

# LOYOLA UNIVERSITY NEW ORLEANS

## CRJU 710-A51, Research and Statistical Methods

Fall 2007

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**Course Meeting Dates:** Aug 21 & 28; Sept 4, 11, 18 & 25; and Oct 2 & 9

**Course Meeting Day/Time:** Tuesday 6pm-10pm

**Course Meeting Location:** To Be Determined (Check LORA approx. two weeks prior to class start date)

**COURSE DESCRIPTION:** Research methodology includes the conceptualization of a criminal justice/criminological research theory or problem, the collection, and analysis of data to reach a conclusion. We will review the basic logic, terminology, and concepts used in research. A large portion of the course will examine appropriate research designs for pure and applied criminological research including standard and alternative data gathering strategies. Commonly used multivariate statistics including partial correlation, analysis of variance, multiple correlation and regression will be reviewed in the course. Research and examples from a variety of criminal justice settings will be used throughout the course.

**COURSE OBJECTIVES:** Upon completion of this course, the student should:

1. Be familiar with the logic and concepts necessary to understand and conduct social research in the field of criminology and criminal justice;
2. Be able to conceptualize a research problem or theory;
3. Be able to operationalize and measure variables for scientific analysis;
4. Be able to understand research from a wide variety of disciplines;
5. Be able to apply and interpret descriptive and inferential statistics in a variety of research designs;
6. Be able to write a research proposal and implement the research problem/theory by collecting and analyzing data.

**Prerequisites:** There are no prerequisites for this course. Most students who have earned bachelor degrees in the social sciences (e.g., sociology, psychology, criminology, criminal justice, etc.) should have taken a basic social science statistics course. The introduction and use of statistics in this course will be from an interpretational and understanding view rather than from a

computational one. To this extent, individuals without some background in statistics and research methods should be able to understand the course content. One of the texts, *Research Methods in Criminal Justice and Criminology* by Frank Hagan can serve as a basic review for both those students who have had earlier courses in their college degree programs and for those who have not.

**COURSE TEXTS and OTHER REQUIRED READING MATERIALS:**

(1) Frank E. Hagan. **Research Methods in Criminal Justice and Criminology**, 2006 (7<sup>th</sup> edition) - obtain from bookstore;

(2) Diane Kholos Wysocki. **Readings in Social Research Methods**, 2008 (3rd edition) – obtain from bookstore

(2) [\*\*Policies, Processes and Decisions of the Criminal Justice System \(Volume 3\)\*\*](#). U.S. Department of Justice, Criminal Justice, 2000;

(3) [\*\*Measurement and Analysis of Crime and Justice \(Volume 4\)\*\*](#). U.S. Department of Justice, Criminal Justice 2000;

(4) William Thornton, Chapter 7 ([\*\*Criminological Research: Methods and Resources\*\*](#))

(5) [\*\*Daubert v. Merrell Dow Pharmaceuticals , Inc., 509 U.S. 579 \(1993\)\*\*](#);

(6) [\*\*Federal Rules of Evidence 702\*\*](#)

**COURSE REQUIREMENTS:** Grades for the course will be derived from several sources:

(1) three review checkups of material each weekend **(25%)**;

(2) several small written assignments/exercises – (1) scientific method journal analysis and presentation (due weekend #2), (2) variable conceptualization and operationalization assignment, (3) questionnaire and interview assignment **(12.5%)**

(3) class participation **(12.5%)**;

(4) a research project and presentation – Due date to be assigned in class **(50%)**.

**GRADING POLICY:**

93-100 = A

85 -92 = B

76-84 = C

***Class attendance is a requirement.*** Roll will be taken at the beginning, and possibly the end, of each class. Issues, discussions, and student presentations require attendance and participation at all scheduled class meetings. No classes may be missed without instructor's permission. Absence from each class will result in a grade reduction of one letter grade. No late assignments will be

accepted for any reason.

Read all materials on #1 of outline before the first class meeting on August 21.

## **1. Introduction to Criminal Justice Research Methods: Theory and Method**

- Read: Hagan, Chp. 1; Thornton

**COURSE OUTLINE:** Students should read the corresponding chapter to each assignment and be prepared to respond to the learning objectives listed below.

Your reading should follow this sequence: (Read all material in #11 on the outline before the first class meeting on, Chp. 7 (good basic review); C. Wright Mills,

Reading #1: Why Do You Need to Understand Research Methods in Wysocki;

Peter Burger and Thomas Luckmann, Reading #2: The Reality of Everyday Life

in Wysocki; Siu Kwong Wong, Reading #3: Delinquency of Chinese-Canadian

Youth: A Test of Opportunity, Control and Intergeneration Conflict Theories in

Wysocki; Lissa J. Yogan, Reading #4: School Tracking and Student Violence in

Wysocki; Jo Barnes, Reading #5: Murder Followed by Suicide in Australia, 1973-

1992 in Wysocki; David Duffee, David McDowall, Lorraine Mazerolle, and

Stephen Mastrofski. *Measurement and Analysis of Crime and Justice: An*

*Introductory Essay in Measurement and Analysis of Crime and Justice, v. 4;*

Bonnie S. Fisher and Francis T. Cullen. *Measuring the Sexual Victimization of*

*Women: Evolution, Current Controversies, and Future Research in Measurement*

*and Analysis of Crime and Justice*, v. 4

a. the scientific method

b. the logic of analysis

c. pure vs. applied research

d. qualitative vs. quantitative research

c. theory construction and its relationship to science

d. subjectivity vs. objectivity

e. constructed types and models

f. the uses of social research

g. variables - what are variables, conditions of causality, interaction of variables, levels of measurement, interaction of variables, the elaboration technique, model building, etc.

h. conceptualization and operationalization of variables Read Jack P. Gibbs,

Reading #11: Conceptualization of Terrorism in Wysocki; Yeudit Avnir and Ron

Shor, Reading #12: A Systematic Qualitative Evaluation of Levels of

Differentiation in Families with Children at Risk

h. validity vs. reliability – Read: Daubert and Jumho Tire cases; International

Association of Professional Security Consultants recent guidelines (to be given

out in class); Read: Appendix G in Hagan: Proposal Writing

## **2. Ethics in Criminal Justice Research** - read: Hagan, Chp. 2; Jon M,

Harkness, Reading #6: Numemberg and the Issue of Wartime Experiments on

U.S. Prisoners in Wysocki; Stanley Milgram, Reading #7: Problems of Ethics in

Research in Wysocki; James C. Hamilton, Reading #8: The Ethics of Conducting

Social Science Research on the Internet in Wysocki

- a. ethical horror stories
- b. the researcher's role, research targets, etc.
- c. a code of ethics

**3. Research Design: The Experimental Model and Its Variations** - read: Hagan, Chp. 3; Jennifer Van Hook, et al, Reading #9: Public Assistance Receipt Among Immigrants and Natives: How the Unit of Analysis Affects Research Findings in Wysocki; Joseph Veroff, et al, Reading #10: Consequences of Participating in a Longitudinal Study of Marriage; Janes S. Leske, Reading #19: Intraoperative Progress Reports Decrease Family Members' Anxiety;

- a. types of research design in a nutshell
- b. the experimental model - logic by which all other designs model themselves
- c. causality - one more time
- d. internal factors - variables related to internal validity
- e. external factors - variables related to external validity
- f. rival causal factors
- g. the classical experimental design /and variations
  - Kansas City Gun Experiment
  - The Provo and Silverlake Experiments
  - The Kansas City Preventive Patrol Experiment
  - The Minneapolis Domestic Violence Experiment
- h. advantages and disadvantages of experiments

**4. Alternative Data Gathering Strategies and the Special Case of the Uniform Crime Reports** - read: Hagan, Chp. 4

- a. field research - social survey, interviews - a brief introduction
- b. observation - levels of observations - a brief introduction
- c. unobtrusive measures - a brief introduction
- d. case studies/life history/ historical measures - a brief introduction
- e. official reports - the UCR - more data than we know what to do with
- f. crime rates, etc.
- g. NIBRS

**5. Survey Research and Sampling** - read: Hagan, Chp. 5; Robert T. Michael, et al, Reading #17: Sex in America in Wysocki; Robert G. Rychtarki, Reading #18: Alcoholics Anonymous and the Use of Medications to Prevent Relapse: An Anonymous Survey of Member Attitudes in Wysocki; Robert T. Michhael, et al, Reading #20: Sex in America – The Sex Survey in Wysocki; Nadine S. Koch and Jolly Emrey, Reading #21: The Internet and Opinion Measurement: Surveying Marginalized Populations

- a. types of sampling
  - probability vs. non probability
  - Focus Groups and Mock Trials

## Crime Profiling

b. survey research

c. self reported measures of crime - read: Thornberry and Krohn - *The Self Report Method of Measuring Delinquency and Crime* (in *Measurement and Analysis of Crime and Justice*, v. 4)

reliability and validity

d. interviews and telephone surveys -- read: Hagan, Chp. 6

The National Crime Victimization Survey - read: David Cantor and James Lynch - *Self Report Surveys as Measures of Crime and Criminal Victimization* (in *Measurement and Analysis of Crime and Justice*, v. 4; Mark Warr. *Fear of Crime in the United States: Avenues for Research and Policy* in *Measurement and Analysis of Crime and Justice*, v. 4

**6. Scaling and Indexes** - read: Hagan, Chp. 10; Knud S. Larsen, Reading #14: Environmental Waste: Recycling Attitudes and Correlates in Wysocki; Moto Y. Lee, et al, Reading #15: The Reverse Social Distance Scale; Arthur Lilling and Richard Friedman, Reading #16: Bias Towards Gay Patients by Psychoanalytic Clinicians: An Empirical Investigation

a. what are scales, indexes

b. ordinal and higher scales

c. packaged scales

d. the use of scales (e.g., employment pre- screening, psychological testing, etc.)

**7. Participant Observation and Case Studies** - read: Hagan, Chp. 7;

a. types of participant observation

b. characteristics of participant observation

c. general procedures in participant observation

d. tips on and examples of participant observation

e. advantages and disadvantages of participant observation

f. case studies

**8. Unobtrusive Measures, Secondary Analysis, and the Uses of Official Statistics** - read: Hagan, Chp. 8; Jane E. Martin, Reading # 23: The Evolution of AI-Anon: A Content Analysis of Stories in Two Editions of Its Big Book in Wysocki; Ann Goetting, Reading #24: Thinking Through the Heart in Wysocki

a. major types of unobtrusive measures

b. physical trace analysis

c. use of available data and archives

d. content analysis by computer

Grid Analysis and Hot Spot Analysis

- read: Luc Anselin, Jacqueline Cohen, David Cook, Wilphen Gorr, and George Tita - *Spatial Analysis of Crime* - (in *Measurement and Analysis of Crime and Justice*, v. 4)

### **9. Applied Research - Analysis, Interpretation and Discussion**

- Mark A Cohen. *Measuring the Costs and Benefits of Criminal Justice* (in Measurement and Analysis of Crime and Justice, v. 4);
- Bonnie Fisher and Francis T. Cullen. *Measuring the Sexual Victimization of Women: Evolution, Current Controversies, and Future Research* (in Measurement and Analysis of Crime and Justice, v. 4);
- Jonathan P. Caulkins. *Measurement and Analysis of Drug Problems and Drug Control Efforts* ( in Measurement and Analysis of Crime and Justice, v. 4);
- Gregory Howard, Graeme Newman and William Pridemore. *Theory, Method and Data in Comparative Criminology* (in Measurement and Analysis of Crime and Justice, v. 4);

### **10. Validity, Reliability and Triangulated Strategies** - read: Hagan, Chp. 9

- a. ways of determining validity
- b. reliability

test retest, multiple forms, Split half method (Statistical Package for the Social Science)

### **11. Data Analysis: Coding, Tabulation and Simple Data Presentation** - read:

Hagan, Chp. 11; SPSS handouts and demonstration

- a. coding and data reduction
- b. entering data
- c. package computer programs and spread sheets
- d. simple data presentation
- e. graphic presentations
- f. table reading
- g. elaboration technique

### **12. Data Analysis Techniques: A Guide to Statistics** - read: Hagan, Chp. 12;

SPSS handouts and demonstration; Linton C. Freeman, Reading #27:

Elementary Applied Statistics: For Students in Behavioral Science in Wysocki; Anat Frist, Reading #28: Nothing New Under the Sun? A Comparison of Images of Women in Israeli Advertisements in 1979 and 1994 in Wysocki

- a. the use of statistics
  - b. types of statistics - nature and types
  - c. measures of central tendency
  - d. measures of dispersion
  - e. standard deviation
  - f. chi square
  - g. chi square based measures of association
- Phi coefficient  
Contingency C

Cramers V

h. select statistical measures

- tests of significance
- t Test (difference of means test)
- correlation coefficient
- Pearsons r
- regression
- Spearmans Rho
- Goodman and Kruskals Gamma
- Multivariate Analysis
- partial correlation
- multiple correlation and regression (read article #3: Surette. Media

Echoes: Systemic Effects of News Coverage)

**13. Policy Analysis and Evaluation Research** - read: Hagan, Chp. 13

a. Evaluation Research

b. The evaluation process

read: Ingo Kilitz - *Standards and Measures of Court Performance* (in Measurement and Analysis of Crime and Justice, v. 4)

c. Types of evaluation research

### **I. Major Research Project -**

You should select a research topic that has some interest to you (e.g. from your job/career) and me. You are going to engage in the research process by testing a theory, formulating a problem, etc., reviewing literature in the field, selecting a research design, developing data collection instruments and techniques for data analysis. The research proposal is the prelude to actually doing the research. It includes everything that is necessary to actually conduct the research at a later point in time. Components of your research design will be turned in throughout the semester as we cover appropriate material. Hopefully this will allow you to complete the entire project before the semester ends.

**1. Problem To Be Solved Or Theory To Be Tested:** State this clearly and precisely. Are you testing a specific theory (e.g., delinquency causation, criminal justice management style, security or crime prevention technique, etc.)? Why is there a need to test the theory? Is there a debate in the field, profession or literature regarding this theory as opposed to another one? Are you trying to solve a particular problem or glean more information about a perceived problem? In this case you may not be testing a theory because one does not exist. Explain precisely what the problem is (e.g., public misperception of casino gambling and enhanced crime). What is the need or purpose for doing this research? Does it add anything to existing knowledge? Is it utilitarian for some agency, business, etc.? What are the independent and dependent variables of the study? How are these variables to be operationalized? What are possible control variables to be examined in the study? What hypotheses will you test?

**2. Review Of Literature:** Review other studies/literature in the research area you are studying. You should include AT LEAST 20 detailed references. These should come from books, journals, periodicals, etc. Several indexes (social, psychology, criminal justice, business, legal, etc.) are available in the Loyola library. Other basic on line computer indexes are also available. These works should be incorporated into your argument or theory rather than just listed or reviewed. In other words, what have other researchers found in testing a particular theory or solving a particular problem like yours. How does this relate to your research? Do you expect to find similar results or different results? You may be conducting your research because you disagree with past findings in the field (e.g., men and women do not think differently as past studies suggest). You may also be replicating a particular study. You can use the Internet for resources but be careful as to their quality and integrity. Look at the criminology, law and legal web sites (West Publishing has a great reference work entitled The Legal List: Research on the Internet by Diana Botluk 1-800-328-4880).

**3. Hypotheses:** State in a hypothetical form (or null form) what you EXPECT to find. Hypotheses are specified expectations about empirical reality, derived from propositions from your theory or points from your projected problem. For example, you may be testing a theory of crime displacement which argues that target hardening one property, such as an apartment complex, will displace crime (i.e., criminal activity) to another property. To test this theory, you may have a number of hypotheses: H1 An apartment complex which has access control in the form of keyed entry will have less criminal activity than an apartment complex without access control; H2 An apartment complex with security guards on duty during hours of darkness will have less criminal activity than an apartment complex without security guards during hours of darkness, etc. Hypotheses are more refined relationships derived from your theory or problem. You may have several hypotheses in your study. Each one will be tested empirically by statistical analysis. For statistical analysis, hypotheses can be written in the null form in which the research either rejects or fails to reject the hypotheses based on statistical findings.

**4. Collection Of Data:** Explain specifically how you will collect your data. If permission is needed to obtain certain data, indicate how you will deal with that. If you state that you are going to interview rapists to find out why they rape, can you really get access to this class of offenders? State in detail your data collection techniques; if you use a questionnaire or interview schedule, include it in this section. State how you will pre-test the instrument. State what the reliability and validity measures will be; What type of sample will you use; How will you sample, etc. If you are using secondary data, indicate how you will obtain this data.

**5. Data Analysis:** Explain how you will analyze your data and what types of statistical tests you will employ. Is the data that you collect at the appropriate level for more robust statistical manipulation? Are you interested in testing for causality or simply presenting a descriptive analysis which will be further analyzed later. Here you can also comment on the type of presentation that you will make to your client (e.g., funding agency, contract research, interagency, etc.).

**6. Conclusion:** Here again you can only initially speculate on the possible findings in the proposal stage. Given what other researchers have found, what might you expect? How might this information be used (e.g., policy formation, further the literature in the area, etc.)? Of course, **if** this research project were actually conducted and **if** the data were actually collected and analyzed, then you would have real results to present.

## II. Select Assignments and Exercises

**1. Article critique and analysis:** Most of the research in the fields of criminology and criminal justice are published in various professional journals (e.g., Criminology, Journal of Research in Crime and Delinquency, Crime and Delinquency, Homicide Studies) Your assignment is to select a journal article from the library ( or online) and trace the article through the steps in the scientific method (i.e., the step above - Problem or Theory, Review of Literature, Hypotheses, Collection of Data, Analysis of Data, Conclusion). Briefly explain each step from the contents of the journal article. Attach a copy of the article with the assignment. The assignment should be no more than 2 or 3 pages tops. I will assign a student or students for a specific article to be orally presented to the class (for discussion) in at least one class during the term.

**2. Variable Conceptualization and Operationalization:** We discuss the process of conceptualizing and operationalizing variables used in research designs. As we will note, some variables are relatively easy to operationalize (e.g., sex, race, income, test scores) while other variables are more difficult to measure (e.g., attitudinal measures). In some cases, a researcher can rely on replicated research to obtain a measure for his/her variables. In other instances, variables may be “packaged,” “pre-tested,” and checked for reliability and validity by research “vendors” (e.g., personnel evaluation, program evaluation, various attitudinal measuring instruments). Your assignment is to provide a conceptual and nominal definition for the following variables and then provide an operationalization schema for the actual measurement of the variables.

- a. high crime area
- b. fear of crime
- c. criminal opportunity
- d. reasonable and adequate security

- e. juvenile violence proneness
- f. crime foreseeability
- g. religiosity
- h. social class
- i. intelligence
- j. parental social control
- k. well socialized child
- l. violent television show index

**3. Survey and interview field test:** Under the rubric “field research”, we discuss two data collection techniques, questionnaires and interviews. Your assignment is to develop a survey instrument and/or interview schedule composed no more than 15 closed and/or open ended response formats which could be used to measure the topic, Perceptions of Safety on the Loyola Campus. You will be given time during one of the classes to go and test your instrument on at least five subjects on the campus. We will discuss both your instrument and the responses that you obtained with the instrument in class.

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