

CEPA Undergraduate Research Program

Accepting applications for Spring and Summer Quarters

Note: Some Summer deadlines are March 15. Please see each individual project.

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The Center for Education Policy Analysis (CEPA) is seeking undergraduate research assistants (RAs) to work directly with CEPA faculty on active research projects supported by The Office of the Vice Provost for Undergraduate Education (VPUE). Applications will be reviewed as received and the interview process will begin immediately. Once decisions have been made, applicants will be notified and work will begin immediately.

Eligibility: The CEPA URP program is open to all Stanford University undergraduates. Selection of RAs will be based on the student's expressed interest in education policy and the fit between faculty needs and student skill sets. Experience working with quantitative data using STATA statistical software is preferred but not required.

Financial Support: RAs can get **up to** \$1500 for an academic quarter and/or \$7000 for an immersive summer project depending on the guidelines set by your particular faculty and the number of hours you work. You will be paid via stipend processed by Financial Aid. For research done during the academic year (fall, winter spring), your stipend will be processed at the end of your research quarter, much the same way that grades are processed at the end of the quarter for students who are doing research for credit. For summer research, stipends are processed in May. The administrative process takes about 2-3 weeks.

Application Process: Students should provide a resume, an unofficial Stanford transcript, and a one-page cover letter describing the applicant's interest in education policy, previous research experience including any experience with quantitative analyses, and indicate the particular research project/s the student is interested in working on.

Specific Projects:

Project 1: Field Testing Novel Tablet Computer Assessments of Social and Emotional Learning

Applications for the Summer position due March 15

Faculty Mentor: [Jelena Obradović](#)

Project Description: Social and emotional learning refers to non-academic skills that are crucial for children's success in school. Dr. Jelena Obradović (<https://web.stanford.edu/group/sparklab/>) is designing a novel tablet computer app to measure social and emotional learning in elementary school students (grades K-5). These games will test students ability to delay gratification, think flexibly, remember information, control behavior, tolerate frustration, persevere, and challenge themselves. Measuring these skills is crucial because they are associated with physical and mental health, educational attainment, and career success. But existing table-top assessment tools are time consuming, require extensive training, and are difficult to administer consistently. The innovative tablet-based assessment will provide an accessible, standardized, and low cost alternative for educators and researchers, and can be used in a group setting to assess many children simultaneously.

Dr. Obradović is seeking a research assistant to pilot this app in the field (e.g., at museums, libraries, and parks in the Bay Area). The data obtained from pilot testing will be used to calibrate the difficulty of the apps, improve the user interface, and identify programming errors so that the apps can be used confidently to collect data from thousands of students in large scale research and evaluation projects. The research assistant will gain practical experience in field-based research and will learn about social and emotional

learning skills. The ideal candidate will be friendly, outgoing, and enjoy working with parents and children. Work hours will include weekends. Having a valid driver's license and access to a car is desirable, but not required.

Project 2: The Role of Stress Physiology in Supporting Self-Regulated Learning

Applications for the Summer position due March 15

Faculty Mentor: [Jelena Obradović](#)

Project Description: Dr. Jelena Obradović (<https://web.stanford.edu/group/sparklab/>) is investigating how the peripheral nervous system supports the cognitive, emotional, and motivational aspects involved in elementary school students' academic success. She is seeking a research assistant interested in the interplay of biology, behavior, and environment to assist with basic research that will lay the groundwork for experimental intervention studies that will improve children's emotional and physiological self-regulation skills. The research assistant will have the opportunity to work on multiple studies focused on the biological bases of self-regulated learning.

As part of a large school-based study involving over 800 students, Dr. Obradović has measured skin conductance (a measure of sympathetic nervous system function) during group assessments of children's cognitive self-regulation skills. The research assistant will learn about the significance of autonomic nervous system functioning and about how skin conductance data are collected, and will assist in processing and cleaning these data. The research assistant will also assist with literature reviews for publications and grant applications, and will gain experience using scientific databases such as PsycINFO and Medline. In addition, there will be opportunities to field test an innovative wearable device for assessing multiple aspects of peripheral nervous system function in naturalistic settings. The ideal candidate will have great organization skills and attention to detail, and will be friendly, outgoing, and enjoy working with parents and children.

Project 3: Using Modern Machine Learning Techniques to Better Understand Student Outcomes

Faculty Mentor: [Ben Domingue](#)

Project Description: Education in the digital age involves produces a large quantities of data. There is great interest in using this data to improve student outcomes. I am interested in two specific questions. First, how can we improve our understanding of student learning using a mixture of dynamic item response models and machine learning techniques? Second, can improved 'early warning' systems be designed to inform schools and school districts about students in peril using administrative data (test data, attendance data)? Both questions will utilize a combination of simulated and empirical data. I am looking for RAs that have applied experience with machine learning or other cutting-edge statistical modeling techniques.

Project 4: Patterns, Trends, and Causes of Academic Achievement Gaps

Faculty Mentor: [sean reardon](#)

Project Description: This project uses roughly 300 million test score records (from every student in grades 3-8 in the US from 2009-2015) to examine patterns of academic achievement and achievement gaps across the US. We will be adding more years of data to the project, analyzing trends, patterns, and causes of achievement gaps, and making maps and other web-based interactive data visualizations. I am seeking RAs with interests in educational and social inequality and skills (and interest in developing skills) in data scraping, data management (stata/excel), descriptive statistical analysis, data visualization, and/or GIS mapping software. Depending on their interests and skills, RAs may be involved in the study of educational inequality through helping with data assembly, data analysis, and/or data visualization.

Project 5: Evaluating the Effects of a Text Messaging Program

Faculty Mentor: [Susanna Loeb](#)

Project Description: This ongoing project started in 2014 and will continue through 2018. This study is a

randomized controlled trial (RCT) of a text messaging program designed to enhance the book-sharing practices of parents with their preschool-aged children. It will examine the short and long-term effects of the “texting” program on parental behavior and student outcomes in a large urban school district implemented during the 2014-15 school year.

Experimental evidence demonstrates that parent-child book sharing can positively impact preschoolers’ early literacy development. Unfortunately, there are substantial differences in book-sharing practices by socioeconomic status, and existing programs have done little to close this gap. One particularly promising innovation for enhancing parents’ book-sharing practices is texting. A number of RCTs in healthcare show that sending encouraging and action-orientated text messages to individuals can promote positive changes. Given the similarities between parent-child book sharing and other healthy behaviors (both can be accomplished through small actions that build on existing routines), the potential to positively impact parents’ behaviors through texts is high.

To maximize the impact of texts, it is important that they come from a trusted source, such as a school. Therefore, our partner school district and their trusted partners will conduct brief consultations with consenting parents during the summer. In these meetings, they will enroll parents in the program and gather background information. Once parents are enrolled, we will randomly assign them to either receive the texts related to the book sharing (the “treatment” group) or texts on another topic (the “control” group). At the end of the school year, we will compare the reading practices of parents in both groups, as well as the scores of their children on an early literacy assessment.

The RA will participate in planning meetings that include Professor Loeb as well as CEPA doctoral students and staff. He or she also will participate in meetings with our partners (school district and partnering nonprofits). As a part of these meetings, the RA will contribute to the development of text messages. The RA also will assist with data collection (from the district’s central office and pre-k sites), data organization, and implementation of the program. The RA should be highly organized, skilled in Excel, and interested in both the implementation of a randomized experiment and using text messages as a tool in education.

Contact Information: If you have questions please contact Nadia Ahmed, Program Administrator at nahmed@stanford.edu.

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