

Clinical Research Methods Spring 2015 (PSYC 6/71685)

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Meeting Time: Mondays and Wednesdays 12:30 to 1:45
Office Hours: TBA & By Appointment

COURSE DESCRIPTION

This course will provide a review of issues in measurement, design, and analysis pertinent to research in clinical psychology. The primary goals of the course are 1) to improve your critical acumen in consuming research performed by others and 2) to assist you in formulating, developing, and bringing to fruition your own research ideas. Topics will include methodological issues in 1) measurement and psychological assessment, 2) evaluation of psychological intervention, and 3) testing models of psychological dysfunction.

READINGS

Suggested:

1. Kazdin, A.E. (2003). *Research Design in Clinical Psychology* (4th Ed), Needham Heights, MA: Allyn & Bacon. ISBN: 0-205-33292-7.
2. Cohen, P, Cohen, J., West, S. G., & Aiken, L. S. (2002). *Applied Multiple Regression: Correlation Analysis for the Behavioral Science* (4th Edition). Mahwah, NJ: Lawrence Erlbaum Associates, ISBN: 0805822232.
3. R. Rosenthal & R. L. Rosnow (2007). *Essentials of Behavioral Research: Methods & Data Analysis* (3rd edition) New York: McGraw-Hill, ISBN: 0073531960

Additional Required and Optional Readings:

I will invite students to join a Dropbox folder where PDFs of required and optional readings will be hosted. The material in this folder is meant to stay in the folder. You are welcome to make a local copy of any of the materials, but please do not remove files from the folder.

COURSE FORMAT

This course meets on Mondays and Wednesdays. On most Mondays, there will be a lecture delivered by me. On most Wednesdays, there will be an activity that follows from the topic presented on Monday. For some of the Wednesday activities, you will need to prepare some work or materials for the particular activity. The prep work for a Wednesday class is not a graded assignment, but will be necessary for you to be a participant in the particular activity. Instructions for the particular assignments can be found below. At the end of the semester, each student will make a power-point directed presentation of their thesis prospectus and then take questions from classmates and me that ideally will be incorporated into the final paper that you will turn in to me at the end of the semester.

GRADED ASSIGNMENTS

Manuscript Review Assignment (10 Points)

Students will select one manuscript from a series of papers I will collect. Students will read the manuscript and write a written critique of it and make an editorial recommendation to the Editor (me). This review will probably be at least one and up to two single-spaced pages to be emailed to me as a MS Word file. I will endeavor to have a variety of papers so that the content of the papers reflects the research interests of students. One requirement will be that a student cannot review a paper from their home lab if one or more of the papers is offered by their advisor.

Master's Thesis Topic Presentation (15 of the 30 Class Participation Points)

Students will give brief individual presentations of their research proposals, followed by a class discussion period. Ideally, these proposals will integrate your thesis research. Feel free to exchange ideas with classmates before presenting the proposal. The in-class presentations will provide opportunities for presenters to obtain assistance on methodological, logistical, and statistical questions, and for classmates to develop skills in the constructive evaluation of research. Presenters should be open about their concerns, hesitations, and the possible limitations of their research, and classmates should be forward (but sensitive) in providing constructive criticism and suggestions. The discussions should be viewed as opportunities to benefit from the disparate viewpoints, strengths, and experiences that your classmates can share.

Master's Thesis Prospectus Papers (60 Points)

The final product of this course segment will be a written, 10-15 page proposal (double-spaced, typed, APA format), which will include literature, methodological issues, proposed design, proposed analyses, and power analyses of the original research project. The proposal will be evaluated according to the feasibility, planning detail, choice of measures, anticipation of obstacles and findings, motivation by well-articulated theory, integration of relevant prior research, and appropriateness of the proposed analyses. The goal is to complete a proposal that will serve as the groundwork for your Master's thesis. In addition to the final proposal, students will be required to complete several practical assignments relevant to the proposal. These assignments will not be graded, but will be designed to facilitate progress on your proposals. I will provide you informal feedback that you can incorporate into your final product.

Computer/Internet

1. Many of the readings I assign outside of our text as well as copies of lecture notes are saved as Adobe Acrobat *.pdf files. The Adobe Acrobat reader is a free program that is pre-installed on most computers, but can be downloaded at the Adobe webpage.
2. Please *do not* submit any paper copies of assignments. Rather, when turning in written assignments, please send them in MS Word or .rtf format. I cannot easily read Word Perfect files. Do not give me a floppy disk. I do not have any computers with floppy drives. Internet attachments are best. Finally, when we are working on a document together, I use the MS Word tracking and comment features to provide feedback.

GRADING

Manuscript Review Assignment	10 points
Final proposal:	60 points
Class participation	30 points

Final grades will be assigned according to the following scale:

- A:** 87-100
- B:** 75-86
- C:** 65-74

Please note that except in the case of an emergency, no extensions will be granted for any assignments.

ACADEMIC DISHONESTY

University policy 3-01.8 deals with the problem of academic dishonesty, cheating, and plagiarism. None of these will be tolerated in this class. The sanctions provided in this policy will be used to deal with any violations. If you have any questions, please read the policy at http://www.kent.edu/policyreg/policydetails.cfm?customel_datapageid_1976529=2037779 and/or ask.

SAS

University policy 3-01.3 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact the instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services (contact 330-672-3391 or visit www.kent.edu/sas for more information on registration procedures).

MY TRAVEL

This semester, I have some research activities that will require travel. On one of the days, I am canceling class (Wednesday, February 18). On the remaining days (February 23, 25, March 2, 4, 16, 18), my postdoctoral fellow, Joshua Pollock, Ph.D., will cover for me. His KSU email address is: Joshua W Pollock <jpollo10@kent.edu>.

COURSE SCHEDULE

Week of:

Jan 12

Introductions (Monday)

Developing a program of research in the current climate: Context, opportunities, and challenges (Wednesday: Lecture & Discussion)

Readings (Articles in bold are required readings)

1. **Miller, G. (2010). Beyond DSM: Seeking a Brain-Based Classification of Mental Illness. *Science*, 327(5972), 1437.**
2. Sanislow, C. A., Pine, D. S., Quinn, K. J., Kozak, M. J., Garvey, M. A., Heisssen, R. K., Wang, P. S.-E., et al. (2010). Developing constructs for psychopathology research: Research domain criteria *Journal of Abnormal Psychology*, 119(4), 631–639. doi:10.1037/a0020909
3. **NIMH. (2010). *From Discovery to Cure: Accelerating the development of new and personalized interventions for mental illness* (pp. 1–34).**
4. **Levenson, R. W. (2007). The future of the clinical science movement: Challenges, issues, and opportunities. In T. A. Treat, R. R. Bootzin, & T. B. Baker (Eds.), *Psychological Clinical Science* (pp. 349–360). Psychology Press.**
5. **Kazdin, A. E., & Blase, S. L. (2011a). Rebooting Psychotherapy Research and Practice to Reduce the Burden of Mental Illness. *Perspectives on Psychological Science*, 6(1), 21–37. doi:10.1177/1745691610393527**
6. Teachman, B. A., & Treat, T. A. (2011). Reactions to the Call to Reboot Psychotherapy Research and Practice: Introduction to Special Section of Comments on Kazdin and Blase (2011). *Perspectives on Psychological Science*, 6(5), 475–477. doi:10.1177/1745691611418242
7. Shoham, V., & Insel, T. R. (2011). Rebooting for Whom?: Portfolios, Technology, and Personalized Intervention. *Perspectives on Psychological Science*, 6(5), 478–482. doi:10.1177/1745691611418526
8. Atkins, M. S., & Frazier, S. L. (2011). Expanding the Toolkit or Changing the Paradigm: Are We Ready for a Public Health Approach to Mental Health *Perspectives on Psychological Science*, 6(5), 483–487. doi:10.1177/1745691611416996
9. Shalev, I., & Bargh, J. A. (2011). Use of Priming-Based Interventions to Facilitate Psychological Health: Commentary on Kazdin and Blase (2011). *Perspectives on Psychological Science*, 6(5), 488–492. doi:10.1177/1745691611416993
10. Chorpita, B. F., Rotheram-Borus, M. J., Daleiden, E. L., Bernstein, A., Cromley, T., Swendeman, D., & Regan, J. (2011). The Old Solutions Are the New Problem: How Do We Better Use What We Already Know About Reducing the Burden of Mental Illness *Perspectives on Psychological Science*, 6(5), 493–497. doi:10.1177/1745691611418240
11. Yates, B. T. (2011). Delivery Systems Can Determine Therapy Cost, and Effectiveness, More Than Type of Therapy. *Perspectives on Psychological Science*, 6(5), 498–502. doi:10.1177/1745691611416994
12. Sloan, D. M., Marx, B. P., & Keane, T. M. (2011). Reducing the Burden of Mental Illness in Military Veterans: Commentary on Kazdin and Blase (2011). *Perspectives on Psychological Science*, 6(5), 503–506. doi:10.1177/1745691611416995
13. Kazdin, A. E., & Blase, S. L. (2011b). Interventions and Models of Their Delivery to Reduce the Burden of Mental Illness: Reply to Commentaries. *Perspectives on Psychological Science*, 6(5), 507–510. doi:10.1177/1745691611418241

Jan 19

Philosophy of Science and the Scientific Method

No Class Monday. MLK Day.

1. Kazdin, Chapter 1
2. Faust, D., & Meehl, P.E. (1992). Using scientific methods to resolve questions in the history and philosophy of science: Some illustrations. *Behavior Therapy*, 23, 195-211.

Jan 26

Ethical issues in clinical research (Monday: Lecture)

1. Kazdin, Chapter 17

Homework Assignment: If you have not already done so, visit CITI website and complete online human subjects certificate class. Email to me or bring certificate to class next week. This certificate is required of any personnel on a NIH grant application let alone being a researcher at Kent State, UH, or Summa.

Class Exercise: Discussion of ethical dilemmas (Wednesday)

Feb 2 Introduction to Clinical/Medical Research Methodologies (Monday: Lecture)

Class Exercise: Study Design (Wednesday). Come to class prepared to work with classmates to design various studies.

Feb 9 Statistical methods in clinical research (Monday: Lecture)

Readings

1. Kazdin, Chapter 15
2. Cohen, J. (1990). Things I have learned (So far). *American Psychologist*, 45, 1304-1312.
3. Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.
4. Kazdin, A. (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*, 3(1), 1-27. doi:10.1146/annurev.clinpsy.3.022806.091432
5. 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, 1173-1182.
6. Holmbeck, G. N. (1997). Toward Terminological, Conceptual, and Statistical Clarity in the Study of Mediators and Moderators: Examples From the Child-Clinical and Pediatric Psychology Literatures. *Journal of Consulting and Clinical Psychology*, 65, 599-610.
7. Kraemer, H. C., Stice, E., Kazdin, A., Offord, D., & Kupfer, D. (2001). How Do Risk Factors Work Together? Mediators, Moderators, and Independent, Overlapping, and Proxy Risk Factors. *American Journal of Psychiatry*, 158, 848-856.
8. Kraemer, H. C., Wilson, T., Fairburn, C. G., & Agras, W. S. (2002). How Do Risk Factors Work Together? Mediators and Moderators of Treatment Effects in Randomized Clinical Trials. *Archives of General Psychiatry*, 59, 877-883.

Homework: Download and Install G*Power on your computer. Collect some of the PDFs relevant to your thesis work and see if you can derive effect size estimates that can inform your power analysis. <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/>

Class Exercise: Deriving effect sizes from studies (Wednesday). Bring PDFs to class of papers relevant to your thesis research and we will derive effect sizes together

Feb 16 Psychopathology research: Overview of conceptual issues, methodology, and design (Monday: Lecture)

1. Roberts & Ilardi, Chapters 6 & 12

Choose date to present thesis research study, sign-up sheet passed out in class.

No Class Wednesday: DMF at NIMH Study Section in DC

Feb 23 Measurement and psychometrics

DMF at MBSR Retreat, Stanford & UC-Berkeley; class led by Dr. Joshua Pollock

Readings

1. Kazdin, Chapter 13
2. Clark, L.A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
3. Haynes, S.N., Richard, D.C.S., & Kubany, E.S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, 7, 238-247.

Homework: Bring measures (e.g., self-report, interviews, tasks, etc.) relevant to your thesis to class on Wednesday so that we can discuss the role(s) they will play in your thesis research.

Class Exercise: Identifying threats to internal validity (Wednesday)

Homework: Email tentative bibliography (APA format), by Friday, Feb 27, 5p.

Mar 2 Publication and the peer review process: Critiquing papers, Responding to reviewers

DMF at MBSR Retreat, Stanford & UC-Berkeley; class led by Dr. Joshua Pollock

Readings

1. Kazdin, Chapter 18
2. Kazdin, A.E. (1995). Preparing and evaluating research reports. *Psychological Assessment*, 7, 228-237.
3. Seals, D., & Tanaka, H. (2000). Manuscript peer review: a helpful checklist for students and novice referees. *Advances in Physiology Education*, 23, 52-58.
4. Wilkinson, L., and the Task Force on Statistical Inference. (1999). Statistical methods in psychology journals: Guidelines and explanations. *American Psychologist*, 54, 594-604.

Proposal Assignment Homework: Complete outline for background and introductory sections of proposal. Include bulleted list of tentative research question(s)/hypotheses. Email attachment, not hard copy, by Friday, March 6, 5p.

Mar 9 Introduction to Meta-analysis (Lecture & Discussion: Monday & Wednesday)

Readings

1. Rosenthal, R. (1995). Writing meta-analytic reviews *Psychological Bulletin*, 118(2), 183. American Psychological Association.
2. Schmidt, F. L., Oh, I.-S., & Hayes, T. L. (2009). Fixed- versus random-effects models in meta-analysis: Model properties and an empirical comparison of differences in results. *British Journal of Mathematical and Statistical Psychology*, 62(1), 97–128. doi:10.1348/000711007X255327

Homework: Choose one of the manuscripts I will provide and write a review of it that you will turn in for a grade. Review is due Friday, March 13, by 5p.

Proposal Assignment Homework Due: Complete outline for method section. Include bulleted description of participants, measures, procedure, time-line, and analytic plan. Email attachment, not hard copy, by Friday, March 13, 5p.

Mar 16 Single Subject Design Methodology (Lecture: Monday)

DMF at Naropa University and CU-Boulder; class led by Dr. Joshua Pollock

Readings

1. Bissett, R. T. & Hayes, S. C. (1999). The likely success of functional analysis tied to the DSM. *Behaviour Research and Therapy*, 37, 379-383.
2. Haynes, S. N., Leisen, M. B., & Blaine, D. D. (1997). Design of individualized behavioral treatment programs using functional analytic clinical case models. *Psychological Assessment*, 9, 334-348.
3. Parker, R. I., & Hagan-Burke, S. (2007). Useful effect size interpretations for single case research. *Behavior Therapy*, 38(1), 95–105.
4. Parker, R., Brossart, D., & Vannest, K. (2005). Effect sizes in single case research: How large is large. *School Psychology Review*, 34(1), 116–132.

Class Exercise: Designing a Single Subject Design Study (Wednesday). Come to class prepared to work with classmates to design a single subject design study.

Manuscript Review Due: Email me a copy of the manuscript review by Friday, March 20, 5p.

Mar 23

No class - have a great spring break!

Mar 30 Psychotherapy research: Overview of conceptual issues, methodology and design (Monday: Lecture)

Readings

1. Kazdin, Chapters 14
2. Kazdin, A.E. (1999). The meanings and measurement of clinical significance. *Journal of Consulting and Clinical Psychology, 67*, 332-339.
3. Rounsaville, B.J., Carroll, K.M., & Onken, L.S. (2001). A stage model of behavioral therapies: Getting started and moving on from Stage 1. *Clinical Psychology: Science and Practice, 8*, 133-142.
4. Kazdin, A. E. (2001). Progression of therapy research and clinical application of treatment require better understanding of the change process. *Clinical Psychology: Science and Practice, 8*, 143-151.
5. Rounsaville, B.J., Carroll, K.M., & Onken, L.S. (2001). Methodological diversity and theory in the stage model: Reply to Kazdin. *Clinical Psychology: Science and Practice, 8*, 152-154.
6. Carroll, K. M., & Rounsaville, B. J. (2007). A vision of the next generation of behavioral therapies research in the addictions. *Addiction, 102*(6), 850–862. doi:10.1111/j.1360-0443.2007.01798.x

Optional Readings on Empirically Supported Treatments

Kendall, P.C., & Chambless, D.L. (Eds.) (1998). Special issue on empirically supported psychological therapies, *Journal of Consulting and Clinical Psychology, 66*. (Kendall, pp. 3-6, Chambless & Hollon, pp. 7-18, DeRubeis & Crits-Christoph, pp. 37-52, Beutler, pp. 113-120, Persons & Silberschatz, pp. 126-135, Goldfried & Wolfe, pp. 143-150).

Class Exercise: Designing a RCT (Wednesday). Come to class prepared to work with classmates to design a RCT on clinical issue.

Apr 6 Introduction to NIH Grant applications (Lecture & Discussion: Monday & Wednesday)

Apr 13 Office Hours Day

Students come to discuss their thesis for 20-minute blocks of time instead of meeting for class. Each student will email me an "agenda" with questions they would like help with for that meeting.

Apr 20 Student Thesis Presentations 1 through 4

Apr 27 Student Thesis Presentations 5 through 7

Final Papers Due: Monday, May 4, 2014, 5 p.m.

ADDITIONAL OPTIONAL READINGS

Ethnicity, gender, and cross-cultural issues in research

1. Alvidrez, J., Azocar, F., & Miranda, J. (1996) Demystifying the concept of ethnicity for psychotherapy researchers, *Journal of Consulting and Clinical Psychology*, 64, 903-908.
2. Beutler, L. E., Brown, M. T., Crothers, L., Booker, K., & Seabrook, M. K. (1996). The dilemma of factitious demographic distinctions in psychological research, *Journal of Consulting and Clinical Psychology*, 64, 892-902.
3. Hohmann, A.A., & Parron, D.L. (1996). How the new NIH guidelines on inclusion of women and minorities apply: efficacy trails, effectiveness trials, and validity. *Journal of Consulting and Clinical Psychology*, 64, 851-855.
4. Miranda, J., Azocar, F., Organista, K.C., Muñoz, R.F., & Lieberman, A. (1996). Recruiting and retaining low-income latinos in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 64, 868-874.
5. Thompson, E. E., Neighbors, H. W., Munday, C., & Jackson, J. S. (1996). Recruitment and retention of African-American patients for clinical research: An exploration of response rates in an urban psychiatric hospital. *Journal of Consulting and Clinical Psychology*, 64, 861-867.

Statistical Methods

1. Cohen, J. (1994). The earth is round ($p < .05$). *American Psychologist*, 49(12), 997.
2. Kraemer, H., & Blasey, C. (2004). Centring in regression analyses: a strategy to prevent errors in statistical inference. *International Journal of Methods in Psychiatric Research*, 13(3), 141–151.
3. Kraemer, H. C., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., & Kupfer, D. J. (1999). Measuring the potency of risk factors for clinical or policy significance *Psychological Methods*, 4(3), 257.
4. Kraemer, H., Kiernan, M., Essex, M., & Kupfer, D. (2008). How and why criteria defining moderators and mediators differ between the Baron & Kenny and MacArthur approaches. *Health Psychology*, 27(2), S101–S108.
5. Kraemer, H., & Kupfer, D. (2006). Size of treatment effects and their importance to clinical research and practice. *Biological Psychiatry*, 59(11), 990–996.
6. Kraemer, H., Mintz, J., Noda, A., Tinklenberg, J., & Yesavage, J. (2006b). Caution regarding the use of pilot studies to guide power calculations for study proposals. *Archives Of General Psychiatry*, 63(5), 484.
7. Kraemer, H., & Periyakoil, V. (2004). Agreement Statistics: Kappa Coefficients in Medical Research. *Wiley Online Library*.

Psychotherapy Research

1. Beutler, L. E., Brown, M. T., Crothers, L., Booker, K., & Seabrook, M. K. (1996). The dilemma of factitious demographic distinctions in psychological research *Journal of Consulting and Clinical Psychology*, 64(5), 892. American Psychological Association.
2. Duncan, B. L. (2002). The legacy of Saul Rosenweig: The profundity of the dodo bird *Journal of Psychotherapy Integration*, 12(1), 32–57. doi:10.1037//1053-0479.12.1.32
3. Goldfried, M. R., & Wolfe, B. E. (1998). Toward a more clinically valid approach to therapy research *Journal of Consulting and Clinical Psychology*, 66(1), 143. American Psychological Association.
4. Gortner, E. T., Gollan, J. K., Dobson, K. S., & Jacobson, N. S. (1998). Cognitive-behavioral treatment for depression: Relapse prevention *Journal of Consulting and Clinical Psychology*, 66(2), 377. American Psychological Association.
5. Howard, K. I., Krause, M. S., Saunders, S. M., & Kopta, S. M. (1997). Trials and tribulations in the meta-analysis of treatment differences: Comment on Wampold et al.(1997). American Psychological Association.
6. Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research *Journal of Consulting and Clinical Psychology*, 59(1), 12. American Psychological Association.
7. Jacobson, N., Dobson, K., Truax, P., Addis, M., Koerner, K., Gollan, J., Gortner, E., et al. (1996). A component analysis of cognitive-behavioral treatment for depression. *Journal of Consulting and Clinical Psychology*, 64(2), 295–304.
8. Kazdin, A. E. (1999). The meanings and measurement of clinical significance. American Psychological Association.
9. Kazdin, A. E., & Bass, D. (1989). Power to detect differences between alternative treatments in comparative psychotherapy outcome research *Journal of Consulting and Clinical Psychology*, 57(1), 138. American Psychological Association.
10. Manber, R., Kraemer, H. C., Arnow, B. A., Trivedi, M. H., Rush, A. J., Thase, M. E., Rothbaum, B. O., et al. (2008). Faster remission of chronic depression with combined psychotherapy and medication than with each therapy alone *Journal of Consulting and Clinical Psychology*, 76(3), 459–467. doi:10.1037/0022-006X.76.3.459
11. Schatzberg, A., & Kraemer, H. (2000). Use of placebo control groups in evaluating efficacy of treatment of unipolar major depression. *Biological Psychiatry*, 47(8), 736–744.
12. Shadish, W. R., & Sweeney, R. B. (1991). Mediators and moderators in meta-analysis: There's a reason we don't let dodo birds tell us which psychotherapies should have prizes *Journal of Consulting and Clinical Psychology*, 59(6), 883. American Psychological Association.
13. Wampold, B. E., Mondin, G. W., Moody, M., & Ahn, H. (1997a). The flat earth as a metaphor for the evidence for uniform efficacy of bona fide psychotherapies: Reply to Crits-Christoph (1997) and Howard et al.(1997) *Psychological Bulletin*, 122(3), 226–230. American Psychological Association.
14. Wampold, B. E., Mondin, G. W., Moody, M., Stich, F., Benson, K., & Ahn, H. (1997b). A meta-analysis of outcome studies comparing bona fide psychotherapies: Empirically, "all must have prizes." *Psychological Bulletin*, 122(3), 203. American Psychological Association.