

UNIVERSITY OF KENTUCKY
 APPLICATION FOR CHANGE IN EXISTING COURSE: MAJOR & MINOR

DEC 14 2006

OFFICE OF THE
 SENATE COUNCIL

1. Submitted by College of Social Work Date 11-14-06
 Department/Division offering course Social Work

2. Changes proposed:
 (a) Present prefix & number SW 450 Proposed prefix & number Same

(b) Present Title Research Methods in Social Work
 New Title Same

(c) If course title is changed and exceeds 24 characters (Including spaces), include a sensible title (not to exceed 24 characters) for use on transcripts:

(d) Present credits: 3 Proposed credits: 4

(e) Current lecture: laboratory ratio 3:0 Proposed: 4:0

(f) Effective Date of Change: (Semester & Year) Fall, 2007

3. To be Cross-listed as: _____
 Prefix and Number Signature: Department Chair

4. Proposed change in Bulletin description:
 (a) Present description (including prerequisite(s):
An introductory study of the processes of research in building social work knowledge and developing effective social work practice. Prerequisite: A basic course in statistics. Open only to social work majors.

(b) New description:
An introductory study and application of the processes of research in building social work knowledge and developing effective social work practice. Prerequisite: A basic course in statistics. Open only to social work majors.

(c) Prerequisite(s) for course as changed: Basic course in statistics

5. What has prompted this proposal?
The Curriculum Committee, Field Director, Director of Undergraduate Studies, and the College Faculty have requested that the SW 444 Field Practicum course be reduced from 8 to 5 credit hours and agreed to use one of the released credit hours to enhance the current research course requirement. The current 3 credit course covers the research process but does not allow for more in-depth application of the research material. This increase of 1 credit hour will provide additional time during which students can apply the research knowledge using experiential learning and participation in practical exercises. This need was identified by College faculty as well as seniors who were graduating in Spring, 2006. This change will support the College's effort to enhance the research component of the curriculum. (See attached syllabus)

6. If there are to be significant changes in the content or teaching objectives of this course, indicate changes:
Content will be enhanced by inclusion of exercises in which students apply course material (See attached module of possible exercises "Research Methods in Social Work Application of Understanding through Practical Exercises)

7. What other departments could be affected by the proposed change?
None

8. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? X Yes No

9. Will changing this course change the degree requirements in one or more programs? X Yes No
 If yes, please attach an explanation of the change. (NOTE - If "yes," program change form must

also be submitted.)

10. Is this course currently included in the University Studies Program?

Yes No

If yes, please attach correspondence indicating concurrence of the University Studies Committee.

EXPLANATION FOR 9. THIS CHANGE WILL REQUIRE STUDENTS TO HAVE A 4 CREDIT HOUR SW450 COURSE TO MEET DEGREE REQUIREMENTS RATHER THAN AN 3 HOUR COURSE. NUMBER OF TOTAL DEGREE HOURS REMAIN THE SAME. INFREQUENTLY, THE COLLEGE DOES ADMIT TRANSFER STUDENTS WHO HAVE ALREADY COMPLETED THE RESEARCH REQUIREMENT AT ANOTHER UNIVERSITY. SHOULD THIS OCCUR, WE WOULD CONTINUE TO ACCEPT A 3 HOUR COURSE AS FULFILLMENT OF THE RESEARCH REQUIREMENT. (STUDENTS WOULD ALWAYS HAVE THE OPTION OF COMPLETING AN INDEPENDENT STUDY OF 1 CREDIT HOUR TO OBTAIN THE ADDITIONAL APPLICATION CONTENT).

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11. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate students in assignments, grading criteria, and grading scales. Check here if 400G-500.

12. Is this a minor change? Yes No

(NOTE: See the description on this form of what constitutes a minor change. Minor changes are sent directly from the Dean of the College to the Chair of the Senate Council. If the latter deems the change not to be minor, it will be sent to the appropriate Council for normal processing.)

13. Within the Department, who should be consulted for further information on the proposed course change?

Name: Dr. Karen Badger Phone Extension: 7-2350

Signatures of Approval:

Date of Approval by Department Faculty	Reported by Department Chair
<u>5/10/06</u>	<u>Kay Hoffe</u>
Date of Approval by College Faculty	Reported by College Dean
<u>[Signature]</u>	<u>12/12/06</u>
*Date of Approval by Undergraduate Council	Reported by Undergraduate Council Chair
*Date of Approval by Graduate Council	Reported by Graduate Council Chair
*Date of Approval by Health Care Colleges Council (HCCC)	Reported by HCCC Chair
*Date of Approval by Senate Council	Reported by Senate Council Office
*Date of Approval by University Senate	Reported by Senate Council Office

*If applicable, as provided by the Rules of the University Senate.

The Minor Change route for courses is provided as a mechanism to make changes in existing courses and is limited to one or more of the following:

- a. change in number within the same hundred series;
- b. editorial change in description which does not imply change in content or emphasis;
- c. editorial change in title which does not imply change in content or emphasis;
- d. change in prerequisite which does not imply change in content or emphasis;
- e. cross-listing of courses under conditions set forth in item 3.0;
- f. correction of typographical errors. [University Senate Rules, Section III - 3.1]

University of Kentucky - College of Social Work
SW 450-001 Research Methods in Social Work (3 Credit Hours)

Tues & Thurs 11:00-12:15
Chem/Phys 211
Office hours by appointment

Instructor: Erin Stevenson, MSW, CSW
Phone: 859-257-4521
Email: erin.stevenson@uk.edu
Fax: 859-257-9070

Course Description:

An introductory study and application of the processes of research in building social work knowledge and developing effective social work practice. Prerequisite: A basic course in statistics. Open only to social work majors.

Course Objectives:

1. Introduce the process of research as a sequence of rationally and systematically organized events.
2. Demonstrate how social work "issues" become research "questions".
3. Acquaint students with research terminology and techniques necessary to understand and conduct quantitative and qualitative research and program evaluation.
4. Teach students how to critically analyze research and to use research in social work practice.
5. Identify significant variables (gender, ethnic group, age, sexual orientation, religious preference, political affiliation) that may impact research findings.
6. Emphasize the importance of ethical considerations (protection of human subjects) in conducting research and disseminating research findings.
7. Review data analysis methods.

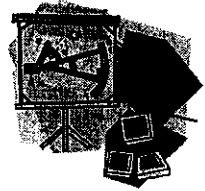
Student Outcomes:

By the end of the course students should demonstrate the ability to:

1. Articulate the importance of using research methods to guide, monitor, and evaluate social work practice and programs.
2. Locate and summarize information and literature which informs social work practice.
3. Recognize and apply basic research concepts and terminology to questions that focus on social work practice.
4. Operationally define social work interventions and outcomes at the individual practice and program levels.
5. Distinguish between qualitative and quantitative methods and articulate their strengths and limitations in research related to social work practice.
6. Define and articulate the ethical concerns of human subject research, including informed consent and confidentiality in data collection and dissemination.
7. Recognize and articulate human & cultural diversity issues that affect implementation of research and interpretation of results.
8. Understand and apply basic methods of data analysis.
9. Understand and be able to report results of basic univariate and bivariate data analyses.

Methods of Learning:

This course will utilize a variety of learning methods such as in-class lectures, textbook readings, research articles, in-class group exercises, in-class discussions, and presentations. PowerPoint will be used to present material in class and should be used to guide your note-taking. It is not meant to be exhaustive of the material in the book, nor is it suggested that you write down everything on the PowerPoint. Reading the book ahead of time will help facilitate in-class note-taking. **PowerPoint is only available during class time.** If you are absent, copying notes from a trusted classmate is recommended, as things will be said aloud which were not on the PowerPoint and should provide a more accurate accounting of what was missed in class.



Grading Criteria:

Your grade in this course is based on class participation, assignments, and exams. All written assignments must be typed.

- * In-Class Attendance/Assignments—35 points
- * Chapter Quizzes – 30 pts
- * Homework—135 pts
- * Exams –200 pts (50%) (80 points Exam 1, 120 points for Exam 2)

Grading Scale:	A	360 - 400 points (90% -100%)	- <i>outstanding quality of work</i>
	B	320 - 359 points (80% - 89%)	- <i>above average</i>
	C	280 - 319 points (70%-79%)	- <i>satisfactory work</i>
	D	240 - 279 points (60%-69%)	- <i>less than satisfactory</i>
	E	< 239 points (<59%)	- <i>failing</i>

Participation/In-Class Work:

This class relies upon the shared learning experiences of the group; your attendance is expected. Additionally, your participation in discussion/activities is required. You must come to class ready to participate with your reading and/or assignments completed upon arrival. In-class cooperative learning assignments will contribute to your final course grade. **If you have an unexcused absence, you cannot make up these assignments.** In-class work may take the form of unannounced quizzes – generally this will not happen if students are prepared for class and ready to participate in the day's learning.

Attendance:

As stated above, your attendance in class is expected and contributes to your grade. Please do not come to class late. Lateness is disruptive to the entire class. Similarly, do not leave class early. **Attendance will be taken either "formally" through a sign-in sheet, or "informally" through in-class assignments, exercises, etc...** at different times during the class, which may vary from week to week. University Approved excused absences are delineated in the Student Rights and Responsibilities handbook. Please provide appropriate documentation of excused absences. **Each unexcused absence will result in a deduction of 3 points from your final point total for the semester.**

Classroom Etiquette:

Please **turn off your cell phone** during class time so that you can be fully present. I understand that there may be certain emergency situations where it is necessary to leave your phone on. These should be discussed with the instructor prior to class time. Additionally, it is to your benefit to pay attention during class (e.g., don't read the newspaper, do crossword puzzles), as the test questions will come from lectures/class discussions which may or may not be in your textbook.

Homework Assignments:

Deadlines for each homework assignment will be distributed with assignment guidelines and expectations. **Assignment handouts are attached to this syllabus.** Further clarifications will be made throughout the semester. Homework assignments are to be completed individually by each student, unless noted otherwise in the assignment instructions. If you do not understand or have any questions about your assignment, it is to your benefit to **receive clarification prior to the due date.** "I did not understand" is not an adequate response for doing the assignment incorrectly.

Further, it is understandable and expected students will have excused absences on days that homework assignments are due. However, it is the student's responsibility to provide appropriate documentation and to ensure the assignment gets into the instructor's possession in a timely manner. **One class period is the maximum amount of a "grace period" that students have to turn in assignments.** If you know that you are going to be absent you need to turn your assignment in early or email it to the instructor prior to the next class period.

Unless otherwise specified, all papers should be **typed, formatted with 1-inch margins, double-spaced and 12-point font appropriate for academic work.** Deadlines for each assignment are detailed in this syllabus and in the assignment handouts. All assignments are expected to be handed in at the beginning of the class session in which it is due, unless prior arrangements have been made with the instructor. Late assignments will be assessed a **5% penalty for each day they are late.**

APA style:

When noted in the assignment handout, your written work must be completed in accordance with the American Psychological Association Publication manual (5th edition) or points will be deducted. **Assignments that do not meet APA standards will be discounted up to 10%. I strongly recommend that you purchase the APA Style Manual.**

Quizzes:

There will be two short quizzes throughout the semester. Quizzes will be focused on specific chapters from your text. Quizzes will primarily be in the form of open-ended questions. These quizzes will be designed to not only ensure your understanding of the material, but to better prepare you for the midterm and final exam.

Exams:

There will be two exams over the course of the semester. These will be in-class exams. A midterm and final exam will be given. The final exam will be cumulative for all material covered throughout the duration of the semester. Exams will consist of multiple choice, short answer, and essay-style questions. Make-up exams will only be given for a University Excused Absence. In combination, the exams will account for 50% of your final course grade.

Ethical behavior:

Every student is required to follow the guidelines of the NASW Code of Ethics. Violation of this code can be grounds for dismissal from the BASW program. In particular, it should be noted that client confidentiality should be protected. Thus, case material and/or personal material shared in the classroom should not be shared with persons outside the class.

Cheating and Plagiarism:

The Student Rights and Responsibilities Handbook clearly delineate the consequences of these actions -- **cheating and plagiarism are grounds for a failing grade in the course.** No tolerance of this behavior is accepted. I strongly recommend that you review the APA manual and learn how to properly cite your sources such that you do not "accidentally" plagiarize. At a minimum, any student found guilty of plagiarism will fail the assignment in question; you could also fail the course, or be expelled from the University.

Instructor Availability:

As needed, appointments with students will be scheduled either before or after class time. If these times do not work, other times can be arranged. I do not keep regular office hours; rather I'll schedule appointments when requested by students. Email is the preferred method of correspondence. I promise, I check it and will try to respond in a timely manner. If you need to call me, please feel free to do so during normal business hours.

Listserv:

I will use the UK's listserv that is automatically setup for the class to communicate, send out assignments, etc. You will need to have an active email account for this purpose. I strongly recommend that you use your UK account (free to you as a student). Hotmail, etc. are generally problematic because they tend to send listserv material to "junk." If you choose to use *hotmail*, *earthlink*, *yahoo*, etc. you are taking a risk and may not get all electronically sent information. "I didn't get the email" will not be an allowable reason for not doing an assignment, etc. (unless there are problems with the UK server). Important class information, such as changes in the schedule, readings, etc. will be delivered via the listserv.



Required Readings Materials:

1. Royse, D. (2004). *Research methods in social work* (4th ed.) Pacific Grove, CA: Brooks/Cole. (Available at the UK Bookstore and Kennedy's. *Buy the 2004 edition. Earlier versions are available used via Amazon, etc. but are not acceptable for this class as some important material has changed.*)
2. Articles/Chapters **as noted in the syllabus** – available either via electronic databases through the UK Library system, or handed out by the instructor.
3. American Psychological Association (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, D.C.: American Psychological Association.

If you are not familiar with how to access the Electronic Journals/databases available through UK's Library System, please be sure to master this early in the semester. This class assumes that you are able to access articles via the electronic databases/current periodicals available at the library.



You can access helpful information about using the resources via the library's main page: <http://www.uky.edu/Libraries>. This may be helpful in familiarizing you with the electronic databases and library resources that are available to you. Furthermore, if you do not have access to a computer on campus, I would strongly recommend setting up your primary computer to access the libraries resources from off campus. For more information on this visit: <http://www.uky.edu/Libraries/proxyhelp.html>. The staff at the library is very helpful and will guide you through this process if you need assistance!

Helpful Supplemental Resources (not required, but useful)

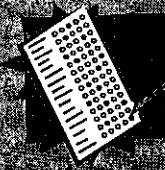
- * Fischer, J. & Corcoran, K. (2000). *Measures for clinical practice, volumes 1 & 2*. New York: Free Press.
This is a good source for instruments.
- * Royse, D., Thyer, B., Padgett, D., & Logan, TK. (2001). *Program evaluation: An introduction*. Belmont, CA: Brooks/Cole.
- * Rubin, A. & Babbie, E. (2001). *Research methods for social work* (4th edition). Belmont, CA: Wadsworth/Thomson Learning.
- * Schutt, R.K. (2004). *Investigating the social world: The process and practice of research* (4th edition). Thousand Oaks, CA: Pine Forge Press.


COURSE OUTLINE:

It is likely that the syllabus is ambitious and will change. Updates to the course outline will be discussed in class and sent out to students electronically, though assignment due dates generally will not change. All assignments are noted in the right hand column, and there is a corresponding handout that gives details of each assignment. Shaded boxes indicate assignments are due that day.

Date	Topic	To be completed prior to class:
AUG 24 Thursday	Introduction to the class * What is social science research and why is it important? What is this class all about and why do so many students fear research? * In-Class questionnaire/ Pre-test	Please purchase your textbook. 
AUG 29 Tuesday	Research Overview * Social Work Research as a part of Social Work Practice	Chapter 1 In-class exercises (1.2) – developing research questions and hypotheses
AUG 31 Thursday	The Research Process – * What is the research process? * The Role of Theory in Research * The Importance of the literature * The Hypothesis * Independent and Dependent Variables	Chapter 2 Handout on theory and research (Topic 7,10,13) Additional reading from instructor
SEPT 5 Tuesday	The Research Process – * Research Design * Operationalizing Variables * Collecting, Analyzing and Interpreting Data	Chapter 2, 13 In-Class exercises – conceptual and operational definitions of variables; different types of variables
SEPT 7 Thursday	The Research Process – * Review of the research process * The purpose of research: to explore, describe and explain phenomena * Conceptualizing a social work research project. What's the big idea?	Assignment #1 Due: Hypothesis or Research Question Handouts, in-class exercise 2.1 
SEPT 12 Tuesday	Ethical Research * What is the IRB? * The Belmont Report, Nuremburg Code, and other important research events	Chapter 3 Handouts on ethical research topics
SEPT 14 Thursday	Ethical Research * Explore the CITI online training course for human subjects protection	Chapter 3
SEPT 19 Tuesday	Ethical Research * Turn in and discuss IRB activity	Assignment #2 Due: IRB, Part A & B
SEPT 21 Thursday	Research Design * Single System Design	Chapter 4 Additional reading from instructor In class activity on Research Design 4.1 & 4.2 in small groups. Read and prepare for these activities.

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SEPT 26 Tuesday	Research Design Continued <ul style="list-style-type: none"> * True Experimental Design * Internal validity, external validity * Quasi-Experimental Design * Non-experimental Research Design 	Chapter 5 Additional reading from instructor In-class activity internal/external validity Quiz #1 – Research Design
SEPT 28 Thursday	Measurement <ul style="list-style-type: none"> * Nominal, Ordinal, Interval and Ratio levels of measurement 	Chapter 6
OCT 3 Tuesday	Measurement Continued <ul style="list-style-type: none"> * Validity and Reliability 	Chapter 6 Additional reading from instructor
OCT 5 Thursday	Understanding and Using Research Instruments/Scales <ul style="list-style-type: none"> * Discuss examples of instruments and scales * In-class activity on instruments/scale 	Chapter 6 Assignment #3 Due: Instrument and one paragraph write-up 
OCT 10 Tuesday	Review for exam #1 and general “catch up” thus far...	Come with questions prepared for mid-term review. Review will be student-directed.
OCT 12 Thursday	MIDTERM – Exam #1	Exam #1 (in class)
OCT 17 Tuesday	Research Design <ul style="list-style-type: none"> * Types of questions * Creating data collection instruments 	Chapter 7 In class activity on instrument construction
OCT 19 Thursday	Research Design Continued <ul style="list-style-type: none"> * Survey research 	Chapter 8 Survey Research in-class activity (assignment 8.2 - come to class with ideas about how to complete this).
OCT 24 Tuesday	Unobtrusive Data Collection: <ul style="list-style-type: none"> * Secondary Data Analysis 	Chapter 9 Articles (available via electronic journal databases): Limb, G., & Organista, K. (2003). Comparisons between Caucasian students, students of color, and American Indian students on their views on social work's traditional mission career motivations, and practice preferences. <i>Journal of Social Work Education</i> , 39(1), 91-110. In-Class activity: Small Group Discussion of article Quiz #2 – Survey Research
OCT 26 Thursday	**No Class**	
OCT 31 Tuesday	Unobtrusive Data Collection Part 2: <ul style="list-style-type: none"> * Content Analysis 	Chapter 9 Assignment #4 Due: Journal Article Summary Article (available via electronic journal databases): Humbell, A., & Dextrin, J. (2003). Local news papers, community participation, and health improvement projects: The roles in

		a comprehensive community initiative. <i>Journal of Community Health, 28(5), 363-388.</i> In-Class activity: Small Group Discussion of article.
NOV 2 Thursday	Qualitative Research * Discussion of articles and in class exercises	Chapter 10 Articles (available via electronic journals): McPhee, D., & Bronstein, L. (2003). The journey from welfare to work: Learning from women living in poverty. <i>Affilia, 18(1), 34-48.</i>
NOV 7 Tuesday	Qualitative Research * Discussion of articles and in class exercises	Handouts from instructor Articles (available via electronic journals): Timmons, J., & Fesko, S. (2004). The impact, meaning and challenges of work: Perspectives of individuals with HIV/AIDS. <i>Health and Social Work, 29(2), 137-144</i>
NOV 9 Thursday	Qualitative Research * Discuss articles from assignment	Assignment #5 Due: Qualitative Data
NOV 14 Tuesday	Program Evaluation	Chapter 11 Class Handouts In-Class activity: Small Group Discussion
NOV 16 Thursday	Program Evaluation	Chapter 11 Harder, J. (2005). Prevention of child abuse and neglect: An evaluation of a home visitation parent aide program using recidivism data. <i>Research on Social Work Practice, 15(4) 246-256.</i>
NOV 21 Tuesday	Data analysis	Chapter 12 Bring your introductory statistics text to class today for in-class activity Class Handouts on Data Analysis
NOV 23 Thursday	NO CLASS	Happy Thanksgiving! 
NOV 28 Tuesday	Data analysis and using SPSS	Chapter 12 Class Handouts – SPSS Printouts will be distributed; small groups will work to understand and interpret the statistical output.
NOV 30 Thursday	Data analysis continued Course Evaluations	Chapter 12 Assignment #6 Due – Mini Lit Review and Research Proposal
DEC 5 Tuesday	Wrap Up the Research Process and Review for the Exam	Student led review of course material. Your attendance at the review session is optional.
DEC 7 Thursday	***NO CLASS **	Study for Comprehensive Final Exam and contact instructor with questions
DEC 12 Friday	FINALS - EXAM 2	Exam #2

Assignment #1: Developing a research question and hypothesis**Due Date: Tuesday September 7**

Identify a topic of research interest for you. You might want to think about a topic and/or question/hypothesis that you might want to explore in subsequent assignments. Pose a question and hypothesis that you believe would make for a good research question. Be sure you refer to the guidelines in your text and from our class discussions to help formulate a good question.

Include the following information in your typed assignment:

1. State your research question and your hypothesis and give a few supporting sentences about why you believe this would be a good beginning for a research project.
2. Explain why you believe this question meets the criteria for a good research question.
3. Explain why you believe your hypothesis meets the criteria for a good research hypothesis.

15 points

Assignment #2: The Institutional Review Board (IRB) and CITI Certification**Due Date: Tuesday September 19****Part A. (10 points)**

Read the following documents which will be handed out in class and are also available in the discussion on "Ethical Principals" on the web page (<http://www.research.uky.edu/ori/human.htm>):

- Nuremberg Code: Directives for Human Experimentation
- World Medical Association Declaration of Helsinki
- The Belmont Report: Protection of Human Subjects

Please write a **paragraph about each** of the above (the Nuremberg Code, Declaration of Helsinki, and the Belmont Report) answering the following --

- What events led to the development of each of these documents?
- What are the most important ethical principles that were put forward in each of these documents?
- What have these documents contributed to social science research?

Please use APA style for Part A of this assignment, which means the assignment must be typed with 1" margins, double-spaced, with a title page. Do not rely on using direct quotations from these documents; instead demonstrate your understanding of the material by putting your discussion of the above questions in your own words.

Part B. (15 points)

AFTER you have read the documents and done the exercise in Part A, complete the CITI Course Training Option (Social/Behavioral). It will go faster and you'll pass more quickly if you complete Part A first!

Instructions are found on the next page in the syllabus and at the following link:
http://www.rgs.uky.edu/ori/ORIForms/CITI_instructions.doc

You must **print out a copy of your completion form** showing that you passed the exam and turn this into the instructor. You must receive a passing score (**80% or higher**) in order to receive the certification. You can start and stop the course and retake portions until you have correctly answered at least 80% of the questions.

Remember: You must turn in a copy of this certification form in order to have completed this assignment and earn the full 15 points.

25 points possible for this assignment—(Part A—10 pts, Part B—15 pts)

CITI Course Instructions
University of Kentucky Human Subjects Protection Training Option

This version of **Human Subject Protection (HSP) Training** requires completion of specific modules in a web-based course. Modules are set up according to Medical or Non-medical research. The course meets the training requirements set forth in the June 2000 policy mandating HSP training for all key personnel listed on federally funded research projects.

As of December 2003, the University of Kentucky Institutional Review Board (IRB) will require HSP training for all investigators, and key personnel listed on research projects regardless of funding. CITI meets this requirement. For information on the IRB requirement or other training options, see the Office of Research Integrity website at www.research.uky.edu/ori/humansubjects.html or call 257-9428.

Instructions

Type the following web address into your browser: <http://www.citiprogram.org/>. If you are a new user, you must register for the course. Click on "Register for the Course" link – you will then have to choose your institution. Under "All Others," scroll through the drop-down box for "University of Kentucky." After you submit this, you must then create your own username and password following the directions provided, and you will then be taken to a page asking you to submit contact information; you must enter the required information (marked with an asterisk).

Once you submit this information, you will come to a page entitled "Select Group." First, click on "Review Instructions from Your Institution." This will open a new window, showing you which modules are required for the 3 groups. You may print this out to aid you in keeping track of what modules you have completed or still need to complete. You may then choose the group of modules you need. There are three options: Biomedical, Social/Behavioral, and Exempt. Please note that only investigators of protocols deemed exempt by the University of Kentucky IRB may take the Exempt option.

Once you choose a group of modules, you are directed to a page entitled "Learner's Menu" which shows you which modules within the group you still need to take. You will be prompted to click on "Basic Course (Required – Status Incomplete)." After clicking on that link, you are taken to the "Grade Book." Begin by clicking on "Introduction." As you finish each module in the group, the link to the next module will become available.

Please note that you must complete the quiz questions associated with each required module with a cumulative pass rate of 80%.

At any time during the taking of a group of modules, you are able to quit and return to the course later. However, you must quit after taking the quiz for a particular module, not DURING the taking of that quiz, or your answers will not be recorded. You can view your grades by clicking on "Grade Book" at the top. If you scored at least 80%, you should be able to click on the link "Return to the Main Menu to print a CITI Course Completion Certificate" or it may take you to the page automatically. There will be a link available to "View Completion Report." This opens a new window and shows your scores, date completed, etc. for a given group of modules. **PRINT THIS REPORT FOR YOUR RECORDS – THIS IS YOUR CERTIFICATION OF COMPLETION OF CITI. YOU WILL NOT RECEIVE ANY OTHER DOCUMENTATION FROM ORI OR CITI.**

A copy is automatically emailed to ORI and CITI administrators. We will then update the ORI database. Once you complete the required group(s), you are certified in Human Subjects Protections for three years. Every three years you will be asked to complete a "Continuing education" component to maintain certification.

Assignment #3: Social Work Research Instrument**Due Date: Thursday October 5**

Find an example of an instrument that could be used within social work research. You may find this in a book, an article, at your practicum site... but **DO NOT USE one of the instruments in your textbook!**

There are several sources for research instruments. Other research texts would be a place to start, as well as exploring clinical instrument texts that can be found at practicum sites and the library. Several of these are texts are listed at the beginning of your syllabus in the suggested reading list.

If you are unsure if the instrument you find is acceptable, please ask myself or another instructor in the social work department!

Bring a copy of the instrument to class, as well as your own 1 paragraph typed assessment of the instrument that answers these questions:

1. How well does this instrument measures what it says it measures?
2. What questions do you have about the instrument?
3. What is its purpose?
4. What construct(s) is it measuring?

Turn in a copy of your instrument with your typed 1 paragraph write-up.

10 points

Assignment #4: Reading and Assessing a Professional Journal Article	Due Date: Tuesday October 31
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Please read a social work or behavioral sciences research article and answer the following questions utilizing the knowledge that you've gained thus far in the semester. Please **be sure** that for this assignment you have selected an article that **reports the findings of a study** (i.e., it is not a review or a meta-analysis). HINT: An article reporting on a study should have an introduction, a methods section, a results section, and a discussion section.

If you have questions about the appropriateness of your article – ask before handing in your assignment.

Answer the following questions in a short answer format (4 typed pages Maximum):

1. Give the full, correct APA (5th edition) citation for the article.
2. What is the purpose of the research? (HINT: This is often explicitly stated in the Introduction).
3. What did you learn from the literature review? What question is this study attempting to answer that other studies have not answered? In other words, what is the contribution of this study to the literature?
4. What are the research questions/hypotheses? Restate them (paraphrase them don't copy or quote).
5. Give a summary of the research methodology. Be sure to discuss:
 - a. the selection of participants/cases,
 - b. the research design (even if this is not stated outright, you should be able to describe it using terminology we've discussed this semester),
 - c. method of data collection (face-to-face interviews, etc..).
6. Identify the independent and dependent variables in the study.
7. What are the operational definitions of the variables? (HINT: You will have to do some thinking to figure this out. NOTE: There may be other variables discussed, but you only have to identify the operational definitions of independent and dependent variables)
8. Discuss the reliability and validity of the measures used in the research. If these are not discussed, what effect does this have on the weight you give the research findings of this study?
9. Discuss the results – Did the authors provide evidence pertaining to the original question/hypothesis?
10. Write at least one question you are left with after reading this article.

Please submit a copy of the article along with your typed assignment.

Do not rely on using direct quotations from these documents. Instead demonstrate your understanding of the material by putting your discussion of the above questions in your own words (i.e., paraphrase).

25 points

Assignment #5: Qualitative Data Assignment**Due Date: Thursday November 9**

Suggested Length: 3 pages maximum

Having read the chapter and supplemental reading on qualitative research, think about an area of research that is of interest to you.

1. Search relevant databases and identify a research article that used qualitative methodologies to answer questions related to your area of interest.
2. Provide the correct APA (5th edition) citation for the article.
3. Provide a brief summary of the article (Refer back to assignment 4 - Give an overview of the literature review, methodology, results, and discussion). Be thorough and give enough information to help someone who hasn't read the article get a GOOD idea of the relevant details of the study.
4. Describe why you think the authors used qualitative methodology.
5. Could the same question have been answered using quantitative methods? If so, would the end result have been better? Worse? How so?

Please submit a copy of the article along with your typed assignment.

20 points

Assignment #6: Mini Literature Review & Proposal**Due Date: Thursday November 30****Part 1 (15 points): Literature Review** - should be approximately 3 pages

- Choose 3-5 research articles in a topic area of your choice and use these articles as a basis for a mini-literature review.
- Summarize the findings of the articles, concisely – **IN YOUR OWN WORDS!** You can use cites from the article, consistent with APA style – but you should not rely heavily on quotes! **(7 points)**
- Describe the gaps in the literature that are identified in these articles (HINT: The discussion sections of research articles are a good source for identifying these information gaps). The gaps that you have identified in the literature should help you build your rationale for a proposed research study. **(2 points)**
- Develop a research question/hypothesis that extends knowledge beyond these articles and addresses at least one of the gaps you have previously discussed (1 or 2 sentences). Your literature review, identification of the gaps, and research question should logically flow, that is, one should be able to see how you got from point A to point B. Don't assume that the reader knows all that you know about the social issue. Clearly describe your position. **(4 points)**
- Discuss why your research hypothesis is socially important and how it is relevant (1 paragraph) **(2 point)**

Part 2 (20 points): Methodology - should be approximately 3 pages

- Describe a feasible research project – this question has 3 parts!
 1. Briefly describe what type of study (exploratory, explanatory, descriptive) would best answer this question.
 2. Explain why you will use qualitative or quantitative (or both) methods.
 3. Clearly describe your research design (e.g., experimental, non-experimental, survey, focus groups, ethonography, etc)? **(6 points)**
- Discuss the most appropriate sample to answer your questions, **and** the limitations of the chosen sample (non-probability, probability – what are the strengths and weaknesses?) **(4 points)**
- Identify your IV(s) and DV(s). **(5 points)**
- Explain how you will operationalize your IV(s) & DV(s), etc. – Be mindful that in operationalizing you need to have concreteness to your definitions, that is, it should explain how you would measure this variable. **(5 points)**

Note: In the methodology section, you should demonstrate your ability to pull together the different parts of the research process and develop a good proposal.

General Issues for Parts 1 and 2

- Use correct grammar, punctuation, etc. All citations in APA format. **(5 points)**

40 points

IMPORTANT DATES TO KEEP IN MIND

- September 7 - Assignment #1 Due**
- September 19 - Assignment #2 Due**
- September 26 - Quiz #1**
- October 5 - Assignment #3 Due**
- October 12 - Midterm -Exam #1**
- October 24 - Quiz #2**
- October 31 - Assignment #4 Due**
- November 9 - Assignment #5 Due**
- November 30 - Assignment #6 Due**
- December 12 - Final Exam**

**Research Methods in Social Work
Application of Understanding Through Practical Exercises**

University of Kentucky
College of Social Work

Prepared by Jennifer Cole

Spring 2006

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Purpose of the Discussion Sessions

There is a Chinese proverb that says, "I hear, I forget. I see, I remember. I do, I understand." Bradstreet (1996) writes that, "Learning is situated in activity. Students who use the tools of their education actively rather than just acquire them build an increasingly rich implicit understanding of the world in which they use the tools and of the tools themselves."¹

These modules were developed to provide a basis for a laboratory to accompany the primarily lecture class, Research Methods in Social Work (SW 450). Statistical analyses presented in these modules are primarily demonstrated with Microsoft Excel, because many future social work practitioners may not have access to SPSS or other statistical software packages in their agencies, whereas most agencies would have Microsoft Excel loaded on their personal computers.

¹ Bradstreet, T. E. (1996), "Teaching Introductory Statistics Courses So That Nonstatisticians Experience Statistical Reasoning", *The American Statistician*, 50, 69-78.

Why Research? Week 2

Purpose: The instructor will present the following cases to the class. At the end of each case presentation, the instructor will elicit questions from the students that they would ask or need answered before concluding their assessment and initiating an intervention.

Instructions: The following scenarios are examples of cases that social workers might be expected to address in their work. Note some questions that you would need answered before concluding your assessment in each of these cases.

1. You are a social worker for Child Protective Services and you are assigned to investigate a report that was called in by a social work counselor at one of the city's high schools. The report was initiated when Myriam informed the school social worker that Myriam would be absent for a few days in the coming week because she anticipated that she would be recovering from a ritual, known to you as female circumcision. Myriam's parents emigrated from Ethiopia 10 years ago. You learn that female circumcision is the norm from the region of their native country. From your interviews with Myriam (in private), and with her parents (partly through an interpreter) you learn that Myriam wants to undergo the ritual, and her parents are adamant that the well-being of their daughter, including her future prospects for marriage and her health, depend upon the ritual. There is nothing else about the family's interactions that warrants concern. The issue of female circumcision has come to the forefront as a hot topic in the community, which in the past 12 years has seen a steady influx of immigrants from Ethiopia and Somalia, where large segments of the population practice female circumcision. In response to the outcry by community members including medical personnel, educators, and victims' advocates, some agency administrators have advised that CPS adopt a policy of finding cases of female circumcision on minors as child abuse and subject for the removal of the minor from the household. No such policy is in place yet. Other voices in the community argue that removal of children from homes for this reason is a violation of individuals' rights to practice religious and cultural customs. Legal proceedings have been brought forth against your agency in one case, where the social worker removed an adolescent girl from a home after a circumcision was performed, but the outcome is pending. What do you decide to do? What is your reasoning?
2. You are a counselor at a local community mental health center. You see a new client, a 12-year-old girl, Janie, who was brought to the center by her mother with complaints of insomnia, listlessness, being withdrawn, and a decline in her academic performance. You find out from Janie's mother, Mrs. Reynolds, that she married her second husband six months ago, and with the marriage Mrs. Reynolds and Janie's home of two (Janie's father died six years ago) became a household of five, with a new stepfather and two step-brothers. Mrs. Reynolds reports that the transition was a little difficult for everyone involved but that everyone in the family seemed to have adjusted.

After talking to Janie in private you suspect that the oldest of Janie's stepbrothers is sexually abusing her. What are some questions you need answered to make a well-informed assessment?

Possible questions for the instructor to ask:

- What is the likelihood of risk to the children if the social worker does not remove the children from the home?
- What is the likelihood of risk to the children if the social worker does remove the children from the home?
- What are possible outcomes in this scenario?

Instructions: Answer the following questions.

The Research Process

3. a) Give an example of a research question that uses deductive reasoning. Explain how the question emerged from deductive reasoning and not inductive reasoning. b) Now give an example of a research question that uses inductive reasoning. Explain how the question emerged from inductive reasoning and not deductive reasoning.
4. Evaluate following example of a hypothesis with regard to the criteria of what makes for a good research question:
 - a. As a social work undergraduate student you propose to examine the decision-making process of university administrators in committee meetings.
5. Formulate a research hypothesis about the relationship between poverty and child abuse. Identify the independent (predictor) variable and the dependent (criterion) variable. Provide at least three reasons that the question is a good research question. State the null hypothesis.
6. Referring to the research question that you formulated for #5, develop another research question that uses the independent (predictor) variable from #5 as the dependent (criterion) variable, and the dependent (criterion) variable from #5 as the independent (predictor) variable for this question. Provide at least three reasons that the question is a good research question. State the null hypothesis.
7. Choose an independent variable and dependent variable from the following list of terms, and make a research hypothesis. Do this several times, developing at least five research hypotheses.

Neighborhood crime rate
Adolescent substance abuse
Juvenile criminal offenses
Racist attitudes
Major depressive disorder
Cognitive behavioral therapy
Existential therapy

Low parental supervision
Adolescent pregnancy rate
HIV/AIDS knowledge
Participation in after-school activities
Academic performance
Panic disorder

Participation in a mentoring program
Children of alcoholic parents

Per capita household income

8. In pairs or small groups, develop three different research questions or hypotheses about the same phenomenon. One question about the phenomenon should be developed with an exploratory study in mind, the second for a descriptive study, and the third for an explanatory study. The class should share their questions/hypotheses and discuss how the focus of the questions differ.

More Practice With Variables, Conceptual Definitions, and Operational Definitions Week 3

Purpose: To provide students with practice identifying variables and developing conceptual and operational definitions for variables. Students should come to understand that variables can be operationalized in a variety of ways.

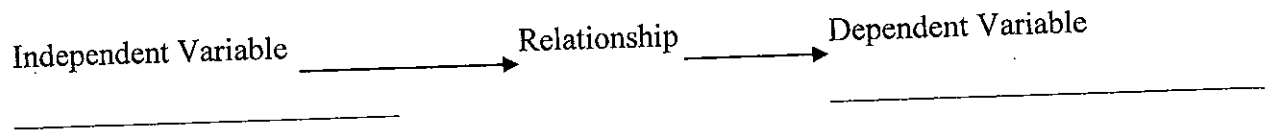
Instructions: Students will work in small groups of 2-3 students to discuss the following questions.

1. You are interested in determining the relationship between aggression and video game playing among middle school students. Your hypothesis is that children who play video games that incorporate violence will be more likely to exhibit aggressive behavior at "recess" toward their peers than children who played a non-violent video game in the same time period.
 - a. Identify the independent and dependent variables.
 - b. Develop a conceptual definition of the independent variable. (Remember: *We must distinguish between a concept and its name; this is what we are doing with conceptual definitions.*)
 - c. Develop a conceptual definition of the dependent variable. (Remember: *We must distinguish between a concept and its name; this is what we are doing with conceptual definitions.*)
 - d. Develop an operational definition of the independent variable. (Remember: *Operational definitions of a concept are concrete and specific. This is when we communicate how we will measure our variables.*)
 - e. Develop an operational definition of the dependent variable. (Remember: *Operational definitions of a concept are concrete and specific; this is when we communicate how we will measure our variables.*)
 - f. Once you have finished devising operational definitions of the variables, discuss at least one alternate way of operationalizing your independent and dependent variables. Discuss how different empirical indicators could be used to measure a construct. Evaluate the different operational definitions you have created for the same construct. Do you think that one definition has greater merit than the other? Why? Is there consensus among your group?

It may be helpful to use the diagram provided on the next page to map out this process.

*Indicators = *an observation presumed to be evidence of a phenomenon*

Source: (<http://www.uic.edu/classes/socw/socw360/weeks3&4.html>)



Conceptual Definition of IV

Conceptual Definition of DV

Operational Definition of IV

Operational Definition of DV

Alternate
Operational Definition of IV

Alternate
Operational Definition of DV

This next exercise will give students another opportunity to practice using the concepts of *conceptualization* and *operationalization*. The following exercise will be carried out as a Think, Pair, Share exercise. This is a task that lends itself to this type of exercise because there are multiple ways of answering each question, and each discussion with a new person or group of persons will highlight the multiple possibilities for devising conceptual and operational definitions. The class will tackle each of the examples below, given the time available, beginning with the task of devising conceptual and operational definitions of social worker.

Instructions: First students will break up into pairs. The first step of the task is for individuals to consider the task on their own, taking notes. After about five minutes, individuals will reconvene into "pairs" and compare and discuss their different solutions to the task. The third step is for all the pairs to come together as a group to share their answers.

1. Devise a conceptual definition and an operational definition of *social worker*. (You cannot use the term *social work* in your answer). Remember that a good conceptual definition should contain words that have clear meanings, should **not be so broad** as to include events that are part of many other definitions, but should **not be so narrow** that the definition excludes events that ought to be included (<http://people.uncw.edu/kozloffm/logic.htm>).
2. Devise a conceptual definition of *dating*. If you use the term *date* in your definition, you must define what constitutes a date. Once the conceptual definition is finalized, develop an operational definition of *dating*.
3. Devise a conceptual definition of *child neglect*. Be sure to define what you mean when you refer to a child and what you mean by the term, neglect. Again, develop an operational definition of child neglect.

Research Ethics Week 4

Purpose: Students will have the opportunity to apply the principles discussed in class that relate to research ethics to hypothetical situations. The activity will require students to discuss these principles as a group and come to an agreement about their recommendations.

Instructions: The class should be divided into groups of 4-5 students. You are members of an IRB committee. You have read through the research proposal for a number of projects that you will discuss in your committee meeting. You will discuss, as a committee, any concerns you have about the protection of human participants (knowing what we have discussed thus far about research ethics). Below are the synopses of the research proposals you should discuss today. Discuss your decisions about the ethical considerations of each of the proposals and make a final determination on whether the study will be approved, and if so, whether the committee will stipulate any changes must be made to the research protocol. One person will be assigned the task of noting the concerns that the group raise, along with any recommendations for the protocol, including any required changes to the protocol.

Research Protocol A

A researcher hypothesizes that social service caseworker exercise great discretion in linking individuals to community resources. He proposes a study, in which study staff members pose as social service applicants. Applicants with identical attributes on the factors that are used as eligibility criteria will "submit applications" to an agency, and will subsequently be interviewed by caseworkers. Agency workers will not be notified about the study.

Research Protocol B

A MSW student proposes to conduct telephone surveys with individuals who have been found by child protective service workers to have committed abuse against their children. She proposes to obtain a list of names of potential survey participants from the CPS office where she is doing a field placement. She proposes to contact the parents with the explanation that each person has been selected "at random" from among the general population to take a sampling of public opinion about family violence.

Research Protocol C

A researcher proposes to study individual's responses to partner violence. She plans on recruiting individuals who have obtained a protective order against a partner. In the interview questionnaire she asks a series of questions about the partner's use of violence toward the participant's children (if applicable). The researcher also notes that she has obtained a Certificate of Confidentiality from the National Institutes of Health to protect participants' confidentiality.

Construct Validity Week 5

Purpose: To increase students' familiarity with the concept of construct validity. The task will be to create "mini" scales of depression and to propose research studies that would provide evidence that the newly created scale is actually doing a good job of measuring depression.

Instructions: You will work in small groups to create "mini" scales of depression, beginning with the development of a conceptual definition of depression. Then you will propose studies that would help establish that the newly devised scale has construct validity.

1. In groups of 3-4 students, the first task is to create a paper and pencil "mini" scale of depression (as you choose to conceptually define it). Thus, the first step is to develop a conceptual definition of *depression*. You will have app. 10 minutes to create your group's conceptual definition.
 - a. One of the best ways to do this in a group is for each person to attempt this on his or her own (on paper), and then each person reads his/her definition out loud. Each person's definition will likely contribute something to the group definition.
 - b. Your group definition does not have to be the perfect definition. How could it be if you have only 10 minutes to devise it?
 - c. Please take notes during each stage of the process to help you communicate a synopsis of your discussion and decisions to the class as a whole at the end of the period.
2. The next step is to begin writing items to include in your scale of depression. Given your time limitations (app. 10 minutes), devise about 10-12 items.
 - a. Items should relate to the group's conceptual definition. Items should describe essential characteristics of a depressed person.
 - b. You may want to consider using a likert scale for responses to your items. Of course, it should be the same set of response options for every item.
3. Propose research studies to determine if your scale is actually a good measure of depression. For the purposes of this task, you may assume that you are not limited by funding or accessibility to different samples.
 - a. Think about what you know about depression and how it is proposed to be related to other events, attributes, or personal qualities.
4. The instructor gives each group some additional measures. As a group you must decide how you could use the additional measures to examine whether your "mini" scale of depression is a valid measure.
5. All the groups will come back as a class to discuss the different definitions and methods for conducting validity tests that groups developed. The notes you took during the class can be synthesized on the dry erase board/chalkboard for display.
6. Wrap up (The instructor will ask the following questions of the class):
 - a. What was the most difficult part of this exercise?

- b. What was the most important thing you learned from today's lesson?
- c. What is still confusing?

Instructor's Guide for the Exercise on Construct Validity

Students will work in small groups to develop a paper and pencil scale of depression and determine ways to evaluate the construct validity of their test.

Major steps in the lesson:

1. Students read their individual definitions of depression and use these to develop a group definition.
 - Expect students to share their definitions and combine or integrate ideas into a group definition.
 - Definitions may not be sophisticated or comprehensive given the short time period (10 Minutes).
 - Do students recognize they have invented a "construct?"
2. Based on their definition, each group creates test items to measure the characteristics of depression
 - Students develop Likert scale items. May be challenging to form good questions in this format.
3. The group proposes research studies to determine the validity of their test
 - This is the most difficult part of the lesson. Students need to examine the logic of construct validity studies in order to propose an appropriate study.
 - Students will need to connect their prior understanding of validity studies to their test of depression.
 - Anticipate that some groups will not understand the logic behind the validity studies. The instructor will monitor groups and intervene if they are struggling. May address the entire class to explain some of the sticking points.
4. The instructor gives the groups some additional tests (measures) and instructs them to decide how they could use the tests to determine whether their test of depression is valid.
 - The only prior knowledge of statistical methods that students need to have is to understand the concept of correlation. This should have been reviewed in the lecture class.
5. Class discussion to review some of the groups' scales and methods use to determine validity.
 - The instructor uses the end of class to help consolidate students' understanding of construct validity and the logic of validity studies.
 - Students reflect on their own understanding at the end of class—what they got, didn't get, what is confusing.

Source: www.uwlax.edu/sotl/lsp/samplelessonplanandpredictions.doc

Internal Validity Week 6

Purpose: To provide students with an opportunity to apply the concepts related to internal validity that are covered in the text book and in lecture material. The instructor will provide the criteria for causality on the board for students' reference.

Instructions: Identify the threat to internal validity in the following research scenarios. Discuss how the threat undermines the researcher's ability to make causal inferences. Refer to the criteria for causality that are written on the board.

1. You are interested in examining the stability of students' perceptions of campus safety over time. You administer your written survey at the beginning of the semester and plan on administering the survey two more times throughout the course of the semester. Three weeks into the semester a highly publicized rape occurs outside the university's main library. You are scheduled to administer the survey for a second time in one week.
2. You conduct an experiment to determine if increasing family involvement in the treatment of adolescents with substance abusing problems improves treatment outcomes. You assign the therapists in one wing (A) of the treatment facility to receive additional training on working with families. The staff members in the other wing (B) receive no such training and continue with the treatment regimen as they always have. Word gets out about the special training of the therapists on Wing A; staff and some residents in Wing B learn of the special treatment component and believe that residents in Wing B are being cheated of the added benefit of the integrated family therapy. (*Remember, that you are conducting the study to see if there is evidence that integrated family therapy leads to better treatment outcomes*). The staff in Wing B decides to compensate for the inequity by providing more services to their clients.
3. Couples in an enhanced type of conflict resolution therapy are asked individuals to keep a log of all arguments they have as part of the measurement of conflicts before and after they go through the 6-week therapy focused on conflict. Couples in an equivalent comparison group are asked to keep logs of their arguments during the same periods but do not undergo the 6-week therapy focusing on conflict resolution.
4. At your substance abuse treatment facility case management has recently been introduced as an added service to clients. However, because this aspect of your agency is new and you have only one staff member who works as a case manager, most of the clients receive standard therapy only with substance abuse counselors. It's important to note that many social workers who do not fill the formal role of case manager participate in case management functions, such as linkage, outreach, and brokerage. You want to compare client outcomes for those clients who receive the case management services versus the clients who receive the standard social services.
5. You do not have much money to collect data to evaluate the effectiveness of a program to help single parents on TANF transition to the workforce. You have your caseworkers

collect the data about program participants' efforts to find a job on a weekly basis at the beginning of each case management session. After you have been doing this for a while you overhear a couple of clients in the waiting room discussing how they know what answers their case managers want to hear so they admitted to each other to lying on occasion during the data collection phase of each session.

Random Assignment: Why It Matters
Week 6

Purpose: To provide an illustration of how random assignment produces equivalent groups.

Instructions: In this section we will discuss how random assignment helps us claim equivalency between our groups. You have a pool of 50 research participants to assign to two groups: experimental and control. Try randomization to see if participants with differing characteristics (e.g., gender and Republican vs. Democrat) end up in your groups fairly evenly distributed.

Your pool of participants is represented by numbers below, along with the following notation to indicate their attributes on the previously mentioned variables: M = male, F = Female for gender; and R = Republican, and D = Democrat. In your sample, you have 25 men and 25 women. You have 25 Republicans and 25 Democrats. Fourteen of the men are Republican and 11 are Democrat. Eleven of the women are Republican and 14 are Democrat. Essentially you are keeping track of 4 types of participants in this exercise (M, R; M, D; F, R; and F, D).

1) M, R	11) M, D	21) F, R	31) M, R	41) M, R
2) M, D	12) F, R	22) M, R	32) M, D	42) F, R
3) F, D	13) M, R	23) F, D	33) M, D	43) M, R
4) M, R	14) F, R	24) M, R	34) F, D	44) M, R
5) F, D	15) F, D	25) M, D	35) F, R	45) F, R
6) F, R	16) F, D	26) F, D	36) F, D	46) F, D
7) M, D	17) M, R	27) F, D	37) M, D	47) F, R
8) M, R	18) M, D	28) M, R	38) F, R	48) M, D
9) F, D	19) F, R	29) F, R	39) M, R	49) M, R
10) F, D	20) M, D	30) F, D	40) M, D	50) F, D

Flip a coin to assign each participant to a group: E for Experimental (heads) or C for control group (tails). The easiest way to do this is to go in order of participant number and write down in the table below which participants (represented by their number) are assigned to which group.

Experimental Group		Control Group	

Now count up the number of women and men are in each group. Do the same for Republicans and Democrat affiliation. You should expect close to half of participants in each of your four groups (M, R; M, D; F, R, and F, D) to be in the experimental group (give or take a couple).

Now that we have worked through this example manually—by flipping a coin to assign individuals to groups—we will use a website that randomly generates numbers.

Instructions: The instructor will display this website on the projector, and work through the following example: <http://www.randomizer.org/form.htm> .

We have our 50 individuals who were assigned ID numbers. Now we will use the website to randomly generate numbers that we will use to assign individuals to either the Experimental group or the Control group. First, we select the option on the lefthand of the screen, “Randomizer.” Because we want to end up with 2 groups of 25 individuals each, we will have to block our numbers. If we do not block our numbers then we could end up with groups of unequal sizes. We will walk through the following example:

How many sets of numbers do you want to generate? 25

How many numbers per set? 2

Number range (e.g., 1-50): From: 1
To: 2

Do you wish each number in a set to remain unique? Yes

Do you wish to sort your outputted numbers? No

How do you wish to view your outputted numbers? Place markers across

Then, select Randomize Now.

Let us decide that group 1 represents the Experimental group and that group 2 represents the Control group. You read the printout like this:

$p1=2, p2=1$

What this is telling you is that participant 1 (from our original list of participants) is assigned to group 2, and participant 2 is assigned to group 1. You read the rest of the printout in the same way.

The class will run through 2 examples using the randomizer website. For each example, the class will count up the number of male Democrats, female Democrats, male Republicans, and female Republicans that were randomly assigned to the experimental and control groups.

Review of Basic Statistics (During the week before the mid-term exam)
Week 7

Purpose: To reintroduce students to some basic statistical terms and calculations, such as frequencies, measures of central tendency, and measures of dispersion (variability). This should be a reintroduction because a prerequisite for the course is that students must have taken a statistics course. However, the experiences of instructors of Research Methods to undergraduate social work students suggests that many students will not immediately recall the meanings of the terms or apprehend the mathematical meanings for each term.

The first part of the class will be spent working with frequency distributions in different data sets. The instructor should introduce students to the concept that any quantitative data analysis begins with creating frequency distributions for all one's variables. Running frequencies on all variables is an important step in cleaning the data (meaning looking for data entry errors) and to familiarize oneself with the data. By getting a sense of how the values or categories are distributed for each variable, one can begin to make decisions about which statistical tests to use to analyze the data. The second part of class will be spent working on calculating the mean and the standard deviation for a variable from the data set, "Treatment Outcome Data."

To begin with, students should understand the following terms:

Frequency – The statistical term referring to a count of how many cases exist in a particular category, or with a particular value (for interval and ratio level variables), of a particular variable.

Frequency distribution – This is simply the list of the frequencies for each category, or value, or a given variable.

Absolute frequencies – Simple counts of the number of cases per category, or value.

Relative frequencies - The percentage of cases per category, or value.

Cumulative frequencies – The sums of absolute or relative frequencies as the categories are added.

Because there is not enough time in this session to reintroduce students to statistical terms as well as to introduce them to how to run univariate statistics in Microsoft Excel, this session will focus on providing students with opportunities to read and interpret frequency distributions. First the instructor will walk students through an example of reading a frequency distribution for a few variables from a data set other than the one the students will use to fill out Practice Sheet A. It may also be necessary for the instructor to provide printouts of the various steps to allow students to go back and recreate the steps on their own. Then, frequency distribution printouts from SPSS for the data set, "Treatment Outcome Data" will be provided to students to use to answer the questions on Practice Sheet A.

Once students have completed Practice Sheet A and students' questions have been answered by the instructor, the instructor will introduce the following univariate statistical terms. In presenting the reintroduction to the topics of central measures of tendency, and measures of variability, the following terms must be defined.

Univariate statistic – Summary statistic for one variable.

Measure of central tendency - Measures of central tendency are measures of the location of the middle or the center of a distribution for a variable. The definition of "middle" or "center" is purposely left somewhat vague so that the term "central tendency" can refer to a wide variety of measures.

Mean – Commonly called the average. It is the sum of all the scores divided by the number of scores. Because calculating the mean involves adding and dividing, it is not appropriate for nominal level data. It makes sense for variables that convey quantities.

Median – The middle value in distribution where the scores are rank-ordered. Before the median can be calculated the scores must be ordered. When there is an odd number of scores, the median is simply the middle number. When there is an even number of numbers, the median is the mean of the two middle numbers. Thus, the median of the numbers. It is less sensitive to extreme scores than the mean.

Mode - The mode is the most frequently occurring score in a distribution. Its meaning is obvious and it is the only measure of central tendency that can be used with nominal level data.

Measure of variability (dispersion) – These statistics describe how much variability in scores exist in a distribution for a particular variable.

Range – This is the simplest to understand and to calculate measure of variability. The range represents the total number of possible values in a distribution. It is calculated by subtracting the minimum value from the maximum value in the distribution and adding 1.

Standard deviation (SD) – This measure of dispersion takes into account all the scores in a distribution. It is also called the "root-mean-square deviation", which describes the way it is calculated. What do we mean by deviations? This means the individual differences between the observations and the mean for the distribution for the particular variable. First, the deviations are calculated. Then, the deviations are squared. Next, the mean of the deviations is calculated. Finally, the square root of the mean is taken to obtain the standard deviation.

Variance – Like the SD, this measure of dispersion takes into account all the scores in a distribution. It is defined as the average of the squared deviations from the mean. To calculate, first subtract each score in the distribution of scores for that variable from the distribution's mean. Then square each of the differences. Next, add up all the squared differences and then divide that sum by the total number of values minus 1 ($N - 1$).

Once the univariate statistical terms have been reviewed, the instructor will ask the students to work in pairs to fill out the attached sheets, "Mean Calculation Sheet" and "Standard Deviation Calculation Sheet."

Practice Sheet A
Reading Frequency Distributions

Instructions: Use the SPSS outputs provided by the instructor to answer the following questions.
Work in pairs.

1. How many cases are missing values for the variable *Gender*? _____
2. The majority of respondents are male or female? _____.
3. What percent of respondents are female? _____
4. How many cases are missing values for the variable *Main substance*? _____
5. In this sample, what is the most commonly used main substance? _____
6. What is the second most commonly used main substance? _____
7. Which substance is the least commonly used? _____
8. What percent of respondents report that either alcohol or marijuana is their main substance? _____
9. What percent of respondents report that their main substance is something other than alcohol? _____
10. How many cases are missing values for the variable *# of days in residential treatment*?
11. How many respondents stayed in the residential treatment facility for 7 days or less?

12. What is the range in the number of days spent in residential treatment in this sample?

13. How many respondents stayed for the entire treatment period (i.e., 28 days)?
_____. What percent of respondents stayed for the entire treatment period?
_____.
14. What percentage of respondents stayed at least half of the recommended treatment period? _____
15. How many respondents spent exactly 20 days in residential treatment? _____
16. Please calculate the mean for the # of days spent in residential treatment? Show your work on the attached "Mean Calculation Sheet".
17. What is the median # of days spent in residential treatment? _____
18. What is the mode for the # of days spent in residential treatment? _____
19. How many cases are missing values for the variable *Self-referred*? _____
20. Were the majority of respondents self-referred? YES/NO. How do you know?

21. What percent of participants were not self-referred? _____
22. Should we be concerned that we are missing data on self-referral status for 1 out of 5 respondents? Why or why not? _____
23. What percent of respondents reported being abstinent from the main substance at follow up? _____
24. How many respondents reported not being abstinent at follow up? _____
25. Does the variable *Abstinence at Follow Up* provide you information about how long respondents were abstinent after treatment until they relapsed if they did relapse?

26. What level of measurement is the variable *Abstinence at Follow Up*? _____

SPSS Frequency Distribution Printouts
To Use To Answer Questions on Practice Sheet A

Statistics

	Age	Gender	Main substance	# of days in residential tx	Case management (Y/N)	Self-referred	Abstinence at F-UP
N	50	50	50	50	50	40	50
Valid	0	0	0	0	0	10	0
Missing	29.38	1.46	2.22	21.20	.54	.58	.56
Mean	27.00	1.00	2.00	25.00	1.00	1.00	1.00
Median	25	1	2	28	1	1	1
Mode	6.263	.503	1.036	8.229	.503	.501	.501
Std. Deviation	39.220	.253	1.073	67.714	.253	.251	.251
Variance	27	1	3	25	1	1	1
Range							

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20	1	2.0	2.0	2.0
21	1	2.0	2.0	4.0
22	1	2.0	2.0	6.0
23	3	6.0	6.0	12.0
24	5	10.0	10.0	22.0
25	8	16.0	16.0	38.0
26	4	8.0	8.0	46.0
27	3	6.0	6.0	52.0
28	1	2.0	2.0	54.0
29	3	6.0	6.0	60.0
30	1	2.0	2.0	62.0
31	1	2.0	2.0	64.0
32	2	4.0	4.0	68.0
33	2	4.0	4.0	72.0
34	5	10.0	10.0	82.0
35	1	2.0	2.0	84.0
36	3	6.0	6.0	90.0
39	1	2.0	2.0	92.0
41	1	2.0	2.0	94.0
42	1	2.0	2.0	96.0
44	1	2.0	2.0	98.0
47	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	27	54.0	54.0	54.0
Female	23	46.0	46.0	100.0
Total	50	100.0	100.0	

Main substance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Alcohol	14	28.0	28.0	28.0
Marjuana	19	38.0	38.0	66.0
Cocaine	9	18.0	18.0	84.0
Opiates	8	16.0	16.0	100.0
Total	50	100.0	100.0	

of days in residential tx

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	2	4.0	4.0	4.0
5	1	2.0	2.0	6.0
6	1	2.0	2.0	8.0
7	1	2.0	2.0	10.0
10	3	6.0	6.0	16.0
12	2	4.0	4.0	20.0
13	1	2.0	2.0	22.0
14	2	4.0	4.0	26.0
15	2	4.0	4.0	30.0
17	1	2.0	2.0	32.0
20	3	6.0	6.0	38.0
21	2	4.0	4.0	42.0
22	1	2.0	2.0	44.0
25	4	8.0	8.0	52.0
26	1	2.0	2.0	54.0
28	23	46.0	46.0	100.0
Total	50	100.0	100.0	

Case management (Y/N)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	23	46.0	46.0	46.0
Valid Yes	27	54.0	54.0	100.0
Total	50	100.0	100.0	

Self-referred

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	17	34.0	42.5	42.5
Valid Yes	23	46.0	57.5	100.0
Total	40	80.0	100.0	
Missing System	10	20.0		
Total	50	100.0		

Abstinence at F-UP

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	22	44.0	44.0	44.0
Valid Yes	28	56.0	56.0	100.0
Total	50	100.0	100.0	

Standard Deviation Calculation Sheet
For The # Of Days Spent In Residential Treatment

Value	Mean	Subtract the Mean	Deviation from the Mean	Squared Deviation

Continuation of Calculating the Standard Deviation
For The # Of Days Spent In Residential Treatment

Sum of Squares (Sum of the Squared Deviations) = _____

Variance (s^2) = Sum of Squares / N = _____

Standard Deviation (s) = Square root of the variance = _____

Single System Design
Week 8

Purpose: To provide students with an opportunity to apply concepts and terminology related to single system designs that they have read in the textbook and heard in lecture.

Instructions: Students will participate in a relay of sorts to devise Single System Design studies to address client problems that have arisen in their field placements. Students will work in pairs to begin filling out the following Single System Design plan. The first five minutes of the exercise will be devoted to formulating the problem. After the five minutes is over, student pairs will pass their plan to the pair behind them or to their left. Now each pair will pick up in devising the plan where the previous pair left off. And so on, until the SSD plans for each pair are completely filled out. Once the SSD plans are completed, the plans will be returned to the first pair who began working on the plan. This pair will then present the SSD plan to the entire class.

Single System Design Plan

1. What is the problem to be studied? Please describe the client problem, like one social worker would to another social worker to introduce the new social worker to the case

2. What is the target behavior? You need to operationalize the target behavior, including the time frame for measuring the behavior, and how the data will be collected.

3. What SSD will you use to study this problem? Why?

4. Imagine that time has passed and you are finished conducting the study. Plot out a potential representation of the client's progress with respect to the target behavior. Start with drawing out the horizontal and vertical axes.
5. Refer to the graph depicted in Question 4. Does the graph indicate that the treatment was successful or a failure? If your answer is that it appears to have been successful, plot out an alternate graph that represents a negative outcome for the client. If the graph in question 4 represents a failure, plot out an alternate graph that represents a positive outcome for the client.

**SSD Data Entry In Microsoft Excel
Week 8**

Purpose: The instructor will demonstrate how students can input data from a single system design and create a line graph to chart the client's progress.

Tilly's grades have been declining for the past 8 weeks. Tilly's parents, Tilly's teacher, and the school social worker meet to discuss the problem and to come up with a plan to address the problem. All parties agree that the principal reason that Tilly's grades have declined is because she is devoting less and less time to studying at home. Her parents' attempts to increase her study time at home have thus far been unsuccessful. The school social worker asks Tilly's parents to note the number of minutes she spends studying per evening for one week. Then the social worker begins her intervention with Clara, which is based on providing positive reinforcement (e.g., privileges at school) to Clara for every night she spends at least 45 minutes studying a night. The intervention lasts one week. Refer to the graph to answer the following questions.

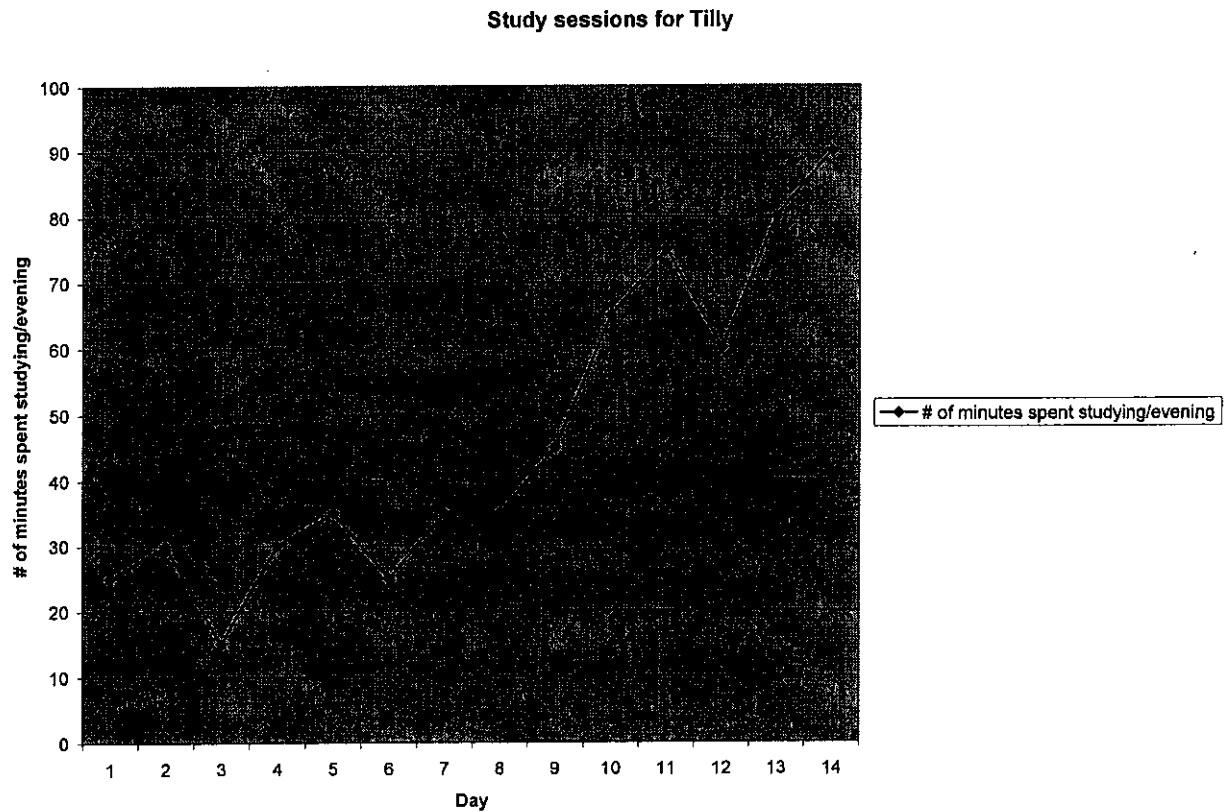
Instructions: Follow the steps outlined on this sheet to enter data for a SSD and to create a graph of the SSD for Tilly.

Enter the following data in an Excel worksheet. Save it under "SSD for Tilly".

Day	# of minutes spent studying/evening
1	25
2	30
3	15
4	30
5	35
6	25
7	35
8	35
9	45
10	65
11	75
12	60
13	80
14	90

- While in the worksheet in Excel, choose the Column B "# of minutes spent studying", and click on Insert and choose Chart.
- Choose the type of chart: Line.
- Choose the Line chart type: Line with markers displayed at each data value.
- Because you have already indicated which values to use to input into the chart by highlighting the values in Column B, the following should be entered as the Data Range = Sheet1!\$B\$1:\$B\$15. This means that the values in Column B, beginning with the second row (because the first row is the header) and including all rows up to the 15th row will be included in the chart.
- Select "Next."

- Insert the Chart Title: Study Sessions for Tilly
 - Insert the title for the X-axis: Day
 - Insert the title for the Y-axis: # of minutes spent studying/evening
 - Select "Next."
 - You can either choose to insert the chart as an object in the worksheet you have open, in which you input the values OR you can choose to create the chart in a New Sheet.
 - Select "Finish."
 - You should see a chart that looks like the chart below.
-
- Draw the line that demarcates the Baseline and Intervention. Label each section with the appropriate label, "A" and "B".



Now, going back to the SSD that students created as a class, the instructor will assign small groups to enter the data from one of the SSDs created by the class. The small groups will work the class will work in pairs to enter the data into Excel to create a line chart. Each chart should be clearly labeled. Students will hand in their newly created charts on a disc.

**Data Collection Instruments:
Let's Consider Levels of Measurement
Week 9**

Purpose: To provide students with opportunities to identify levels of measurement and to begin thinking about what basic measures of central tendency are appropriate for different levels of measurement.

Instructions to students: You will work in pairs to determine the level of measurement in the examples provided on Practice Sheet B.

Students' attempts to identify the level of measurement for some of the questions will likely elicit discussion, because for some of the questions, there could be more than one correct answer. For instance, questions #3 and # 5 could be interpreted as either nominal level or ordinal level measurements. Instructors should draw out discussion of these varying but justifiable ways of viewing response categories for these types of questions.

Before proceeding to the next exercise, the instructor will access the data set "WLS subset data," (Wisconsin Longitudinal Study) selecting at least ten different variables and running frequencies on the variables (e.g., SEXRSP, HSRANKQ, IQSCOR, OCF57, PARCNT, SES57, WKSTF6, BKLVP, EDMOYR, ZPARNF), the instructor will ask the class to determine the level of measurement for the variables.

To encourage participation from all pairs of students, and not to rely on the students who tend to participate more than others, the instructor can set the question-response session up like a game. The class pairs can be combined into groups of 4 or 6, depending on the size of the class. As the instructor selects a variable, displaying the possible range of values (like they would be entered in a codebook), teams will be asked to raise their hands when they have the correct answer. The first team to have a member raise a hand will be asked to respond. If this team responds incorrectly, the other teams will have an opportunity to raise their hands again to compete for the chance to answer the question. The instructor can assign point values for each correct answer (e.g., 10). The team with the most correct answers will win an extra credit point that will go toward their final grade. For demonstration purposes the instructor can analyze specific variables with different measures of central tendency to show the difficulty in interpreting the meaning of certain measures of central tendency with variables of differing levels of measurement. For example, the instructor can pull up the mean for the SEXRSP variable, and ask students to interpret the meaning of this statistic. The instructor will ask if there is a more appropriate measure of central tendency to use with a nominal level variable.

Going back to the review of basic statistics that was covered in week 7 of the practical exercises, students will be asked to decide which measure of central tendency would best describe the data for each of the questions on Practice Sheet C, which is identical to the practice sheet they just filled out with the addition of a line where they can note the measure of central tendency. Once the pairs are finished working on this activity, the instructors will ask pairs of students to share their answers. Any disagreements between pairs will be discussed, either by pointing out why both answers are correct or by demonstrating the superiority of one answer over another.

Practice Sheet B
Levels of Measurement

Instructions: Working in pairs, indicate which level of measurement corresponds with each measure described below.

N = Nominal

O = Ordinal

I = Interval/Ratio

1. _____ Therapist rating of clients at the end of a group therapy program for social phobia. Ratings include: “highly phobic” “moderately phobic” and “not at all phobic.”
2. _____ The use of life satisfaction index to determine the psychological well-being of older adults. The scale is 80 items and scores range from 0 to 80.
3. _____ An agoraphobia inventory which classifies clients into groups with “no problem” and those with “clinically significant phobia.”
4. _____ An agoraphobia inventory which provides scores from 15 (low) to 55 (high).
5. _____ A researcher who is conducting research in a prison would like to classify inmates as either “recidivist offender” or as a “first time offender.”
6. _____ Items in the Brief Symptom Inventory ask participants to report how troubled or bothered they have been with particular mental health symptoms, for instance, thoughts of death and dying. Response options range from 0 (not at all), 1 (a little bit), 2 (moderately), and 3 (quite a bit), and 4 (extremely).
7. _____ The sum on the Global Severity Index of the BSI, which is a sum of all the items divided by the total number of items, ranging from 0 to 4.
8. _____ Evaluators of a parent education program ask students at the end of the program to rate their attitude about the use of corporal punishment in parenting. Response options range from 1 (very unfavorable) to 5 (very favorable).
9. _____ Evaluators of a parent education program ask students to indicate if they intend to use corporal punishment in parenting their children. Response options are Yes/No/Uncertain.

10. _____ Clients of a non-profit community agency are asked to report their annual income for the past year. They are given the following response options:

- 1 = Less than \$5,000
- 2 = \$5,000-\$9,999
- 3 = \$10,000-\$14,999
- 4 = \$15,000-\$24,999
- 5 = \$25,000-\$34,999
- 6 = \$35,000-\$49,999
- 7 = \$50,000-\$74,999
- 8 = \$75,000-\$99,999
- 9 = \$100,000 or more

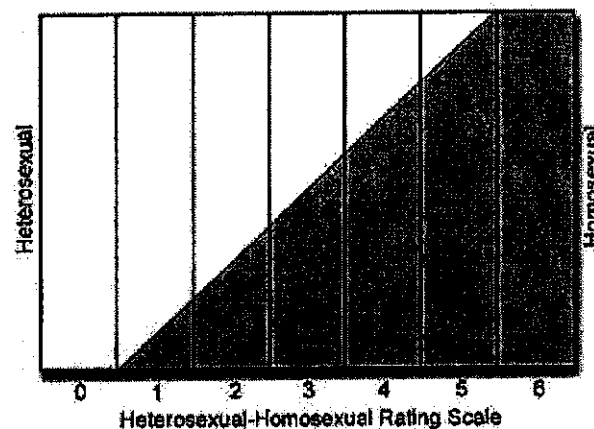
11. _____ Clients of a non-profit community agency are asked to report their annual income for the past year, giving their annual gross income, as it would be reported on their federal income tax forms.

12. _____ A researcher asks participants to self-report whether they are “heterosexual” or “homosexual.”

13. _____ A researcher asks participants to rate their sexual orientation using the Kinsey Scale:

Kinsey Scale

(Kinsey 1948), p. 638



- 0- Exclusively heterosexual with no homosexual
- 1- Predominantly heterosexual, only incidentally homosexual
- 2- Predominantly heterosexual, but more than incidentally homosexual
- 3- Equally heterosexual and homosexual
- 4- Predominantly homosexual, but more than incidentally heterosexual
- 5- Predominantly homosexual, only incidentally heterosexual
- 6- Exclusively homosexual

Practice Sheet C
Levels of Measurement & Measures of Central Tendency

Instructions: Working in pairs, indicate which measure of central tendency you would use to describe the variable.

N = Nominal

O = Ordinal

I = Interval/Ratio

1. _____ Therapist rating of clients at the end of a group therapy program for social phobia. Ratings include: "highly phobic" "moderately phobic" and "not at all phobic."
Measure of central tendency: _____
2. _____ The use of life satisfaction index to determine the psychological well-being of older adults. The scale is 80 items and scores range from 0 to 80.
Measure of central tendency: _____
3. _____ An agoraphobia inventory which classifies clients into groups with "no problem" and those with "clinically significant phobia."
Measure of central tendency: _____
4. _____ An agoraphobia inventory which provides scores from 15 (low) to 55 (high).
Measure of central tendency: _____
5. _____ A researcher who is conducting research in a prison would like to classify inmates as either "recidivist offender" or as a "first time offender."
Measure of central tendency: _____
6. _____ Items in the Brief Symptom Inventory ask participants to report how troubled or bothered they have been with particular mental health symptoms, for instance, thoughts of death and dying. Response options range from 0 (not at all), 1 (a little bit), 2 (moderately), and 3 (quite a bit), and 4 (extremely).
Measure of central tendency: _____
7. _____ The sum on the Global Severity Index of the BSI, which is a sum of all the items divided by the total number of items, ranging from 0 to 4.
Measure of central tendency: _____
8. _____ Evaluators of a parent education program ask students at the end of the program to rate their attitude about the use of corporal punishment in parenting. Response options range from 1 (very unfavorable) to 5 (very favorable).
Measure of central tendency: _____
9. _____ Evaluators of a parent education program ask students to indicate if they intend to use corporal punishment in parenting their children. Response options are Yes/No/Uncertain.
Measure of central tendency: _____

10. _____ Clients of a non-profit community agency are asked to report their annual income for the past year. They are given the following response options:
- 1 = Less than \$5,000
 - 2 = \$5,000-\$9,999
 - 3 = \$10,000-\$14,999
 - 4 = \$15,000-\$24,999
 - 5 = \$25,000-\$34,999
 - 6 = \$35,000-\$49,999
 - 7 = \$50,000-\$74,999
 - 8 = \$75,000-\$99,999
 - 9 = \$100,000 or more

Measure of central tendency: _____

11. _____ Clients of a non-profit community agency are asked to report their annual income for the past year, giving their annual gross income, as it would be reported on their federal income tax forms.

Measure of central tendency: _____

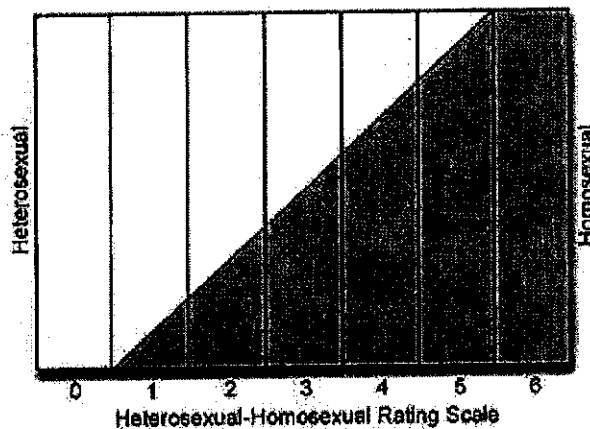
12. _____ A researcher asks participants to self-report whether they are "heterosexual" or "homosexual."

Measure of central tendency: _____

13. _____ A researcher asks participants to rate their sexual orientation using the Kinsey Scale:

Kinsey Scale

(Kinsey 1948), p. 638



- 0- Exclusively heterosexual with no homosexual
- 1- Predominantly heterosexual, only incidentally homosexual
- 2- Predominantly heterosexual, but more than incidentally homosexual
- 3- Equally heterosexual and homosexual
- 4- Predominantly homosexual, but more than incidentally heterosexual
- 5- Predominantly homosexual, only incidentally heterosexual
- 6- Exclusively homosexual

Measure of central tendency: _____

Sampling Theory Week 10

Purpose: This exercise is designed to demonstrate the logic of sampling theory, in a way that students who are not inclined toward quantitative data can understand. The explanation of sampling theory/probability theory has been covered in the lecture class prior to this session.

Terms to be reviewed before beginning the exercise:

Population – The theoretically specified aggregation of study elements. In other words, it is the set of people or entities to which findings are to be generalized.

Sample - That part of a population that is actually observed. In order to provide validity to our use of samples to approximate characteristics of the greater population, scientific reasoning and methods demands that samples be selected in such a way as to avoid presenting a biased view of the population. In other words, a sample should be representative of the greater population.

Parameter – The summary description of a given variable in the population.

Statistic – The summary description of a given variable in the sample.

Statistical inference – Involves making an estimation about the population based on data from a randomly selected sample from the population.

Sampling frame - The source from which a sample is drawn. It is a list of all those within a population who can be sampled, and may include individuals, households or institutions.

Representativeness – A sample is said to be representative of its population when the sample's aggregate characteristics closely approximate those same aggregate characteristics in the population.

Estimate - The use of sample data to calculate a single value (known as a statistic) which is to serve as a "best guess" for an unknown (fixed or random) population parameter.

Instructions: Let's figure out the probability of a particular event occurring. You will work in pairs. Each pair will be assigned a bag of 60 M & Ms that the instructor has put together before class. Students will be explicitly instructed to not eat the M & Ms (at least until the demonstration project is completed). There are 6 colors of M & Ms in the regular issue of M & Ms: red, yellow, orange, blue, green, and brown. Each prepared baggie will contain 10 candies of each color, for a total of 60 candies.

Remind students that the probability of an event is equal to the number of ways the event can occur divided by the total number of outcomes possible (Montcalm & Royse, 2002). Thus,

$$P(\text{event}) = \frac{\text{number of ways the event can occur}}{\text{Total number of outcomes possible}}$$

The instructor will inform the student pairs that the composition of their bag of M & Ms is identical to the composition of all the other pairs. Students will be asked to answer the following questions:

1. If you draw one candy from the bag, what is the probability of selecting an orange M & M?

2. If you draw one candy from the bag, what is the probability of selecting a red M & M?
3. If you draw one candy from the bag, what is the probability of selecting a brown M & M?
4. Now if you select two candies, what is the probability of selecting two candies that are the same color?
5. If you were to combine your bag of candies with another pairs' bag of candies, what is the probability that with one draw you would pull a green candy?
6. If you remove all of the brown candies, what would be the probability that you would choose a red and a yellow candy with two draws?

The instructor will gather the group together once the pairs have worked through the problems, and talk through the ways that students calculated their answers, addressing any questions or miscomprehension at this time.

Why would we want to use a random selection method of selecting our sample? Because probability sampling improves the likelihood of selecting a sample that is representative of the population from which it was selected. For the purposes of the next exercise the cases in the data set will be treated as a population. It is important that the instructor explain the logic for doing this for the purpose of this exercise.

Selecting a random sample with Excel

Purpose: This exercise will give students an opportunity to randomly select sample sizes of varying sizes from a "sampling frame" using Microsoft Excel.

Instructions: Working in pairs, follow the steps outlined below to draw random samples of different sizes from the same sampling frame.

One of the easier ways to draw a random sample from a sampling frame that is listed in Excel is to use a website (<http://www.random.org/sform.html>) to generate random numbers that can be copied into the Excel file, and then you can sort by this variable, and select the number of cases you want for your sample size based on this variable. Excel has a feature that allows you to randomly generate numbers but the problem with this feature is that the numbers can be duplicates.

You will begin the process by inserting a column in your Excel data file. This variable will be used only to put the randomly generated numbers for sorting purposes. For the sake of convenience and so you do not spend a lot of time scrolling from end of the data set to the other, insert this column next to the column for the variable IDUSER. Next, go the website, <http://www.random.org/sform.html> to create a list of randomly generated numbers. Input the smallest value as 1 and the largest value as the number of cases in the WLS subset data, which is 10,318. Then select "Generate Sequence" and you will see a list of numbers. Select this entire column of numbers, copy, and then paste into the newly created column of Excel, by inserting your cursor into the first cell below the header (B2) and right click Paste. Now you will sort by this variable, in either ascending or descending order because it does not matter, and for your first sample of 10 cases you will select the first 10 cases. To do this in Excel, Select Data, Sort, and go with the default option, "Expand the selection." Expand the selection will sort the

variable we have chosen by case instead of sorting the values only in this variable and leaving the other variables unsorted. We will be asked to type in which column we want to use to sort the data. We will select Column B (it may already appear in the box) and leave the other boxes blank. Make certain that the option "My data range has header row" is selected. Select OK.

Each pair of students will carry out this operation, randomly selecting 10 cases. The instructor will ask each pair to carry out the following steps to calculate some basic univariate statistics on two variables for each sample.

- After you have sorted the cases based on the randomly generated number variable, select the rows for the first 10 cases and the header row.
- By hand, please calculate the mean, median, mode, and the range for the two variables (e.g., EDHHYR, IQSCOR).
- The instructor will ask each pair to report these univariate statistics. The instructor will note each groups answers on the board so that the class can compare the various statistics for the different samples.
- Using the same data set, instructor will walk through the process of selecting a sample size of 100. Because the class has not yet had exposure to calculating statistics in Excel, the instructor will calculate the mean, median, mode, and range for the same 2 variables.
- The instructor will repeat the process of selecting a random sample of 100 cases, and calculate the mean, median, mode, and range. These values will be noted on the board.
- The instructor will now select a sample size of 1,000, and calculate the mean, median, mode, and range on this sample, noting the values on the board.
- The instructor will repeat this process and select another random sample of 1000 cases, then calculate the univariate statistics, noting the values on the board.

In doing this exercise it should become apparent to students that as the sample size increases, the statistics from different random samples will get closer together. The instructor will spend some time at the end of class explaining the idea of sampling error and how increases in sample size reduce sampling error *ceteris paribus*.

**Secondary Data Analysis:
Examining Data in Microsoft Excel
Week 11**

Purpose: Students will become familiar with a data set that has been collected by another institution or researchers. After familiarizing oneself with the questions and variables included in the data set, students will work in pairs to develop research questions/hypothesis that could be tested by analyzing variables in the data set.

Instructions: The instructor will work through an example of accessing a data set for secondary data analysis in order to develop a research question that can be analyzed with the data. You will then work to access a public data record, copy the codebook and devise two research questions/hypotheses that could be tested with the available data.

The data set that the instructor will access and examine is the Wisconsin Longitudinal Study (WLS) (<http://www.ssc.wisc.edu/wlsresearch>). The Wisconsin Longitudinal Study is a long-term study based on a random sample of 10,317 men and women who graduated from Wisconsin high schools in 1957. Most respondents were born in 1938-1939, a cohort of individuals immediately preceding the Baby Boomers. Data was collected from respondents or their parents in 1957, 1964, 1975, 1992, and 2004. A companion sample contains comparable data for a randomly selected sibling of most respondents. WLS data cover social background, education and career aspirations, schooling, military service, labor market experiences, family characteristics and events, social participation, psychological characteristics, health and well-being, and retirement.

The WLS data set is relatively easy to access. You simply have to register at the website, citing academic reasons as your reason for using the data set. An added benefit of using this data set is that you can create a subset of variables to focus on and to download. Before class begins the instructor will have created a subset of data to look at with the students.

After looking at the codebook to get a sense of the variables that in the data set, the instructor will ask for input from the class in focusing the area of interest for conducting this secondary data analysis. Students' expressed interests in the data set will determine which variables will be included into the data subset. Some questions to ask:

1. When you first heard that there is a dataset that follows individuals who graduated from high school in 1957 until 2004, what are some questions that come to mind?
2. Looking at the major topic areas into which the data set is divided, can you think of some relationships between these topic areas?

The full data set has thousands of variables and 10,318 cases; therefore, a subset of data will be developed and examined in class. The instructor will go to the Documentation section of the website, choosing to browse by topic area, following the directions on the webpage for selecting specific variables into the data subset which will be downloaded and examined with the class. Once the variables of interest have been selected the data subset can be viewed, and downloaded. The recommendation is to download the file into SPSS. Downloading the file into Excel requires many steps before the variable labels and values can be input, whereas the variable labels and values are downloaded with the data in the SPSS file.

Qualitative Research: Looking for Themes
Week 12

Purpose: To provide students with the opportunity to analyze responses to open-ended questions for themes.

Instructions: The following passages are examples of responses of participants to an open-ended question that was included in face-to-face interviews with clients of a community, non-profit agency: "Would you recommend that a friend use this agency, if he or she was in a similar situation to the one that brought you to this agency?" Work in pairs to create codes for the responses. The first step is to read all of the responses and then begin identifying major themes, before breaking them into subthemes.

A: Definitely. I am better off today than I have been in years. The counselors have helped me to face what has really been causing my life to become so derailed. And I was a tough nut to crack, let me tell you. My relationships with my wife, my kids, and my boss even, are a million times better. I feel much more, much more comfortable in my own skin. I let things roll off my back that 6 months ago would have caused a major brouhaha. The fact that I've been able to get counseling with almost no money is the biggest help I've had in years. Even when I've had to cancel appointments, Jeff [his therapist] hasn't held that against me. He just says, "See you next week, man." It's been good for me, very good for me.

B: It depends on the type of problem. If I had a friend who needed to talk through a big decision, or to work through troubles she was having in her personal life, I'd tell her to make an appointment here. If I had a friend who needed help making ends meet, I'd tell her to go to another agency. My therapy sessions here have been worthwhile, but my meetings with the case manager, Ms. Holston, haven't gotten me any closer to my goal of being able to make it on my own. I mean, I keep trying to get myself to the point of being able to break away from my sorry excuse of a husband, but until I can land a job that will pay the bills and leave me a little to save each month, I'm not going to be able to do it. I feel like my meetings with Ms. Holston have led me in circles. I need someone who will tell me, each week, who will tell me, "Go there, fill in an application," "I'll call and get you an interview at such-and-such company." Instead, Ms. Holston has had me make up lists of goals and plans, but I'm not any closer to figuring out how to make those plans on paper come true.

C: Yeah, I'd tell a friend to try it here. I haven't had too much experience with this place, I've only known about this place for a little over a month, but what I've experienced has been good. What's been most helpful is to have a place I can leave my son when I'm beating the streets looking for work. Before I knew about the free day care, I felt tied to my house, or to my mom's schedule. See, my mom is the only person I know that I trust to look after Jeremy when I'm out. He has special needs, and looking after him can drive a sane person crazy, know what I mean? So I only trust my mom to watch him, that is until I tried out the day care here. Lana and the other girls here take real good care of Jeremy. He always seems so happy when I come to pick him up. Let me tell you, having a place to take him, a place I trust, while I'm looking for work has helped a great deal. I've already had two interviews for jobs this week. I have a good feeling about one of them.

D: I guess so. I mean, if someone needs to get the Cabinet off his back, coming to the Parenting classes here is the quickest way to take care of that problem. Since I've been taking the Parenting classes here my caseworker has mellowed out, and I think the case will be closed soon. It's not too bad either—the classes I mean. I've learned some things about how to be more patient with the kids and how to get them to listen to me, without having to yell and threaten them all the time.

E: Honestly, I wouldn't tell any of my friends to use this place. It's too hard to get here. I mean, I've had to miss too much work to make it to my appointments. I really need appointments in the evening, and the latest appointment is 6:30. My manager is giving me grief about cutting out of work early to make it to these appointments. If it's a choice between work and counseling, I have to choose my job every time. This is probably the last appointment I'll make.

F: Yes, if my friend was willing to do the work. There's no sense in going to counseling if you're not willing to take a good, hard look at yourself. I have some friends, who are still living the life I've been trying to shake, you know, partying all the time, blowing off work and family responsibilities for a good time. They could use what I've learned here, but honestly, I don't think any of them are ready for that kind of change. I think I was so tired of it all that I was willing to try something completely different. Don't get me wrong, it hasn't been easy for me. It's been hard, real hard to stick with it. That's why I'm saying someone has to be willing to commit 110% to the program before they're going to get anything out of what this place has to offer. Some people might not ever get to the point of making that kind of change.

G: No, no way. As soon as my probation officer says I can stop coming for counseling, I'm outta here. Talk, talk, talk. It only goes so far. I need to spend my time making more money, not sitting around chitchatting about all the mistakes I've made, all that hurts I've had in my life. I don't see the point to all the talk that Jeff wants to do in our sessions. I'd rather spend the time picking up overtime at work, so I can bank that money. That's all I'm interested in right now.

H: The people here have been great to me. I was at such a low point in my life when I started coming here. What with the divorce, the nasty custody fight, and my daughter's problems in school, oh yeah, and my constant money problems, I was feeling like nothing in my life was going right. I woke up each morning, thinking, "Not another day." Seriously. I was hating my life until Roseanne [her counselor] got hold of me. She just about shook me awake with all her talk. I remember coming out of one of my first sessions, and I had this weird feeling in my head. It was a buzzing, light feeling. And then I realized what it was. It was hope. I have hope now, thanks to the counseling.

I: No. Why would I want a friend to be looked down on like I've been looked down on? My case manager looks at me every time I come in, like, "Good grief, she's back." The only reason I'm here is because my parole officer is making me. I'd like to not come back. I'm so sick of everyone looking at me and thinking they know my story. There's a lot more to me than the ex-con. I'm just tired of trying to prove it to people. I just want to start over somewhere new.

J: Yes, I'd recommend the Parenting classes to all my friends. Even my friends who think they have the perfect home and the perfect family, they could learn something from the classes. It's been helpful to go through the exercises and learn about all the different techniques to use at home with the kids. Using the techniques I've learned in class have made things so much more positive and calm at home. I actually enjoy spending time with my kids, which wasn't the case for a while there. And I can tell that they are more relaxed, and enjoying the calm, just like I am. To tell you the truth, I had my doubts about these classes when my caseworker recommended I join. But I was so miserable at home I decided to give it a chance. And I'm glad I did. It's been a real help.

K: I'm satisfied with the help I've gotten here. Joanna helped me get my act together, and because of her advice I got myself a job, a job with benefits at that. Plus, the day care here is as good as any of those expensive day cares I had my kids in when my ex-husband was paying the bills. In fact, I'd bet that they get better care here than they did at that \$200/week day care. And when I'm at work, my mind can rest easy, knowing that they are in good hands, and I can concentrate on my work. I'm doing well at work, and soon my probationary period will be over. Yes, I'm very satisfied with everything this place has given me.

L: I think it would be good if they had evening hours here. That's really my only complaint. My appointments are good for me, but it's difficult finding the time, so I end up having to go several weeks without making an appointment. I realize that the counselors want a life of their own; they have families at home they need to spend time with, but I was thinking that if they could take turns one night a week having evening appointments, it wouldn't be too much of a hardship on them and it would really help out people like me.

M: Maybe. I'm not sure, actually. There have been some good parts of coming to these classes, but I wish it wasn't so obvious why most of us are in those classes. I mean, it's humiliating really, to have to sit in those classes, knowing that everyone else in that class, the teachers, and people outside in the hallways and waiting room, and the parking lot, for that matter, know why I'm here. I've been a bad parent. That's a hard thing to fight against every week—all that judgment and blame. I'd feel better if I could get past feeling like people are looking down on me.

N: No. What a waste of time these counseling sessions have been. It seems like all that my wife and I get out of the counseling is more material to fight about. I thought it might help us get things back in order, like they used to be early on in our marriage. I don't feel like anything is getting better. In fact, I feel like my wife is just getting more difficult to live with, now that she has another woman taking her side most of the time. I'd prefer to have a male counselor, that's for sure. You know, someone who could understand this relationship from the male perspective.

Now that you have read the 14 responses, you will want to use an organizational method to keep track of the various themes that you identify and how they relate to other themes. You can use the attached figure as an example of a chart to use as a theme tree. Another option is to use color coding of the text (with highlighting markers) to mark passages that belong to different themes. Some qualitative researchers will use color index cards to note passages that fit within themes.

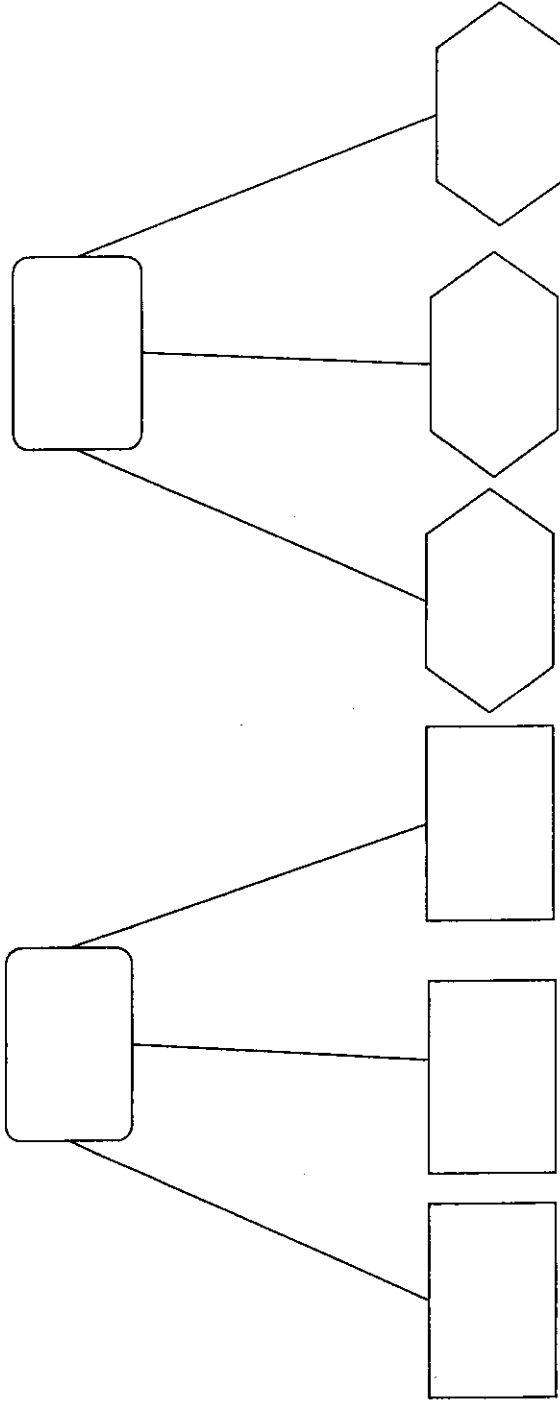
You should know that there are software packages that many qualitative researchers use to help them manage the creation and organization of theme codes, such as NVivo, NUD-IST, and Atlas, just to mention a few. Learning even one of these programs would require more time than we can devote to the topic.

Some Themes to Expect Students to Identify:

- Related to satisfaction with services
 - Positive changes in client's life
 - Internal changes: hopefulness, attitude about life, emotions,
 - External changes: interpersonal relationships, employment, legal issues.
- Related to dissatisfaction with services
 - Coercion to participate in services
 - Negative interactions with agency staff: judgmental attitudes, condescension, stigma, ineffective intervention
 - Problems with services
 - Accessibility
 - Availability
 - Acceptability

To help students work through the different themes that emerge from the clients' responses, it would be helpful to create a theme tree such as the one modeled on the next page.

Theme Tree



More About Quantitative Data Analysis With Microsoft Excel
Week 13

Purpose: To provide students with an opportunity to run univariate statistics on data in Microsoft Excel.

Instructions: You will obtain a copy of "Agency client data" in Microsoft Excel to practice running some univariate statistics. The instructor will also give you a copy of the codebook for the data set. The instructor will demonstrate how to run univariate statistics on a different data set—one with which the class is already familiar, "Treatment Outcome Data" to demonstrate the steps. Once the instructor is finished with the demonstration, the students will work in pairs to answer the questions on Practice Sheet D.

1. Let's get a frequency distribution for the variable, *Main Substance*.
 - In our data set, first we will copy the column, *Main Substance*, and enter it in a new worksheet.
 - In the new worksheet, where we have copied the values for the variable, *Main Substance* into Column A, we will input into column B the values for the variable: 1, 2, 3, 4.
 - While we are in this newly created worksheet, we will choose, Tools, then Data Analysis, then select the option, Histogram.
 - In the new dialogue box we will put the input range that corresponds with the values for marital status for all 50 cases: \$A\$2:\$A\$51. The Bin Range corresponds to the values for the variable that we have put into column B: \$B\$1:\$B\$5. Also click on the option, Labels. Under Output Options, choose the option, New Worksheet Ply: *Main Substance*. Also click on the options, Pareto (sorted histogram), and Cumulative Percentage.
 - Once you have chosen all the appropriate options, click on OK.
 - The frequency distribution will appear in a new worksheet labeled, *Main Substance*.
 - The first 3 columns show the frequency distribution in order of the values: 1, 2, 3, and 4. The second 3 columns show the frequency distribution in order of the values with the highest to least frequency, which in this case is in the order: 2, 1, 3, 4.
 - The output should look like the following:

<i>Bins</i>	<i>Frequency</i>	<i>Cumulative %</i>	<i>Bins</i>	<i>Frequency</i>	<i>Cumulative %</i>
1	13	26.53%	2	19	38.78%
2	19	65.31%	1	13	65.31%
3	9	83.67%	3	9	83.67%
4	8	100.00%	4	8	100.00%
More	0	100.00%	More	0	100.00%

2. Let's figure out the mode for the variable, *Gender*.

- In our data set, first we will click on Tools, then Data Analysis, then Descriptive Statistics, then OK.
- We will insert the range of values for the variable Gender in the Input: \$B\$2:\$B\$51 (Remember: Don't include the header row).
- Under Output Options, we will select New Worksheet Ply to insert the summary statistics in a new worksheet.
- We will also click on the Summary Statistics option. Once we select OK, we will see a new worksheet that contains univariate statistics for our variable. Let's change the label on the top to the name of our variable, *Gender*.
- Our output should look like the following:

<u>Gender</u>	
Mean	1.612245
Standard Error	0.070327
Median	2
Mode	2
Standard Deviation	0.492287
Sample Variance	0.242347
Kurtosis	-1.85131
Skewness	-0.47542
Range	1
Minimum	1
Maximum	2
Sum	79
Count	49

- Because our variable is nominal level, we are only interested in determining the mode as our measure of central tendency. The mode is 2, meaning that the most frequently occurring value for gender in this sample is "2", which corresponds to Female (see the Treatment outcome data codebook).

3. Let's figure out the mean and the standard deviation for the variable, *Age*.
- Follow the same steps that were used to compute the univariate statistics for *Gender*. The only difference is that the input range will be for the column for *Age*: \$C\$2:\$C\$51.
 - Our output should look like the following:

<u>Age</u>	
Mean	31.56533
Standard Error	1.512108
Median	29
Mode	25
Standard Deviation	10.58476
Sample Variance	112.0371
Kurtosis	-1.00723
Skewness	0.550207
Range	34.34682
Minimum	16.25112
Maximum	50.59794
Sum	1546.701
Count	49

- Because the variable, *Age*, is ratio level, we are interested in examining the mean and the standard deviation.
4. Let's figure out the mean, median, and mode for the variable, *# of days in residential treatment*.

- Follow the same steps that were used to compute the univariate statistics for *Gender*. The only difference is that the input range will be for the column for *Age*: \$E\$2:\$E\$51.
- Our output should look like the following:

<u># of days in residential tx</u>	
Mean	21.42857143
Standard Error	1.164599724
Median	25
Mode	28
Standard Deviation	8.152198068
Sample Variance	66.45833333
Kurtosis	-0.45825065
Skewness	-0.943322117
Range	25
Minimum	3
Maximum	28
Sum	1050
Count	49

- Because this variable is also a ratio level variable, we are interested in examining a variety of measures of central tendency and measures of dispersion.
5. Let's figure out the standard deviation for the variable, *# of days in residential treatment*.
- This information has already been calculated when we performed the steps for calculating the mean, median, and mode for the variable in #3 above. What is it?
8.15.
6. Let's figure out the mode for the variable, *Main Substance*.
- Follow the same steps that are listed in #2.
 - Your output should look like the following:

<i>Main Substance</i>	
Mean	2.244897959
Standard Error	0.147342133
Median	2
Mode	2
Standard Deviation	1.031394934
Sample Variance	1.06377551
	-
Kurtosis	0.899487035
Skewness	0.430882889
Range	3
Minimum	1
Maximum	4
Sum	110
Count	49

- Thus the most frequently reported main substance in this sample is "2", which corresponds to marijuana.

Now in pairs, you will work on Practice Sheet D to practice running univariate statistics on a different data set, "Client Data Set." You will need to refer to the codebook for this data set.

Codebook for Treatment Outcome Data

ID

- Unique ID # assigned for each client.

Gender

- 1 = Male
- 2 = Female

Age

- The client's age when the client file was created is a whole integer.

Main Substance

- 1 = Alcohol
- 2 = Marijuana
- 3 = Cocaine
- 4 = Opiates

No. of days in residential treatment

- Whole integer representing the number of days the client spent in residential treatment during this treatment episode. Can range from 1 to 28.

Case Management

- 0 = No
- 1 = Yes

Self-Referred

- 0 = No
- 1 = Yes

Abstinent At Follow Up

- 0 = No
- 1 = Yes

Codebook for Client Data Set

Client ID

- Unique ID # assigned when new client file is created. The first 2 digits of the number correspond to the last 2 digits of the year of the creation of the (most recent) client file.

•

Gender

- 1 = Male
- 2 = Female

Age

- The client's age when the client file was created is a whole integer.

Monthly income

- The client's estimate of his or her last month's total income (including income from work, public assistance, Social Security Disability Insurance, alimony, child support, illegal sources, etc.)

Marital status

- 1 = Single (never married)
- 2 = Married
- 3 = Separated
- 4 = Divorced
- 5 = Widowed

Employment status

- 0 = Unemployed
- 1 = Part time employment
- 2 = Full time employment

Individual Counseling

- 0 = No note of this service in the client record
- 1 = Note of client receiving this service in the client record

Family Counseling

- 0 = No note of this service in the client record
- 1 = Note of client receiving this service in the client record

Day Care

- 0 = No note of this service in the client record
- 1 = Note of client receiving this service in the client record

Case Management

- 0 = No note of this service in the client record
- 1 = Note of client receiving this service in the client record