Our project is titled *A Study on the Experiences of First-Generation College Students in Engineering Majors* and was completed by myself, Kathlyn Richmond, and with the help of my mentor, Resmi KrishnankuttyRema. Our study that we have been working on is a literature review covering the topic of the experiences, but more importantly, the challenges faced by first generation students in engineering and stem majors. We were motivated to start this project after we noticed increasing number of first-generation students in the College of Technology, Architecture and Applied Engineering at Bowling Green State University (BGSU). We want to conduct our own survey but first we needed to conduct a literature review to improve our knowledge and credibility. We needed to know what kind of studies have already been done at different universities, the questions that they were asking, and what kind of results they were receiving. This poster is explaining some of our findings and our future plans with this project as we continue to work on it and hope to produce our own survey and study with first-generation students in the College of Technology, Architecture and Applied Engineering.

We conducted this literature review by studying five journal articles focusing on the topic of first-generation college students in engineering and stem related majors, minorities within first-generation students in both stem related fields and other fields, as well as general first-generation college students. All these studies were published between the years of 2015 and 2018, so their data is more recent and credible with today’s society and evolving learning experiences.

The study *“Identification Among First-Generation Citizen Students and First-Generation College Students: An Exploration Of School Sense Of Community* “ by Williams and Ferrari, focused on family support, engineering-related learning experiences, engineering outcome expectations, and a demographic survey, among similar topics. This is one of the articles that included first-generation students and a majority of minorities as well. They also included non-minorities and students who were not first-generation students. The table shows the percentages of the students surveyed (3095) that were grouped into which category. The categories include 1st generation college/1st generation citizen (10.2%), non-1st generation college/1st generation citizen (15.1%), 1st generation college/non-1st generation citizen (17.2%), and non-1st generation college/non-1st generation citizen (57.5%). This shows that they were able to compare results between these categories to see which group showed the most challenges and what type of challenges. The other articles showed similar studies performed.

These articles overall found family support, specifically parental support, at the end of an academic year experienced more positive feedback and encouragement about their engineering related education and were more likely to continue their college education. Students that did not have the same support had more negative feels revolving around their education and were more likely to have thoughts about changing their career paths to one that didn’t include college or high education. First-generation and ethnic minority college students overall reported significantly more family achievement guilt than continuing-generation college students. This was largely due to guilt about having an education that the generations before them did not have the chance to receive. This guilt could lead to negative thought effecting their education and leading to students leaving college in some cases.

Some first‐generation college students or first‐generation U.S. citizens feel more comfortable when they bond with specific groups on campus that have similar needs and can help them feel more positive towards their education and situation. This is due to having people to rely on when they need help. Most first-generation college students do not have a support system outside of the academic settings that they can rely on so having groups that they can relate to on campus really helped them. Providing first-generation students with a slightly different social class than “first-generation college students” could have a positive effect because it decreases the chance that they develop a severe social class awareness. This provides students with the opportunity to go along their individual pathway with the idea of individual achievement instead of following a social class with the idea of grouped discouragement. This helped them not feel trapped under words that some believed had negative connotation.

After going through these studies, we have a better understanding of the types of questions we would like to ask our first-generation students. We would like to continue researching, building up to our survey that we would like to conduct in fall 2020. As well as using the research method of asking multiple groups of students such as first-generation and non-first generation. We also like to ask the different class levels, such as freshmen, sophomores, juniors and seniors, to see if there is a difference in the types of challenges they face as they complete different years of schooling. We would like to eventually use the data we collected from both this literature review and our own future survey to better support the students here at BGSU in the best ways we can.