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Meta-Analysis
ED PSYCH 967 – Spring 2025-26

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Tentative Schedule & Readings

Explanation of Readings

- **Primary** readings cover the core content of the topic.
- **Alternative** readings cover most of the same material as the primary reading on the same topic, but usually at a simpler level of statistical detail.
- **Recommended** readings provide further important details on the topic, or are very well-conducted studies that add new insights to the topic.
- **Further** readings cover more technical or specialized content, in case you are interested in delving in beyond what is covered in class.

Key to Abbreviations

HRSMA: Cooper, H., Hedges, L. V., & Valentine, J. C. (Eds.). (2019). *The Handbook of Research Synthesis and Meta-Analysis*, 3rd Edition. Russell Sage Foundation.

IMA: Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2011). *Introduction to Meta-Analysis*. John Wiley & Sons.

Schedule

2026-01-20 – Course introduction: Systematic review, research synthesis, and meta-analysis

- Primary: HRSMA, chapter 1
- Alternative: IMA, chapter 1

2026-01-22 – Problem formulation

- Primary: HRSMA, chapter 2
- Alternative: IMA, chapter 2

2026-01-27 – Systematic search

- Primary: HRSMA, chapters 5-6
- Further: Kugley et al. (2016). Searching for studies: A guide to information retrieval for Campbell Systematic Reviews.
- Further: Gusenbauer & Haddaway (2020)

2026-01-29 – Automating coding with AI tools

- Primary: Thomas et al. (2025)
- Further: Clark et al. (2025)

2026-02-03 – Coding study characteristics

- Primary: HRSMA, chapters 7-8
- Recommended: HRSMA, chapter 9

2026-02-05 – Coding study characteristics (continued)

- Recommended: Villiger, Schweiger, & Baldauf (2022)

2026-02-10 – Effect size calculations: Overview, standardized mean differences

- Primary: HRSMA, sections 11.1-11.2
- Alternative: IMA, chapters 3-4

2026-02-12 – Interpreting effect size magnitude

- Primary: HRSMA, chapter 19
- Recommended: Bloom, Hill, Black, & Lipsey (2008)
- Recommended: Kraft (2020)
- Further: Funder & Ozer (2019)
- Further: Simpson (2017)
- Further: Schafer & Schwarz (2019)

2026-02-17 – Effect size calculations: More on standardized mean differences

- Primary: HRSMA, sections 11.7-11.8
- Recommended: Taylor, Pigott, & Williams (2022). Promoting knowledge accumulation about intervention effects: Exploring strategies for standardizing statistical approaches and effect size reporting.
- Further: https://www.jepusto.com/alternative-formulas-for-the-smd/
- Further: Hedges (2007). Effect sizes in cluster-randomized designs.

2026-02-19 – Effect size calculations: odds ratios, response ratios

- Primary: HRSMA, sections 11.4-11.5
- Alternative: IMA, chapter 5

2026-02-24 – Effect size calculations: correlations, conversions

- Primary: HRSMA, sections 11.3, 11.6, 11.9
- Alternative: IMA, chapter 6

2026-02-26 – Basic synthesis: fixed effects models

- Primary: HRSMA, sections 12.1-12.2
- Alternative: IMA, chapters 10-11
- Further: Rice, Higgins, & Lumley (2017)

2026-03-03 – Basic synthesis: random effects models

- Primary: Hedges & Vevea (1998)
- Alternative: IMA, chapters 12-13
- Further: Higgins, Thompson, & Spiegelhalter (2009)

2026-03-05 – Interpreting heterogeneity

- Primary: HRSMA, chapter 20
- Alternative: IMA, chapters 15-16
- Further: Borenstein et al. (2017)
- Further, Mathur & Vanderweele (2018, 2020)

2026-03-10 – Explaining heterogeneity: sub-group analysis and meta-regression

- Primary: HRSMA, sections 12.3-12.6
- Alternative: IMA, chapters 19-21

2026-03-12 – More meta-regression

2026-03-17 – Model diagnostics

- Primary: Viechtbauer & Cheung (2010)

2026-03-19 – Dependent effect sizes

- Primary: Gleser & Olkin (2009)
- Alternative: IMA, chapters 22-26

2026-03-24 – To Be Determined

2026-03-26 – To Be Determined

2026-03-31 – Spring Break (no course meeting)

2026-04-02 – Spring Break (no course meeting)

2026-04-07 – Multi-level meta-analysis

- Primary: Konstantopoulos (2011)

2026-04-09 – More on multi-level meta-analysis

2026-04-14 – Handling dependent effect sizes: Multivariate models

- Primary: HRSMA, sections 13.1-13.3
- Recommended: Becker (2000)

2026-04-16 – Handling dependent effect sizes: Robust variance estimation

- Primary: Pustejovsky & Tipton (2021)
- Recommended: Tanner-Smith, Tipton, & Polanin (2016)

2026-04-21 – Selective reporting and publication bias

- Primary: HRSMA, Chapter 18
- Recommended: Carter, Schonbrodt, McCullagh, & Hilgard (2019).
- Recommended: McShane, Bockenholt, & Hansen (2016)

2026-04-23 – More on selective reporting and publication bias

- Recommended: Rodgers & Pustejovsky (2020)
- Recommended: Mathur & Vanderweele (2020)
- Recommended: Chen & Pustejovsky (2025)
- Further: Cairo et al. (2020)
- Further: Pigott et al. (2013)
- Further: Kvaaren et al. (2019) plus commentary

2026-04-28 – Reporting Standards

- Primary Page et al. (2020).
- Primary: Shea et al. (2018).
- Recommended: Applebaum et al. (2018). Focus on Table 9, the Meta-Analysis Reporting Standards.

2026-04-60 – Criticisms of meta-analysis

- Primary: HRSMA, Chapter 23