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

COURSE NUMBER:  SOWO 914
TITLE, SEMESTER AND YEAR:  Measurement in Intervention Research, Fall 2017

INSTRUCTOR:  Kirsten Kainz, Ph.D.
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OFFICE HOURS:  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 (SUBJECT TO APPROVAL OF RELEVANT FACULTY COMMITTEES):
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 scales, starting from a theoretically and empirically
   justified item pool;
3. Conduct cognitive testing of potential scale items with representatives of an appropriate
   target audience and analyze the data;
4. Conduct exploratory factor analysis using one or more basic statistics programs to
   identify and evaluate the factor structure of scales;
5. Conduct confirmatory factor analysis to further support the validity of scales, and
   understand the implications of data characteristics on the choice of software and analysis
   strategies.
6. Evaluate the reliability and validity of quantitative indices and scales;
7. 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.
STATISTICAL SOFTWARE PACKAGE:
This course will use SAS and Mplus. Example code will be provided.

REQUIRED TEXTS/READINGS:


All required journal articles are available on the course Sakai site.

POLICIES

Grading System
The standard School of Social Work’s interpretation of grades and numerical scores will be used.
H = 94-100
P = 80-93
L = 70-79
F = 69 and below

<table>
<thead>
<tr>
<th>In-Class Activities</th>
<th>30 pts.</th>
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<tbody>
<tr>
<td>Group Presentation</td>
<td>30 pts.</td>
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<tr>
<td>Final Paper</td>
<td>40 pts.</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100 pts.</strong></td>
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Policy on Attendance
Class attendance will be essential for content and skill learning as individuals and small groups, and you are expected to attend all scheduled sessions. It’s a student’s responsibility to inform the instructor via email in advance for missing a class session.

Policy on Late and Incomplete Assignments
Assignments are to be turned in to the professor on the due date noted in the course outline. In most cases, late assignments will not be accepted. In the case of an emergency extensions may be granted by the professor, but students should contact the professor before the due date to determine if their case is an emergency. Late assignments will be reduced 10 percent for each day late (including weekend days). A grade of incomplete will be given only under extenuating circumstances and in accordance with University policy.

Note about Technology
You are actively encouraged to bring your laptop to class to support your small group work with online searches, electronic document creation, and other electronic resources. However, as a community of learners let’s agree to refrain from checking email or personal websites during class discussions and activities. Please keep laptops closed during presentations from classmates and guest speakers.
COURSE FORMAT, OUTLINE, AND ASSIGNMENTS

Format

The course format will include lecture, discussion, group work, workshopping ideas with instructor, and statistical labs. Readings have been selected to support individual and small-group learning related to the primary course activity - instrument development and preliminary evaluation - and as such students are expected to complete assigned readings before class. Because the purpose of the instrument development activities is to support learning within a course – rather than to conduct research – IRB approval is not needed for this work. Please see this university documentation about Human Subjects Protection and university coursework (https://college.unc.edu/files/2013/09/IRB_Guidance_for_Student_Research_Projects.pdf)

Outline

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Before-Class Activity</th>
<th>Readings</th>
<th>In-Class Activity</th>
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</thead>
<tbody>
<tr>
<td>Aug 24</td>
<td>Overview: Scale Development</td>
<td></td>
<td>The Danger of a Single Story</td>
<td>SG: Discuss your beliefs about evidence-based practice in social work; discuss plans for tackling activity to be completed before class next week; review IRB material at website listed above.</td>
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<td><a href="https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story">https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story</a></td>
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<tr>
<td>Aug 31</td>
<td>Measurement: From ideas to instruments</td>
<td>Review published theoretical perspectives in preparation for instrument development (see appendix); bring electronic or hard copies to class</td>
<td>DeVellis, Chapters 1</td>
<td>SG: Identify major constructs and sub-constructs to be measured; review existing measures; articulate the need to improve upon existing measures.</td>
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<td>WS: Template 1</td>
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<td>Sep 7</td>
<td>Instrument development overview</td>
<td>DeVellis, Chapter 5</td>
<td>SG: Create instrument development plan; item framework; and initial pool WS: Template 2</td>
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<tr>
<td>Sep 14</td>
<td>Developing and testing items</td>
<td>Get expert feedback on framework and initial items. *Willis, 1999 *Drennan</td>
<td>SG: Summarize learning from expert feedback; refine/expand item pool based on learning; design a cognitive testing protocol for initial items. WS: Template 3</td>
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<tr>
<td>Sep 21</td>
<td>Developing and testing items</td>
<td>Conduct cognitive interviews on 5-10 relevant people; *Bradburn, Sudman, &amp; Wansink, Chapters 11 &amp; 12</td>
<td>SG: Summarize learning from cognitive testing and refine/expand item pool based on learning; add demographic items WS: Template 4</td>
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<tr>
<td>Sep 28</td>
<td>Testing and refining items</td>
<td>Field test draft items on 10-20 relevant people</td>
<td>DeVellis Chapter 3 &amp; 4</td>
<td>SG: Summarize learning from field testing; refine item pool; finalize pilot instrument WS: Template 5</td>
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<tr>
<td>Oct 5</td>
<td>Working with pilot data</td>
<td>Pilot test instrument with at least 100 relevant people; enter data into electronic data set</td>
<td>Fabrigar &amp; Wegener, Chapter 1</td>
<td>SG: Summarize learning from pilot test SL: check data and compute descriptive statistics</td>
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<tr>
<td>Oct 12</td>
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<td>SMALL GROUP PRESENTATIONS</td>
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<td>Oct 19</td>
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<td>FALL BREAK</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Practice</td>
<td>Reading</td>
<td>Notes</td>
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<td>Oct 26</td>
<td>Exploratory Factor Analysis</td>
<td>Practice uploading data in SAS</td>
<td>Fabrigar &amp; Wegener, Chapter 2 *deWinter, Dodou, &amp; Wieringa</td>
<td>SL: Example EFA in SAS SG: Practice with pilot data</td>
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<td>Nov 2</td>
<td>Exploratory Factor Analysis</td>
<td>Practice uploading data in Mplus</td>
<td>Fabrigar &amp; Wegener, Chapter 3 *Gerdes et al.</td>
<td>SL: Example EFA in Mplus SG: Practice with pilot data</td>
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<td>Nov 9</td>
<td>Exploratory Factor Analysis</td>
<td>Prepare your data for independent analysis</td>
<td>Fabrigar &amp; Wegener Chapter 5 *Worthington &amp; Whitaker *Cabrera-Nguyen</td>
<td>SL: Conduct formal EFA on pilot data; revise as needed</td>
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<td>Nov 16</td>
<td>Confirmatory Factor Analysis &amp; Next Steps in Instrument Development</td>
<td></td>
<td>*Lanier et al.</td>
<td>SG: Any last details WS: individual students share paper outline with instructor</td>
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<td>Nov 23</td>
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<td>THANKSGIVING</td>
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<td>Nov 30</td>
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<td>Guest Speaker: Dr. Will Hall, A Life in Measurement</td>
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<td>Dec 1</td>
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<td>FINAL PAPER DUE IN CLASS</td>
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SG = small group work; WG = whole group discussion; WS = workshop with instructor; SL= Statistical Lab
*Reading located on Sakai

**In-class Development Activities (30 pts.)**

Small groups will report instrument development plan, item framework, initial item pool, summaries of learnings from cognitive and field testing, and final item pool to instructor during the workshop segments in (templates to be provided) verbal format. Small groups should evenly distribute across all members tasks to be completed during and outside of class and to be reported to instructor during workshop time so that each member of the group can demonstrate and defend emerging knowledge during workshop segments. Points for the activities will be awarded by the instructor and shared across all members, unless unusual circumstances require adjusting an individual’s points achieved.
**Small Group Presentation (30 pts.)**

Small groups will have 45 minutes to present major elements of their instrument development process. Presentations may include multiple formats such as power point slides, artifact sharing, and guided discussion. Successful small group presentations on the instrument development process will respond to these prompts:

1. What primary construct is the instrument intended to measure? Are there any sub-constructs within the primary construct intended to be measured by the instrument?
2. Describe the theoretical orientation and empirical evidence that support the identification of the constructs and sub-constructs for measurement?
3. Are there any other characteristics measured by the instrument (e.g., respondent demographics)?
4. How is this instrument going to be different from what is currently available?
5. How were items initially generated? What response format(s) was used and why?
6. What methods were used to evaluate or test the items, and what was learned from the evaluation/testing process?
7. How does the final pilot instrument differ from earlier versions, and how did the testing/evaluation process guide revisions?
8. How and with whom was the instrument piloted?

Small groups should evenly distribute presentation responsibilities across all members. Points for the small group presentation will be awarded by the instructor.

**Final Paper (40 pts.)**

Individual students will produce a 15-20 page report of the instrument development process and include a statistical report of sample characteristics; item means, standard deviations, and correlations; scale reliability; and evidence of factor structure using the pilot data set (including evidence of factor structure before and after item deletion). Students will conclude the report with a discussion of pilot study limitations and recommendations for improving and validating the draft instrument in subsequent research, using your knowledge of best practice in scale development and validation. Points for the final paper will be awarded by the instructor.
Appendix

Your task as a group is to develop an instrument to measure beliefs about the definition and value of evidence-based practice in the social services. This task is designed to promote course learning and is part of a hypothetical situation that will take you through the recommended steps for scale development and evaluation. In your hypothetical situation, you intend to develop an instrument that will be used in subsequent research involving faculty and graduate students in social work and social welfare departments. As such, you intend develop an instrument that is appropriate for the racial, ethnic, cultural, economic, and gender diversity represented in the population of interest. In the development process you will: 1) create a precise statement of the constructs that underlie beliefs about the definition and value of evidence-based practice and will be measured by the instrument, plus the theoretical and empirical rationale for that statement; 2) justify the need for a new instrument; 3) develop and refine an item pool using evidence from expert review, cognitive interviewing, and field testing to guide refinements of the item pool; 4) use quantitative statistics to examine item factor structure and scale reliability; and 5) finalize the draft instrument using evidence from steps one through four.

Here are some initial readings on the topic to get you started:


IMPORTANT RESOURCES

Accessibility and Resources Services:
The University of North Carolina – Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in difficulties with accessing learning opportunities. All accommodations are coordinated through the Accessibility Resources and Service Office. In the first instance please visit their website http://accessibility.unc.edu, Tel:- 919-962-8300 or Email:- accessibility@unc.edu. A student is welcome to initiate the registration process at any time, however, the process can take time. ARS is particularly busy in the run-up to Finals and during Finals. Students submitting Self-ID forms at that time are unlikely to have accommodations set until the following semester. Please contact ARS as early in the semester as possible.

Writing Support
Clear, cogent writing is an essential skill for social work professionals. Writing support is available to all students through the School’s Writing Support Team; they can help you strengthen your writing skills by sharing strategies for organizing information, presenting a cohesive argument, ensuring clear communication, and mastering APA style. Writing Support offers a learning opportunity for students but does not merely copy edit student papers. Writing support is available in-person, by e-mail, or by phone. Email a requested appointment day and time to SOSWwritingsupport@gmail.com. In addition, see the Writing Resources and References page on the School’s website (under the Current Students tab: https://ssw.unc.edu/students/writing).

Honor Code
The University of North Carolina at Chapel Hill has had a student-administered honor system and judicial system for over 100 years. The system is the responsibility of students and is regulated and governed by them, but faculty share the responsibility. If you have questions about your responsibility under the honor code, please bring them to your instructor or consult with the office of the Dean of Students or the Instrument of Student Judicial Governance. This document, adopted by the Chancellor, the Faculty Council, and the Student Congress, contains all policies and procedures pertaining to the student honor system. Your full participation and observance of the honor code is expected. If you require further information on the definition of plagiarism, authorized vs. unauthorized collaboration, unauthorized materials, consequences of violations, or additional information on the Honor Code at UNC, please visit http://honor.unc.edu.

Policy on Prohibited Harassment and Discrimination
The University’s Policy on Prohibited Harassment and Discrimination (http://www.unc.edu/campus/policies/harassanddiscrim.pdf) prohibits discrimination or harassment on the basis of an individual’s race, color, gender, national original, age, religion, creed, disability, veteran’s status, sexual orientation, gender identity or gender expression. Appendix B of this Policy provides specific information for students who believe that they have been discriminated against or harassed on the basis of
one or more of these protected classifications. Students who want additional information regarding the University’s process for investigating allegations of discrimination or harassment should contact the Equal Opportunity/ADA Office for assistance at 919.966.3576 or via email at equalopportunity@unc.edu or through U.S. Mail at

Equal Opportunity/ADA Office
The University of North Carolina at Chapel Hill
100 East Franklin Street, Unit 110
Campus Box 9160
Campus Box 9160 Chapel Hill, NC 27599
References


