

BROCK UNIVERSITY  
DEPARTMENT OF CHILD AND YOUTH STUDIES

**CHYS 3P15 Quantitative Research Methods in Child and Youth Studies – FALL 2008**

**Instructor:** Dr. Anthony Volk  
**Office and Phone:** AS 438, 688-5550 (ext. 5368)  
**Office Hours:** Thursday 9 – 11 AM  
**E-mail:** tvolk@brocku.ca

**Lectures:** Monday 5:00-7:00 PM, WH 324

**Text:** Stangor, Charles. (2004). *Research methods for the Behavioral Sciences* (3rd Edition). NY: Houghton Mifflin. (this text is bundled with a bonus SPSS guide, very useful early in the course)

Supplemental Readings (Library)

(plus more, all available on reserve at the library – search under “Child and Youth Studies 3P15”)

The SPSS program is *not* on the CD that comes with Stangor; it is available in Brock labs *or* as a limited term program leased from ITS for installation on your home computer.

American Psychological Association. (2001). *Publication manual of the American Psychological Association (5th Ed.)*. Washington, DC: APA.ww

Norušis, M. J. (2007). *SPSS 14.0: Guide to Data Analysis*. New Jersey: Prentice-Hall, Inc.

Sternberg, R. J. (1993). *The psychologist's companion: A guide to scientific writing for students and researchers (3rd Ed.)*. New York: Cambridge Press.

*Plus other books will be on reserve to help with preparation of the lab report. As they become available, they will be placed on reserve; search under “Child and Youth Studies 3P15”*

**Course Goals and Objectives:**

This course will focus on how to implement quantitative research in child and youth studies, with particular attention given to the opportunities and challenges provided by the use of SPSS. The main objective of this course overall is to learn how to think more critically and reflectively about quantitative research in child and youth studies. In the scheduled computer lab seminars, students will have a variety of opportunities to actively participate in discussions related to the research process. These labs are also designed to provide actual hands-on experience in using SPSS to carry out statistical analyses. The course provides an introduction to the main technical aspects of conducting research, from research design and data collection to statistical analysis and reporting findings to others. As well, the course will help to develop a critical perspective on how research is conducted from the quantitative perspective, to prepare students to conduct research and to be intelligent consumers of research when applied to practice in child and youth studies. This course takes full advantage of WebCT and online instruction. Wherever possible, material from this course, support and other resources will be available on the course WebCT site (e.g., course outline, outline of lectures, discussion groups, announcements, study help and troubleshooting from fellow students...). Check in to WebCT often!

**Course Evaluation:**

- Lab Topic Clearance 5%
- Lab Presentation 10%
- Lab Report 15%
- Lab participation 10%

In-class Mid-term Exam (Oct. 6) 25%  
Final Exam (date TBA by Registrar) 35%

### **Details on Course Evaluation**

- o Lab presentation, report and handout. See the supplemental handout (available early January 2007 from WebCT) for more detailed information regarding lab presentation.
- o Lab participation. Close attention to the presentations, will ensure that you can participate actively and constructively in lab discussions and demonstrations. Additionally you can use the course WebCT tutorials to generate questions and points of discussion. Participation in labs is worth 10%, and constitutes an essential element of this course! The lab leader will evaluate participation in each seminar, and evaluation will be based on attendance and active participation during lab presentations and demonstrations. TAs and the Instructor can be very useful in helping you develop participation strategies.
- o The in-class mid-term exam will take place during the February 12th lecture (worth 25%) and you will be given the full 1 hour and 40 minutes of lecture time to complete the exam. It will consist of multiple choice and short-answer questions and will cover lecture material and all assigned readings.
- o The final exam is worth 35% and will consist of primarily short answer questions. The final exam will not be cumulative, covering lecture material and all relevant readings from the in-class midterm and on. There will also be a mandatory question on interpreting the results of an analysis using SPSS, based on the lab material. The final exam will be discussed in detail during March lectures. For both the Midterm and Final exam, attendance of lectures and labs is essential to course grades.

### *Some other really important points*

- o This course requires that you develop a high level of computer literacy; it is really important to get help (e.g., your TA) early on in the labs if any computer-related issues or skills are causing you trouble.
- o You need to have a valid, working WebCT login and password to take advantage of both required and supplemental resources for the course.
- o Written assignments are to be formatted according to APA 5th Ed. (copies are on library reserve).
- o In order to comply with the rules and regulations of FIPPA, faculty and staff in the Department of Child and Youth Studies will correspond with students only through their designated Brock email address. All other email addresses are not considered secure and, accordingly, will not be used.

### **Due dates and Late Assignments**

- o *All late assignments will be subjected to a 10% per day late penalty, unless accompanied by medical or compassionate documentation. Please deposit late work in my assignment dropbox in the Department of Child and Youth Studies, and have it first **date-stamped** to avoid confusion (see Julia Gottli, room SAB 431).*
- o If you will be missing any course test or exam for medical reasons, contact the instructor *before* the exam.
- o *Also, please keep a paper copy of all assignments for your own records.*
- o This course follows the University policy on the assignment of final grades. Grades will be rounded to end in 0, 2, 5, 8 though not necessarily to the nearest of these numbers.

## **Class Schedule**

What follows is an outline of the class schedule. The lab schedule starts the first week of school (starting with the 4<sup>th</sup> for Thursday labs, although there is no lab for Week 1.) Thus, the first actual lab is on September 11, as the organizational lab. This is somewhat confusing, so just remember that the labs run on a separate schedule from the class. Thanksgiving throws this off in October, but we'll just keep trucking with the lab schedule regardless of the class schedule. So Monday labs will end up being delayed a week, and will have their final session on November 27. If you get confused or lost, just count out the weeks for your lab, and match it to the week for the class (E.g., the first presentation for Tuesday labs will be Sept. 30). Besides, if you go to all your labs (like you should!), you'll get a pretty good idea of what's coming up next just by following along. If you aren't a fan of this crazy, scattered approach- trust me, neither am I. However, it's the only possible solution to having lots of labs in the Fall at Brock.

*Very Important Note:* For each lab topic below, each student or pair of presenters must speak with the assigned TA one-week before your assigned seminar for guidance on which parts of each Norušis chapter are important *and must receive clearance for your research exercise from the TA* (worth 5% of the course grade).

### **Week 1: September 8**

**Lecture Topic** Overview, the elements of scientific thought, and research hypotheses

Lecture readings Stangor – Chapters 1 & 2

Lab -- No labs this week

### **Week 2: September 15**

**Lecture Topic** Ethics in Research/Review of APA guidelines

Lecture readings Stangor – Chapter 3

Lab -- Organizational: Date and topic selection for presentations

-- Introduction to SPSS by TAs (menu system, entering data)

-- *Required reserve reading for everyone* – Norušis Chapter 2

### **Week 3: September 22**

**Lecture Topic** Measurement and scales

Readings Stangor – Chapter 4

Lab -- More introduction to SPSS by TAs (defining variables, managing output)

-- *Required reserve reading* – Norušis Chapter 2.

### **Week 4: September 29**

**Lecture Topic** Review of descriptive statistics

Readings Stangor – Chapters 6 & 7, Appendix B (up to p. 344)

Lab -- 1st presentation: Using SPSS to Graph Data

-- *Required for presenters*–Norušis Chapter 4 (graphing topics only) & Chapter 7

### **Week 5: October 6**

**Lecture Topic** *In-class midterm (worth 25% of the final course grade)*

Readings Review Stangor – Chapters 1 through 7, Appendix B (up to p. 344)

Lab -- 2nd presentation: Using SPSS for descriptive statistics

-- *Required for presenters*–Norušis Chapters 4 (statistics topics) and Chapter 5

**October 13 – Thanksgiving** – labs will continue this week, except for Monday labs

**Week 6: October 20****Lecture Topic** Reliability and Validity

Readings Stangor – Chapter 5

Lab -- 3rd presentation: Independent and Paired-Sample T-tests

-- *Required reserve for presenters* – Norušis Chapters 13 & 14 (Norušis Chapter 6 may help you understand basic issues about group comparisons)

**Week 7: October 27****Lecture Topic** Extending descriptive statistics to practical research scenarios

Readings Stangor – Chapter 8

Lab -- 4th presentation: One-way ANOVA

-- *Required reserve for presenters* – Norušis Chapter 15 (Norušis Chapter 6 may help you understand basic issues about group comparisons)

**Week 8: November 3****Lecture Topic** Correlational research designs I: Correlation and simple regression

Readings Stangor – Chapter 9 and Appendix C

Lab -- 5th presentation: Chi-square analysis

-- *Required reserve for presenters* – Norušis Chapters 8 & 17

*Note: Friday, October 31 is the final day to withdraw without academic penalty. Please come and see the professor to discuss your midterm (25% of the final course grade) or if you have general concerns about your standing in the course.*

**Week 9: November 10****Lecture Topic** Correlational research designs II: Multiple regression

Readings Stangor – Chapter 9 and Appendix D

Lab -- 6th presentation: Correlational statistics

-- *Required reserve for presenters* – Norušis Chapters 9, 19

**Week 10: November 17****Lecture Topic** One-way designs

Readings Stangor – Chapter 10

Lab -- 7th presentation: Simple regression

-- *Required reserve for presenters* – Norušis Chapters 9, 20, parts of 21

**Week 11: November 24****Lecture Topic** Factorial designs

Readings Stangor – Chapter 11

Lab -- 8th presentation: Multiple Regression

-- *Required reserve for presenters* – Norušis Chapter 23

**Week 12: November 27****Lecture Topic** Experimental control: Internal and external validity

Readings Stangor – Chapters 12, 13, &amp; 14

Lab -- 9th presentation: Two-way (factorial) ANOVA

-- *Note:* Monday seminars meet on Monday and Thursday this week!

-- *Required for presenters*– Norušis Chapter 16 (Norušis Chapter 6 may help you)

# GUIDELINES FOR THE COMPUTER LAB PRESENTATION & REPORT

## 1. Purpose of Lab

The purpose of the lab is to provide you with an opportunity for an in-depth discussion and presentation (in a small group setting) of some of the most important topics related to the use of SPSS in the research process. One of the most important aspects of both the seminar and the report is that you establish the relevance of the procedures and interpretations to research and applied problems in child and youth studies.

## 2. Lab Format

**2a)** The lab will follow the general flow of a research study/report with the main components as follows: 1) review of relevant research with a focus on background theory leading to specific study goals/hypotheses; 2) methodology and implementation of the research plan; 3) generating and interpreting results; 4) discussing and evaluating results in light of the theory reviewed in the first stage.

**2b)** Stage 1 begins with an introduction of your research topic (10 minutes suggested maximum time) and a review of recent research and theory that will form the basis for your in-seminar research exercise. The goal of this portion of your seminar is to introduce participants to your area of research (e.g., which they may know a lot or very little about) and to lay out the specific piece of this area that you will be studying in seminar.

**2b)** Stage 2 is the actual implementation of your research project. When constructing your research exercise, keep in mind a few critical things. Ethically, we can conduct research and collect data as part of a seminar or lecture without review of the university Research Ethics Board as long as it is *for instructional purposes only* and *only involves members of the specific lecture/seminar*. This implies that you are restricted to your seminar for the data collection phase. For example, you might create a research question and elicit responses from lab participants, which can be used to create an in-lab dataset. Or, some of the later lab topics (e.g., multiple regression and/or factorial ANOVA) will work better with existing datasets. Some sources for external public-use datasets can be found in the following locations (search the web or research articles as well for other public-use datasets):

<http://lib.stat.cmu.edu/DASL/allmethods.html>

<http://www.statsci.org/data/first.html>

[http://www.amstat.org/publications/jse/jse\\_data\\_archive.html](http://www.amstat.org/publications/jse/jse_data_archive.html)

If you are providing a dataset, it will need to be posted to the WebCT discussion boards for the lab-participants to download and use. Similarly, if you are collecting data in seminar it will help time-wise to post a partially set up dataset (i.e., that has variables, and labels, etc. but just empty space for the data you will collect in seminar). See your TA for instructions on how to do this. Your task is to involve the group in a number of well-conceived activities and to stimulate constructive discussion and meaningful demonstrations, rather than “just” lecture. Utilize any research method (e.g., rating scales, experimental conditions, learning tasks, self-report, etc.) that will answer your research question. In other words, here is where you have the opportunity to put your own imaginative and creative faculties to work!

**2c)** Stage 3 corresponds to the results section of a traditional journal article. In your seminar, you will analyze the data that you have collected and/or provided using SPSS. This is your primary opportunity to teach SPSS to your peers. As part of the results generating and interpretation stage, the presenters will direct the group discussion and demonstration on issues arising from the relevant Norusis chapter(s). Presenters should clearly demonstrate how to apply the concepts, principles and ideas under discussion. In other words, how can we use SPSS to answer specific research questions? Hence, the aim of the lab time should be to work on this data set *to answer the research* question using the SPSS procedure under discussion. You may also wish to include some background on your statistical topic:

how is the procedure used in Child and Youth Studies; what researchers use the procedure; detailed examples of its use in one or more research articles. You will also want to give background on the procedure itself: what kind of data is suited to this procedure; what are the assumptions and limitations of the procedure; what kinds of questions can it help you answer.

**2c)** Stage 4 is the final phase, the interpretation phase (about 10-15 minutes). Therefore, the presenters need to focus on procedures and strategies used to interpret the numbers from the tables generated in phase two. In addition, they need to focus on facilitating an understanding of what the information means and what are the “larger” implications. It may be worthwhile to go back to the initial part of the discussion and re-focus on the original research question. Some of the SPSS procedures generate **a lot** of output, so your job is to be a guide for the rest of the lab: what tables or parts of tables should someone pay attention to; what should be ignored; when you see a number in a table, what is the interpretation of that number. On the last point, it is **not enough** to point to a number and say “That is the mean.” Rather, identify the number *and* interpret it in light of the variables meaning and the original research question (e.g., “If you look at the table, the first number is the mean. In our case, this number represents the average number of *flooboos* selected by participants in the *high something or other* condition.” Describe what the number means in terms of the research problem at hand. Be the sherpa of the output!

**2d)** At the risk of stating the obvious, your presentation and demonstration should be clear and to the point, and you should be *thoroughly* familiar with a) your research question; b) how to use SPSS to implement your assigned technique and c) how to fully interpret what the SPSS output numbers mean in relation to your research question. In addition, it is to your advantage **NOT** to read aspects your presentation. Although you may find this hard to believe, your presentation is less effective when read from a set of detailed notes. Therefore, I would **STRONGLY** suggest that you use a set of very brief notes rather than a word-per-word script.

**2e)** It is important for the lab leader(s) to work together to present a coherent lab. It is also important to give everyone an opportunity to have a meaningful experience. **The TA will evaluate the overall presentation (Value: 10%; see evaluation criteria below) based on the grading criteria and supplemented by written comments provided by the rest of the seminar participants.**

**2f)** I urge you to experiment with new presentation mediums and styles, use your creativity while keeping in mind your role. You are the only factor that can motivate your peers to care about – or even enjoy – SPSS! Strive to achieve your lab objectives by involving your group in activities that are fun as well as effective. Powerpoint facilities are available in the lab, so feel free to use them. You may even want to try and replicate findings from the exemplar studies that you find in the literature.

**2g)** Keep the lines of communication open with members of your team by exchanging phone numbers and e-mails during the first seminar meeting, and make every effort to get together to discuss your presentation. Make use of the Web CT facilities to keep in touch!

### **3. Method of Lab Presentation**

During the first lab meeting, topics will be assigned and teams of lab leaders will be formed. To be fair to everyone, topic assignments will be done randomly, by using a lottery system. Volunteers are also welcome for the first lab presentation. In the role of lab leader(s), you are expected to share what you have learned about the topic (from the assigned readings and additional sources), and through a number of well-developed illustrations and activities to facilitate similar learning in the other members of the lab group.

**3a)** Assignment of Topic Clearance Grade (**value 5%**). At least once, and at least one week prior to your presentation, each group must meet with their TA to be assigned a grade out of 5. This grade represents an assessment of your 1) research question and 2) measurement strategy as it has been developed to that point. You may, of course, meet earlier and more frequently with your TA,

but one week before a grade for this component will be assigned. The research question needs to be linked clearly to existing literature on a CHYS topic and specific enough to lead to a measurement and analysis plan. The measurement plan must include the specific measures your study will use, whether self-constructed or used from outside/referenced sources.

#### 4. Preparation of the Report

**4a)** Prepare a detailed report to be handed in to your TA (about 5 pages not including references, figures, or tables), which follows the form of a formal research report. The report will have all of the major sections found in a research report: a) background to the research problem; b) method, including participants and procedures; c) results of your in-seminar research project; d) a discussion that links your findings back to theory or other research on the topic. There are three resources that will help you understand the flow and the scope of your report. First and most importantly, the Appendix in the main course text (Stangor Research Methods) should be studied and applied very carefully. Pay especial attention to the boxes in the appendix that point out the important features of a research report. The Stangor text includes both guidelines and a sample research report to help you write yours. Second, the APA Style manual also includes a sample research report to help you with more specific formatting issues. Thirdly, the *corrected* APA Diagnostic report posted for Lecture 2 gives yet another view of what a (ridiculously) short research report could look like. For the development of your report, **presenters are required to consult additional references and sources (at least 5 additional external sources are REQUIRED)**. Materials that are acceptable sources include books, journal articles, statistics and research methods texts (excluding those listed on the course syllabus), public-domain datasets for use in the presentation component, internet sources of information on statistical procedures (but only as long as the credentials, identity and sponsoring institution of the author are clearly specified). Materials that are **not** acceptable include past course notes, distance education statistics or research methods manuals, unpublished materials on research methods or statistics, anonymous web sources. Be especially cautious about over-reliance on one source. If you find yourself citing one source repeatedly in your paper, even multiple times in the same paragraph, this indicates that you should broaden your sources and/or work on expressing the statistical and research methodology questions in your own words.

The results section your report will be a write-up of the in-seminar research results, as would be published in a research article or report. You will be writing up the results of the SPSS output generated by your in-class research study (or the results of the procedure applied to another dataset that you might be using in your seminar). Pretend that the output you generated through SPSS will be published in a research report or a journal article. There are two primary resources that you can use to accomplish this task. First, you can use the articles you found for the first part of the report as templates for what to write about and how to write it. Look at how other researchers who used the procedure wrote up their results. Second, for formatting questions, refer to the APA Style Manual on reserve at the library, especially sections 1.10, 3.42 to 3.86, 5.14, and Figure 5.1. This section may be as simple as a paragraph reporting the results and combined with a visual representation such as a graph, chart or table. The essential features of this section are as follows: a) communicating the results and interpreting their significance; b) accuracy in producing the statistical copy according to APA standards; and c) supplementing your interpretation with the presentation and discussion of the data visually.

**(Overall Value of Report 15%).**

#### 5. Evaluation Criteria

At the end of the lab, the lab leader will evaluate your lab presentation (worth 15%). The criteria that will be used to evaluate your presentation include the following, equally weighted:

1) Mastery of the subject (e.g., the particular technique, SPSS procedures, and data handling)

- 2) Establishing relevance of the statistical procedure to research in Child and Youth Studies
- 3) Planning and organization,
- 4) Ability to communicate, manage the discussion, and build in interactivity
- 5) Creativity and innovativeness (i.e., but only creativity as used to enhance the learning of your peers)

An exceptional (i.e., a grade of A) seminar communicates the background statistical concepts clearly, without jargon and in terms that an intelligent, but statistically uninformed person can understand. The role of the statistical technique, its strengths and limitations for quantitative research, especially how the statistical technique can help forward the study of Children and Youth. In an exceptional seminar, your peers will be engaged and interested from the start of the seminar, and will leave the seminar fully comfortable to do the SPSS procedure *and* interpret the output for use in their own research. The exceptional seminar will *go well beyond* the Kirkpatrick and Feeney exercises and the supplemental readings (e.g., Norusis) using alternate data sources, possibly data generation exercises, and external sources on statistics to cover the procedures and engage the seminar participants.

Note that if you do not fill the 50 minutes of seminar time, it is impossible to attain a grade of A or even a high B. Filling the time does not guarantee a high grade, but it is one necessary condition.

Also, when you hand in your report evaluation will be based on the following criteria, equally weighted:

- 1) Planning and organization, including strict adherence to APA style and formatting
- 2) Ability to communicate clearly and express research and statistical ideas in your own words
- 3) Creativity and innovativeness (i.e., but only creativity as used to enhance your message)

An exceptional (i.e., an A) report does everything that an exceptional seminar will, except the medium of communication is written. The successful report communicates the background research concepts clearly, without jargon and in terms that an intelligent, but uninformed person can understand. The method and results are clearly and accurately laid out. As well, the emphasis of a successful lab report is on how the statistical technique is used in Child and Youth research, not on the technicalities of how to conduct the procedure in SPSS. The exceptional report will *go well beyond* the course readings, and include other commentaries on statistics. As well, the exceptional report will construct an obvious flow from research problem, to method, to results and back to theory or further research in Child and Youth Studies.

## **Department of Child and Youth Studies**

### **Important Academic Announcements – Please Review!**

#### ***Course Withdrawal Without Academic Penalty:***

The deadlines for withdrawal from courses without academic penalty are as follows:

- D2 (September to December): **Friday, October 31, 2008**
- D1 (September to April): **Friday, January 16, 2009**
- D3 (January to April): **Friday, March 6, 2009**

The instructor will communicate to students a minimum of 15% of the final course grade no later than the week prior to the applicable deadline. *In cases where, due to the nature of the course, this requirement cannot be met, the instructor shall inform students in the course syllabus.*

#### ***Grade Rounding:***

Please note that final grades, which complies with the 0, 2, 5, 8 marking scheme, is at the instructor's discretion. Marks may be rounded either up or down between any pair, and need not necessarily be rounded to the closest number ending in 0, 2, 5 or 8.

#### ***Academic Misconduct:***

Because academic integrity is vital to the well-being of the university community, Brock University takes academic misconduct very seriously. Academic misconduct includes plagiarism, which involves presenting the words and ideas of another person as if they were your own, and other forms of cheating, such as using crib notes during a test or fabricating data for a lab assignment. The penalties for academic misconduct can be very severe. A grade of zero may be given for the assignment or even for the course, and a second offence may result in suspension from the University. Students are urged to read the section of the Brock University Undergraduate Calendar that pertains to academic misconduct. Students are also reminded that the Student Development Centre (Schmon Tower, Room 400) offers free workshops on writing and study skills and on avoiding plagiarism.

#### ***Phrase Matching Software (i.e., Turnitin.com):***

Instructors may take advantage of a number of different phrase matching software programs to assist them in the detection of plagiarism during the course of evaluating essays, assignments and other work that is required for a given course. However, if an instructor has decided to employ such systems, students must be informed in writing at the beginning of the course.

#### ***Respectful Work and Learning Environment Policy:***

Brock University's "Respectful Work and Learning Environment Policy" applies to all students, course participants, staff, faculty and volunteers of Brock University. The purpose of this policy is to:

- Develop and support a work and learning culture that values diversity and inclusion, fosters respect, and does not tolerate prejudice, discrimination, harassment and/or bullying;
- Outline rights, responsibilities and types of behaviour which fall within the scope of this policy;
- Make provision for support services, including training and awareness initiatives, to promote a respectful work and learning environment; and
- Outline procedures for handling and resolving complaints when this policy is breached by discrimination, harassment and/or bullying.

The policy may be viewed at <http://www.brocku.ca/secretariat/admin/>.

#### ***Personal Safety:***

For those in evening classes, BUSU offers a "foot patrol" to safely escort students to their vehicles. Call extension 4700 to request assistance.