

University of Alabama in Huntsville

LOUIS

Summer Community of Scholars (RCEU and
HCR) Project Proposals

Faculty Scholarship

1-1-2016

Reducing Math Anxiety via Alternative Sequencing of Math Problems

Jodi Price
University of Alabama in Huntsville

Follow this and additional works at: <https://louis.uah.edu/rceu-proposals>

Recommended Citation

Price, Jodi, "Reducing Math Anxiety via Alternative Sequencing of Math Problems" (2016). *Summer Community of Scholars (RCEU and HCR) Project Proposals*. 311.
<https://louis.uah.edu/rceu-proposals/311>

This Proposal is brought to you for free and open access by the Faculty Scholarship at LOUIS. It has been accepted for inclusion in Summer Community of Scholars (RCEU and HCR) Project Proposals by an authorized administrator of LOUIS.

Reducing Math Anxiety via Alternative Sequencing of Math Problems

Faculty Mentor: Dr. Jodi Price, Associate Professor of Psychology

Office: MOR 329 *Phone:* 824-3321

Mailing Address: Department of Psychology, MOR 335

Project summary: Some people love math and anything that involves numbers. For many others, math is something they dread and go out of their way to avoid. While those who fall in this latter category may never learn to appreciate math as much as those in the first category, the goal of this project is to examine one possible way to help math anxious students overcome their anxiety. Prior research in my lab has found that learners are sensitive to differences in problem difficulty and problem fluency (i.e., how random or orderly numbers in problems appear to be; Oppenheimer, 2008). Across three studies conducted in my lab we have found that participants rate fluent and easier problems as easier to solve than disfluent or difficult problems, even when the problems are presented in a random order. This project will investigate whether presenting participants with easy or fluent problems before difficult or disfluent problems helps reduce math anxiety and in turn, improves math performance relative to those presented with difficult or disfluent problems before easy or fluent problems. Math anxiety is detrimental to math performance because it ties up cognitive processes that individuals would otherwise be able to allocate to the task at hand. If simply altering the order in which problems are presented allows math anxious participants a chance to reduce their anxiety before they are asked to solve more difficult problems, then this project could yield a promising method for reducing students' math anxiety and improving their math problem solving performance.

Student Prerequisites: Students should be either a Junior or Senior with at least a 3.00 GPA. Ideally students will have already taken PY 102 and PY 300.

Student Duties: The student will be asked to read background articles about mathematics, instructional design, and memory processes so as to become familiar with the literature and the format style used in all psychology publications. The student and I will meet to discuss these articles to ensure an understanding of the research methods other researchers have used. The student will be asked to contribute to discussions about design decisions so that the student may become familiar with the many steps that go into planning a new experiment. The student will also be asked to help select math materials to be used in this project. Finally, I will personally train the student how to collect data with younger adult participants before the student runs experimental sessions on their own. I will provide the student with additional training in statistics. The goal will be to cement topics addressed in the statistics class by allowing the student to run analyses on data with which they are familiar, having helped plan the experiment and collect the data. In addition, I would train the student in more advanced statistical techniques (e.g., repeated measures analyses of variance) that are necessary for analyzing the types of data produced in my research, but to which undergraduates are rarely exposed. Thus, students will get additional experience using SPSS. Reading published articles will help familiarize the student with how psychological research is written. Finally, the student will gain experience presenting this work in public forums in order to fulfill the obligation to The University of Alabama in

