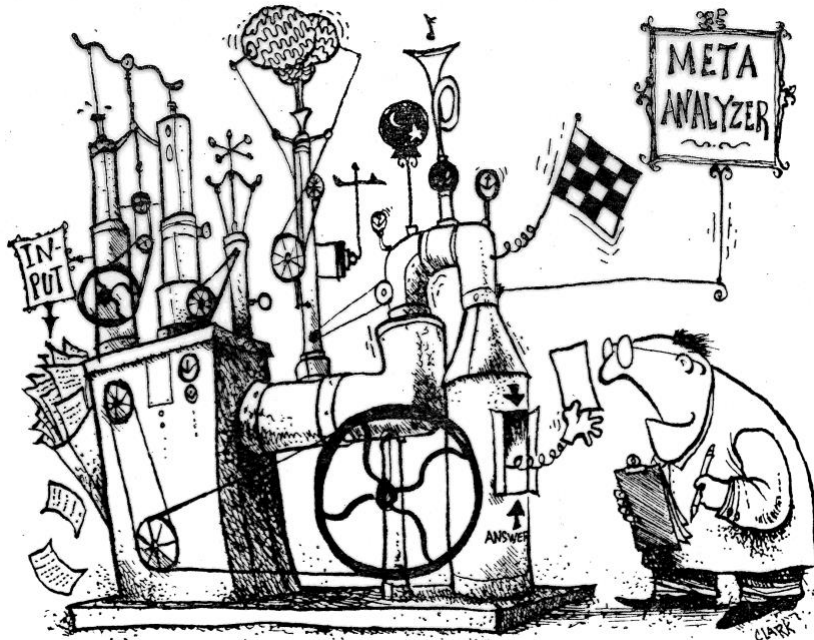


– Meta-Analysis (COMM 7715; #34815) –
Autumn Semester 2022
Tuesday & Thursday 9:35 – 10:55 AM
3116 Derby Hall



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Phone: (614) 688 – 8779
Office hours: Monday 9:00 AM – 12:00 PM (and by arrangement); in person or via CarmenZoom ([link](#); Meeting ID: 974 1789 0574; Passcode 215289).
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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. Several class periods are designated work days where students can work on assignments during class time, with the instructor available to answer questions. 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.

This course is in person, but lectures will also be recorded in case students have to miss class because they are sick. CarmenZoom [link](#) (Meeting ID: 920 2765 0193; Password: 055896).

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 Textbook

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 Textbooks

American Psychological Association (2020). *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: Author. ISBN-13: 978-1433832161; ISBN-10: 143383216X

Cooper, H., Hedges, L. V., & Valentine, J. C. (2019). *The handbook of research synthesis and meta-analysis, 3rd ed* (H. Cooper, L. V. Hedges, & J. C. Valentine (Eds.)). Russell Sage Foundation. ISBN-13: 978-0-87154-005-8; ISBN-10: 0871540053

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

Supplemental Readings

I will also supplement the textbook with readings (listed in "Supplemental readings" module on Carmen). The required readings are listed on the tentative schedule; the other readings are recommended. Please read the required readings BEFORE you come to class.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. doi:10.1037/0022-3514.51.6.1173

- 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
- Borenstein, M., Higgins, J. P. T., Hedges, L. V., & Rothstein, H. R. (2017). Basics of meta-analysis: I² is not an absolute measure of heterogeneity. *Research Synthesis Methods*, 8(1), 5–18. doi:10.1002/jrsm.1230
- Bushman, B. J., & Wang, M. C. (1996). A procedure for combining sample standardized mean differences and vote counts to estimate the population standardized mean difference in fixed effects models. *Psychological Methods*, 1(1), 66-80. doi:10.1037/1082-989X.1.1.66
- 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
- Roth, P. L., Le, H., Oh, I.-S., Van Iddekinge, C. H., & Bobko, P. (2018). Using beta coefficients to impute missing correlations in meta-analysis research: Reasons for caution. *Journal of Applied Psychology*, 103(6), 644–658. doi:10.1037/apl0000293.supp (Supplemental)
- Schmidt, F. L., Le, H., Oh, I-S (2019). Correcting for the distorting effects of study artifacts in meta-analysis and second order meta-analysis. In H. Cooper, L. V. Hedges & J. C. Valentine (Eds.), *The handbook of research synthesis and meta-analysis* (3rd ed, pp. 315-337.). New York, NY: Russell Sage Foundation.
- Vevea, J. L., Zelinsky, N. A. M., & Orwin, R. G. (2019). Evaluating coding decisions. In Cooper, H., Hedges, L. V., & Valentine, J. C. (Eds.). *The handbook of research synthesis and meta-analysis* (pp. 173 – 204). Russell Sage Foundation.

Software

In this class we will use [Comprehensive Meta-Analysis \(CMA\)](#) software. CMA 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 Macintosh computers, CMA requires PC software (e.g., Parallels, Virtual PC for Mac, VirtualBox, Boot Camp; using Wine or CrossOver is not recommended). I have negotiated a 4-month \$45 license for students in this class, which you can obtain by emailing <Support@Meta-Analysis.com>. Be sure to mention my name "BRAD BUSHMAN" in the email. Note that you can only install CMA on one device. If you later want to purchase a 6-month license, there is a student discount.

Grading

There will be no exams. Grades will be based on seven assignments. Assignments 1 to

6 are due at 11:59 PM. Assignment 7 is due at the end of the final exam period. 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	23	TUE	Overview of course		
	25	THU	Introduction to meta-analysis; two types of literature reviews; increasing use of meta-analysis; two approaches to conducting a meta-analysis	Cooper (2016) Ch. 1 & Table 9.1 (pp. 320-321)	
	30	TUE	<u>Step 1: Formulating the problem</u> : Theoretical and conceptual variables; moderators and mediators	Cooper (2016) Ch. 2 & Table 9.2 (pp. 321-322)	
SEP	1	THU	<u>Step 2: Searching the literature</u> : Populations and samples; search channels; PRISMA Flow Diagram		Assign 1: Problem definition
	6	TUE	Work on Assignment 2 in class during class time	Cooper (2016) Ch. 3 & Table 9.3 (pp. 322-323)	
	8	THU	<u>Step 3: Gathering information from studies</u> : inclusion and exclusion criteria; developing a coding guide	Cooper (2016) Ch. 4 & Table 9.4 (pp. 323-324)	Assign 2: Literature search
	13	TUE	Coding characteristics; Selecting and training	Vevea et al. (2019)	

			coders; inter-coder reliability; Missing data		
	15	THU	Unit of analysis; Correlated effects		
	20	TUE	Work on Assignment 3 in class during class time		Assign 3: Coding sheet & guide
	22	THU	<u>Step 4: Evaluating the quality of studies:</u> Problems in judging research quality; approaches to categorizing research methods; identifying statistical outliers	Cooper (2016) Ch. 5 & Table 9.5 (pp. 324-325)	
	27	TUE	Work on Assignment 4 in class during class time		
	29	THU	<u>Step 5: Analyzing and integrating the outcomes of studies:</u> Measuring relationship strength; practical issues in estimating effect sizes	Cooper (2016) Ch. 6 & Table 9.6 (pp. 325-326); CMA manual	
OCT	4	TUE	Combining study results		
	6	THU	Confidence intervals; Analyzing variance in effect sizes across studies		
	11	TUE	Forest plots; I-square; Work on Assignment 4 in class during class time		Upload materials for Assign 4 to Teams
	13	THU	AUTUMN BREAK: NO CLASS		
	18	TUE	Work on Assignment 4 in class during class time		Assign 4: Inter-coder reliability
	20	THU	<u>Step 6: Interpreting the evidence:</u> Missing data; statistical sensitivity analysis; specification and generalization; substantive interpretation of effect sizes	Cooper (2016) Ch. 7 & Table 9.7 (p. 327)	
	25	TUE	Metrics that are meaningful to general audiences	Prentice & Miller (1992)	

	27	THU	When small effects are impressive; Sample PowerPoint presentation		
NOV	1	TUE	Work on Assignment 5 in class during class time		
	3	THU	Work on Assignment 5 in class during class time		
	8	TUE	Work on Assignment 5 in class during class time		
	10	THU	Work on Assignment 5 in class during class time		Assign 5: Meta-analytic results
	15	TUE	<u>Step 7: Presenting the results</u> : Title; Abstract; Introduction; Method Results; Discussion	Cooper (2016) Ch. 8; Bem (1995); Rosenthal (1995)	
	17	THU	Work on Assignment 6 in class during class time		
	22	TUE	Work on Assignment 6 in class during class time		Assignment 6: PowerPoint presentation
	24	THU	THANKSGIVING: NO CLASS		
	29	TUE	Class PowerPoint presentations		
DEC	1	THU	Class PowerPoint presentations		
	6	TUE	Class PowerPoint presentations		
	9	FRI	FINAL EXAM, 8:00 to 9:45 AM		Assignment 7: Final due by 9:45 AM

Student Academic Services

Arts and Sciences Advising and Academic Services' website provides support for student academic success. Information on advising issues such as tutoring, transfer credits, academic standing, and contact information for Arts and Sciences advisors can be obtained through this website. The site is: <http://advising.osu.edu/welcome.shtml>

Student Services

The Student Service Center assists with financial aid matters, tuition and fee payments. Please see their site at: <http://ssc.osu.edu>

Copyright Disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Diversity

The School of Communication at The Ohio State University embraces and maintains an environment that respects diverse traditions, heritages, experiences, and people. Our commitment to diversity moves beyond mere tolerance to recognizing, understanding, and welcoming the contributions of diverse groups and the value group members possess as individuals. In our School, the faculty, students, and staff are dedicated to building a tradition of diversity with principles of equal opportunity, personal respect, and the intellectual interests of those who comprise diverse cultures.

Title IX

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 Interim Ohio State Title IX Coordinator, Molly Peirano, at titleix@osu.edu

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you are or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766.

If you are thinking of harming yourself or need a safe, non-judgmental place to talk, or if you are worried about someone else and need advice about what to do, 24-hour emergency help is also available through the Suicide Prevention Hotline (Columbus: 614-221-5445)

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 <http://studentlife.osu.edu/csc/>

Requesting accommodations

Students with disabilities (including mental health, chronic or temporary medical conditions) that have been certified by the Office of Student Life Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office of Student Life Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 614- 292-3307, slds@osu.edu; slds.osu.edu.