

CPSE/IP&T 745
MULTIPLE REGRESSION
Winter 2016

Mondays, 1-4, 105 SWKT

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IP&T/CPSE/ 745 will provide a thorough exposure and application of multiple regression analysis which is the foundation for a wide variety of subsequent statistical procedures including path analysis, factor analysis, structural equation modeling, and hierarchical linear modeling.

Objectives: Students will:

- Demonstrate ability to interpret multiple regression models (including categorical and continuous variables and their interactions) and their coefficients including F , R , R^2 , a , b , β
- Demonstrate ability to analyze use of Multiple Regression in the Literature.
- Demonstrate ability to analyze a secondary dataset with Multiple Regression including an interaction.

Required Textbook:

Multiple Regression & Beyond: An Introduction to Multiple Regression and Structural Equation Modeling, 2nd Edition. (2015) Timothy Z. Keith. Routledge ISBN 978-1-13-881195-9

Recommended Textbook:

Grading:

I prefer competency-based grading. You will re-do each assignment until it is correct.

Schedule: See learning Suite.

Date	Topic	Readings
As Soon As You Acquire Keith's Text LF/RL	Pedagogical Approach Bivariate & Multiple Regression Assumptions, Variance/Covariance Matrices	Preface K 1-2 LF K 9 RL
1/4 LF	Multiple Regression Details & Models	K 3-4; M&V 7
1/11 LF	Types of Regression	K 5
1/18 Holiday		
1/25 LF	Manifest Path Analysis via SPSS	K11-12 M&V 8
2/1 RL	Model Fit	K 13

	(Beyond Null Hypothesis Testing At Last)	
2/8 LF	Categorical Variables and Dummy Coding	K 6
2/15 Holiday		
2/16 Tuesday LF	Interactions with Categorical Variables	K 7
2/22 LF	Interactions with Continuous Variables	K 8
2/29 LF	Binary Logistic Regression & Intro to MLM	K 10 M&V 11
3/7 LF/RL	Practice and Clean Up Take Home Midterm Experience	
3/14 RL	Error & Exploratory Factor Analysis	K 14 M&V 9
3/21 RL	Confirmatory Factor Analysis and SEM (Measurement and Structure)	K 15-21
3/28 RL	CFA and SEM (Measurement and Structure)	K 15-21
4/4 RL	Error, CFA and SEM (Measurement and Structure)	K 15-21
4/11 RL	Error, CFA and SEM (Measurement and Structure)	K 15-21
4/16 Saturday 2:30-5:30	Final Exam	