

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
SCHOOL OF SOCIAL WORK

COURSE NUMBER: SOWO 914

TITLE, SEMESTER AND YEAR: Measurement in Intervention Research, Spring 2009

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OFFICE HOURS: Thursday 1:00 to 2:00 or by appointment

COURSE DESCRIPTION: This course focuses on the development of knowledge and skill in measuring social, psychological, environmental, and other factors related to intervention with individuals, families, groups, and organizations.

COURSE OBJECTIVES:

Upon completion of the course, students should be able to:

1. Describe the theoretical, conceptual, and methodological foundations of qualitative and quantitative measurement;
2. Develop and test theory-based indices;
3. Estimate the reliability and validity of quantitative indices and scales;
4. Conduct an elementary qualitative data collection, including the use of semi-structured interviewing and qualitative data analysis; and
5. Apply qualitative and quantitative measurement principles to various kinds of research questions across a variety of populations, including peoples of color, persons with disabilities, and people affected by poverty and oppression. In addition, students should be able to apply principles of measurement to research that involves issues of difference arising from culture, ethnicity, language, race, religion, sexual orientation, and other aspects of human diversity.

EXPANDED DESCRIPTION:

Research is possible only to the extent that concepts can be measured. If we cannot measure something, we cannot draw conclusions about how often it occurs, what conditions are antecedent to it, what factors covary with it, and so on. In that regard, some concepts are easy to measure. Age and education are often measured in years. Income is measured in dollars and school performance is measured by GPA. Some concepts, however, are harder to measure. “practice wisdom,” for example, is widely acknowledged as a concept that discriminates more successful social workers from less successful social workers. What is practice wisdom? How do we conceptualize and measure it?

For this course, measurement will be defined broadly. It is *the craft of systematically describing something that exists*. The course will focus on both qualitative and quantitative measurement strategies and how they can be used together to develop high quality measures. Course activities are designed to build both knowledge and skill. Consequently, students will be expected to engage in a variety of applied learning experiences.

The issues that we will address are at the heart of intervention research. How, for example, do we measure child abuse, delinquency, client-worker relationships, skills, feelings, attachment, and other important concepts in the profession? Most people would agree that these exist, but they are constructs that are not easily operationalized.

The goal if the course is to strengthen your skills in developing qualitative and quantitative measures of concepts commonly used in social work research. The course is designed as a seminar. Readings and discussion will focus on the theoretical and conceptual foundations of qualitative and quantitative measurement. Students will be expected to take a leadership role in the course—bringing to class meetings knowledge from outside readings and experiences, and asking and helping to answer questions related to course topics that further the growth of all class participants.

REQUIRED TEXTS/READINGS:

DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Padgett, D. K. (1998). *Qualitative methods in social work research: Challenges and rewards*. Thousand Oaks, CA: Sage Publications.

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington, D.C.: American Psychological Association.

Additional assigned readings are available through the course Blackboard site or electronic journals.

RELATED READINGS AND RESOURCES:

Students should consult additional sources for their papers and presentations. For readings on qualitative methods, see journals such as: *Field Methods* (formerly *Cultural Anthropology Methods*), *Holistic Nursing Practice*, *International Journal of Qualitative Studies in Education*, *Journal of Contemporary Ethnography*, *Journal of Creative Inquiry*, *Journal of Phenomenological Psychology*, *Qualitative Health Research*, *Qualitative Inquiry*, *Qualitative Sociology*, and *The Qualitative Report*. For readings on quantitative measurement, see *Journal of Social Service Research*, *Psychological Bulletin*, *Psychological Methods*, *Social Work Research*, Buros CD-ROM (for recent reviews of published instruments – in Davis Library), and other journals on assessment and psychometrics. In addition, see the following Web sites:

Aggression Assessment Instruments for children and adolescents --

<http://vinst.umdj.edu/VAID/browse.asp>

Buros Mental Measurements -- <http://www.unl.edu/buros/>

ERIC Test Locator (<http://ericae.net/testcol.htm>)--<http://ericae.net/testcol.htm#ETSTF>

Educational Testing Service -- <http://www.ets.org>

SF-36 -- <http://www.mcw.edu/midas/health/>

Web Resources for Atlas/ti and Qualitative Analysis:

<http://www.valt.helsinki.fi/atk/atlas/atlastu.htm>

This site has a full tutorial on Atlas/ti.

http://dmoz.org/Science/Social_Sciences/Methodology/Qualitative/

This site has an extensive list of links to qualitative research resources.

<http://www.nova.edu/ssss/QR/web.html>

This site also as an extensive list of links to qualitative research resources.

TEACHING METHODS

Teaching methods include lecture, discussion, computer labs, and group activities. Students are expected to contribute actively to the learning climate of the classroom. Questions on course topics and other issues in research and professional development are welcome.

CLASS ASSIGNMENTS

Attendance, Preparation, and Participation. Students are expected to attend all class meetings, complete assigned and independent readings, and contribute to the development of a positive learning environment in the seminar. Students who miss 3 class meetings (excused and/or unexcused, and including cumulative partial missed classes) will be required to take an Incomplete in the course and to retake either the missed sessions or the entire course the following year before receiving a grade. Course discussions and activities will be responsive to student interests. It is hoped that students will share relevant knowledge and experience they already have related to course topics to enrich the learning of other seminar participants. In addition, contributions based on independent exploration of measurement topics beyond the stated course content are welcome. Attendance and participation will be assessed weekly.

Students who miss a class are fully responsible for obtaining all missed information and materials from their classmates.

Paper on Qualitative Scale Development Procedures

Further information on this paper about your cognitive testing procedures and results will be provided later in the semester.

Two Short Papers, one critiquing a qualitative article and one critiquing a factor analysis article. Further information on this paper will be provided.

Paper on Quantitative Scale Development Procedures

Further information on this paper about your factor analysis procedures and results will be provided later in the semester.

Written assignments must be submitted when due and should be formal manuscripts prepared in accordance with APA guidelines (including but not limited to: cover sheet, double spacing, citation and reference list formatting, presentation of numbers and statistics). APA style writing will be considered in evaluating papers. Among them, the two papers should include citations for

at least 10 sources beyond the assigned course readings. The papers should strongly reflect your understanding and application of the content of assigned and outside readings.

GRADING SYSTEM

The course uses the standard grading cutoffs.

H = 94-100

P = 80-93

L = 70-79

F = 69 and below

The final grade will be based on evaluation of seminar participation and written assignments. One hundred points will be distributed as follows:

20	Attendance, Preparation for Class and Contributions to Seminar (weekly)
30	Qualitative Paper due in class March 19
20	Critique of one qualitative and one quantitative article related to your construct (10 points each) Paper 1 due in class Feb 19. Paper 2 due in class April 16.
<u>30</u>	Quantitative Paper Due April 30 at 5:00
100	

POLICY ON INCOMPLETES AND LATE ASSIGNMENTS

An automatic 10% reduction in score will be made for late papers (papers turned in after the date and time given as deadlines). No credit will be given for late drafts.

POLICY ON ACADEMIC DISHONESTY

Original work is absolutely expected. Submitted work must conform to the Honor Code of the University of North Carolina. For information on the UNC-CH Honor Code, including guidance on representing the words, thoughts, and ideas of others, see: <http://honor.unc.edu/> Please note that plagiarism is defined in the *Instrument of Student Judicial Governance*, Section II.B.1 as, "...the deliberate or reckless representation of another's words, thoughts, or ideas as one's own without attribution in connection with submission of academic work, whether graded or otherwise." In keeping with the UNC Honor Code, if reason exists to believe that academic dishonesty has occurred, a referral will be made to the Office of the Student Attorney General for investigation and further action as required. See the School of Social Work Writing Style Guide (on the School's Website at the "for current students" link) for information about plagiarism.

Code of Honor Affirmation. All written products in the course must have a signed Honor Code statement. Papers without this affirmation will not be accepted. The statement should read as follows: *I have neither given nor received any unauthorized assistance on this assignment.*

POLICY ON ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Students with disabilities that affect their participation in the course and who wish to have special accommodations should contact the University's Disabilities Services and provide documentation of their disability. Disabilities Services will notify the instructor that the student

has a documented disability and may require accommodations. Students should discuss the specific accommodations they require (e.g. changes in instructional format, examination format) directly with the instructor.

POLICIES ON THE USE OF ELECTRONIC DEVICES IN THE CLASSROOM

Use of electronic devices for non-class related activities (e.g. checking email, playing games) is not acceptable.

READINGS AND COURSE OUTLINE

1. THURSDAY JANUARY 22

Introduction to the Course and Measurement

Themes for the course
Approaches to scientific investigation and knowledge
Where do students currently stand in the qualitative/quantitative debate?
Implications for measurement
Review of measurement basics

2. THURSDAY JANUARY 29

Mixed Methods in Research and Measurement

READINGS:

- Ercikan, K., & Roth, W.-M. (2006). What good is polarizing research into qualitative and quantitative? *Educational Researcher*, 35, 14-23.
- Hill, F., Le Grange, L., & Newmark, R. (2003). The use of qualitative and quantitative methodologies in a special educational needs study. *International Journal of Special Education*, 18, 62-72.
- Johnson, R. B., Onwuegbuzie, J. A. (2005). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33, 14-26.
- Shepard, M. P., Orsi, A. J., Mahon, M. M., & Carroll, R. M. (2002). Mixed-methods research with vulnerable families. *Journal of Family Nursing*, 8, 334-352.
- Padgett, D. K. (1998). Chapters 1, 2, and 10, pp. 1-24, 126-140.

Use the readings to answer the following questions:

- What are the major philosophical differences in qualitative and quantitative approaches?
What are the major methodological differences in qualitative and quantitative approaches?
What features do qualitative and quantitative research have in common?
How could you use the readings to justify the use of mixed methods in a study?

ASSIGNMENT DUE TODAY: Choose a construct of interest that you will use for your qualitative and quantitative project papers. Start the online human subjects training available at the UNC website.

CLASS ACTIVITY: Get peer feedback on your chosen construct. Is the construct operationalizable? Is it relevant to social work practice? Is it appropriate for qualitative and then quantitative study? Is it complex enough to require multiple items, but not too big or vague?

3. THURSDAY FEBRUARY 5

Qualitative Research in Scale Development I: Quality, Role of Theory, Ethics

READINGS:

- Anastas, J. W. (2004). Quality in qualitative evaluation: Issues and possible answers. *Research on Social Work Practice, 14*, 57-65.
- Jarrett, R. L., Sullivan, P. J., and Watkins, N. D., (2005). Developing social capital through participation in organized youth programs: Qualitative insights from three programs, *Journal of Community Psychology, 33*, 41-55.
- Padgett, D. K. (1998). Chapter 8, 88-102.
- Smokowski, P. R., Reynolds, A. J., & Bezruczko, N. (1999). Resilience and protective factors in adolescence: An autobiographical perspective from disadvantaged youth. *Journal of School Psychology, 37*, 425-446.
- Ladson-Billings. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher, 35*, 3-12.
- Anderson, E. (1996). Introduction to the 1996 Edition of *The Philadelphia Negro*. In W. E. B. DuBois (author), *The Philadelphia Negro* (pp. ix-xxxv). Philadelphia: University of Pennsylvania Press. [In DuBois reading on BB]
- DuBois, W. E. B. (1995). *The Philadelphia Negro*. Philadelphia: University of Pennsylvania Press. pp. 1-9.

Use the readings to answer the following questions:

How can you distinguish between high-quality and poor-quality qualitative research?

How do Jarrett, and Smokowski use theory in their studies? How does their use of theory affect how deductive or inductive their studies are?

How do Jarrett and Smokowski integrate narrative examples into their presentation of analysis results?

How do the Jarrett and Smokowski articles rate according to Anastas' evaluation criteria?

Ladson-Billings brings up issues related to the measurement and research topic choices made by researchers and their implications for public views of social "problems." The article illustrates how values influence quantitative research at every level. What parts of the

article resonated or didn't resonate with you? What part got you thinking differently that you have in the past about the responsibilities of social science researchers?
What issues of research ethics are evident in the Anderson and DuBois' readings?

ASSIGNMENT DUE TODAY: Complete the online human subjects training and print out your certificate. Generate a pool of up to 20 potential questionnaire items for your construct.

CLASS ACTIVITY: Evaluate the quality of one of your classmate's questionnaire items using DeVellis' criteria,

4. THURSDAY FEBRUARY 12

Qualitative Research in Scale Development II: Cognitive Testing of Scale Items

READINGS:

de Leeuw, E., N. Borgers, et al. (2004). Pretesting questionnaires for children and adolescents. In S. Presser, J. M. Rothgeb, M. P. Couper, et al. (Eds.). *Methods for testing and evaluating survey questionnaires*. Hoboken, N.J., John Wiley & Sons: 409-429.

Willis, G. B. (2005). *Cognitive interviewing: A tool for improving questionnaire design*. Thousand Oaks, CA: Sage Publications. Chapters 4 and 11, pp. 42-63, 151-174.

Woolley, M. E., Bowen, G. L., & Bowen, N. K. (2004). Cognitive pretesting and the developmental validity of child self-report instruments: Theory and applications. *Research on Social Work Practice, 14*(3), 191-200.

Use the readings to answer the following questions:

When is it appropriate to use cognitive testing? When is it unnecessary or inappropriate to use cognitive testing?

What are the major features of cognitive testing?

How might cognitive testing with children differ from testing with adults?

What cognitive testing steps would be appropriate for your study, and how could you justify them with the readings?

ASSIGNMENT DUE TODAY: Create a plan for cognitively testing your potential questions based on the readings. Include a recording sheet for taking notes. Develop an informed consent form based on the sample form at the course Blackboard site or the UNC research site.

CLASS ACTIVITY: Cognitively test your questionnaire items with one classmate using your cognitive testing protocol and recording sheet.

5. THURSDAY FEBRUARY 19

Qualitative and Quantitative Scale Development Steps; Intro to Latent Variables

READINGS:

- Bowen, N. K., Bowen, G. L., & Woolley, M. E. (2004). Constructing and validating assessment tools for school-based practitioners: The Elementary School Success Profile. In A. R. Roberts & K. R. Yeager (Eds.), *Evidence-based practice manual: Research and outcome measures in health and human services* (pp. 509-517). New York: Oxford University Press.
- DeVellis, R. F. (2003). Chapters 1 and 5, pp. 1-13, 60-101.

Use the readings to answer the following questions:

What are the most common steps in scale development?

What additional development steps might improve the quality of an instrument?

What sequence of steps makes the most sense to you? (The sequence you describe may not be the one we use in this course.)

What is a latent variable?

Why is the concept of latent variables important in measurement?

ASSIGNMENT DUE TODAY: Begin to collect cognitive testing data from 2 to 5 subjects.

Written assignment due: Critique of a qualitative paper.

CLASS ACTIVITY: Share cognitive testing experiences

6. THURSDAY FEBRUARY 26

Qualitative Research in Scale Development III: Data Analysis

READINGS:

- Coffey, A. & Atkins, P. (1996). *Making sense of qualitative data*. Thousand Oaks: Sage Publications. Chapter 2, Coding and Concepts, pp. 26-53.
- National Science Foundation. (1997). Analyzing qualitative data. *User-Friendly Handbook for Mixed Method Evaluations, Chapter 4*. Retrieved December 14, 2005 from, <http://www.ehr.nsf.gov/EHR/REC/pubs/NSF97-153/START.HTM>
[Chapter 4 is on BB site; the website has other useful chapters and appendices]
- Bowen, N. K. (2008). Cognitive testing and the validity of child-report data from the Elementary School Success Profile. *Social Work Research*. 32, 18-28.
- Padgett, D. K. (1998). Chapter 7, pp. 72-87.

Use the readings to answer the following questions:

Which typology of coding activities makes the most sense to you?

Describe a sequence of coding and analysis steps that you might use and could justify with the readings.

What is the difference between coding and analysis?

ASSIGNMENT DUE TODAY: Bring transcribed data for at least 1 subject to class in a Word or rtf file. Bring questions for Paul.

CLASS ACTIVITY: Advanced Atlas.ti with Paul Mihás. We'll go to the lab and start coding data.

7. THURSDAY MARCH 5

Qualitative Research in Scale Development IV: Data Analysis *continued*

READINGS:

- Brodsky, A. E. (1996). Resilient single mothers in risky neighborhoods: Negative psychological sense of community. *Journal of Community Psychology*, 24, 347-363. [available through e-journals]
- DeVellis, R. F. (2003). Chapters 1 and 5, pp. 1-13, 60-101.
- Hughes, M. (1998). Turning points in the lives of young inner-city men forgoing destructive criminal behaviors: A qualitative study. *Social Work Research*, 22, 143-151. [available through e-journals]
- Padgett, D. K. (1998). Chapter 9, pp. 104-125.
- Rager, K. B. (2006). Self-care and the qualitative researcher: When collecting data can break your heart. *Educational Researcher*, 34, 23-27.

Use the readings to answer the following questions:

How do Brodsky and Hughes use theory in their studies?

How do Brodsky and Hughes integrate narrative examples into their presentation of analysis results?

How do the Brodsky and Hughes articles rate according to Anastas' evaluation criteria?

How could you integrate Anastas' evaluation criteria into your qualitative study write-up?

ASSIGNMENT DUE TODAY: Finish all transcription of your interview data and continue coding and analysis.

CLASS ACTIVITY: Analysis and writing of qualitative data. Discussion and examples.

THURSDAY MARCH 12 SPRING BREAK

8. THURSDAY MARCH 19

Statistical and Non-Statistical Validity of Scale Data

READINGS:

- Adcock, R., & Collier, D. (2001). Measurement validity: A shared standard for qualitative and quantitative research. *American Political Science Review*, 95, 529-546.
- DeVellis, R. F. (2003). Chapter 2 , pp. 14-26.
- Bowen, N. K. (in press). Validation. *International Encyclopedia of the Social Sciences*.

Use the readings to answer the following questions:

- What major “types” of validity are presented in each of the readings?
- Which view of validity makes the most sense to you?
- What aspects of validity do qualitative and quantitative research have in common?
- What statistical procedures can be used to demonstrate validity?

ASSIGNMENT DUE TODAY: Qualitative Paper due.

CLASS ACTIVITY: Present “final” scale to class. Describe how cognitive testing improved it.

9. THURSDAY MARCH 26

Quantitative Methods in Scales Development I: Exploratory Factor Analysis

READINGS:

- Bowen, N. K. (2006). Psychometric properties of the Elementary School Success Profile for Children. *Social Work Research*, 30, 51-63.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, 10, 1-9.
- DeVellis, chapter 6, pp. 102-137.
- Ford, K. J., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology*, 39, 291-314.
- Thompson, chapters 1-3, pp. 3-47.

Use the readings to answer the following questions:

- What is the purpose of exploratory factor analysis? (EFA)
- What are the primary methodological choices to be made when conducting an EFA?
- What methods can you use to assess the factorability of your data?
- What are the evaluation criteria for each of those methods?
- What are the primary EFA output components?
- How do you evaluate each of the primary EFA output components?
- How could you use the readings to support your choice of EFA methods and the evaluation of your EFA results?

CLASS ACTIVITY: Conceptual exercise, Introduction to dataset, Demonstration of exploratory factor analysis with SPSS

10. THURSDAY APRIL 2

Quantitative Methods in Scales Development II: Exploratory Factor Analysis
Continued

READINGS:

- de Vet, H. C. W., Ader, H. J., Terwee, C. B., & Pouwer, F. (2005). Are factor analytical techniques used appropriately in the validation of health status questionnaires? A systematic review of the quality of factor analysis of the SF-36. *Quality of Life Research, 14*, 1203-1218.
- Emlet, C. A. (2005). Measuring stigma in older and younger adults with HIV/AIDS: An analysis of an HIV stigma scale and initial exploration of subscales. *Research on Social Work Practice, 15*, 291-300. [available on e-journals]
- Fabrigar, L. R., Wegner, D. T., MacCallum, R. C. & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272-299. [at BB site, ask for guidance]
- Gorsuch, R. L., & Hao, J. Y. (1993). Forgiveness: An exploratory factor analysis and its relationships to religious variables. *Review of Religious Research, 34*, 333-347.
- Thompson, chapters 4-6, pp. 49-81, and pp. 96-98 (Factor Interpretation Issues).
- Smyth, K., & Yarandi, H. N. (1996). Factor analysis of the ways of coping questionnaire for African American women. *Nursing Research, 45*, 25-29.

Use the readings to answer the following questions:

What EFA methods and evaluation criteria would you use, and how would you justify their use from the readings?

Assess the EFA methods and results presented in Gorsuch et al, and Smyth and Yarandi? In addition, based on the purpose of EFA presented in other readings, is the use of EFA in each of these studies appropriate?

ASSIGNMENT DUE TODAY: Work with the dataset in SPSS. Determine the number of cases with missing values on the variables in the questions you will be analyzing for your factor analysis paper. Delete those cases. Run descriptives on the cases remaining for analysis. This will be your sample for your exploratory and confirmatory factor analyses. **Create an APA-format table with descriptives on your sample and write a paragraph to accompany the table.**

LAB ACTIVITY: Exploratory factor analysis with SPSS

11. THURSDAY APRIL 9

Quantitative Methods in Scales Development III: Confirmatory Factor Analysis

READINGS:

- Hoyle, R. H. (1995). The structural equation modeling approach: Basic concepts and fundamental issues. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 1-15). Thousand Oaks, CA: Sage Publications.
- Chou, C.-P., & Bentler, P. M. (1995). Estimates and tests in structural equation modeling. In R. H. Hoyle (Ed.), *Structural Equation Modeling: Concepts, Issues, and Applications* (pp. 37-55). Thousand Oaks, CA: Sage Publications.
- Thompson, chapter 10, pp. 109-131.

Use the readings to answer the following questions:

How does confirmatory factor analysis (CFA) differ from EFA in terms of purpose, methods, and evaluation criteria? Which evaluation criteria apply to both methods?

What is the purpose of CFA?

What is model identification (just conceptually)?

What are the primary methodological choices to be made when conducting a CFA?

What are the primary CFA output components?

How do you evaluate each of the primary CFA output components?

How could you use the readings to support your choice of CFA methods and the evaluation of your CFA results?

ASSIGNMENT DUE TODAY: (Recommended) Write up of methods and results of your exploratory factor analysis with SPSS.

CLASS ACTIVITY: Demonstration of confirmatory factor analysis with AMOS.

12. THURSDAY APRIL 16

Quantitative Methods in Scales Development IV: Confirmatory Factor Analysis *Continued*

READINGS:

- Bowen, N. K., Bowen, G. L., & Ware, W. B. (2002). Neighborhood disorganization, families, and the educational behavior of adolescents. *Journal of Adolescent Research, 17*, 468-490.
- Lewin-Epstein, N., Sagiv-Schifter, T., Shabtal, E. L., Shmueli, A. (1998). Validation of the 36-Item Short-Form Health Survey (Hebrew Version) in the adult population of Israel. *Medical Care, 36*, 1361-1370. [Available via e-journals]
- Thompson, chapter 11, 133-151.

Use the readings to answer the following questions:

Evaluate each of the substantive articles in terms of the appropriateness of the use of CFA (purpose), the choice of methods, the evaluation criteria chosen, and the results in relation to those evaluation criteria.

Where does the goal of multiple group CFA fit into Bowen's framework (March 19) of types of validation? Where does it fit in DeVellis' typology of validity?

LAB ACTIVITY: Practice Confirmatory factor analysis with AMOS

ASSIGNMENT DUE TODAY: Article critique 2.

13. THURSDAY APRIL 23

Quantitative Methods in Scales Development V: Confirmatory Factor Analysis
Continued and Reliability

READINGS:

DeVellis, chapters 3, 4, pp. 27-59.

Mobley, M., Slaney, R. B., & Rice, K. G. (2005). Cultural validity of the Almost Perfect Scale--Revised for African American College Students. *Journal of Counseling Psychology, 52*, 629-639.

Williams, T. O., Eaves, R. C., Cox, C. (2002). Confirmatory factor analysis of an instrument designed to measure affective and cognitive arousal. *Educational and Psychological Measurement, 62*, 264-283. [Available via e-journals]

Use the DeVellis readings to answer the following questions:

What is measurement reliability? How does it differ from measurement validity?

What different kinds of reliability exist?

What type of reliability is most commonly reported? Why?

What internal consistency reliability cutoff would you use and how would you justify it?

ASSIGNMENT DUE TODAY: Bring questions about your CFA.

CLASS ACTIVITY: Estimating reliability using SPSS

THURSDAY APRIL 30 by 5:00 pm

ASSIGNMENT DUE: Quantitative paper due.