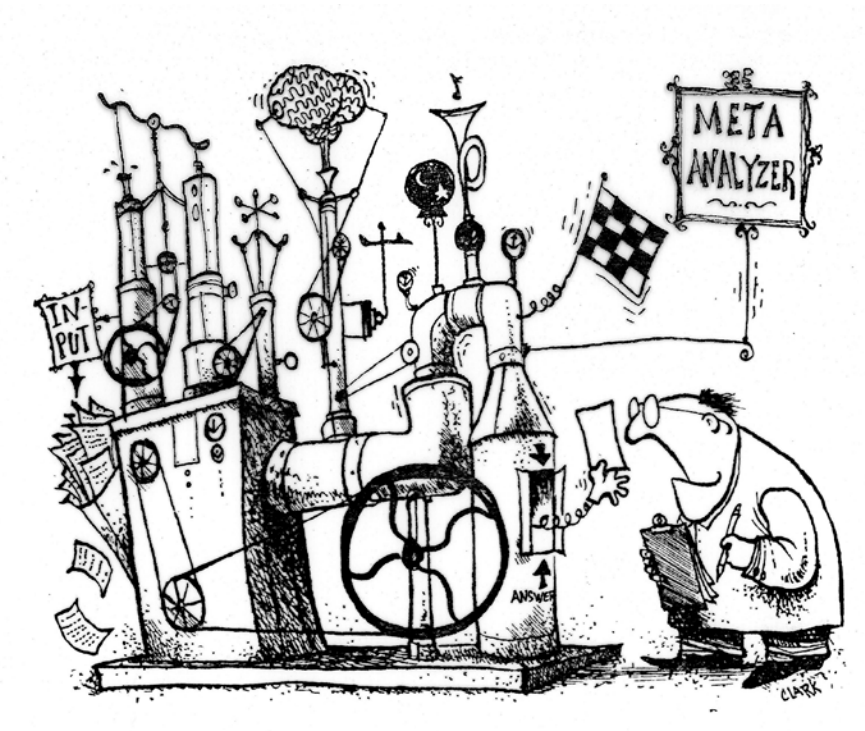
– Meta-Analysis (COMM 8801; #33014) –
Autumn Semester 2018
Tuesday & Thursday 2:20 – 3:40 PM
3116 Derby Hall



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Course Description

The word “meta-analysis” literally means “analysis of analyses.” A meta-analysis is a quantitative literature review that combines the analyses of studies conducted on the same topic. Conducting a meta-analysis involves seven steps:
(1) Formulating the problem
(2) Searching the literature
(3) Gathering information from studies
(4) Evaluating the quality of studies
(5) Analyzing and integrating the outcomes of studies
(6) Interpreting the evidence
(7) Presenting the results

Students enrolled in this class will receive hands on experience in conducting a meta-analysis on a topic of their choice. Please bring your laptop to class each day. Each

student will present their meta-analysis as a brief (12-minute) in-class PowerPoint presentation and as a brief (15-page) final manuscript.

Learning Objectives

(1) Students will be able to formulate a topic to conduct a meta-analysis on.
(2) Students will be able to conduct a literature review to collect relevant studies for their topic.
(3) Students will be able to code relevant variables from the studies they retrieve.
(4) Students will be able to evaluate the quality of the studies they retrieve.
(5) Students will be able to meta-analyze the effects from the studies they retrieved.
(6) Students will be able to interpret the meta-analytic results.
(7) Students will be able to present their meta-analytic results, both as an oral presentation and as a written manuscript.

Required Textbooks

Hunt, M. (1997). *How science takes stock: The story of meta-analysis*. New York: Russell Sage Foundation. ISBN-13: 978-0871543981; ISBN-10: 0871543982

Cooper, H. (2016). *Research synthesis and meta-analysis: A step-by-step approach* (5th edition). Thousand Oaks, CA: Sage. ISBN-13: 978-1483331157; ISBN-10: 1483331156

Recommended Textbook

American Psychological Association (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author. ISBN-13: 978-1433805615; ISBN-10: 1433805618

Readings

I will also supplement the textbooks with readings that discuss important concepts that are not included in the textbooks. Please read the assigned readings listed on the tentative schedule BEFORE you come to class. The readings are:

Baumeister, R. F., & Leary, M. R. (1997). Writing narrative literature reviews. *Review of General Psychology*, *1*(3), 311-320. doi:10.1037/1089-2680.1.3.311

Bem, D. J. (1995). Writing a review article for Psychological Bulletin. *Psychological Bulletin*, *118*(2), 172-177. doi:10.1037/0033-2909.118.2.172

Bushman, B. J., & Wang, M. C. (2009). Vote counting methods in meta-analysis. In H. M. Cooper, L. V. Hedges, & J. C. Valentine (Eds.), *Handbook of research synthesis* (Ed. 2, pp. 207-220). New York: Russell Sage Foundation.

Kepes, S., Banks, G. C., McDaniel, M., & Whetzel, D. L. (2012). Publication bias in the organizational sciences. *Organizational Research Methods*, *15*(4), 624-662. doi:10.1177/1094428112452760

Peterson, R. A., & Brown, S. P. (2005). On the use of beta coefficients in meta-analysis. *Journal of Applied Psychology*, *90*(1), 175-181. doi:10.1037/0021-9010.90.1.175

Prentice, D. A., & Miller, D. T. (1992). When small effects are impressive. *Psychological Bulletin*, *112*(1), 160-164. doi:10.1037/0033-2909.112.1.160

Rosenthal, R. (1995). Writing meta-analytic reviews. *Psychological Bulletin*, *118*(2), 183-192. doi:10.1037/0033-2909.118.2.183

Software

In this class we will use Comprehensive Meta-Analysis software.
http://www.meta-analysis.com/

Comprehensive Meta-Analysis (CMA) software has been developed over the past 25 years by a team of meta-analysis experts with funding from several federal grants. The software is powerful, yet user friendly. It will work on either a PC or Macintosh computer. On Mac computers, CMA requires PC software (e.g., Parallels, CrossOver Mac, Virtual PC for Mac, VirtualBox, Boot Camp).

There is a FREE 10 days/10 trials CMA license. However, the students who take this class are eligible for a FREE 4-month license. You can email the software developer to get an unlock code <shirley@powerandprecision.com>. Please make sure you include in the email your name, the 7-digit number necessary to get the unlock code, and that you are a student in my class. If you later want to purchase a 1-year license, there is a student discount.

- Lite version: $125
- Standard version: $175
- Professional version: $195

Grading

There will be no exams. Grades will be based on seven assignments. All assignments are due at 11:59 PM. No credit will be given for late assignments. There are 200 points possible:

Assignment 1: Problem definition (5 points)
Assignment 2: Literature search (10 points)
Assignment 3: Coding sheet and guide (10 points)
Assignment 4: Inter-coder reliability (25 points)
Assignment 5: Meta-analytic results (25 points)
Assignment 6: PowerPoint presentation (25 points)
Assignment 7: Final manuscript (100 points)

Grades will be assigned using standard percentages, although a curve might be applied if grades are too low:

A: 93-100%	B: 83-86%	C: 73-76%	D: 60-66%
A-: 90-92%	B-: 80-82%	C-: 70-72%	E: < 60%
B+: 87-89%	C+: 77-79%	D+: 67-69%	

TENTATIVE SCHEDULE

MONTH	DATE	DAY	TOPIC	READINGS	ASSIGNMENT
AUG	21	TUE	Overview of course; introduction to meta-analysis; two types of literature reviews; increasing use of meta-analysis; two approaches to conducting a meta-analysis	Hunt (1997) book Cooper (2016) Ch. 1	
	23	THU	Step 1: Formulating the problem: Theoretical and conceptual variables; moderators and mediators	Cooper (2016) Ch. 2	
	28	TUE	Work on Assignment 1		
	30	THU	Step 2: Searching the literature: Populations and samples; search channels	Cooper (2016) Ch. 3	Assign 1: Problem definition
SEP	4	TUE	PRISMA Flow Diagram		
	6	THU	Step 3: Gathering information from studies: inclusion and exclusion criteria; developing a coding guide	Cooper (2016) Ch. 4	Assign 2: Literature search
	11	TUE	Coding characteristics		
	13	THU	Selecting and training coders; inter-coder reliability		
	18	TUE	Missing data; unit of analysis; correlated effects		Assign 3: Coding sheet & guide
	20	THU	Step 4: Evaluating the quality of studies: Problems in judging research quality; approaches to categorizing research methods; identifying statistical outliers	Cooper (2016) Ch. 5	
	25	TUE	Threats to the validity of a research synthesis conclusions	Cooper (2016) Ch. 9	
	27	THU	Step 5: Analyzing and integrating the outcomes of studies: Measuring relationship strength; practical issues in estimating effect sizes	Cooper (2016) Ch. 6; CMA manual	Bring packet of materials for Assign 4 to class

OCT	2	TUE	Combining study results		
	4	THU	Confidence intervals		
	9	TUE	Analyzing variance in effect sizes across studies		
	11	**THU**	**AUTUMN BREAK: NO CLASS**		
	16	TUE	Work on Assignment 4		Assign 4: Inter-coder reliability
	18	THU	Step 6: Interpreting the evidence: Missing data; statistical sensitivity analysis; specification and generalization	Cooper (2016) Ch. 7	
	23	TUE	Substantive interpretation of effect sizes; metrics that are meaningful to general audiences		
	25	THU	When small effects are impressive; sample PowerPoint presentation	Prentice & Miller (1992)	
	30	TUE	Work on Assignment 5		
NOV	1	THU	Work on Assignment 5		
	6	TUE	Work on Assignment 5		
	8	THU	Step 7: Presenting the results: Title; Abstract; Introduction; Method	Cooper (2016) Ch. 8; Bem (1995); Rosenthal (1995)	Assign 5: Meta-analytic results
	13	TUE	Results; Discussion		
	15	THU	Work on Assignment 6		Assignment 6: PowerPoint presentation
	20	TUE	Class PowerPoint presentations		
	22	**THU**	**THANKSGIVING: NO CLASS**		
	27	TUE	Class PowerPoint presentations		
	29	THU	Class PowerPoint presentations		
DEC	4	TUE	Class PowerPoint presentations		

	7	**FRI**	**FINAL EXAM**		Assignment 7: Final due by 5:45 PM

Sexual misconduct/relationship violence: *"Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu"*

Academic Misconduct: *"It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the* ***Code of Student Conduct*** *at http://studentconduct.osu.edu"*

Disability Services: *"Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 292-3307, TDD 292-0901, VRS 429-1334; http://www.ods.ohio-state.edu/*