

PSY306 SYLLABUS

COURSE NAME:	Testing and Measurement			
COURSE NUMBER:	PSY 306			
TEACHING PERIOD:	Fall 2020			
INSTRUCTOR	Name	Office Hour	Phone	E-mail
	Nebi Sümer	Via email appointment	Int.: 9320	nebisumer@sabanciuniv.edu
ASSISTANT	Selen Esmer Kocali selenesmer@sabanciuniv.edu Nursima Ünver nursimaunver@sabanciuniv.edu			
COURSE SCHEDULE	All courses and lab sessions will be online synchronous Monday 9:40 -11:30, Tuesday 13:40-14:30. Lab: Thursday 15:40-16:30			
TEXTBOOK	A collection of book chapters will be assigned mainly from Cohen-Swrdlik (2009) Psychological Testing and Assessment: An Introduction to Tests and Measurement, 7 th edition. McGraw–Hill Primis.			

COURSE DESCRIPTION

This course covers the fundamental aspects of development, validation, and applications of psychological measures. You will learn about various types of psychological measures including some of the intelligence, attitude, and personality measurement and how to evaluate them. You will also gain some practical skills in development of psychological tests and how to analyze data to assess the psychometric properties of the measures. For this purpose, each student will have a computer with statistical software (SPSS) and will be asked to run analyses. You will also have opportunity to refresh your SPSS and basic statistical skills. More importantly, you will have hands-on experience on how to analyze your own data for psychological

assessment. Main topics include study design, descriptive statistics, reliability, validity, item analysis, testing biases, test standardization and test development.

You will have both lecture and lab sections as specified below.

EXPECTED OUTCOMES

1. Understand and demonstrate basic knowledge of key concepts and approaches in testing and measurement.
2. Demonstrate an understanding of the theory of psychological testing and measurement
3. How to develop a psychological measure and test its basic psychometric quality (i.e., demonstrating its reliability and validity).
4. Able to use SPSS as a tool for test development and testing its quality (i.e., item selection, reliability and validity evaluation). You can access SU SPSS via VPN
5. Able to analyze the data using basic statistics, such as T-test, ANOVA, and factor analyses.
6. Critically evaluate the existing psychological assessments

Important Note: Be aware that this course alone will not qualify students to proficiently or ethically administer and interpret psychological tests

COURSE REQUIREMENTS & ASSESSMENT

ATTENDANCE, CLASS PARTICIPATION AND BONUS	Lectures and lab activities will be presented online through Zoom. Although the courses will be recorded and uploaded, attendance is essential for success. Please keep that in mind that the basic skills and knowledge in test development can only be gained by actively attending and having hands on experiences during the course. Therefore, failure to maintain a regular attendance record and to participate in all class discussions may seriously undermine a student's ability to satisfactorily complete
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	<p>the given unit <i>Those who attend 80% of classes (excluding exams) will get 2 bonus points added to their course grade.</i></p> <p>Reading the assigned materials is very imperative to this course to be able to follow what is covered in a given day and to get more out of the lecture. Therefore, I'd like every student to attend all classes and to read the assigned chapters and/or articles, and to prepare critical questions relevant to the covered topics prior to the lectures. I also would like you to participate in the class discussions and raise questions as much as possible.</p> <p>PLEASE TURN OFF YOUR MOBILE PHONE DURING THE CLASS. THIS WILL ALSO BE A VERY GOOD SELF-REGULATION EXERCISE FOR YOU!</p>
<p>TEST/SCALE DEVELOPMENT OR ADAPTATION ASSIGNMENT AND PRESENTATION</p>	<p>The project will involve different stages of test development from conceptualization and operational definition of construct to developing items, and testing reliability and validity of the measure. The project will be held during the second half of the semester after you gained basic info about testing and measurement. With a classmate, you will be required to conduct a study and present your findings in the class and prepare a final report.</p> <p>Follow these steps in test/scale development project.</p> <ol style="list-style-type: none"> 1. Find your teammate and select a variable (i.e., topic/behavior/attitude/trait/outcome) for which you want to develop a measure/test/scale. 2. As a team, operationally define your variable with a supporting theory or model, and get my approval before beginning to develop or translating your items no later than Nov 9, 2020. 3. Open a Googledoc document and shared with your member and your assigned TA (either Selen Esmer Kocali or Nursima Ünver) and begin writing items and revising them by consulting me and/or your TA. 4. Finalize writing your items or translating the items from the original measure. If you adapting a measure than follow translation-back translation procedure 5. Find a validating measure to compare and assess the validity of your measure. You will learn what validation means and why we need to assess the validity of your measure in the class.

6. Design a study and **collect data online** at least from 50 participants for your measure and validation measure together with demographic information. More information on how to collect data online will be provided later.
7. Analyze your data as explained in the lectures. That is
 - a. Make sure that reverse items are recoded
 - b. Conduct a factor analyses to examine the factor structure of your measure & report your findings
 - c. For reliability, determine the Cronbach's Alpha value. Make sure that all items are tapping into the same construct (i.e., internally consistent). Drop items that do not fit.
 - d. Compute the variable of interest and report descriptive statistics of your variable.
 - e. For validity, report the correlations of your measure with the established measure.
8. Submit your final report on Jan 5th, 2021 at 5:00 pm (17:00) the latest. Late submissions will not be accepted.
9. The final report should be between 1000-1200 words excluding tables, figures, references, and appendices using the APA style and it should include the following sections:
 - a. **Title page** which includes the title of your project (e.g., Development/Adaptation of a Computer Efficacy Measure for Adults), contributors' names, course name, instructor's name and date.
 - b. **Abstract** (150-200 words)
 - c. **Introduction** - A brief review of the literature on the variable of interest and its measurement, ending with the purpose of the project.
 - d. **Method** - Including *participants*, *measures*, and *procedure* subheadings.
 - e. **Results** - Descriptive statistics, factor analysis, reliability and validity analyses.
 - f. **Discussion**
 - g. **References**

	<p>h. Appendices - The final version of the scale developed by your team, other scales/tests used for validation purposes, and the original version of the scale (if scale adaptation is carried out).</p> <p>10. Present your findings with your teammate in 10 minutes with zoom</p> <p>This project constitutes 35% of your overall grade in this course. This 35 percent will come from the final report itself (25%), presentation performance (10%).</p> <p>Note: Make sure that you start the project on a timely fashion and fully comprehend the steps to be followed. Ask me and or your TA if anything is not clear to you.</p>												
ASSIGNMENTS	You will have 6 in class or take home assignments about analyzing data and testing the psychometric quality of measures. You will receive SPSS data files via email and open the file before class starts. Each will worth 3 points and the one with lowest score (or missing one) will be excluded.												
EXAMS	You will have two midterm exams . Both of the exams will be in the essay format including both conceptual questions and interpreting statistical outputs.												
RESEARCH PARTICIPATION AS BONUS	This involves participating research projects as participants via the SONA system. Each one will worth 0.5 point and you can have max 3 points (bonus) for research participation.												
ACADEMIC RULES AND INTEGRITY	Please familiarize yourself with the Sabancı University's rules and regulations. Read the documents on the following web pages: https://www.sabanciuniv.edu/en/academic-integrity-statement <i>I have a zero-tolerance policy for cheating and all ethical violations will result in failure for the course in addition to other substantial penalties. If you have any doubts or questions about what constitutes academic misconduct, please do not hesitate to contact me.</i>												
<u>Summary of Grading:</u>	<table> <tr> <td>1. Test/scale development</td> <td>35</td> </tr> <tr> <td>2. Assignments</td> <td>15</td> </tr> <tr> <td>4. Midterm Exams</td> <td>50</td> </tr> <tr> <td>5. Attendance/Participation</td> <td>2</td> </tr> <tr> <td>6. Research participation</td> <td>3</td> </tr> <tr> <td>TOTAL</td> <td>105 % (see the grading scale below)</td> </tr> </table>	1. Test/scale development	35	2. Assignments	15	4. Midterm Exams	50	5. Attendance/Participation	2	6. Research participation	3	TOTAL	105 % (see the grading scale below)
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6. Research participation	3												
TOTAL	105 % (see the grading scale below)												

	Note: Course content, requirements and policies are subject to change at the discretion of the instructor
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WEEK	SCHEDULE
Week 01 05.10.2020	<p>Get to know each other and introduction to Testing and Measurement</p> <p>Syllabus Overview. Introduction to Psychological Testing and Assessment. Psychological testing vs. assessment. Who, Why, and Where? Historical, Cultural, And Legal/Ethical Considerations and separating science from pseudoscience.</p> <p>Chapters 1 & 2.</p> <ol style="list-style-type: none"> 1. Psychological Testing and Assessment 2. Historical, Cultural, and Legal/Ethical Considerations.
Week 02 12.10.2020	<p>Statistical Refreshment and Reviewing the basics of SPSS: Data entry and descriptive analyses I</p> <p>Chapter 3: A statistical Refresher</p>
Week 03 19.10.2020	<p>Cont. Statistical Refreshment and Reviewing the basics of SPSS: Data entry and analyses II</p> <p>Chapter 3: A statistical Refresher</p> <p>Assignment 1</p>
Week 04 26.10.2020	<p>Chapter 4: Tests and Testing</p> <p>Scoring scales, and performance tests</p> <p>Assignment 2: Scale and test scoring, computing variables, reversing items. Etc.</p>
Week 05 02.11.2020	<p>Chapter 5. Reliability and calculating different types of reliability, Calculating Cronbach's Alpha and inter-rater reliability.</p> <p>Assignment 3</p>

<p>Week 06 09.11.2020</p>	<p>Types of Validity and Correlational analyses of validity</p> <p>Chapter 6. Validity</p> <p>Chapter 7. Utility</p> <p>Assignment 4</p>
<p>Week 07 16.11.2020</p>	<p>MIDTREM 1</p> <p>Chapter 8. Test Development and item construction</p>
<p>Week 08 23.11.2020</p>	<p>Test Dimensionality and Factor Analysis with SPSS</p>
<p>Week 09 30.11.2020</p>	<p>Assignment 5: Validation of a survey. Factor analysis.</p> <p>Test development project. Operational definitions & Constructs and constructing items.</p>
<p>Week 10 07.12.2020</p>	<p>Chapter 9. Intelligence and Its Measurement</p> <p>Finalizing item development and formatting</p> <p>Norm- and Criterion-Referenced Tests. Nomothetic vs. idiographic approach. Applications of Assessment.</p>
<p>Week 11 14.12.2020</p>	<p>Assignment 6. Factor analyses</p> <p>Chapter 12. Personality Assessment: An Overview</p> <p>Begin collecting data for your test/scale</p>
<p>Week 12 21.12.2020</p>	<p>MIDTREM II</p> <p>REVIEW ON SCALE CONSTRUCTION AND PRESENTATION OF PROJECT DRAFTS</p>
<p>Week 13 28.12.2020</p>	<p>Response Biases and Testing Response bias</p>

Week 14
04.01.2021

PRESENTATIONS OF TEST DEVELOPMENT PROJECTS

A	90-100
A-	85-89.99
B+	80-84.99
B	75-79.99
B-	70-74.99
C+	65-69.99
C	60-64.99
C-	55-59.99
D+	50-54.99
D	45-49.99
F	0-44.99