. Do not say "The upper left correlation in Table 3 shows that the correlation between year in college and feminist attitudes is .28" (the reader can read that in the table!) Instead say "The upper left correlation in Table 3 shows that the longer students have been in the university, the higher the score on the feminist attitude index. The way to construct a propositional statement is to begin it with "the more" of the independent variable when presenting propositions based on correlations or standardized regression coefficients. This applies to negative as well as positive correlations. If the coefficient is positive, this is followed by "the more" (or, if a negative correlation, "the less") of the dependent variable (or equivalent phrase such as "the higher" or "the lower"). Whenever possible, avoid "X is positively correlated with Y" Say instead, the "The more X, the more Y."

Note that each of the examples mentions the independent variable first. That is a good principle to follow whenever when you describe results, provided it does not conflict with some other principle that takes precedence for that sentence, as sometimes happens. Consistency in mentioning the independent variable first will help the readers understand what you are presenting.

**Avoid “positive correlation” (or association) and “negative correlation”** whenever possible for papers in this seminar. Instead, of “positive correlation” say “the more [X], and for negative say “the more [X] the less [Y].

**Format when the independent variable is binary ("dummy variable")** e.g., female=1 male=0, Catholic majority=1 Protestant majority=0, High income=1 low=0, mixed marriage=1, other=0. The format is:

...1's...tend to have more (less).....dependent variable..... or:  
When ...1...is present, there is more (less)....dependent variable.....

Example: Suppose you found a correlation of .37 between the percent Catholic in a community and the amount spent per capita on public schools. You could present this as "Communities with a Catholic majority tend to have a higher per capita expenditure for public education. Or: "If the majority of the population is Catholic, there is a greater per capita expenditure for public schools."

**Discussion of findings.** To discuss means to comment on or speculate about the findings, i.e. to go beyond the findings. Just be sure that your choice of words indicates what are empirical findings, and what is discussion. Example: "The differences between group A and (Swafford, Kozyreva, Kosolapov, Kovtoun, & Nizamova, 1991)C suggest that ....." The term "suggest" alerts the reader that you are now going beyond the facts.

Three of the things that are often in a discussion are: (1) Why the results you found occurred, e.g. causal processes or circumstances. (2) Whether the results are consistent with or contrary to previous empirical research and theory. (3) The implications and importance of the findings. The theoretical implications are what the findings suggest in the way of causal theories. The practical implications are what the findings suggest can be done (or which should avoid being done) that would make life better.

In sociology the empirical results are sometimes discussed as they are presented, whereas in psychology and in many interdisciplinary journals, the discussion of a result must be in a separate "Discussion" section. If you discuss results as they are presented, you need to be especially careful to use language that will clearly differentiate between the empirical results and your discussion of them. See the section on this is the Checklist.

**Presentation of unstandardized regression coefficients.** The format is "For each increase of...one...give the independent variable...(e.g., dollar, percent divorced, child per family. point on the stress index, etc.,) there is an average increase (decrease) of...give the regression coefficient....give the dependent variable" e.g.:

...suicides per 100,000k population,  
...points on the fear of crime index,  
...dollars donated to the church,  
...percent who attend church, etc

Example: Suppose you found an unstandardized coefficient of 8.6 for the regression of suicide on the divorce rate (the percentage divorced), you could say "For each increase of one percent in the percentage of the population who are divorced, there is an average increase of 8.6 suicides per 100,000 population."

Note unstandardized regression coefficients can not usually be used to talk about the relative importance of different variables in the regression. That is only possible if all are expressed in the same units, such as all use \$ or all use Z scores (if Z scores, that is the same as the standardized coefficient, or Beta).



**Dichotomous independent variables** ("dummy variable"). The format is:

Women have an average of...insert regression. coef...more (less)..insert dependent variable...than men

If the faculty member is female, they have average of..give reg. coeff...more (less)..give dependent variable....

Example: You did a study of faculty salary (measured in dollars per yr). One of the independent variables is gender (female=1, male=0). You found a regression coefficient of -873. You could present this as follows:

"Women faculty in this sample get an average of \$873 less per year..."

**Results From Logistic Regression** (A) For an odds ratio of 1.3, for example, you could say that it "shows that each increase of one unit (one point, one category, etc) of whatever the independent variable is, multiplies the odds of the dependent variable 1.3 times. Or you could say that it increases the odds by 30%." Odds ratios below 1, such as .73 or .64 indicate a "negative relationship." As previously indicated, for this seminar, I would like you to avoid presenting findings with the words "negative relation" or correlation (the same with "positive"). Instead, use a prepositional format (as explained above). In the case of logistic regression, you could say that an odds ratio of .73 indicates that each increase of one unit of the independent variable is associated with an average decrease of 27% in the odds of whatever the dependent variable is. The 27% is obtained from subtracting .73 from 1.00.

Remember that every rule has exceptions, and that applies to these suggestions. In addition, not every sociologist follows the style give above.

## REVIEW COMMITTEE PROCEDURES

In the last weeks of the seminar, you will role play a research grant review committee. Each meeting of the committee will review the drafts of 3 or 4 research proposals that members of the seminar have written. The feedback from this review, including my written comments, will serve as the basis for revising the proposals.

The entire seminar will constitute the review committee. Every member of the committee is responsible for reading and evaluation of ALL the proposals. In addition, there will be two "primary reviewers" for each proposal who prepare written critiques.

**Number of copies of paper and due date.** For this system to work it is essential that copies of your proposal be made available to other members of the seminar ONE WEEK BEFORE the proposal comes up for review. Distribute the proposal to all members of the seminar as an email attachment.

**Primary reviewers.** Although all members of the seminar need to read and complete a rating form for each paper, two primary reviewers will also be assigned for each paper. The primary reviewers will write a summary paragraph and one to three single space page critique to be presented to the entire committee (see below for more on the review procedures). Please make TWO COPIES of these statements: one for the author of the paper and one for me.

**Committee procedure.** The consideration of a proposal starts with the two primary reviewers reading their summary and evaluation and making their recommendation to the committee. This is followed by a discussion of the proposal by the committee. It is important that ALL members of the seminar read the proposals (not just the primary reviewers) because (1) The discussion of the proposal in the seminar depends on your having done so and a good discussion is important to aid the person submitting the proposal in revising it. (2) The author of each paper will not give an oral presentation of the paper. Consequently, the value to you of the seminar discussion of each proposal depends on whether you have read and therefore know what the discussion is about.

**Proposal rating forms.** Although only the primary reviewers need to prepare written critiques, everyone will fill out a rating form for each proposal. You will rate each of the aspects of the proposal that are listed on

that form using the following rating scale: 1 = Unsatisfactory, 2 = Satisfactory, 3 = Good, 3 = Very Good, 5 = Excellent, outstanding. These ratings are mainly to help you focus on each specific aspect of the proposal. The rating should have been completed BEFORE the meeting of the seminar. At the end of the discussion, you can, if you wish, revise the ratings. The rating forms are to be given to me at the end of the discussion on of each proposal. Note that the rating forms, as contrasted to the narrative comments, are not given to the person whose proposal is being reviewed. The responses on these rating forms will NOT be used to assign grades. They refer to the preliminary proposal, and only the final proposal is graded.

We will depart from NIH and NSF procedure in two ways: We will not vote to approve or disapprove, and the author of the proposal will be given an opportunity to comment.

**Final revision of proposals** To help you revise the paper, you will have the written comments of the two primary reviewers, my written comments, and your notes on the discussion of your proposal in the seminar. It is not always necessary or possible to take into account all of the points raised. Some may just be wrong. Others may not be very important. Others may be excellent but beyond what a granting agency would approve for a new Ph.D. applicant. Some comments and suggestions may be dealt with by explaining why you will not be doing something rather than by changing the proposal to do that thing. You should consult with me about these issues after the seminar meeting in which your paper was reviewed.

### **CITATION SEARCH METHOD OF LOCATING STUDIES**

An important learning experience for those who have not yet done this, is to use Science Citation Index to do a *citation* search, as compared to the more usual author search or subject word search. A citation search finds all articles that have cited a certain reference. This can sometimes help you find studies that are difficult to locate using the usual search by subject key word or by author.

A citation search lets you find books and articles that have cited a reference you specify. Suppose, for example, you are interested in the unique type of experiments used to test theories of aggression done by Hokanson. You want to find other studies that are also used his approach to study aggression. A subject search for aggression and experiment will not be much help because there have been thousands of experiments on aggression and it is hopeless to try to look through them to find which ones follow the Hokanson model. Instead, a citation search lets you find articles that cite the article by Hokanson which reported on an experiment to test the catharsis theory (Swafford et al., 1991). This gets you a list of all the articles that cited Hokanson's article. It is likely that some of the articles which cite that article by Hokanson will also be of interest to you (on the assumption that you are interested in the Hokanson approach). A limitation of doing this is that the reference you use to find articles that cited it must be at least two years old, and preferably 3 or 4 years old because it takes a minimum of about two years for articles that might have cited the reference you chose to be published.

Your paper should include an appendix headed CITATION SEARCH. The appendix should start with a statement of what you were looking for and explain why you chose to look for articles that cited the reference you used for the citation search. Include a copy of the output (or, if it is extensive, part of it).

#### **Method**

- Open Web of Knowledge
- Click on Web of Science
- Enter the reference for which you would like to find articles that cited it. For the author, enter the last name and only one initial, like this: Ramirez L\* Note: no comma and no space between the initial and the . In this case, because he sometimes uses Luis as his first name and sometime Ignacio, I entered: Ramirez I\* OR Ramirez L\*
- When the reference is found, it will indicate the number of times it was cited
- Click on the that number and it will show those references

## GUIDELINES FOR RESEARCH PROPOSAL PAPER

The work on this paper will occur in three stages: (1) A one-page outline of the research you have in mind, as presented earlier. This will be read in advance and discussed in the seminar. It is designed to give your proposal the benefit of the ideas and suggestions of other members of the seminar. (2) A draft research proposal. This will be in the style typically expected by funding agencies such as the National Science Foundation or the National Institutes of Health. This will give you experience preparing this type of document. These proposals will be reviewed by the seminar acting as though they are a review committee evaluating proposals submitted to funding agency. I will also provide a written evaluation and suggestions. (3) A revision of this paper. The revision is the only version I will use for grading purposes.

Some other points on the research design papers: (1) The methodological aspects of the paper should, if possible, reflect the things you have learned from the core readings. (2) A causal flow, path, or cybernetic systems diagram must be a part of all research designs in which such a diagram is appropriate. If you think a diagram is not appropriate, see me. (3) There must be a section on protection of human subjects: Informed consent, privacy, and safety. (4) All papers must include a section in which hypothetical data is analyzed and conclusions drawn. This applies to both quantitative and qualitative data. In the case of proposals for research using qualitative methods, the hypothetical data must illustrate use of a computer program for qualitative analysis.

This syllabus includes a "Checklist for Research Proposals for Soc 902" that needs to be followed very closely.

### Miscellaneous Points

**Forms.** The NIH grant application form and grant application instruction book are available on blackboard. To use the applications form, type in what is asked for in gray areas and save the form on your computer. The most important part of the application is the Research Plan, which is on ordinary paper. When you distribute copies of the paper by email to the seminar for review, you will probably need to do it as two documents: The NIH forms, and the Research Plan.

**Provide copies of your paper by email.** Please name your files beginning with your last name, as follows: [your last name] NIH forms, and [your last name] Research Plan. The email sending these files should have the following in the Subject line: Soc 902 [your last name] and either Draft research proposal, or Final research proposal. I need that information to find your papers in the mass of email I get every day.

**Abstract.** You do not need to indicate "health relatedness" in the abstract unless that is relevant for your study. However, to the extent that you can indicate the practical application of the anticipated findings (in addition to their theoretical or scientific contribution), that is very desirable.

Use ALL the space available in order to get as much information as possible about your study in the abstract.

The methodology must be briefly described in the abstract

**Budget justification.** The budget must be justified on the page after the budget page. The justification can refer to the main text where that helps avoid repetition.

Ask for support for a minimum of one year.

The justification must indicate how much time will be spent on each of the main tasks, e.g., 100 interviews at 2 per day = 50 days or about 3 months of 22 working days.

**Biographical information.** Although you are role-playing someone applying for a grant, do not give yourself more education or experience than you actually have.

**Resources and environment page.** Saying that the facilities are adequate or excellent is not specific enough. You need to say what facilities you are referring to, and for what specific purpose they are adequate, and you need to say something that would lead the reader to believe the resources are in fact adequate, excellent, or whatever term you use to describe the facilities and environment.

The most important facilities for research that sociologists usually do is the library and the presence of knowledgeable and experienced colleagues who have a track record of publication, especially if it is in the same or related aspect of sociology (or aspect of whatever your discipline is).

### **The Research Plan**

(NOTE: The guidelines in this section generally apply to journal articles as well. (The main exceptions are the headings required by NIH and the hypothetical data.). Therefore learning these guidelines will help you write journal articles as well.

**Format.** It is essential to follow the *ASA Style Guide* (available on Blackboard) exactly (unless you are from another department, in which case the style of your discipline should be used).

**Length.** About 10 single space pages of text, plus references, figures, tables. See examples of previous actual grant applications. (The NIH limit is 25 pages, and almost all actual proposals are that length)

**Cite References in every section,** not just the section focused on reviewing previous studies.

**Reference Manager Program.** I strongly recommend your using a program such as EndNote for your references. This program lets you download references from Soc Abstracts and Psych Lit into your "Endnote library" and avoid the time and errors of typing. It will format your references into the ASA style automatically. As you gradually accumulate references in EndNote, it will become an amazingly valuable aid to your research. For example, you can search it to look for an author, for any word or combination of words in the title, or if you included notes or abstracts, any words in the notes abstract. If you send an article to a non-ASA journal, it will automatically reformat the references to fit the style of that journal. It also does lots of other things, such as telling you if you forgot to include something that you cited in the reference list.

**Headings.** Your proposal must demonstrate that you know how to use logically nested headings. There must be at least one place in the proposal where you use 3<sup>rd</sup> level headings as well as 2<sup>nd</sup> level headings. Proper use of headings is a great help to readers and an even greater help to you in producing a logically organized document.

The headings A, B, C, etc on page 3 of the NIH forms must be used unless you give some reason why they are not appropriate for your research. First level headings are centered and in capitals; 2<sup>nd</sup> level heads are underlined and flush left, and 3<sup>rd</sup> level headings are formatted as if they were first sentence of the paragraph, but in bold. Remember that headings must be "nested" that is, each 3<sup>rd</sup> level heading must be a category of the 2<sup>nd</sup> level heading that it is under. This is a format used by many journals, so it is part of your career training to use it.

**Three levels required.** In addition to the first-level headings required by NIH, for this seminar you must use lots of 2<sup>nd</sup> and at least some 3<sup>rd</sup> level subheads. A rule of thumb that I use to check over my own articles and proposals is that there should be at least one heading every two double spaced pages, or every single spaced page. Headings are a great help to the reader in knowing what issue is being addressed and even more of a help to you in staying on track. This checklist illustrates a three level system. The title of a document does not count as a heading.

**Add "bookmarks"** for Sections A through G, and for your References and for the tabular summary of the research. This will help you in writing and revising your paper because you can more easily go back and forth to different parts. (A peculiarity of Word bookmarks is that the name you type for the bookmark

cannot have embedded spaces or special characters. But you can shift from lower to upper case as a means of separating words without using a space between them. For example, Research Design can be typed as ResearchDesign

## **Section A. SPECIFIC AIMS**

It is usually advisable to start with a brief paragraph identifying the issue you will investigate and why it is important to find out about it. Then list the hypothesis(es) or research question(s) to be investigated. You can (and probably should) also very briefly discuss each hypothesis or question. More detailed discussion comes in the Background and Significance section. When possible, it is usually best to state hypotheses in "propositional" format, i.e. "The more X, the more Y" or "The more X the less Y." X is an independent variable and Y is one or more dependent variables. See the section on Propositional Format in the section on Presenting Research Results.

## **Section B. BACKGROUND AND SIGNIFICANCE**

"Background" refers to the review of literature. "Significance" refers to the contribution of your study to sociology, and to any practical contributions that are made possible by your results. Although Background is the first word in this heading, if it seems better to start with the "Significance" of your study (which can and should also include citation of reference, you should do so.

Do **not** use a heading "Review of Literature." Instead, use headings for each aspect of the literature you are reviewing. Examples would be headings for a concept or theory that you are using, headings for the relation of each independent variable to a dependent variable, and a heading for each mediating or moderating variable. Subheadings are often needed.

**Theoretical and Practical Rational.** This is where you make the case for why anyone would want to know what you propose to find out ("Significance"). Section B must include a theoretical rational in the sense of what the study might contribute to sociolog and should be in section B of the Research Plan. It must also be in the abstract and mentioned in Section A of the proposal. As I will explain in one of the first two lectures, for purposes of this seminar, a theory is an explanation of what causes something or a specification of the effects of something. If you also point out possible practical applications that could result from the findings, that is very desirable, but not required for this seminar. The theory must be in the abstract as well as the main text.

The theory you propose to test, explore, or develop must go at least a little beyond a simple two variable proposition (X causes Y). It should take into account how "master statuses" such as gender, age, and SES might affect things, plus other specifications that apply to the particular focus of your study. It must include either mediating or moderating process variables or both.

**Competing theories study.** This is very desirable, but not required for this seminar. The crux of it is to get data that will permit you to measure the effect of two or more explanations instead of just one explanation. Then you can present findings on the relative importance of the two explanations, and their joint effect.

**Causal Model.** A diagram of the theoretically posited causal relationships must be in all papers for this seminar, even though it is not a requirement of any granting agency. The diagram must also be discussed in the text. One of the lectures will explain and illustrate what is involved. This requirement does not mean that you must use path analyses as the mode of analyzing the data. Nor does it mean that your study must prove a causal relationship. It is just a method of making clear the theory that you propose to investigate.

Your proposed study must investigate at least one mediating or moderating variable, or both a mediating and a moderating variable

## Review of previous research.

**Tabular summary.** This is an appropriate, but not a necessary part of an actual grant application. However, it is necessary for this seminar. The table should summarize the *empirical* research (qualitative as well as quantitative) on the main issue of your proposal. Each empirical study of that issue should have row in the table. The usual headings are Study, Sample (type of people in the sample, and the N), Measure of Independent Variable, Measure of Dependent Variable, and Findings. But this will vary with the topic. See the example at the end of this document, but do not necessarily use those headings. For example, if you are reviewing the effect of number of children in the family on social mobility, there would probably be no need to have a column for the independent variable because it is the same for all the studies. However, because there are many ways to measure social mobility and because that can have a major effect on the findings, there should be a column in which you indicate the measure used in each study. If there is a third variable that affects the relation of X to Y, a column for how that has been taken into account is probably needed. For example, I do research on corporal punishment by parents ("spanking"). The rate is drastically affected by the age of the child because parents are much more likely to spank 4 year olds than 14 year olds. So, I would need to have a column for Age of Child, or always include that in the Sample column. Do not include meta analyses and other reviews of the literature, or theoretical papers. They should be covered in the text.

**Use the table in the text of your proposal.** The table will be a great help to you in getting on top of the literature, and is often a valuable part of an article. The table should be mentioned in the text of your paper and be used as a basis for part of what you say. It is usually possible to tally things from the table, and you should do that and give the results in the text. For example, you can give the range of N's and the modal N. You can give the percentage of studies that found support for the idea that you are reviewing and the percentage that did not. If there is some theoretical focus or methodology that is important, you can say what percent of the studies in the table used that focus or methodology, including (if that is the case) that none did.

**Organize the material.** The review of literature sections must organize the literature under sub-headings, for example. A simple but often effective method of organization is studies of the relation of the independent variable you are using to the dependent variable of your study. Studies of the relation of your independent variable to our moderator variable. Studies of the relation of your moderator variable to your dependent variable. Other organizing headings might be studies using method X, Studies using method Y; Studies done from the perspective of theory A, Studies done from the perspective of theory B. If there are sufficient studies in each aspect, the Tabular Summary should have separate sections for each aspect.

**Evaluate.** A good review critically evaluates the research and reaches conclusions about what is known on the issue covered under that sub-heading (and sometimes also overall). An outstanding review also suggests possible reasons for discrepancies in the literature, implications of the findings, and/or suggests solutions to methodological problems. Although specific examples are needed, a critique of each study, one-by-one is usually not necessary.

**Relate To Your Study.** A review of literature for an article or a research proposal differs from a review in a textbook in that it is not an end in itself. It is a tool for the specific study. It does not aim to cover all the literature, only that which is relevant for your study. Every paragraph, or almost every paragraph should, if possible, indicate the relation of what is in that paragraph to your proposed study. If it is not possible to do that for each paragraph, it must at least be done for each sub-heading. It is often just a sentence that introduces or concludes a section of the review, e.g. "Since the above review indicates important problems with the research on ....X..., the research described in this proposal will ....." OR "Because the studies just reviewed show that ...X... is related to..Y.., X is included as one of the independent variables in the proposed research." The relevance may be indirect, but if so, it is important to trace out what the connection is to your study.

**Writing Style Must Distinguish Between Empirical Research And Other Writing.** It is important that your wording makes clear what is an empirical finding and what is an interpretation or theory. This can be done explicitly, or implicitly by using different terms for the two types of references. For example, use "studies"

and "findings" for describing empirical data (either quantitative or qualitative), and terms such as "argues that" "holds that" "theorizes" etc for material that is not based on empirical data.

If you can work in a specific finding, that makes the fact that you are describing an empirical study clear. The following sentence illustrates using language that lets your readers know what is empirical evidence and what is not: "An early paper by Jones (1953) argued that Protestants are more likely to...xx... This theory was confirmed in a study by Dutton (1988) which found that the Protestants are 20% more likely to...xx..."

**Come to a Conclusion** about the state of knowledge on the issues you are proposing to study, even if it is to conclude that no conclusion is possible because the studies are inconsistent. Several conclusions, one for each subheading of the review, and an overall conclusion are often needed.

### **Section C. PRELIMINARY STUDIES/PROGRESS REPORT**

Simply say Not Applicable, unless you have done preliminary empirical research on the issue of your proposal.

### **Section D, RESEARCH DESIGN AND METHODS**

**Headings.** The minimum number of headings is 2<sup>nd</sup> level headings for the sections on Sample, Measures, and Data Analysis, and also 3<sup>rd</sup> level headings, for example, for each measure in the Measures section, even if it is only a one sentence paragraph. See below for more on this section.

**Questionnaire or interview schedule.** Name each topic on which it will get information, and then give one or two examples of questions that would get that type of question. You can append a draft of the questionnaire.

**Justify your choice of methods,** including the type of design, the measures, and the method of data analysis. Often the best way of justifying is to briefly compare the method you will use to alternative approaches.

**Index/Scale construction.** For purposes of this seminar every proposal must include a design for creating a multi-indicator index (also called a scale) to measure a variable that is relevant for your study. The design must indicate how you will use 3 or more indicators to create an index. This would usually be in the methods section, or it can be in an appendix. Head the section with the name of the index, such as Social Mobility Scale. Usually there will be a heading under that for each of the following:

Definition of concept being measured

Justification of indicators

The indicators (or if there are a large number, give at least three examples)

Method of combining the indicators to create the index

Method of determining if it is appropriate to combine the indicators, i.e. to establish that they represent a latent dimension

Method of measuring internal consistency reliability and temporal reliability

Validity. If there is no practical way of investigating validity at this stage, that is ok, but needs to be explained.

**Present and discuss hypothetical multivariate findings.** This is not something that is in an actual grant application. But it is an important learning experience for you and must therefore be in all papers for this seminar. Include this in the methods section after the section on Data Analysis, as an example of how the findings could turn out and how you would interpret them if they did. The fact that these are hypothetical findings must be explicitly stated in the heading. (If you also have some real findings, they should be in the Preliminary Results Section.)

In an actual study, it is important to begin by evaluating the descriptive statistics for your key variables. However, for this seminar, you do not need to, and usually should not, present hypothetical descriptive statistics. Instead hypothetical statistical results should focus on results that provide data on one of your main hypothesis or research questions.

The hypothetical results must include either a mediating or a moderator (interaction) effect, or both.

If a moderator effect is specified, your paper must include: (1) A table of hypothetical results that includes an interaction effect variable as one of the independent variables. This would be a variable created by multiplying the independent variable by the moderator variable. (2) A graph showing two plot lines, one for when the moderator variable is low (or absent) and one for when the score on the moderator variable is high (or present).

If a mediating effect is specified, and you follow the procedure describe in Baron and Kenny, the data analysis must show two regression outputs: Model 1 is without the mediator; Model 2 has the mediator added. See Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182), If you use a path analysis approach, there must also be two regressions: For Model 1 the dependent variable is regressed on the independent *and* the mediating variables; For Model 2 the mediating variable is regressed on all the variables to the left of it in the causal model I recommend the path model approach because it presents results in a form that you will be able to write-up more easily and will be understandable by more of your readers. (see Straus handout on path analysis and Dearing, E., & Hamilton, L. C. (2008). Contemporary advances and classic advice for analyzing mediating and moderating variables. In writing up the results of a path analysis, refer your readers primarily to the coefficients on the path model diagram.

If you are proposing a series of analyses. It is sufficient for this seminar to write up only a part of the hypothetical data. For example, if you are proposing a path analysis with six independent variables and 2 intervening ("mediating") variables, your hypothetical data could be for just one or two of the independent variables and your text presentation could trace through the "effect" of just one or two of them. (You would need a sentence to explain that you are presenting hypothetical data for only a part of the study that would be done if the study were funded.)

If the hypothetical data are for a path analysis, give both a table of regression coefficients and also a diagram with those path coefficients. Base the write up on the diagram and refer to specific paths.

Use "propositional format" where appropriate to describe the results in the table. See the section on Presentation of Statistical Findings for examples.

The written text should refer to a specific part of the table of findings, such as "The top half of Table 1 shows that..." or "The means in the first column...."

The "discussion" of the hypothetical findings can be either a separate paragraph(s) or, if you use appropriate language (see above), part of the findings paragraph(s). It must come to some conclusion about the most important issue(s), controversy, or hypothesis, or question that you listed. It is especially important to say something about the theoretical contribution (and sometimes the practical contribution) of the finding. But it must be specific, i.e., saying "this has great theoretical or practical value" is almost worse than saying nothing.

**Limitations.** It is usually best to do this by discussing the pros and cons of each aspect of the methods you propose at the point in the proposal where they are described. But for some proposals, a separate section on limitations might also be appropriate.

## Section E. HUMAN SUBJECTS

The three basic issues to cover are informed consent, safety, and privacy. See lecture notes and instruction book for NIH grants. (Many journals now require a statement about human subjects in the methods section).

## **Review Of Your Proposal**

**Self-Review.** Evaluating one's own work is always difficult. The Grant Proposal Rating Form may help you do that. I suggest you fill it out for your own proposal. Then try to revise any part that did not get a top rating. This is just for your guidance. Do not hand it in to me.

**My Comments On The First Draft.** Most or all of what I say will be about problems or suggested changes. That is the way I can be most helpful to you. I hope you won't misinterpret that as a negative evaluation. In fact, there are sometimes more such comments about the best-developed research proposals because, with a fully developed proposal, there is more to comment on. Also keep in mind that the evaluation for purposes of grading uses only the revised paper.

## **APPENDICES**

### **Citation Search**

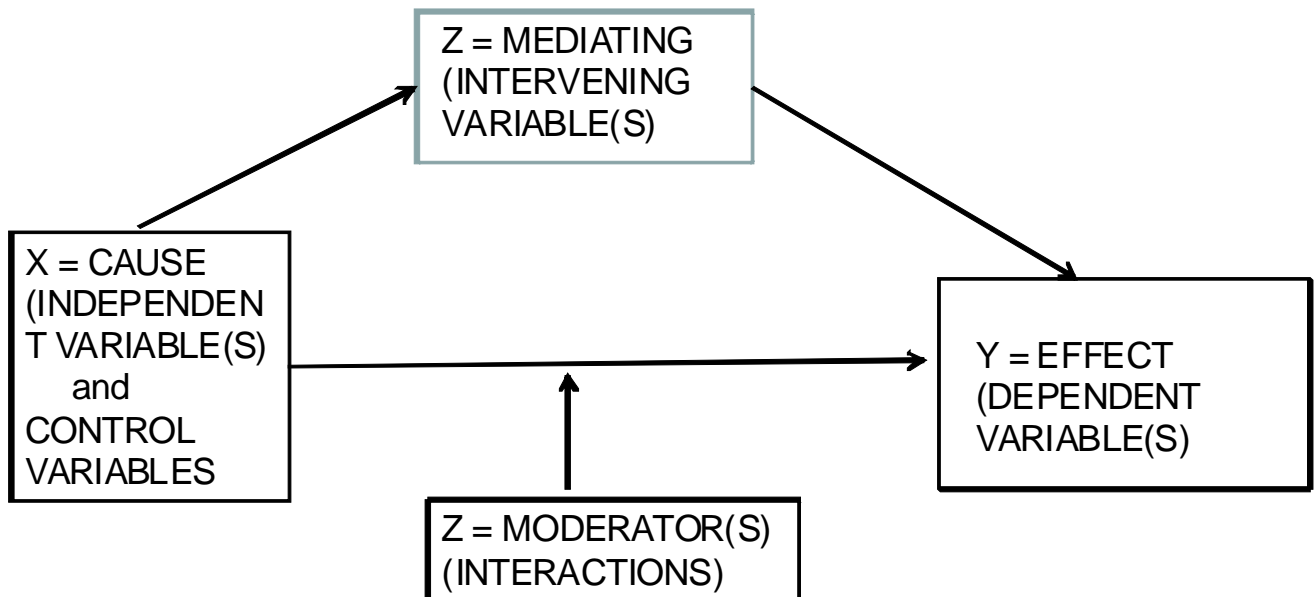
See previous section on citation searching.

### **Other Appendices**

There may need to be other appendices such as a draft questionnaire or part of a questionnaire, an agreement with cooperating organizations, survey contractors, etc.

Table 1. Research on Gender Differences in Self Reported Crime					
Juvenile Crime					
A. General Population Studies					
Study	Sample and N	Measure Of Crime	Rates for		Male to Female Ratio
			Males	Females	
Porterfield, 1947	N=337 m=200 f=137 College students	Pre-enrollment in college: 1 or more delinquent act Average number of acts	100% 17.6	100% 4.7	1.0 3.7
Short & Nye, 1958	n=1265 m=695 f=560 High School & Training School Students 16 - 17 years old	In lifetime: 1 or more delinquent act	100%	76%	1.3
Dentler & Monroe, 1961	n=912 Junior high school students	In lifetime: Some theft High Theft	61% 67%	39% 33%	1.6 2.0
Akers, 1964	n=836 m=429 f=407 9 <sup>th</sup> grade students 13 to 17 years old	Mean scale score of self- reported delinquent behavior:	8.50	6.66	1.3
Gold, 1966	n=522 m=258 f=264 13 to 16 year olds living in an industrial city	Mean index score based on acts committed in past three years: Index F (wide range of acts) Index S (serious acts weighted)	4.8 5.4	1.9 1.9	2.5 2.8
Wise, 1967	N=589 High school sophomores 15 to 18 years old living in a suburban community	In lifetime: Alcohol Offenses Driving Offenses Theft Vandalism Assault	63.7% 46.9% 30.5% 25.2% 26.6%	54.7% 27.1% 14.7% 9.3% 6.6%	1.2 1.7 2.1 2.7 4.0
Hindelang, 1971	n=763 m=319 f=444 Students in a co-ed catholic high school	In past 12 months: 24 delinquent acts	4.3-71.8%	2.9-59.7%	2.56**

## Basic Elements Of A Causal model



Usually a study will have either mediating variables or moderating, but sometimes both. Many studies have neither. Except for the Moderators, the arrows should have + or – signs to indicate the direction of the effect you expect to find.