<u>Instructor Information</u>
Instructor: Dr. Maxwell Barranti
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Course Requirements and Assessment:

Assessment	Date of Evaluation	Weighting
Assignment 1	Jan 31st	25%
Assignment 2	Mar 7th	25%
Assignment 3	April 4th	25%
Labs	**Weekly (See schedule)**	15%
Presentation	March 28th or April 4th	10%
Total		100%

Texts:

There is no required text, but the following are directly relevant in case you want to buy a book:

Furr, R.. (2018). Psychometrics: An Introduction (3rd edition).

Flora, D.B. (2018). Statistical methods for the social and behavioural sciences: A model-based approach. London, UK: SAGE. (especially chapters 7, 8, and 10)

Bandalos, D.L. (2018). Measurement theory and applications for the social sciences. New York: Guilford Press.

DeVellis, R.F. (2017). Scale development: Theory and applications (4th ed.). Thousand Oaks, CA: SAGE.

Description of course components

<u>Assignments</u>
For each assignment, you will be asked to analyze some data and summarize your findings; the emphasis is on relating statistical results back to the conceptual research problem that gave rise to the data. You may collaborate with classmates on the <u>computational</u> aspects of assignments, but you must work <u>independently</u> on your write-up.

Clear communication in the form of succinct, grammatical writing is just as important for statistics and data analysis as for any other topic. There is no point to carrying out a data analysis perfectly if you cannot clearly and precisely communicate your findings. A major purpose of the assignments is for you to practice the style of writing that would be appropriate for the Results (and even Discussion!) sections of a journal article. With that in mind, please adhere to APA style for all assignments.

A grade of A+ is reserved only for work that demonstrates something particularly insightful that goes above and beyond reaching the general conclusions that were expected. Writing detail that merely repeats basic definitional information will not be a successful strategy for earning higher grades. Please try to be concise, yet complete.

In your assignment write-ups, please do not include computer input or output. Report your results and interpretations in the style of a journal article. Create APA-style tables instead of simply pasting computer output into a document.

Presentation
Assignment 1 will ask you to review the literature for the validity evidence for the use of a psychological test or scale. On either March 28th or April 4th, you will give a brief (10-15 minutes) presentation of your findings, but with further (or improved) discussion of the psychometric methods used in that literature.

Labs
Throughout the term, there will be a series of "computer lab" exercises that ask you to carry out data analyses using R software. A typical lab exercise will ask you to carry out the same kind of analysis presented in class using different data and answer some interpretational questions.

The main purpose of the lab exercises is to show you how to do the types of analyses (and reach interpretational conclusions) that you will be asked to do for the assignments.

There will be a lab exercise most weeks. Each lab exercise will be due one week (Friday at 1pm) after we have finished the corresponding lecture and will be graded as either "satisfactory" or "unsatisfactory". These grades will be based on effort: You do not have to come up with the same answers that are given on the lab solution. If you show "satisfactory" effort on all lab exercises across the term, you will earn the entire 15% of the lab exercise component of your final grade.

Unlike assignments, you will be expected to submit R code and output for each lab exercise along with your answers to the interpretational questions.

Resources
The Centre for Academic Writing: http://www.arts.yorku.ca/caw/index.html
Academic integrity and plagiarism: http://www.yorku.ca/tutorial/academic_integrity/

Course Schedule

Date	Topic	Labs	Assignment
Jan 10th	Measurement in Psychology; Classical Test Theory;		
Jan 17th	Get into R Reliability & Validity		
Jan 24th	Reliability & Validity		
Jan 31st	Validity; MTMM	Lab 1 Due	Assignment 1 Due
Feb 7th	Exploratory Factor Analysis	Lab 2 Due	
Feb 14th	Exploratory Factor Analysis	Lab 3 Due	
Reading Week			
Feb 28th	Confirmatory Factor Analysis	Lab 4 Due	
Mar 7th	Confirmatory Factor Analysis	Lab 5 Due	Assignment 2 Due
Mar 14th	Invariance	Lab 6 Due	
Mar 21st	Invariance	Lab 7 Due	
Mar 28th	Presentations	Lab 8 Due	
April 4th	Presentations		Assignment 3 Due