

Skepticism & Proof: Research Methods in Child Mental Health

*Course number: V05.0120

*Instructors: Christopher P. Lucas, M.D., M.P.H. – Associate Professor of Psychiatry; Richard Gallagher, PhD - Assistant Professor of Psychiatry

*This course is offered every spring semester and carries 4 points

*Prerequisites: Child and Adolescent Psychopathology (V05.0101, Shatkin and Evans) or consent of the instructor

Course Description:

Clinical practice and public policy in child mental health is too often driven by the media, conventional wisdom, and prejudice rather than by scientific data. Evidence-based clinical care seeks to guide practitioners in the critical appraisal of data on risk factors, prevention and treatment. This course is designed for those who wish to read the health research literature and draw their own conclusions. It provides a practical means to learn and apply research methods. The course focuses on the knowledge and skills needed to design, carry out and evaluate a research study. Discussion of topical “Hot-button” issues, such as the apparent “epidemic” of certain diagnoses, the influence of the environment or culture on child mental health, or the risk/benefits of widely prescribed medications, is combined with a systematic review of the existing evidence base on current empirically supported treatment for child mental health problems.

Course Aims:

Knowledge

Students will learn key aspects of:

1. Child mental health epidemiology and intervention research;
2. Clinical research methods such as design, sampling, assessment and experimental methods; and
3. Empirically supported interventions for child mental health disorders.

Skills

Students will be able to:

1. Design a research protocol;
2. Evaluate methodology in published journal articles; and
3. Critically appraise the strength of research findings and conclusions.

Attitudes

Students will develop:

1. An appreciation of research methods, their strengths and weaknesses, and the value and limitations of research in clinical practice;
2. A sensitivity to the ethical, conceptual and methodological challenges and biases in research; and
3. A healthy skepticism for media reports of child mental health issues

*Course Syllabus:

Week #	Topic	Assigned Readings
1	The Research Question	Hulley et al., Chapter 1: The Anatomy and Physiology of Clinical Research & Chapter 2: Conceiving the Research Questions
2	Subjects and Variables	Hulley et al., Chapter 3: Choosing the Subjects: Specification, Sampling & Recruitment & Chapter 4: Planning the Measurements: Precision and Accuracy
3	Observational Studies	Hulley et al., Chapter 7: Designing an Observational Study: Cohort Studies, Chapter 8: Designing an Observational Study: Cross-Sectional & Case-Control Studies & Chapter 12: Designing Diagnostic and Prognostic Test Studies
4	Experimental Studies	Hulley et al., Chapter 10: Designing an Experiment: Clinical Trials I & Chapter 11: Designing an Experiment: Clinical Trials II
5	Writing a Research Protocol	Hulley et al., Chapter 14: Addressing Ethical Issues, Chapter 15: Designing Questionnaires & Data Collection Instruments, Chapter 17: Implementing the Study, Pre-testing, Quality Control & Protocol Revisions & Chapter 19: Writing and Funding a Research Protocol.
6	Reading the Literature	Riegelman, Chapter 1: Introduction and Flaw-catching exercise) & Chapter 2: Types of Studies and the MAARIE Framework.
7	Hot Button 1: Ritalin – Over or under prescribed?	Riegelman, Chapter 3: Method & Chapter 4: Assignment, plus source material
8	Empirically supported treatments 1: ADHD	Riegelman, Chapter 5: Assessment, plus source material.
9	Hot Button 2: The epidemic of autism	Riegelman, Chapter 6: Results, plus source material.
10	Empirically supported treatments 2: Anxiety	Riegelman, Chapter 7: Interpretation & Chapter 8: Extrapolation, plus source material
11	Hot Button 3: Prozac: Kill or Cure?	Riegelman, Chapter 9: Randomized Clinical Trials, plus source material
12	Empirically supported treatments 3: Depression	Riegelman, Chapter 10: Database Research, plus source material
13	Hot Button 4: Violence and the Media (Begin Final Oral Presentations)	Riegelman, Chapter 11: Meta-analysis, plus source material
14	Empirically supported treatments 4: Conduct Disorder & Delinquency (Continue Final Oral Presentations)	Riegelman, Chapter 12: Questions to ask and Flaw-catching exercises, plus source material
15	Final Written Examination	None

Required Texts:

The required textbooks for the course are: (1) **Designing Clinical Research by Hulley SB et al.** 2nd ed., 2001, Lippincott Williams & Wilkins; and (2) **Studying a Study and Testing a Test, by Riegelman, R.K.** 5th Ed, 2005, Lippincott Williams & Wilkins. Readings will be supplemented by primary sources from the scientific literature of child psychology and psychiatry. Typically, one or two readings are assigned each week. Additional readings include:

Costello EJ. Foley DL. Angold A. (2006) 10-year research update review: the epidemiology of child and adolescent psychiatric disorders: II. Developmental epidemiology. *Journal of the American Academy of Child & Adolescent Psychiatry.* 45(1):8-25.

Silva, R., Gallagher, R., and Minami, H. (2006) Cognitive behavioral treatments for anxiety disorders in children and adolescents. *Primary Psychiatry*, 68-76.

Course Meetings:

The course meets twice weekly, once for lecture and once for recitation. The lecture teaches basic concepts, and the recitation provides an opportunity for discussion and review of the required readings.

Course Grading:

Grades are based upon:

Class participation (20%), a Midterm Examination (30%), a Final Examination (30%), and an Oral Presentation (20%).

The examinations include:

Midterm Examination: Students complete a formal write-up (not to exceed 10 double-spaced, type written pages) of a research protocol for a hypothetical study to address a child mental health issue that interests them.

Final Examination: Students complete a one-hour, short answer and multiple-choice examination based upon the material covered in class.

Final Oral Presentation: In pairs of two (or small groups depending upon enrollment), students make formal 15-minute presentations on a hot-button topic of their own choosing outlining the strength of the research evidence and the conclusions to be drawn.