

UNIVERSITY OF PENNSYLVANIA
THE WHARTON SCHOOL

**Research Methods in Marketing
Marketing 942-301/943-302, Fall 2014**

COURSE SYLLABUS

(Revised, 8/27/14)

Instructor: Dr. Wes Hutchinson office: 746 JMHH
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Class Time/Location: Tuesday, 3:00 pm - 6:00 pm, 741 JMHH

Office Hours: by appointment.

Reading Materials:

Texts: REQUIRED - Rosenthal, Robert and Ralph L. Rosnow, *Essentials of Behavioral Research*, 3rd ed., 2008, McGraw-Hill, ISBN-13: 978-0-07-353196-0. (denoted R&R below)

REQUIRED - Cohen, Jacob, Patricia Cohen, Stephen G. West and Leona S. Aiken, *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*, 3rd ed., 2003, Lawrence Erlbaum Associates, ISBN: 0-8058-2223-2. (denoted CCWA below)

SUGGESTED – Kline, Rex B., *Principles and Practice of Structural Equation Modeling*, 3rd ed., 2011, The Guilford Press, ISBN: 978-1-60623-876-9.

SUGGESTED – Hunter, John E. and Frank L. Schmidt, *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings*, 2nd ed., 2004, Sage Publishing, ISBN-13: 978-1412904797

SUGGESTED - Shadish, William R., Thomas D. Cook, and Donald T. Campbell, *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*, 2002, Houghton Mifflin Company, ISBN: 0-395-61556-9.

Articles: Journal articles will be distributed electronically via Canvas when possible or via hard copy.

Course Description and Objectives:

This course provides an introduction to the fundamental methodological issues that arise in behavioral research: research design, data collection, and data analysis. Illustrative examples are drawn from the behavioral sciences with a focus on the behavior of consumers and managers, but also include other areas (depending on student interests). The general approach taken in this course emphasizes the following perspectives.

1. **Design, data collection, and data analysis are integrative and simultaneous aspects of research** (not independent and sequential). There is a focus on completely mastering the essentials of these components of research, and learning how they relate to more advanced topics.
2. **The separation of "quantitative" and "behavioral" approaches is unnecessary.** These approaches shared a common interest in rigorously testing theory-based causal hypotheses about human behavior.
3. **The current focus in behavioral research on statistical "significance" (i.e., rejecting a null hypothesis of some sort) is misguided and counterproductive.** Rather, research should be designed to validly measure important phenomena and use appropriate statistical models to estimate effect sizes for the factors that might (or might not) cause these phenomena.
4. **Consideration of 1, 2, and 3 leads to a focus on deeply understanding the general linear model of observed variables**, and this model unifies the most widely used types of data analysis (e.g., OLS regression, ANOVA, factor analysis, SEM, repeated measures, time series, and hierarchical linear models).

Specific topics that are covered include: the development of research ideas; the nature of explanation; statistical power, effects size, and significance tests; observational, experimental, and quasi-experimental designs; data and measurement; multi-causal explanations and multi-factor models; between-subjects and within-subjects experimental manipulations and data analysis.

Although grounded in theory, this course emphasizes pragmatic and widely used research methods with a hands-on approach. **Put more simply, this course aims to provide the essential foundations for publishing research in top academic journals.**

Grading:

- 20% Class Participation (including assignments)
- 20% Take-Home Midterm Exam
- 20% Meta-Analysis Presentation
- 40% Take-Home Cumulative Final Exam

Class Participation:

In addition to participating in class discussions, on most weeks one or two students will be assigned/volunteer to bring in a short example or problem from their own research or a literature of interest to them that is related to the topics covered the previous week. Also, there will be occasional homework assignments.

Take-Home Exams:

At two points in the course (TBA), open-book, open-note, take-home exams will be assigned. The questions on these exams will be designed to be similar questions on the qualifying exam for marketing students. The final exam will be cumulative.

Meta-Analysis Presentation:

Students will choose a research problem of interest to them for which a reasonable number of published papers exist examining the same empirical hypothesis. From a subset of those papers, students will construct a meta-analytic data base with at least 20 observations. Details will be provided in class, but the general idea is that in most areas the same empirical hypothesis is tested in a variety of ways--often within the same paper via multiple studies, but certainly across papers by different researchers. Frequently, the results also vary across studies (e.g., with respect to statistical significance, effect size, and even the direction of the effect). The data step in a meta-analysis compiles these results, codes the ways in which the studies differed in research method (e.g., dependent measures, sample, experimental design, data analysis, etc.), and then analyzes the compiled database in an attempt to explain the aggregate results and established what can be generalized beyond the specifics of each study considered separately. The deliverable for this assignment is the data base and an in-class presentation. It should be thought of as the first phase of a meta-analysis (not a finished paper ready for submission to a journal, although this might be the eventual result).

Schedule of Classes:

Topics in Research Methods (MKTG 967; Professor Wes Hutchinson) * indicates an optional reading					
Week	Topics	R&R	CCWA	Articles	SAS
1 Sept 2	Introduction & overview: Warm-up questions; Overview of research methods. The review process: Journal selection; Strategies for communicating your contribution; responding to editors and reviewers.	1	1	Hutchinson, Meyer, & Brenner (2013, plus review process docs)	
2 Sept 9	The nature of explanation: Correlation and causation; Statistical power and effect size; internal, external, and construct validity; reliability (stability) and validity (bias).	2, 4, 11, 13	2	Cohen (1994); Kline (2011); Brewer (2000);	
3 Sept 16	The nature of explanation (continued): Bayesian thinking about research design and threats to validity; Signal Detection Theory; "Structural models" in economics and psychology; how to read model equations as causal theories.			Brinberg, Lynch, and Sawyer (1992); Moorthy 1993; Chintagunta et al. 2006; Erdem & Keane (1996);	
4 Sept 23	Discussion: Student mini-presentations of published meta-analyses. Meta-analysis Preview; effect sizes, estimated parameters, explaining variation in effect size, problems & solutions	21		Rosenthal & DiMatteo (2001); see Meta-Analyses folder on Canvas.	
5 Sept 30	Data & measurement: Choosing what to explain and what to measure; representational vs. psychometric, behavioral vs. self-reported, outcome vs. process, obtrusive vs. unobtrusive measures; scale types; range-frequency theory; Simpson's paradox;	3, 5, 6, 9, 10	4.1, 4.2, 11	John & Benet-Martinez (2000); Sears (1986); Simpson's Paradox (2003); Weaver & Schwartz (2008) Cooke et al. (2004)*; Aquino & Reed (2002)*	FACTOR; FASTCL US
6 Oct 7	Data & measurement: Choosing what to explain and what to measure; statistical power & sample size; principal components analysis (PCA) & K-means cluster analysis; multiple DVs and family-wise error	12, 20	3.7, 5.6		FACTOR; FASTCL US
7 Oct 14	Multi-causal explanations and multi-factor models: Multiple regression models (OLS) & Structural equation models (SEM); standardized & unstandardized coefficients; correlations among IVs, SEs for coefficients (Type III SS), & multi-collinearity; structural equation modeling & confirmatory factor analysis	8 (4)	3, 4, 5, 10	Iaobucci 2009; Iaocucci 2010*; Bagozzi 2010*; Chandon et al (2009)*	GLM; REG; CALIS
8 Oct 21	Multi-causal explanations and multi-factor models: Structural equation models (SEM); path analysis; measurement error; mediation; polynomials functions, interactions, & moderation REVIEW			Birnbaum & Mellers (1979ab); Moreland & Zajonc (1977, 1979); Irwin & McClelland (2001); MacKinnon et al (2007); Zhao, Lynch, & Chen (2010) Optional: Baron & Kenny (1986); Preacher & Hayes (2008); Preacher & Kelley (2011); Take-Home Midterm Exam distributed, due on October 28.	

9 Oct 28	Experimental and Quasi-Experimental Research Design ; theoretical and practical issues; representative design; between vs. within subject designs	7		Dhami (2004); (Optional: Smith (2000); West, Biesanz, and Pitts (2000)); Take-Home Midterm Exam.	DOE (in JMP)
10 Nov 4	Between subject experiments: ANOVA for factorial designs ; covariates and ANCOVA; F ratios, MS, & SS; Type III SS (SEs for coefficients); ANOVA tables; contrasts; least squares means	14, 15, 16, 17 (8)	14	Veryzer & Hutchinson (1998); Hutchinson, Kamakura, & Lynch (2000)	GLM; ANOVA
11 Nov 11	Within subject experiments: Repeated measures for fractional factorial designs (including Latin squares); fixed vs. random effects; time series; method of moments vs. maximum likelihood estimation	18	15	McCulloch (2005; Gelman comment), Wolfinger & Chang (1998)	GLM; MIXED
12 Nov 18	Within subject experiments (continued)				
Nov 25	Thanksgiving Break (Thurs/Fri schedule on Tues/Wed)			Meet with Prof. Hutchinson to discuss your meta-analysis	
13 Dec 2	Special Topics ; Behavioral Game Theory				
14 Dec 9	Meta-analysis Presentations			Take-Home Final Exam distributed, due on December 16.	
RR=Rosenthal & Rosnow (2008), CCWA=Cohen, Cohen, West, Aiken (2002)					

Reading List

(not including R&R and CCW&A)

Required

- Birnbaum, M. H., & Mellers, B. A. (1979a) Stimulus recognition may mediate exposure effects. *Journal of Personality and Social Psychology*, 37, 391-394.
- Birnbaum, M. H., & Mellers, B. A. (1979b) One-Mediator Model of Exposure Effects Is Still Viable. *Journal of Personality and Social Psychology*, 37, 3 1090-1096.
- Brinberg, David, John G. Lynch, and Alan G. Sawyer (1992), "Hypothesized and Confounded Explanations in Theory Tests: A Bayesian Analysis," *Journal of Consumer Research*, 19 (September), 139-154.
- Brewer, Marilyn B. (2000), "Research Design and Validity Issues," in Harry T. Reis & Charles M. Judd (eds.) *Handbook of Research Methods in social and Personality Psychology*, New York: Cambridge University Press.
- Carlson, Jay P. , Leslie H. Vincent, David M. Hardesty, and William O. Bearden (2009) "Objective and Subjective Knowledge Relationships: A Quantitative Analysis of Consumer Research Findings," *Journal of Consumer Research*, 35, No. 5 (February), 864-876
- Chintagunta, Pradeep, Tulin Erdem, Peter Rossi, and Michel Wedel (2006), "Structural Modeling in Marketing: Review and Assessment," *Marketing Science*, 25, 604-616.
- Cohen, Jacob (1994), "The Earth Is Round ($p < .05$)," *American Psychologist*, 49(12),997-1003.
- Dhmi, Mandeep K., Ralph Hertwig, and Ulrich Hoffrage (2004), "The Role of Representative Design in an Ecological Approach to Cognition," *Psychological Bulletin*, 130 (6) 959-988.
- Hutchinson, Meyer, and Brenner (2013), First submission, decision letter and reviews.
- Hutchinson, J. Wesley, Wagner Kamakura and John Lynch (2000), "Unobserved Heterogeneity as an Alternative Explanation for 'Reversal' Effects in Behavioral Research," *Journal of Consumer Research*, 27 (December), 324-344.
- Hutchinson, J. Wesley (2003), "Simpson's Paradox." Teaching Note.
- Iaobucci, Dawn (2009), "Everything you always wanted to know about SEM (structural equations modeling) but were afraid to ask," *Journal of Consumer Psychology*, 19, 673-680.
- Irwin, Julie R. and Gary H McClelland (2001) "Misleading heuristics and moderated multiple regression models," *Journal of Marketing Research*, 38, 100-110.
- John, Oliver P. and Veronica Benet-Martinez (2000), "Measurement: Reliability, Construct Validation, and Scale Construction," in Harry T. Reis & Charles M. Judd (eds.) *Handbook of*

Research Methods in social and Personality Psychology, New York: Cambridge University Press.

- Kline, Rex B. (2011), "Fundamental Concepts," ch. 2 in Kline, Rex B., *Principles and Practice of Structural Equation Modeling*, The Guilford Press.
- MacKinnon, David P., Amanda J. Fairchild, and Matthew S. Fritz (2007), "Mediation Analysis," *Annual Review of Psychology*, 58, 593–614.
- McCulloch, Charles E. (2005), "Repeated Measures ANOVA, R.I.P.?" *Chance*, 18(3), 29-33.
- Moreland, R. L., & Zajonc, R. B. (1977) Is stimulus recognition a necessary condition for the occurrence of exposure effects? *Journal of Personality and Social Psychology*, 35, 191-199.
- Moreland, R. L., & Zajonc, R. B. (1979) Exposure effects may not depend on stimulus recognition. *Journal of Personality and Social Psychology*, 37, 108S-1089.
- Moorthy, K. Sridhar (1993), "Theoretical Modeling in Marketing," *Journal of Marketing*, 57, (Apr), 92-106.
- Rosenthal, R. and M. R. DiMatteo (2001), "META-ANALYSIS: Recent Developments in Quantitative Methods for Literature Reviews," *Annual Review of Psychology*, 52, 59-82.
- Sears, David O. (1986), "College Sophomores in the Laboratory: Influences of a Narrow Data Base on Social Psychology's View of Human Nature," *Journal of Personality and Social Psychology*, 51, 515-530.
- Veryzer, Robert W. and J. Wesley Hutchinson (1998), "The Influence of Unity and Prototypicality on Aesthetic Responses to New Product Designs," *Journal of Consumer Research*, 24 (March), 374-394.
- Weaver & Schwartz (2008), "Self-Reports in Consumer Research," in *Handbook of Consumer Psychology*, eds. Curtis P. Haugtvedt, Paul M. Herr, and Frank R. Kardes, New York: LEA/Psychology Press, 1081-1102.
- Wolfinger, R. D., and M. Chang, (1998). Comparing the SAS GLM and MIXED procedures for repeated measures. Cary, NC: SAS Institute Inc.
- Zhao, Xinshu, John G. Lynch, and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," *Journal of Consumer Research*, 37 (August), xxx.

Optional

Aquino, Karl and Americus Reed II, (2002), "The Self-importance of Moral Identity," *Journal of Personality and Social Psychology*, 83(6), 1423-1440.

Baron, R. M. and David A. Kenny (1986), "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations," *Journal of Personality and Social Psychology*, 51, 1173-1182.

Cooke, Alan D. J. et al. (2004), "Stimulus Context and the Formation of Consumer Ideals" *Journal of Consumer Research*, 31 (June), 112-123.

Farley, John U., Donald R. Lehman and Alan Sawyer (1995), "Empirical Marketing Generalization Using Meta-Analysis," *Marketing Science*, 14, G36 - G 46.

Heath, Timothy B. and Subimal Chatterjee (1995), "Asymmetric Decoy Effects on Lower-Quality versus Higher-Quality Brands: Meta-Analytic and Experimental Evidence," *Journal of Consumer Research*, 22, 268-284.

Judd, Charles M., David A. Kenny, and Gary H. McClelland (2001), "Estimating and Testing Mediation and Moderation in Within-Subjects Designs," *Psychological Methods*, 6 (2), 115-134.

Lerner, Jennifer S., et al. (2003), "Effects of Fear and Anger on Perceived Risks of Terrorism: A National Field Experiment," *Psychological Science*, 14 (March).

Lodish, Leonard M. et al. (1995), "How T.V. Advertising Works: A Meta-Analysis of 389 Real World Split Cable T.V. Advertising Experiments," *Journal of Marketing Research*, 32 (May), 125-139.

Lynch, John G., Dipankar Chakravarti, and Anusree Mitra (1991), "Contrast Effects in Consumer Judgments: Changes in Mental Representations of in the Anchoring of Rating Scales?" *Journal of Consumer Research*, 18 (December), 284-297.

Sawyer, Alan G. ,John G. Lynch, and David Brinberg (1995), "A Bayesian Analysis of the Information Value of Manipulation and Confounding Checks in Theory Tests," *Journal of Consumer Research*, 21 (March), 581-595.