

University of Alabama in Huntsville

LOUIS

Summer Community of Scholars (RCEU and
HCR) Project Proposals

Faculty Scholarship

1-1-2015

Making Mathematics More Manageable: Eliminating Math Fears via Font Manipulations

Jodi Price

University of Alabama in Huntsville

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

Recommended Citation

Price, Jodi, "Making Mathematics More Manageable: Eliminating Math Fears via Font Manipulations" (2015). *Summer Community of Scholars (RCEU and HCR) Project Proposals*. 366.
<https://louis.uah.edu/rceu-proposals/366>

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.

Making Mathematics More Manageable: Eliminating Math Fears Via Font Manipulations

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

Office: MH 329 *Phone:* 824-3321

Mailing Address: Department of Psychology, MH 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 make math easier to remember. Prior research has found that presenting educational materials in difficult to read fonts increased the students' recall of the material in science and non-science classes, which the researchers attributed to the challenging fonts enhancing students' processing of the material (Diemand-Yauman, Oppenheimer, & Vaughan, 2011). A recent project in my lab found that participants predicted and achieved higher recognition rates for 3 digit numbers presented in large fonts than those in small fonts. These studies combine to suggest that fonts may facilitate math learning. Thus, this project will investigate whether studying math instructional materials in regular or difficult to read fonts will affect participants' predicted and actual math performance. If simply altering the fonts in which the math materials are presented proves to enhance math performance, this project could yield a promising method for reducing students' math anxiety.

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 Huntsville. All of these things would strengthen the student's skill set while increasing the likelihood of being admitted to a graduate program in Psychology.

Faculty Supervision and Interaction: My goals in working with the selected student include exposing the student to all aspects of research: designing an experiment, data collection, analyzing data, interpretation of results, and how psychological research is written up for publication. I am committed to working with and meeting with the student two to three times

