SUNY Poly's S-STEM Scholar Initiative

~Spring 2025 Scholar Satisfaction Survey~

A Report To:

SUNY Poly

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Mullins Consulting
Inspired Social Research & Program Evaluation

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Introduction

In Fall 2022, SUNY Polytechnic Institute (SUNY Poly) contracted with Dr. Megan Mullins and her team of evaluators to conduct evaluation activities for SUNY Poly's newly awarded National Science Foundation funded S-STEM Scholarship program titled *"Supporting Degree Completion in Engineering and Engineering Technology Programs through Experiential Learning and Self-Directed Professional Development."* The long-term goal of this program is to break down barriers to degree completion within the programs of Civil Engineering, Civil Engineering Technology, Mechanical Engineering, and Mechanical Engineering Technology (CME&ET). In pursuit of this goal, SUNY Poly will provide a total of 65 one-year scholarships to 20 unique students in CME&ET. Students selected as Scholars will include both first year and transfer students. Over the grant period, this program will provide the following:

- "Know One Be One" recruitment experience for interested high school students,
- S-STEM scholarships to 20 unique students through degree completion,
- An S-STEM First Year Experience Course,
- One-on-one academic advisement and mentoring for S-STEM scholars,
- Mobius subscriptions for 1st year S-STEM scholars for Math skills support,
- S-STEM Seminar and Workshop series,
  S-STEM Scholars professional development fund,
- Experiential learning opportunities for Scholars, and
- FE Review course, purchase of FE review materials for independent study, and supports to increase student completion and passing of the FE exam.

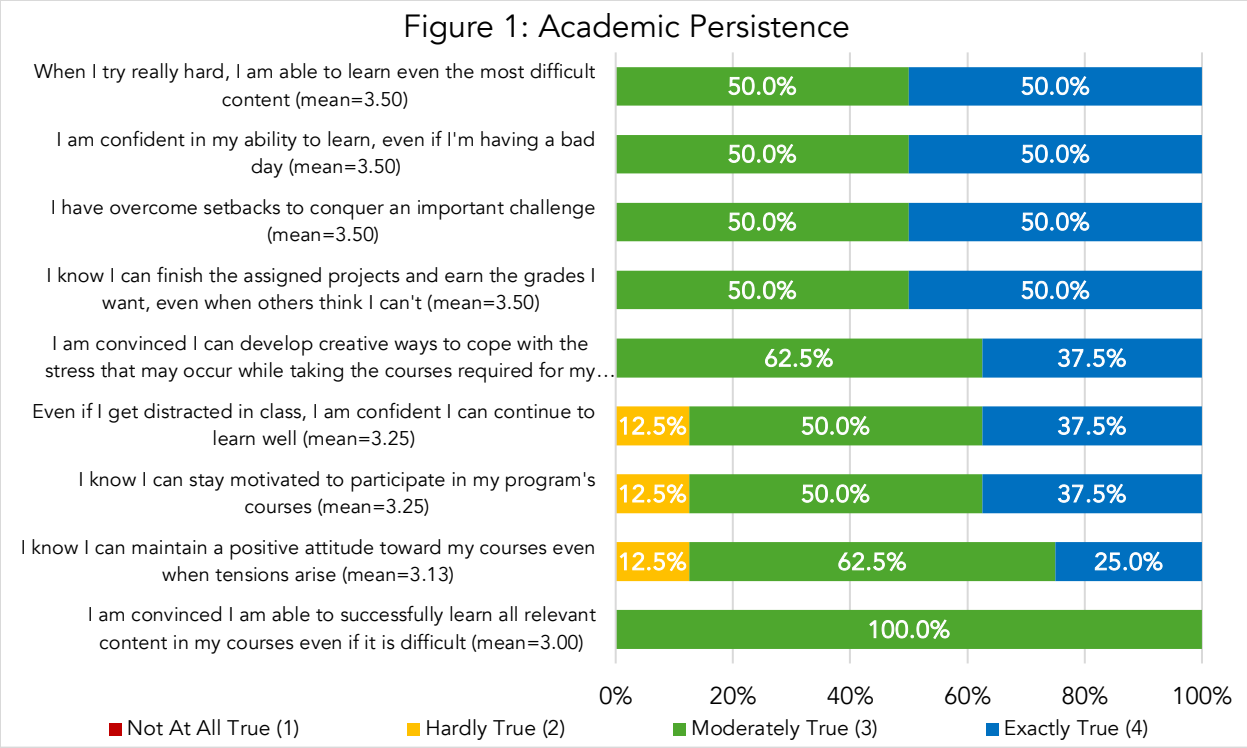
Summarized below are the results from a survey distributed to current S-STEM Scholars at SUNY Poly Tech at the conclusion of the Spring 2025 semester. The questionnaire collected information regarding Scholars' persistence, adaptability, and confidence to succeed; engagement with key resources, supports, and other high impact activities; career goals; and overall satisfaction and recommendations for improvement. In total, eight Scholars responded to the survey.[1] The findings presented below provide insight into current Scholars' experiences and outcomes and can inform improvements to the program moving forward.

Survey Results

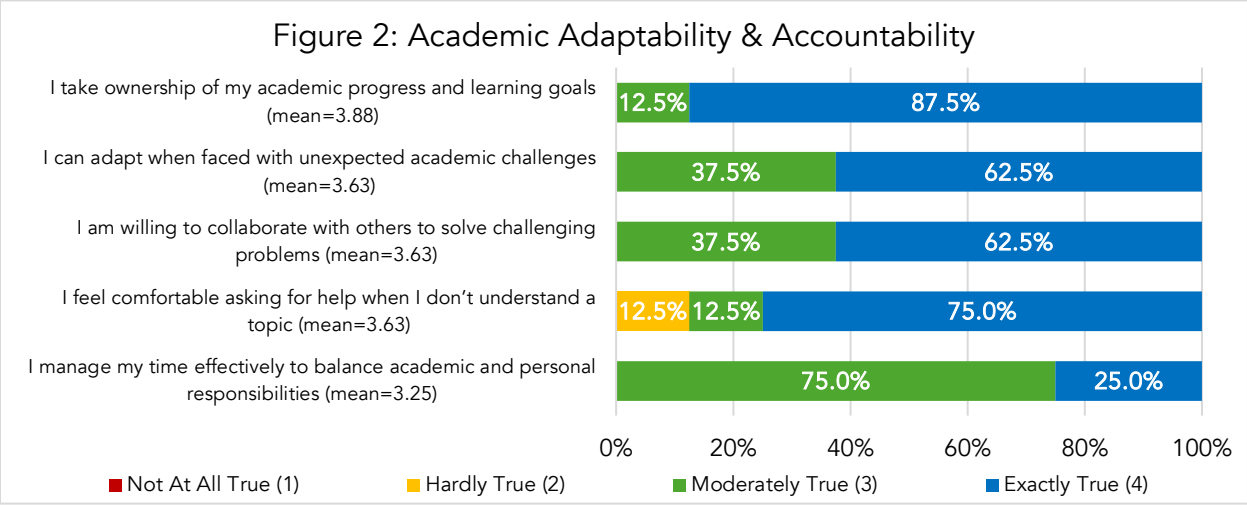
Academic Persistence, Adaptability, & Confidence

Scholars were first presented with a series of statements reflective of persistence to pursue academic goals and asked to rate the extent to which each applies to them using a 4-point scale. As shown in Figure 1 (next page=]';[all or most respondents (>80%) report that each statement either "Moderately" or "Exactly" describes them, indicating that Scholars generally feel that they can stay motivated in their courses, overcome challenges, and meet academic goals.

[1] Unless otherwise noted, the sample size for all analyses is eight (n=8).



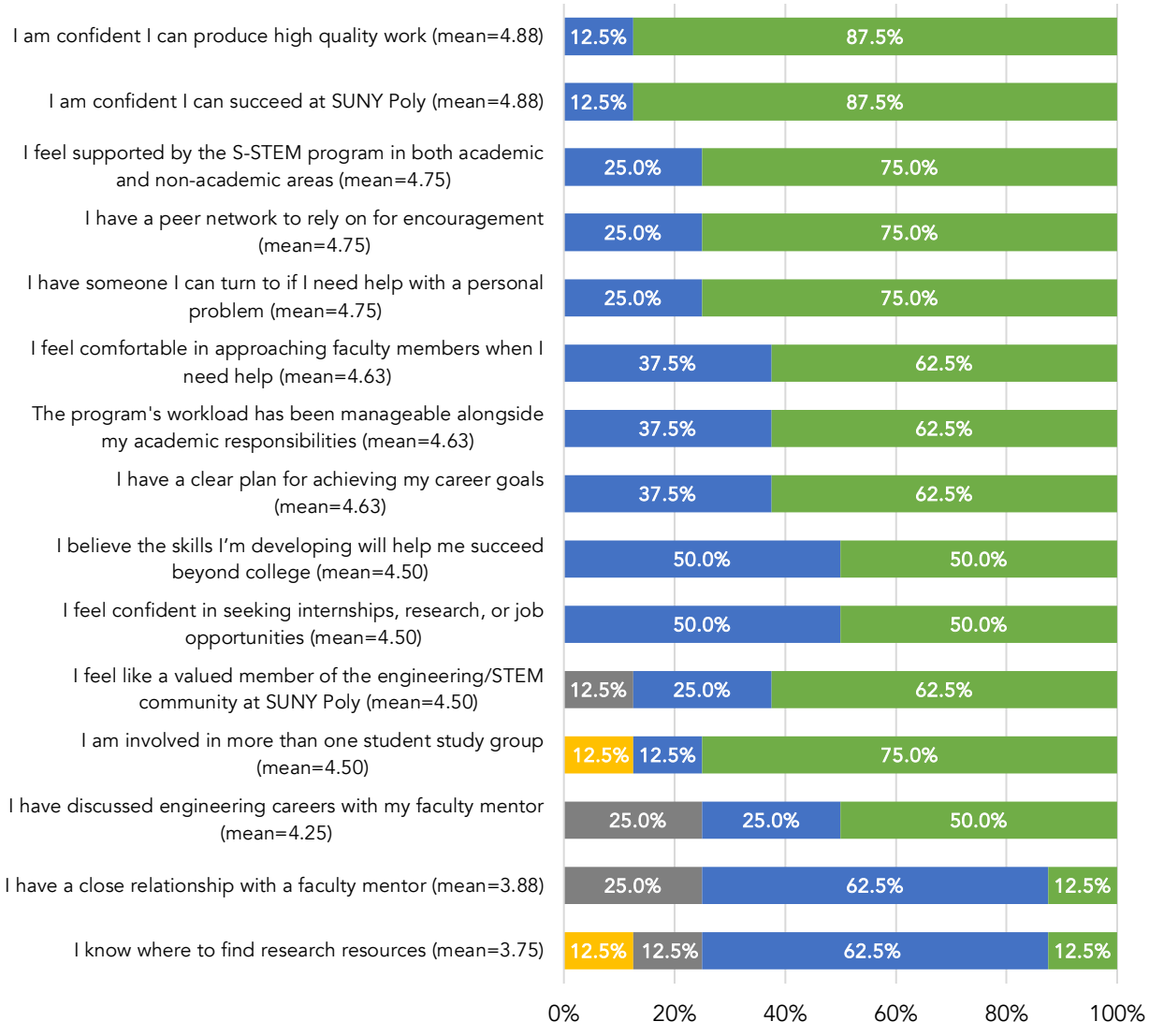
Scholars were also asked to rate the extent to which statements reflective of academic accountability and adaptability apply to them. All or most Scholars report that each item either "Moderately" or "Exactly" describes them, suggesting that Scholars hold themselves accountable to personal goals and outcomes, are willing to collaborate with others and ask for help when needed, and feel they can manage time effectively and adapt in the face of unexpected challenges.



Next, using a 5-point scale, respondents were asked to rate their agreement with statements concerning their confidence and preparedness to succeed at SUNY Poly and beyond. As shown in Figure 3, all or most (≥75%) agree to some extent with all statements presented, indicating that Scholars generally:

- Are confident in their ability to produce quality work, take advantage of professional development opportunities, and succeed both at SUNY Poly and in their chosen career;
- Are engaging with study groups, research resources, and faculty mentors;
- Feel supported by their peers, faculty, and the program more broadly; and
- Have engaged in career exploration and planning both individually and in discussion with faculty.

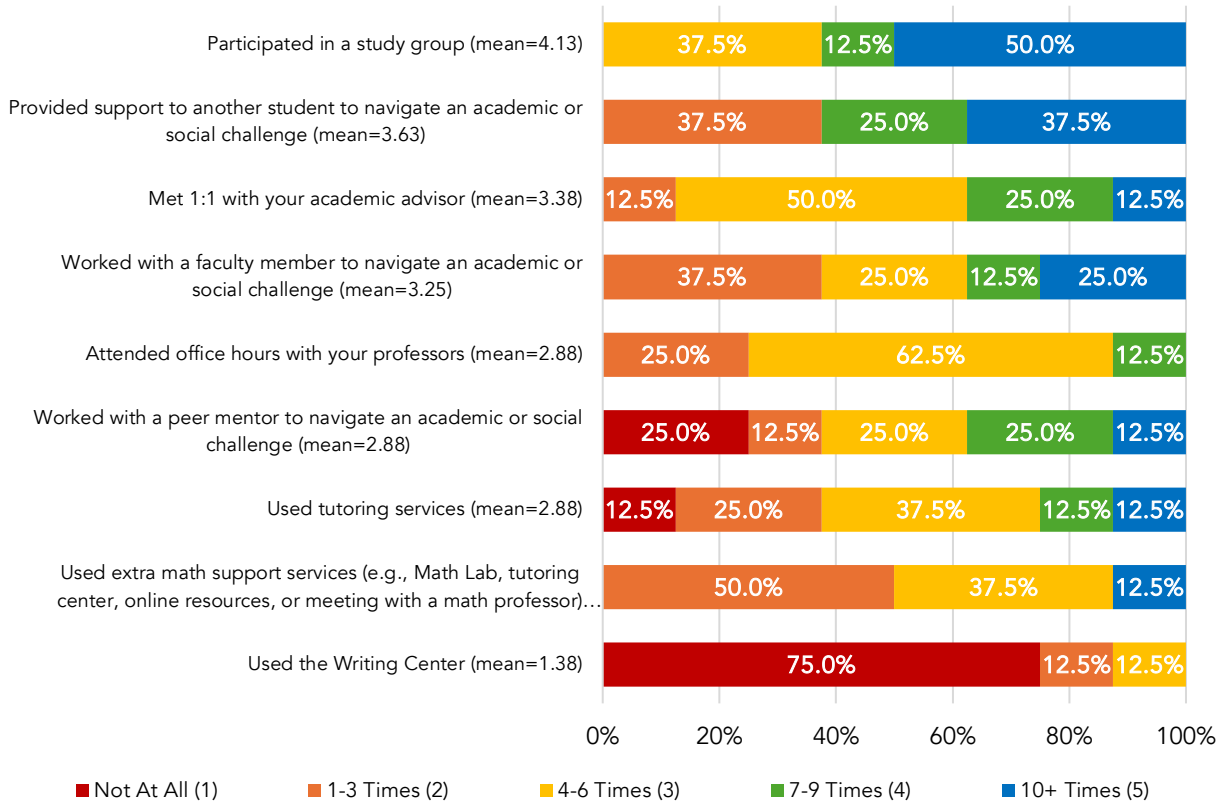
Figure 3: Confidence & Preparedness



Scholar Engagement

Scholars were next asked to estimate how often they engaged in, or utilized, various campus/program activities and resources during the previous academic year. Figure 4 shows that, on average, respondents *most frequently* participated in study groups (mean=4.13) and helped another student navigate a challenge (mean=3.63) and *least frequently* accessed extra math support services (mean=2.75) and The Writing Center (mean=1.38).[2] Aside from The Writing Center, most respondents (≥75%) engaged in each activity or utilized each resource at least once over the past year.

Figure 4: Engagement in High Impact Academic Activities

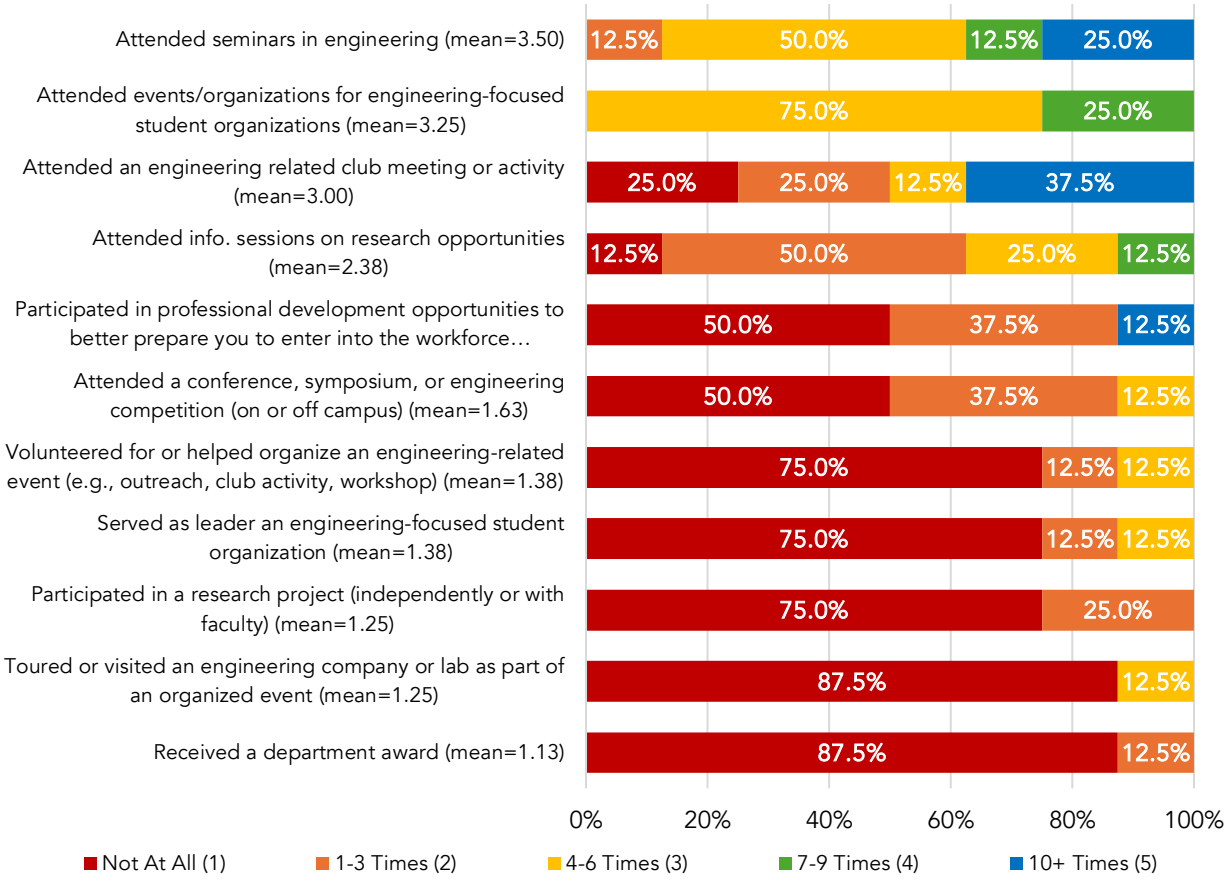


Respondents were also asked about how often they participated in various engineering- and STEM-specific activities during the 2024-25 academic year (see Figure 5, next page). Of the 12 activities listed in this portion of the survey, Scholars *most frequently* attended engineering seminars (mean=3.50), events for engineering-focused student organizations (mean=3.25), and an engineering-related club meeting or activity (mean=3.00), and *least frequently* participated in a research project (mean=1.25), toured an engineering company or lab (mean=1.25), and

[2] Note that, for these and similarly measured items, means reflect scale points (see Figure 4) and not the average number of times Scholars engaged in each activity or used a given resource.

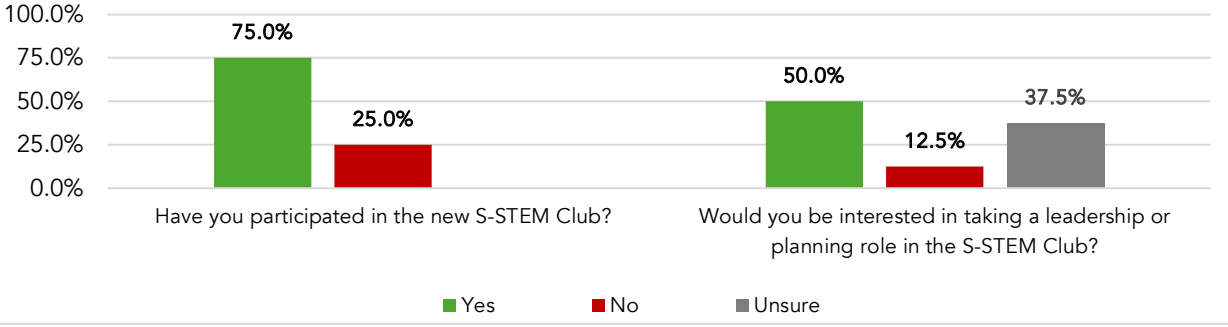
received a department award (mean=1.13). Notably, apart from the four activities that saw the most frequent participation among Scholars, half or more respondents report *no engagement* in the remaining areas.

Figure 5: Engagement in Engineering- & STEM-Specific Activities



Additionally, most Scholars (75%) report that they have participated in the new S-STEM Club and most also answer affirmatively (50%) or indicate that they are unsure (38%) of whether they would be interested in adopting a leadership or planning role within the club,

Figure 6: S-STEM Club Participation & Interest



When asked whether they have participated in any career preparation activities through the S-STEM Program—such as resume review, mock interviews, or guided job searches, all respondents either answer affirmatively (38%) or indicate that they have yet to do so but are interested (63%).

Scholars were also asked to identify one technical or nontechnical skill that they are most proud of gaining through the program, with all respondents describing a variety of "soft skills" with which they have become more proficient, including critical thinking, communication, organization, and teamwork.

All Comments:

"Better critical thinking skills."

"Communicating any troubles I have."

"I learned how to use my peers to study better and help myself and others learn in a better and more efficient way."

"Teamwork."

"Understanding where I lack."

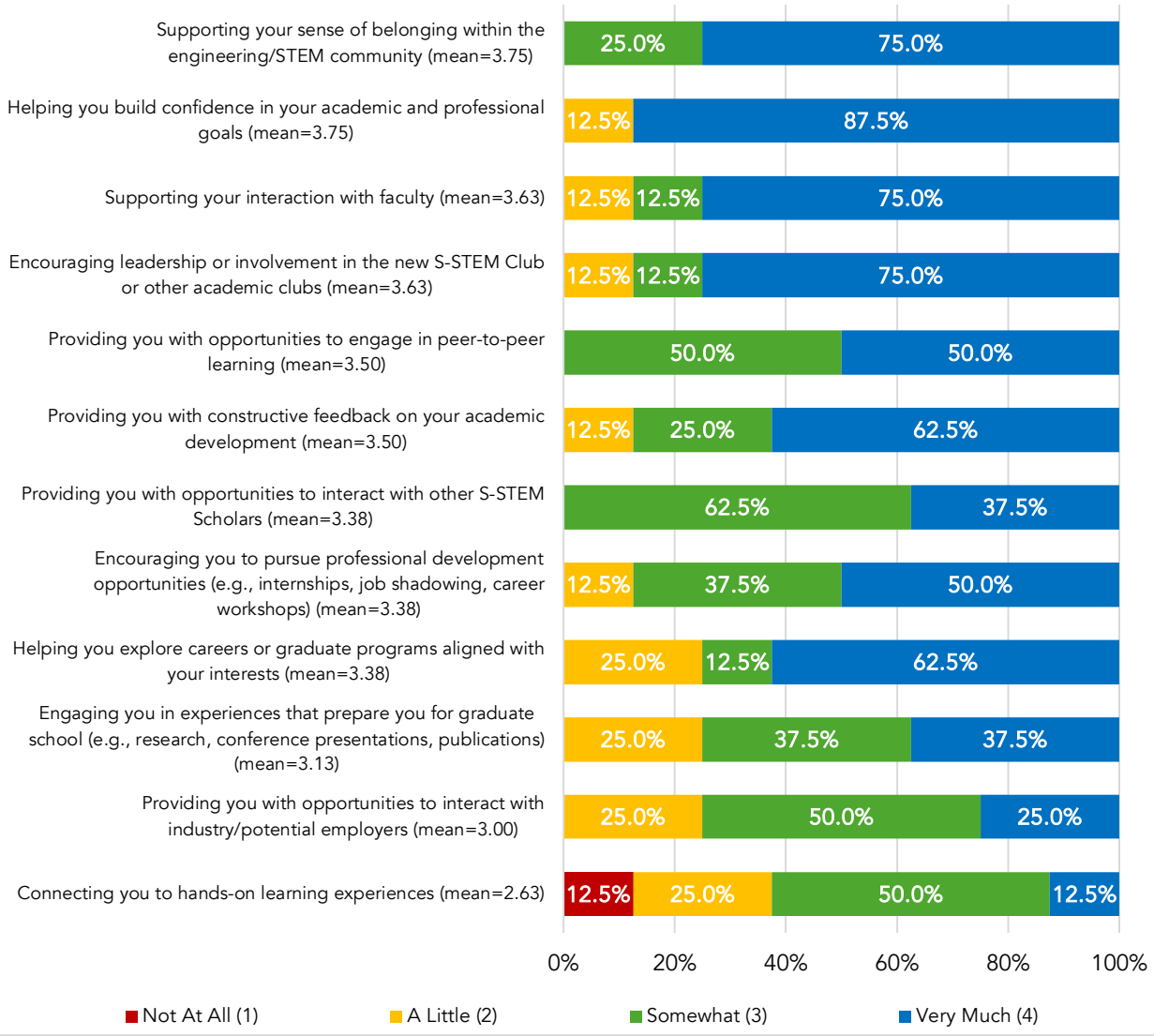
"With the study group formed due the S-STEM requirements it has provided a set time for me to get help on certain subjects. I have also started to meet with peers from class to review and prepare for quizzes/review of material from class."

"One skill I gained through this program is being active within the program in order to figure out what is going on."

Program Resources & Support

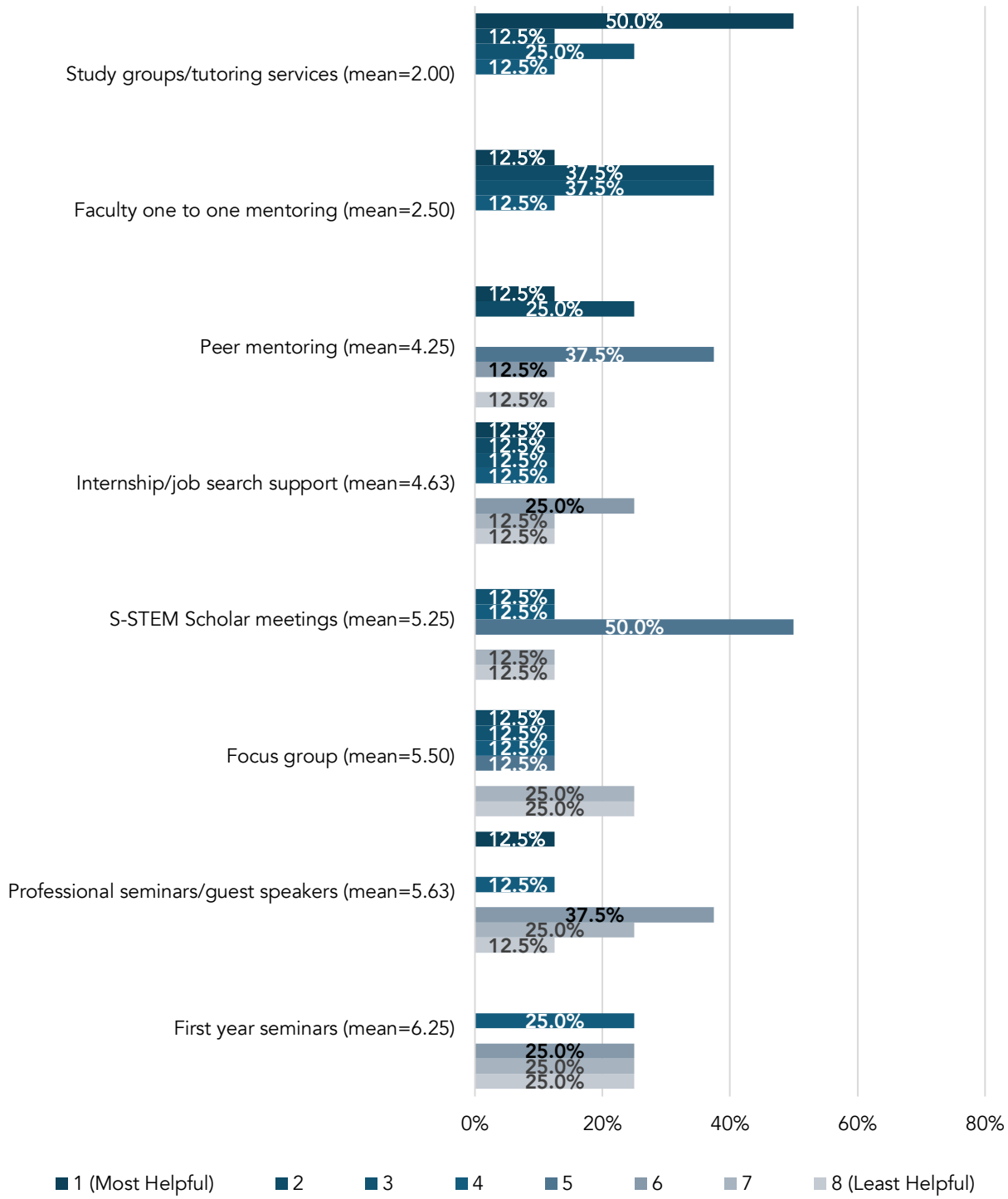
Using a 4-point scale, Scholars were asked to rate the extent to which the S-STEM Program provided various opportunities and forms of support during the previous academic year. All respondents indicate that the program has either "Somewhat or "Very Much" supported their sense of belonging within the engineering/STEM community and provided opportunities for both peer learning and to interact with fellow Scholars. While most participants (≥75%) also report a moderate to high level of support in the remaining areas listed (see Figure 7, next page), over a third (38%) indicate that they have been met with little to no hands-on learning opportunities.

Figure 7: Program Support



Next, respondents were presented with a list of eight key program supports and activities and asked to rank the items in order from "Most Helpful" (1) to "Least Helpful" (8). Figure 8 (next page) shows that, on average, Scholars rank the study groups and tutoring services as *most helpful* (mean=2.00) and the first-year seminars as *least helpful* (mean=6.25). Among the supports and activities listed, study groups/tutoring received the greatest share of "Most Helpful" rankings (50%), followed by faculty and peer mentoring, internship/job search support, and professional seminars/guest speakers, which each received a single top ranking. In contrast, both the first-year seminars and focus group (regularly held, non-research Scholar group meetings) received the greatest share of "Least Helpful" rankings (25%, respectively), with professional seminars/guest speakers, S-STEM Scholar meetings, internship/job search support, and peer mentoring each receiving a single bottom ranking.

Figure 8: Helpfulness Rankings of Key Program Supports & Activities



Note. Percentages represent the share of respondents who ranked each support or activity at a given level of helpfulness and total 100% for each item, with individual scale points totaling 100% across items. Items are ordered from the lowest (*most helpful*) to highest (*least helpful*) mean ranking.

Participants were also presented with a second list of resources, which partially overlaps with the previous item set, and asked to indicate which resources they wish they would have known about earlier. Of the resources listed, most Scholars (63%) report that they wish they had known about opportunities for internship/job support earlier in the program, with over a third (38%) indicating the same for mental health or wellness resources and peer mentoring. Fewer (25%) express a desire for earlier introductions to faculty office hours, tutoring services, and research opportunities.

Table 1. Resources Scholars Wish They Had Been Aware of Earlier

Resource	n	%
Internship/job search support	5	62.5
Mental health or wellness resources	3	37.5
Peer mentoring	3	37.5
Faculty office hours	2	25.0
Tutoring services	2	25.0
Research opportunities	2	25.0

Note. Total exceeds 100% because respondents were asked to select all that apply.

When asked to describe the most important way in which the S-STEM Program has helped them to achieve their goals during the previous academic year, Scholars variably mention:

- Consistent access to study groups and tutoring services,
- Routine check-ins and support from faculty and peers, and
- Guidance on academic and career planning.

All Comments:

Studying & Tutoring

"It helped me with studying and get ready for my classes."

"The most important way S-STEM Scholars program helped me was having a study group with a tutor every day."

"Finally making group tutoring with others."

Faculty & Peer Support

"Provided regular checkups and support."

"The S-STEM program has helped create a setting where it is comfortable to raise your own concerns you have and be able to share with a group or sometimes to a faculty mentor and be able to find solutions."

"The S-STEM Focus group meetings gave me a change to meet 1-1 with our S-STEM mentor which gave me great advice and guidance in times where I felt I needed it."

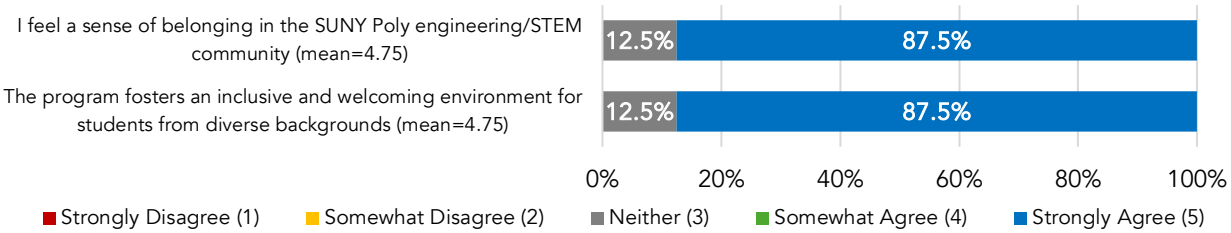
Academic & Career Guidance

"This program has helped me to stay on top of my work and tailor my education towards my career goals."

"Given me help in improving my academic life and balance."

Scholars were then asked to rate agreement with two statements on sense of belonging and inclusive culture. As shown in Figure 9, respondents overwhelmingly agree (88%) that they feel a sense of belonging in the engineering and broader STEM communities and that the program fosters an inclusive and welcoming environment for students from diverse backgrounds.

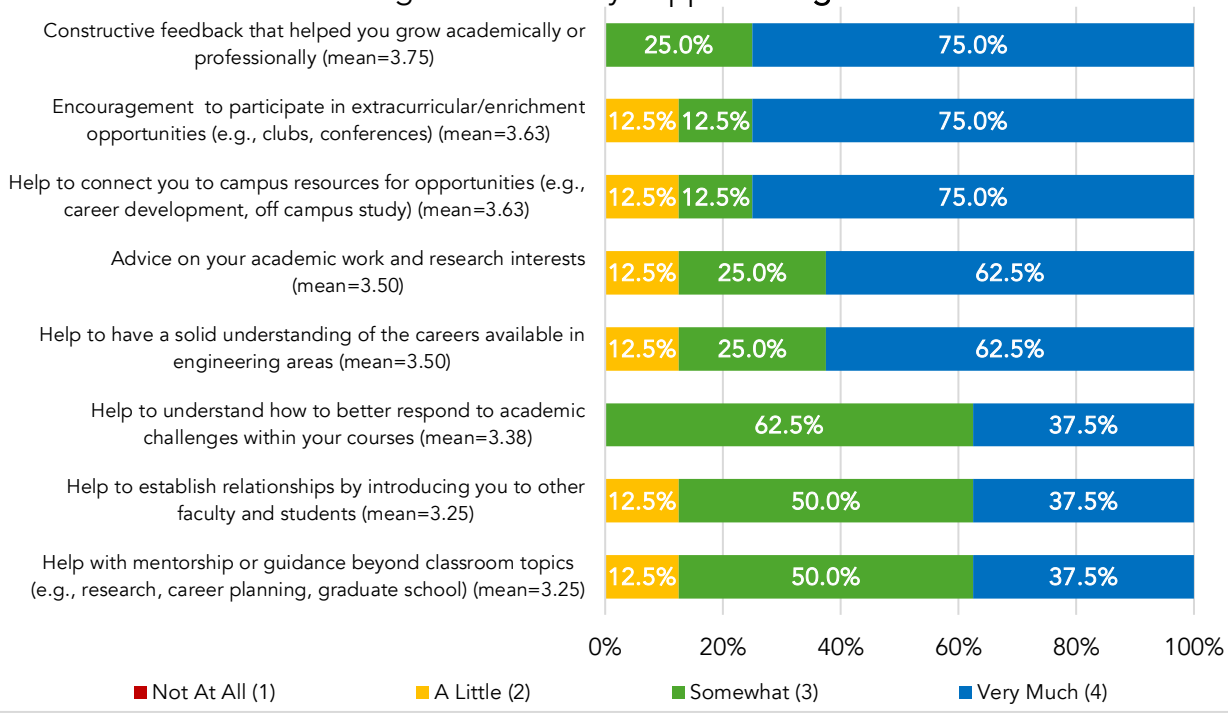
Figure 9: STEM Environment & Program Culture



Faculty Interactions

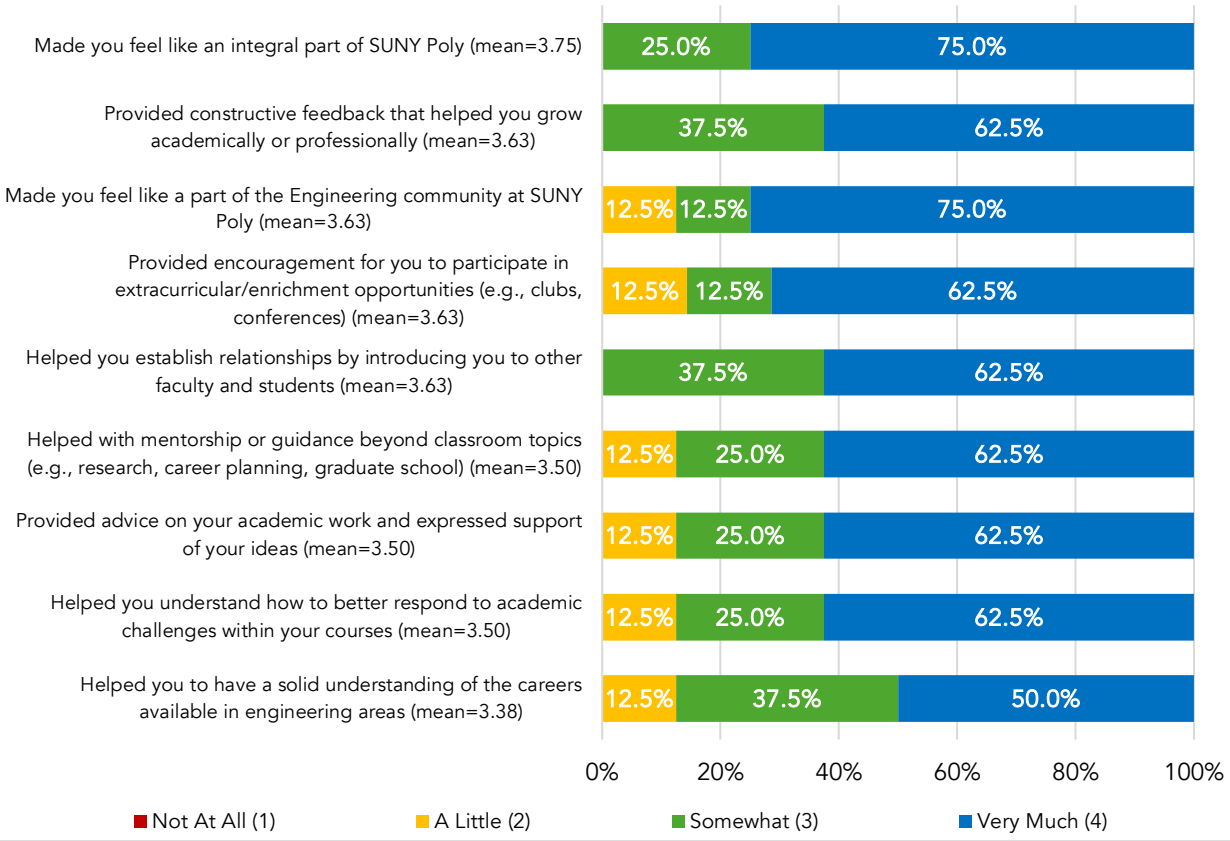
Respondents were asked to indicate the extent to which they **sought** various forms of assistance from faculty members this past academic year. All or nearly all Scholars "Somewhat" or "Very Much" relied on faculty for all forms of support listed, though were *most likely* to turn to instructors for feedback on their academic and professional growth (mean=3.75), encouragement to participate in extracurricular/enrichment opportunities (mean=3.63), or for help accessing campus resources (mean=3.63). They were *least likely* to seek help to establish relationships with other faculty/peers or for guidance beyond classroom topics (means=3.25).

Figure 10: Faculty Support **Sought**



Scholars were then asked the extent to which they **received** the same types of support from faculty. On average, participants report that faculty have been *most supportive* by making them feel like an important part of SUNY Poly (mean=3.75) and *least supportive* with helping them understand available career options in engineering (mean=3.38), though all or most Scholars indicate that faculty have been at least "Somewhat" supportive in all ways listed.

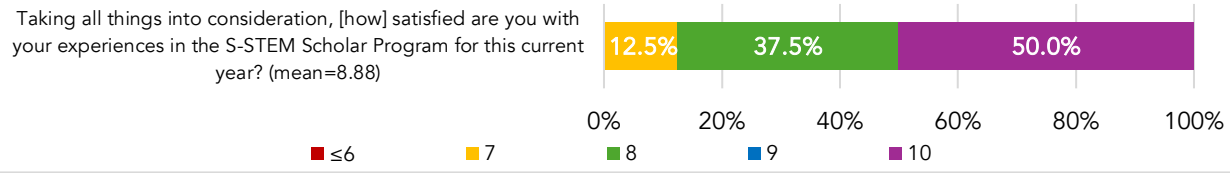
Figure 11: Faculty Support **Received**



Overall Satisfaction & Looking Ahead

When asked to rate their overall satisfaction with their S-STEM Program experience during the 2024-25 academic year using a scale from "Not At All Satisfied" (0) to "Extremely Satisfied" (10), respondents provide an average rating of 8.9, indicating a highly favorable experience among Scholars.

Figure 12: Overall Satisfaction



When asked to describe their current career goal(s) via open-ended comment, responses indicate that participants have both narrow and broader career prospects, with some sharing plans to explore or secure jobs in different engineering fields (e.g., aerospace, civil), others specifying target agencies or degrees, and several expressing uncertainty regarding their future plans.

All Comments:

Narrow Goals

"Become successful in my field of engineering and make a difference at SUNY Poly."

"Work for the DoT."

"Do well in school and get a good job in the field I am studying in."

"Get a bachelor's degree."

"I want to go into the aerospace field."

Broad or Undetermined Goals

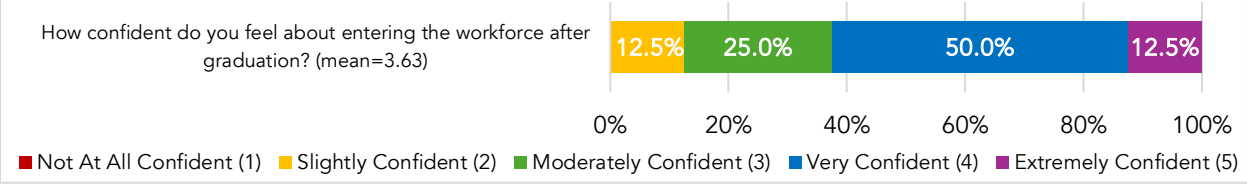
"Not sure at the moment, still wanting to learn more and look around the industry still."

"I would like to learn more about the different fields in civil engineering and have some internship experience."

"Make lots of money."

When asked in a follow-up question how confident they feel about entering the workforce after graduation, most Scholars (63%) indicate either "Very" or "Extremely."

Figure 13: Confidence to Enter Workforce



Respondents were then asked how, if at all, being a Scholar in the S-STEM Program has influenced their academic or career goals (for comments, see next page). In response, most Scholars explain that the program has consistently motivated them to do well, instilled a sense of confidence, and encouraged them to explore a variety of pathways, while others focus on supports and resources that they have found helpful or note that the program has had little to no impact on their professional trajectory.

All Comments:

Motivation & Encouragement

"It has introduced me to possible pathways with career goals and pushed me to have even more motivation to do better academically."

"The help has shown me that all of my goals are possible with just a little more work."

"It has made me realize that my goals are much more achievable than I had thought."

"The S-STEM Program influenced me to not give up looking for jobs and contacting employers and always motivate me to pass all my classes as well as setting goals for next year."

"I found my major and I have been able to maintain really good academic standing."

Helpful Supports & Resources

"The S-STEM Program has connected me with other engineering students who are in the same field as me with similar courses which has had a positive academic impact on me."

"By giving us helpful resources to succeed in class."

Other Comments

"It hasn't really affected it."

Lastly, participants were asked to provide one suggestion to improve the program for new and returning Scholars. Most respondents recommend organizing workplace tours and providing other career exploration/preparation opportunities, while others suggest changes to the pacing of S-STEM meetings and seminars.

All Comments:

Workplace Tours & Career Preparation

"To improve the program, they should schedule some trips to local companies for tours and what an engineer looks like in the workforce and after college."

"Maybe outside support like touring engineering firms?"

"I think to go on trips and visit companies."

"Have more opportunities for students to learn about their future careers."

Scheduling Changes

"I feel that the program should include more seminar events per semester."

"Have meetings every 2 weeks instead of every week."

Summary & Conclusion

Overall, survey results demonstrate that S-STEM Scholars are highly satisfied with their program experience to date, are confident in their ability to overcome academic challenges and succeed at SUNY Poly, and have begun engaging with a wide range of high impact academic and STEM-specific activities, supports, and resources over the past academic year. Among the activities and resources covered in the questionnaire, responses suggest that Scholars are highly engaged with their peers and academic advisors, regularly attend engineering-related seminars and student-led events, and often rely on faculty for feedback, encouragement, and academic and career guidance. On the other hand, results show that Scholars are less likely to have accessed student services (e.g., tutoring, math support, Writing Center) and engaged in engineering- and STEM-specific activities, such as research opportunities, company tours, and serving in leadership roles for student organizations.

When asked to order program resources in terms of helpfulness, rankings are found to correspond closely with the most and least frequently accessed supports, with Scholars tending to rank faculty and peer mentoring and the student study groups/tutoring sessions as most helpful, and the professional seminars/guest speakers and first-year seminars as least helpful. Responses also demonstrate that, although most participants feel that the S-STEM and broader campus communities have been academically and socially supportive, many report that they have been met with little to no hands-on learning opportunities during their time in the program. Indeed, in their open-ended comments, Scholars underscore student study sessions, faculty and peer support, and general academic and career guidance as key benefits of the S-STEM Program and further attribute gains in soft skills such as critical thinking, communication, and teamwork to their program involvement. Still, Scholars hope to see additional opportunities for career exposure and preparation as well as changes to the pacing of S-STEM meetings and seminars moving forward.

Given these findings, evaluators offer the following recommendations and reflections for consideration by program leadership:

- Encourage Scholars to expand their involvement in engineering- and STEM-specific activities, as most have no involvement yet in research and conferences, career exposure events, volunteer work, and a range of other high impact activities that may have long-term benefits for students in the early stages of their college career.
- Explore relevant career exposure and preparation opportunities for Scholars. Although results show that Scholars have begun to engage faculty in conversations regarding their professional interests and that many have narrowed down their career goals, both close- and open-ended responses suggest that Scholars have been met with little to no professional development and networking opportunities and that many desire industry exposure via workplace tours.

- Continue to emphasize, encourage, and facilitate community support within the S-STEM Program, as results suggest that Scholars routinely turn to faculty and peers for guidance and encouragement, regularly participate in peer learning opportunities and out-of-class meetings with instructors, and consider community support and the acquisition of "soft skills" like communication and teamwork as highlights of their program involvement.
- Consider changes to the scheduling and pacing of S-STEM events and activities, as several Scholars variably recommend more frequent or fewer seminars and meetings per semester.

Consideration of any of these findings and recommendations may help to improve experiences and outcomes for current and future S-STEM Scholars at SUNY Poly.