

Goal: Increase equity by meeting the needs of student-parents, a little-studied group made up largely of women of color.

Proposal: Undergraduate research opportunities for student-parent researchers to investigate student success in the student-parent population.

To increase equity and meet the needs of a large but little-studied group of undergraduate students, my idea is to expand access to STEM education by providing a relevant undergraduate research experience to students who have children of their own. According to Reichlin Cruse et al. (2019), 22% of undergraduate students in the United States are attending college while raising their own children. Of all student-parents, 70% are female, they are more likely to be non-White than White, they are more likely to be older, and they often get better grades than their peers without children. Student-parents are strongly motivated to succeed in college so that they can improve the lives of their families (Reichlin Cruse et al., 2019).

As a group, little research exists to compare the efficacy of different student-support programs to increase the retention and graduation of student-parents. Part of the problem is that most colleges do not currently collect data on which of their students are student-parents. Investigating the factors that influence the academic success of this group would help to increase the success of this group largely made up of women of color. A two-generation model of supporting student-parents would not only help these women of color to achieve academic success, it can also increase their children's academic readiness.

My idea is to crowd-source new ideas for supporting student-parents by recruiting student-parents to participate in an applied undergraduate research program where they will design and execute their own research projects related to supporting student-parents. Undergraduate research is one of the "high-impact practices"- evidence-based methods of increasing active learning in undergraduate students (Association of American Colleges and Universities, n.d.). By having a program where student-parents engage in undergraduate research that is directly relevant to their lives, and has the potential of improving the lives of others like them, these student-parent researchers will learn to apply the scientific method to solving real-world problems. As part of their undergraduate research program, these students will learn STEM concepts such as research design, statistical analysis and data visualization. They will also learn important "soft skills" such as public speaking to present their results and networking with other students and faculty. By empowering student-parents to investigate the strengths and opportunities for others like them, this program would increase confidence and motivation for pursuing further education in STEM fields. The student-parent researchers would have ownership of their research ideas and become champions for the needs of fellow student-parents on their own campus, in their state, and nationwide.

Potential research projects for student-parents

- Quantifying the effect of child-care access on student-parent success
- Investigating the effectiveness of new university policies supporting student-parents on their success.
- Investigating the effects of peer support groups on student-parent academic success
- Assessing kindergarten readiness in the children of student-parents versus children whose parents have not earned college degrees.

- Assessing the effectiveness of joint parent-child STEM education programs on student-parent success in college-level STEM courses and childrens' success in their grade-level STEM courses.

Forward thinking: By having student-parents participate in a research program of this type, the participants would not only learn scientific thinking and problem-solving skills, they also become advocates for future STEM initiatives. The student-parents would help to generate the ideas needed to support the students of 2040 for success in undergraduate STEM education. The student-parents are also raising the children who will be undergraduate students in 2040, so they can participate in preparing the next generation of STEM scholars. The two-generation approach of this model is ideally suited for looking forward to the needs of students in 2040.

Reichlin Cruse, L., Holtzman, T., Gault, B., Croom, D., & Polk, P. (2019, April 11). Parents in college: by the numbers. Institute for Women's Policy Research. <https://iwpr.org/publications/parents-college-numbers/>

Association of American Colleges and Universities (n.d.). High-Impact Educational Practices: a brief overview. <https://www.aacu.org/node/4084>