



CSW

Corporation for a
Skilled Workforce

Good Jobs. Thriving Communities.

Idaho State University Energy Systems Technology and Education Center (ESTEC)

**Providing Opportunities for Women in Energy
Related Careers**

Findings from the POWER Careers Student Engagement Survey

Spring 2019

Table of Contents

| | |
|---|----|
| Summary of Survey Findings | 3 |
| Corporation for a Skilled Workforce | 5 |
| POWER Careers Project Background | 6 |
| Methodology | 8 |
| Current and Former Student Survey, Detailed Findings | 9 |
| Participant Backgrounds | 9 |
| Interactions with POWER Careers Staff | 9 |
| Participation in POWER Careers Activities | 10 |
| POWER Careers' Support Overcoming Challenges | 13 |
| Experiences and Challenges Faced as a Woman in ESTEC | 14 |
| Future Engagement with POWER Careers after Graduation | 16 |
| Other Comments on the Program | 17 |



Summary of Survey Findings

Most respondents (8) had just finished their second semester, while 6 respondents had just completed their fourth semester for a total of fourteen respondents.

Interactions with POWER Careers Staff

- Most respondents interacted with POWER Careers Staff three or more times in the Spring 2019 semester, and over 40% interacted with staff more than twenty times.
- Eighty-five percent (85%) of respondents were satisfied with the level of interaction they had with POWER Careers Staff.
- Students who commented on their interactions with staff provided positive responses, stating that staff were helpful, available, and supportive.

Participation in POWER Careers Activities

- In Spring of 2019, more professional development activities were offered than social activities to students, and they were more popular according to survey takers. The Tech Expo, activities involving industry, and Safety Fest were the most popular. For social activities, students attended Tuesday Lunch Gatherings and the End of Semester Celebration the most frequently.
- Just over half of respondents stated that they attend and enjoy activities, while the other half mentioned they would like to attend more but the activities are either not convenient or not a good fit.
- Comments indicated that some students struggled to attend because of the length of the drive or work schedules. Other students discussed the supportive or networking aspect of the events. Students did not have suggestions for activities beyond what was already being offered.

POWER Careers' Support Overcoming Challenges

- Over half of the survey respondents stated that they received help in overcoming challenges from the POWER Careers Staff.
- Students described receiving support and encouragement, support in gaining confidence, networking, and resources from POWER Careers Staff.

Experiences and Challenges Faced as a Woman in ESTEC

- Seventy percent (70%) of respondents who answered the question felt they faced challenges that they felt were not issues for their male counterparts. These students spoke of entering the program with less technical experience, not being able to relate to the male students, and negativity or misconceptions/stereotypes about women from male students.
- Every respondent who said they spoke to POWER Careers Staff about these challenges felt helped, supported, or reassured by the staff.
- The majority (92%) of respondents felt it was valuable to have a space to interact with their female peers in the program.



- Twenty-nine percent (29%) of survey takers responded in the affirmative to the open-ended question asking if they had provided support to other female students in the program (67% of the 6 question respondents). Examples include providing support include companionship and support, making themselves available, and tutoring.
- Students were asked to share any remaining thoughts on their experience as a woman or about the Project's emphasis on gender. All respondents to the question (5) stated an appreciation for the Project and its well-balanced emphasis on gender.

Future Engagement with POWER Careers after Graduation

- Ninety-three percent (93%) of respondents indicated that they plan to stay engaged with POWER Careers after graduation.
- For those who elaborated on their response, themes of networking, career advice, and wanting to provide the same information/support they received emerged. The one participant who responded that they would not stay engaged said it was because they plan to move across the country.



Corporation for a Skilled Workforce

Corporation for a Skilled Workforce (CSW) serves as the external evaluator for this project. CSW is a 27-year-old national 501(c)3 organization that specializes in research and evaluation, planning and initiative development, and implementation and sustainability. CSW performs research, planning, evaluation and strategic advising, and has expertise in working closely with postsecondary institutions and workforce partners to develop a shared vision and roadmaps to success.

Evaluation Staff

Megan Elyse Williams
Policy Associate, Research and Evaluation

Anna Hughes
Research Policy Associate

Purpose of the Report

This report was written by CSW to provide a summary of results from the student engagement survey conducted with students who attended ESTEC during the 2019 Spring Semester. This includes both current students and very recent graduates in the POWER Careers program. These results will be shared with key stakeholders to inform program development and next steps of the evaluation.

The surveys focused on measuring progress on the following program goals:

- Recruit and enroll women aged 25+ into ESTEC AAS programs;
- Retain students to graduation with a supportive student learning community;
- Promote a culture of mentorship to encourage women who pursue STEM technical careers.

The following topics were also explored in the engagement survey:

- How students engaged with staff and their level of satisfaction with their interaction
- The types of activities they engaged in
- The support they felt from other women in the program



POWER Careers Project Background

The POWER Careers project is housed in the Energy Systems Technology and Education Center (ESTEC) at Idaho State University (ISU). ISU's College of Technology is charged by the State of Idaho to provide technical education in eastern Idaho. The College primarily grants Associate in Applied Science (AAS) and technical certificates. In 2006, the ESTEC was formed following an Idaho National Laboratory study that identified a regional and national need for energy industry workers with leading edge technical skills. The study noted that the aging workforce and ongoing innovation in the energy industry required a transformation in new worker training.

ESTEC's mission is to cultivate the people, educational resources and applied research capabilities necessary to improve local, regional and national availability of trained workers in occupations that support the construction, operation and maintenance of current and future energy facilities. ESTEC's educational programs culminate in a two-year AAS degree that prepares students for entry-level professional technical positions. ESTEC's approach includes involvement of community organizations to communicate with, inform, and recruit non-traditional students including ethnic minorities, women, veterans, and other individuals and groups not currently well represented in the energy workforce.

In 2015, the National Science Foundation awarded \$796,639 to ESTEC for the Providing Opportunities for Women in Energy Related (POWER) Careers project. This project aims to address the issue of underrepresentation of women of all ages and ethnicities in ESTEC, as well as the significant under-representation of women across the engineering technology sector of the energy workforce. At the time of the grant proposal, women represented about 8% of students in ESTEC energy programs and had never exceeded 15%.

Project Goals and Objectives

The over-arching mission of POWER Careers is to achieve equity for women in energy technology career fields by increasing their successful participation in high quality, proven energy systems programs, using strategies that will help retain non-traditional women students through graduation and placement into professional positions. Project efforts will primarily target non-traditional aged women (and will include under-represented populations in southeast Idaho—Hispanics/Latinas, American Indians, and military veterans). Female students of all ages are welcome in the project.

POWER Careers aims to employ a continuum of supports and activities across the student experience, including mentors in the form of successful ESTEC graduates. The project has indicated that it will identify and address the recruitment challenges of a technical college serving a rural area, in part by working closely with community agencies that are in contact with potential students. The project also intends to engage industry in efforts to build a more diverse workforce and create workplace environments that are welcoming to female technicians.

The POWER Careers project has identified their grant and post-grant participant outcomes as:

- 50 women enroll in ESTEC over 3 years (these students will have met math and English entry requirements)
- 44 women begin coursework as planned



- 40 women will successfully complete the first semester of an ESTEC program
- 35 will successfully complete an AAS degree, 18 will complete during the grant period and an additional 17 will graduate with an AAS degree on-time but after the grant period (graduation date for these students will be Fall 19 through Fall 20)
- 33 women are placed in professional positions after graduation

To achieve these participant outcomes and overall project objectives, POWER Careers has outlined **five key goals**:

- Recruit and enroll women aged 25+ into ESTEC AAS programs;
- Retain students to graduation with a supportive student learning community;
- Place graduates into professional jobs;
- Strengthen ESTEC partnerships with energy employers to further careers for women; and
- Promote a culture of mentorship to encourage women who pursue STEM technical careers.



Methodology

Data Collection

A survey was conducted with ESTEC female students (POWER Careers Participants) enrolled in the Spring 2019 semester to understand their level of engagement with the POWER Careers Project. The survey was conducted in April 2019.

The survey was sent to all students (18) who attended during this semester. Some students have now graduated, making them former students. Eight (8) second semester and six (6) fourth semester POWER Careers students responded for a total sample of 14, and a total response rate of 78%.

When less than 14 students responded to a question, the number of respondents was provided.

To supplement activity attendance data collected on the survey, the POWER Careers staff provided Project data on POWER Careers students' attendance.

Data Analysis

Quantitative data were entered and analyzed using Microsoft Excel. Descriptive statistics, such as frequencies, were utilized. Qualitative data were coded manually for themes. Quotes are provided without alteration in **grey** with the exception of minor spelling or grammar edits for clarity.



Current and Former Student Survey, Detailed Findings

The findings of the surveys are organized in the following sections:

- Participant Backgrounds
- Interactions with POWER Careers Staff
- Participation in POWER Careers Activities
- POWER Careers' Support Overcoming Challenges
- Experiences and Challenges Faced as a Woman in ESTEC
- Other Comments on the Program

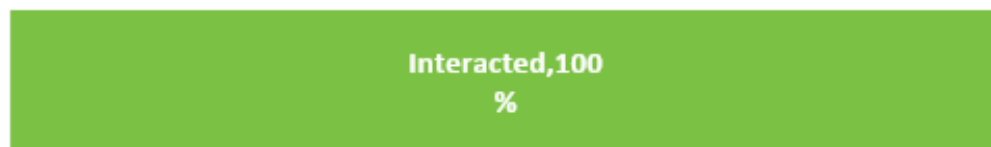
Participant Backgrounds

The majority of respondents just completed their second semester with the rest of the students completing their fourth.

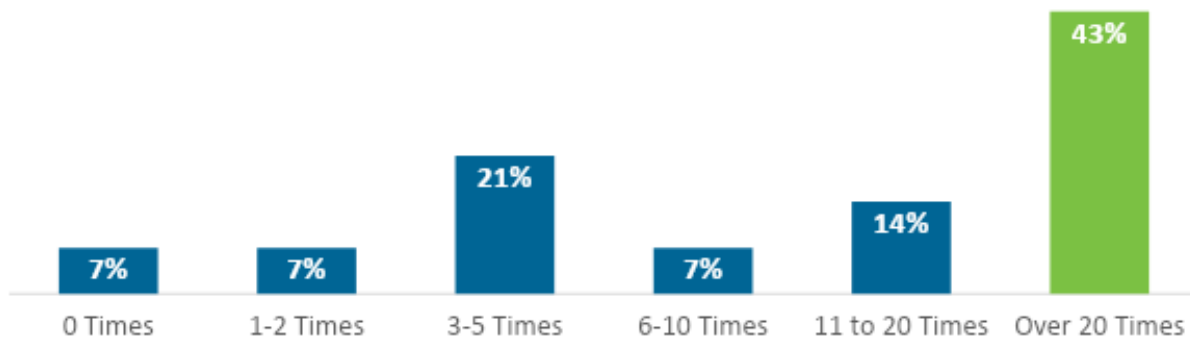


Interactions with POWER Careers Staff

All respondents interacted with POWER Careers Staff in the Spring 2019 Semester.



Over 40% interacted with POWER Careers Staff more than twenty times over the semester.



Even though all respondents indicated that they interacted with the POWER Careers Staff in the question above, when asked how many times they specifically interacted with staff, one student indicated that they did not interact with the staff. When asked why, they selected that they “wanted or needed to interact with POWER Careers Staff but did not take the time to make it happen.”

The majority of respondents were satisfied with the level of interaction with POWER Careers Staff. One respondent felt they interacted too little.

13 Students Responded to This Question



Respondents’ overall feelings towards their interactions with POWER Careers Staff was overwhelmingly positive. Five (5) students elaborated on their response from above. Common themes from responses include being helpful, available, and supportive.

POWER Careers staff are always available and supportive:

I know where I can go to find them and they are very diligent about sending emails for upcoming events. They always say hello to me when I see them round campus and sometimes we are able to stop and talk for awhile.



Corporation for a Skilled Workforce

They are a resource as well as a support system. They have helped me grow as I have been going through the program.

Jodi and Katie were always available whenever I needed them. I used them as a support resource and they were invaluable.

POWER Careers staff are helpful with resources:

They have helped me find a job for the next school year. They have introduced me to fellow women in the program, which has helped me navigate through the program better. They are always happy and willing to help any way they can. They have helped me contact past students, that now work in the industry to set up tours at their workplace. I appreciate the opportunity to learn and grow from these wonder women!!!!

The staff members are amazing. They work on and beyond for us. They keep us updated to every presentation, scholarships, and internships!

Participation in POWER Careers Activities

Participation in Spring 2019 Activities

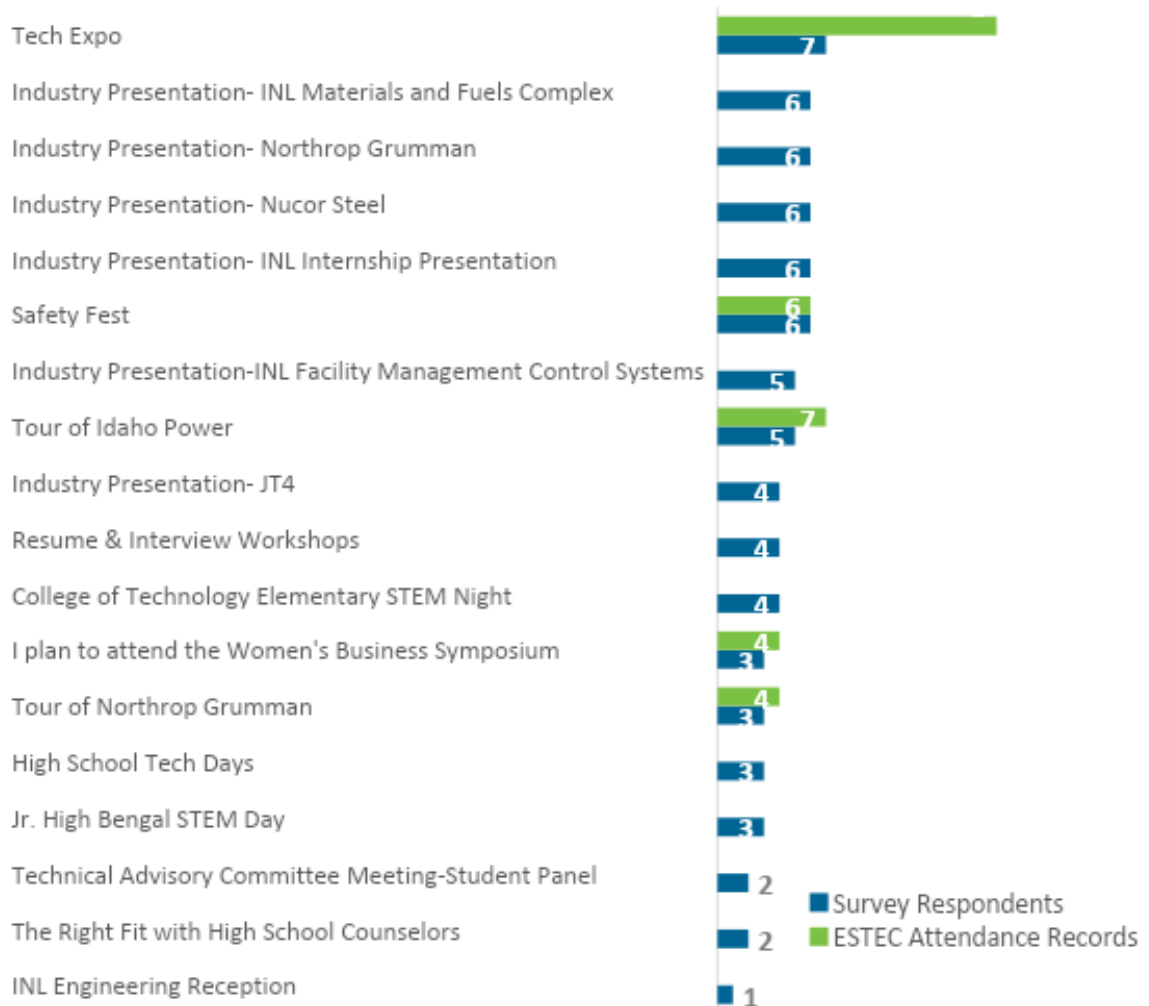
Respondents were asked whether they participated in any of the 25 activities offered over the course of the Spring 2019 term. The activities attended by participants are included below. Thirteen (13) students attended at least one event with 1 student stating that they did not attend any events.

Presented along with survey attendance data is POWER Careers' data on attendance for events. This is to account for students who did not respond to the survey or may not remember which events they attended.

As in previous semesters, the professional development events garnered higher attendance than the social events. This semester the most popular event was the Tech Expo, which according to POWER Careers' records all POWER Careers students attended. Following the Tech Expo, the industry presentations and Safety Fest were the most widely attended Professional Development event.



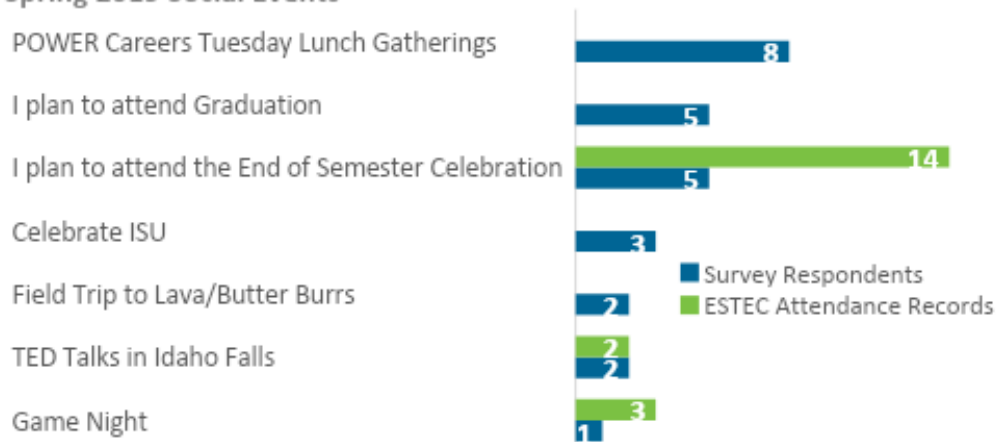
Attendance at Professional Development Spring 2019 Events



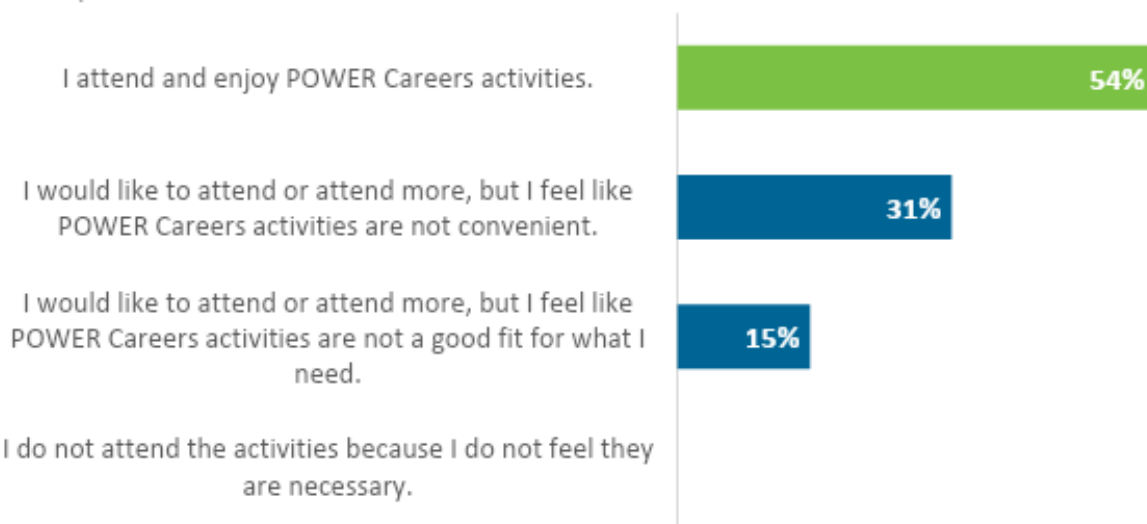
Students were provided the opportunity to attend seven (7) social activities over the course of the semester. While attendance was lower at these activities than the professional development activities, the activities show that female students were offered opportunities at different times over the course of the semester to interact and socialize with each other. Survey takers indicated that the most widely attended social activity was the Lunch Gatherings. However, records show that the End of Semester celebration was the most widely attended by POWER Careers students.



Attendance at Spring 2019 Social Events



Half (54%) of the respondents **attend and enjoy** POWER Careers activities. However, **the other half (46%)** of respondents **would like to attend more but feel activities are not convenient or a good fit** for what they need.
12 Respondents Answered this Question



Survey participants were asked to comment on their responses from above regarding their feelings around POWER Careers' events. Seven (7) students responded with the following comments.

Some students struggled to attend because of where they live (cost to drive to campus) or their work schedules.

Unfortunately I live over 60 miles away so it is hard to attend most of the activities, but I hope to be able to attend for the 2019-2020 school year.



My first year has been at CEI in Idaho Falls. I'm sure attending ISU in Pocatello this upcoming year will provide me with the right schedule and more convenient locations to participate.

I don't live in Pocatello so I don't have the gas money to just drive up there for lunch. I wish I could [do] more but I need to work.

It is no fault of theirs. I work as a tutor on campus during my lunches and after class so I am often not available to join activities. I go when I am able to and enjoy the activities that I do attend.

Two students commented on the motivational/educational nature of the events.

I have realized the power of networking because you learn a tremendous amount from others, especially when you are least expecting it.

Such a supportive group and makes me feel very motivated!

One student discussed how some events were a requirement.

Requirement for my scholarship class to see some of the presentations. I participated in other events for community outreach, networking, and educational purposes.

Students were also asked to provide any suggestions for additional activities that would be beneficial to students. Two participants responded that they are happy with the current activities offered.

I think they are doing a great job with the activities and events that they plan.

I am happy with the POWER careers chosen activities.

POWER Careers' Support Overcoming Challenges

Students were asked if POWER Careers helped them overcome any challenges during the Spring 2019 Semester.

Over half of respondents stated that POWER Careers helped them overcome challenges this semester.

9 Students Responded to this Question



Students who stated that yes, the Project helped them overcome challenges were asked to elaborate. All five (5) students who responded in the affirmative to the question above provided a response. Students stated that they received support and encouragement, assistance with gaining confidence, networking, and resources from staff.

Absolutely. They were available for me to talk to whenever I was facing a difficult decision. They provided much appreciated support and encouragement.



Corporation for a Skilled Workforce

Just knowing that I have them available to me if I need help or just somebody to talk to brings me a lot of comfort from stress. They are always cheering us on and that is so valuable.

They have helped me meet Industry people and other students.

Positive thinking, help with resources, and so much more support.

Experiences and Challenges Faced as a Woman in ESTEC

Program Experiences in Comparison to Male Counterparts

When asked if respondents felt they faced challenges in the ESTEC program that their male counterparts did not, the majority of the seven respondents agreed (5), with two respondents disagreeing. Those who agreed that they faced challenges that their male counterparts did not cited entering the program with less technical experience, not being able to relate to the male students, and negativity or misconceptions/stereotypes about women from male students.

Respondents who faced challenges:

I think most men have much more hands-on and technical experience. It was very overwhelming being thrown into a group being the one with little to no experience in things as minute as hand tools.

Yes sometimes I don't have anyone to talk to in class because I don't do the 'bro talk'. Obviously because I'm not a guy. I'm also older than many of the guys so I have moments of feeling out of place.

This semester I have seen a surprising amount of woman directed negativity from the male students.

Yes, subtle awareness of different perceptions of male vs. female abilities in this program, from other students, a couple teachers (not part of POWER), and coworkers outside of ISU.

Getting asked if I'm willing to get dirty at my job.

Respondents who did not face challenges:

None at all.

It seemed like the men had more challenges than I did, thanks to POWER careers.

For those who faced challenges not faced by their male counterparts, they described if and how POWER Careers Staff aided them in these challenges. The common theme among their responses is the feeling of support and encouragement from POWER Careers Staff and reassuring the women of their capabilities.

Power careers acknowledges the gap between men and women in stem fields. The best way to approach such differences is with positive mindsets and reassurances. Jodi and Katie radiate positive vibes. Power careers did well in helping me to believe that I did not make a mistake entering a men's field of work.

The ladies in the POWER careers have been a tremendous help when trying to help us make ourselves heard.



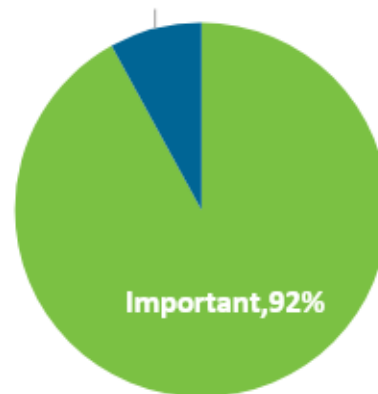
Yes, because they constantly remind us that we are just as capable as the guys, if not more so. Katie even showed us scientific proof of our ability to succeed and explained why a few differences exist and how to remedy them.

They talked with me and explained how to answer the questions.

Perceived Value of Interacting with Women in ESTEC

Nearly all respondents felt it was important to have the opportunity to interact with other women in ESTEC.

12 Respondents Answered this Question



When asked "Did you provide resources or support to other female students in the program? If so, please describe", four (4) respondents described a variety of ways they supported their female peers, while one (1) respondent said no, and one (1) respondent described the support she received. Examples of providing support include companionship and support, making themselves available, and tutoring.

Examples of providing support:

Yes. Me and the other female students in ESTEC have all gotten to know each other pretty well over the last two years, and we are all friends to each other. It is nice to have female peers who know you and support you when the majority of faculty and students are men.

I always make myself available when other students, specifically the ladies, need.

Yes, I was a tutor one semester as requested by POWER careers. I offered advice to educators as to how to raise STEM awareness for young women. I helped teach a group of elementary girls on STEM principles.

Support, listening, shoulder to cry.

Other responses:

No.

I got lots of help from a 4 semester student and she has been very supportive!



Remaining Thoughts on Respondents' Experiences as Women in ESTEC

Respondents were next asked to reflect more generally on their experience as a woman in ESTEC and if there was anything else they would like to share about the program and the emphasis on gender. Responses largely reflected an appreciation for the Project overall and how the right amount of emphasis on gender has been necessary.

Importance of (well-balanced) emphasis on gender:

Honestly, when I started, it bothered me that they put gender on blast. However, knowing that I had a support group, having the opportunity to hear success stories, and being aware that I wasn't the only woman around made my transition more comfortable and made me more confident in my educational decisions.

I have noticed that sometimes I have a different approach to things than my male peers when working on projects or assignments. A few times I have thought outside the box in a way that even surprised my male instructors. I think that diversity is important in STEM careers, and I think that the emphasis on gender in our program is kept at an appropriate level.

Katie and Jodi were able to find that delicate balance of awareness without overemphasis of gender differences in this program. They did a fantastic job of supporting and empowering women without making the focus on our gender, but rather our individual strengths. I have witnessed some well-meaning but awkward comments by the department chair and another faculty member (both men) and in that regard, it would be nice to not have gender awareness raised at all, and leave that subject to the experts like Jodi and Katie.

Importance of Project for students:

I think it's important to have activities for the women. I think it's good that the POWER careers ladies reach out when they see us.

This program has been amazing. these women are so supportive and loving towards not just us but the whole program.



Future Engagement with POWER Careers after Graduation

Nearly all respondents **felt thought that they would stay engaged** with POWER Careers after graduation.



Students were asked to explain their response to the question above. Six (6) respondents provided more detail. Responses are provided below based on their semester in the program. While both second semester and fourth semester respondents had positive responses, the fourth semester students elaborated more and provided more effusive responses, likely due to their receiving support from the Project longer. The one no response came from a second semester student; however, it was regarding proximity to the Project.

Responses from second semester students:

These women are a great networking tool and positive support system!

If it wasn't for POWER Careers, I wouldn't be here. They are my support system!

I want to move across the country if I get the opportunity so I don't know that they would want to keep contact. (Only No Response)

Response from fourth semester students:

I would love to be that person- the supportive, the listener, the helper, the advice giver.

I will definitely be contacting them as needed for career advice or just any support I may need that I don't want to put on my friends and family (who may not be as aware of my career/academic situation). I also will keep in touch just because I want to let them know how I am doing, and let them know how appreciated they are.

I will always stay in contact with Jodi and Katie. They are excellent at reaching out to former students for career opportunities. They have also brought in former students to talk to us about experiences in the program and I would be willing to come back to talk to the students who go through the program after me.



Corporation for a Skilled Workforce

Other Comments on the Program

Three (3) respondents gave parting comments on their thoughts about their interactions, activities offered, or other things they would like to see from POWER Careers Staff. The responses were all positive:

I think it's nice that they try to have a variety of activities to do.

I cannot say that I would have been able to graduate if it were not for the POWER Careers ladies and this program. It has been an immense aide in my journey.

I am sad to see POWER Careers go and hope that it will be reintroduced again.

