

Implementation Science and Program Evaluation

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COURSE DESCRIPTION

People can always *choose* to become healthier, but they often don't. This speaks to some of the core challenges in the field of implementation science. How can we increase the chances of people adopting an intervention program? How do we create long-term adherence beyond the initial intervention period? How do we evaluate the effectiveness of such strategies? Our goal in this course is to understand and critically examine various health intervention strategies to promote the uptake and adherence of research findings in intervention science. Taking an iterative approach, we will draw from interdisciplinary findings and create research programs that flexibly evolves with the needs of the public. We will systemically evaluate the effectiveness of each approach and refine the program to improve its likelihood of achieving the intended outcomes.

There will be no textbook for this class. Instead, the readings for this course have been drawn from many different sources and posted on the course website. Many of the readings come from the primary literature in intervention sciences. They will help to capture the vitality and excitement of latest scientific discovery. Some of these readings may also be challenging, though, and they will often use terms and refer to ideas with which you are unfamiliar. Don't be discouraged by this! Though the readings have been carefully chosen to be accessible, I don't expect you to fully understand every aspect of the readings. I will frequently provide guidance about what you should try to get out of especially challenging readings.

LEARNING GOALS

- Build foundational knowledge of implementation science by understanding key concepts, challenges, and strategies in health intervention.
- Develop health interventions by designing and supporting proposals using evidence and theory.
- Evaluate program effectiveness by applying methods to assess and sustain health interventions.
- Apply research designs by implementing real-world study designs to evaluate interventions.
- Critically review literature by analyzing and synthesizing research in intervention science.
- Enhance presentation skills by communicating research proposals and leading discussions effectively.
- Collaborate and peer review by providing constructive feedback and engaging actively in discussions.

EXPECTED WORK AND GRADING

(30%) Health intervention proposal

You will write a research proposal that aims to improve a health behavior of your choosing. This will involve identifying an intervention strategy best suited for the target behavior, providing theoretical and empirical reasons to believe that the proposed strategy will be effective, identifying barriers to change and proposing solutions. I will provide detailed template to guide you through each of these steps. The research proposal is due on 10/31.

(30%) Research presentation

Having opportunities to discuss expertise with colleagues and in public is indispensable to becoming socialized into any professional discipline. As one way to get yourself trained in this, you will present and discuss your research proposal on the aforementioned health behavior intervention proposal. Final presentations will take place on 11/21 and 12/5.

(20%) Weekly Assignments

To get the most out of this course, it is essential that you carefully study the assigned readings before each lecture. You are asked to respond to a question concerning each material. Sample questions include: What is the main health issue described in this paper and what kind of strategies do you propose to help improve it? What are some other measures you would use to evaluate the success of this intervention strategy? What are some potential barriers that you foresee when using this intervention strategy? These responses should be about 1-2 paragraphs and should take no longer than 15 minutes to write after you have studied the material. I will use these comments to gauge your understanding of the ideas and to shape the discussions, and I will occasionally spend some part of the discussion responding to the issues you raise in these comments. Please submit responses that you feel comfortable sharing with the class. You must upload your responses to Canvas no later than one hour before the start of the class wherein that assigned materials will be discussed. Late submissions will not be accepted for any reason.

(10%) Discussion moderation

You are asked to lead two of the in-class discussion sessions where students will discuss assigned reading. You may also suggest relevant materials (text, video, etc.) for discussion. Each moderation counts for 5% of the total grade for a maximum of 10%.

(10%) Participation and attendance

For class discussion, please come prepared with your thoughts and the references from study materials to support your points. You may also bring any questions about particular passages; this may help move the conversation from simple recall to critical evaluation. The participation points depend on the quality, not the quantity or your remarks. Strong/weak participation can also nudge you to a higher/lower grade (e.g., from B+ to A- or B).

Grading

Your final grade will be based on the following formula:

Health intervention proposal (30%) + Research presentation (30%) + Weekly assignments (20%) + Discussion moderation (10%) + Participation and Attendance (10%)

Thus, your final grade will be based on a 100-point weighted average. As a rough guide, you may expect some kind of “A” if your weighted average is 90 or above, and some kind of “B” if your weighted average is between 80 and 90. However, the actual boundaries for letter grades are not determined until all assignments have been graded at the end of term. In fact, a curve may be used in case the final distribution of weighted averages does not yield a satisfactory proportion of A’s and B’s. I will not curve to your disadvantage.

NOTES

Religious observations

Please submit your request for religious accommodations by the beginning of class on 1/22 so that we can work out an appropriate arrangement.

Disability Services.

If you need academic support for your courses, accommodations can be provided once you share a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have registered with ODS (<https://success.camden.rutgers.edu/disability-services>) and have your Letter of Accommodation, please share this with me during the first 2 weeks of the course.

Academic honesty

All work must be conducted as your own to the highest standards of academic honesty, as detailed in the Academic Integrity Policy: <https://academicintegrity.rutgers.edu/>

COURSE OUTLINE

We will start out by spending a couple weeks on the foundations and major themes of implementation science, then branch out to a broader selection of topics and tools studied in the field. We may end up spending more time than is listed in this outline on topics that are especially interesting or challenging, so the exact timing of these lectures is subject to change. Some readings and materials may be added as the semester progresses and will be made available online.

9/5 Introduction and orientation

[no reading]

9/12 Implementation science & Identify target health behaviors

Bauer, M. S., & Kirchner, J. (2020). Implementation science: What is it and why should I care?. *Psychiatry research*, 283, 112376.

9/19 Persuasion & Facilitators and barriers

Cialdini, R. B. (2001). The science of persuasion. *Scientific American*, 284(2), 76-81.

9/26 Intervention strategies

[The mindful revolution](#)

[Mindful breathing](#)

10/3 Health disparities

Diez Roux, A. V. (2012). Conceptual approaches to the study of health disparities. Annual review of public health, 33(1), 41-58.

10/10 Formulating research questions for implementation

Eccles, M., Grimshaw, J., Campbell, M., & Ramsay, C. (2003). Research designs for studies evaluating the effectiveness of change and improvement strategies. BMJ Quality & Safety, 12(1), 47-52.

10/17 Real-world study designs in implementation science

Rowland, S. P., Fitzgerald, J. E., Holme, T., Powell, J., & McGregor, A. (2020). What is the clinical value of mHealth for patients?. *NPJ digital medicine*, 3(1), 4.

10/24 Designing interventions

Glanz, K., & Bishop, D. B. (2010). The role of behavioral science theory in development and implementation of public health interventions. Annual review of public health, 31(1), 399-418.

10/31 Multilevel measurements & Data analysis

[no reading] Research proposal due

11/7 Program evaluation models

Saunders, R. P., Evans, M. H., & Joshi, P. (2005). Developing a process-evaluation plan for assessing health promotion program implementation: a how-to guide. Health promotion practice, 6(2), 134-147.

11/14 Dissemination and sustainability

Owen, N., Glanz, K., Sallis, J. F., & Kelder, S. H. (2006). Evidence-based approaches to dissemination and diffusion of physical activity interventions. American journal of preventive medicine, 31(4), 35-44.

11/21 Student presentations 1

[no reading]

11/28 No class

Happy Thanksgiving!

12/5 Student presentations 2

[no reading]