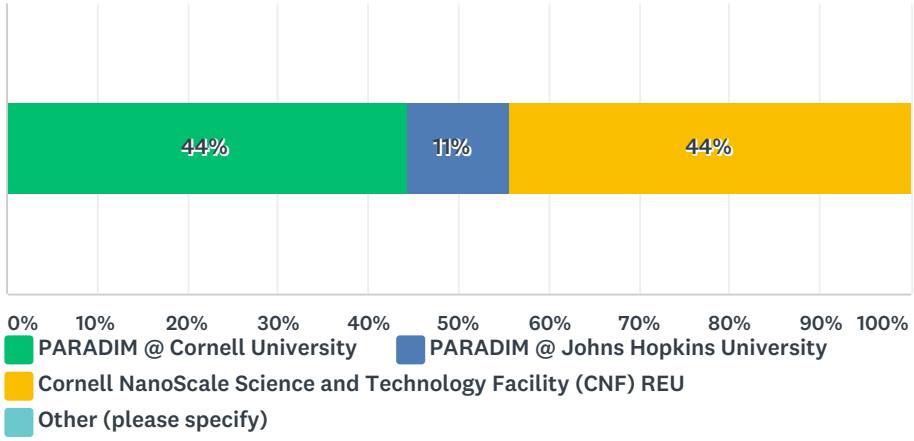
Q1 Please indicate your REU:

Answered: 9 Skipped: 0

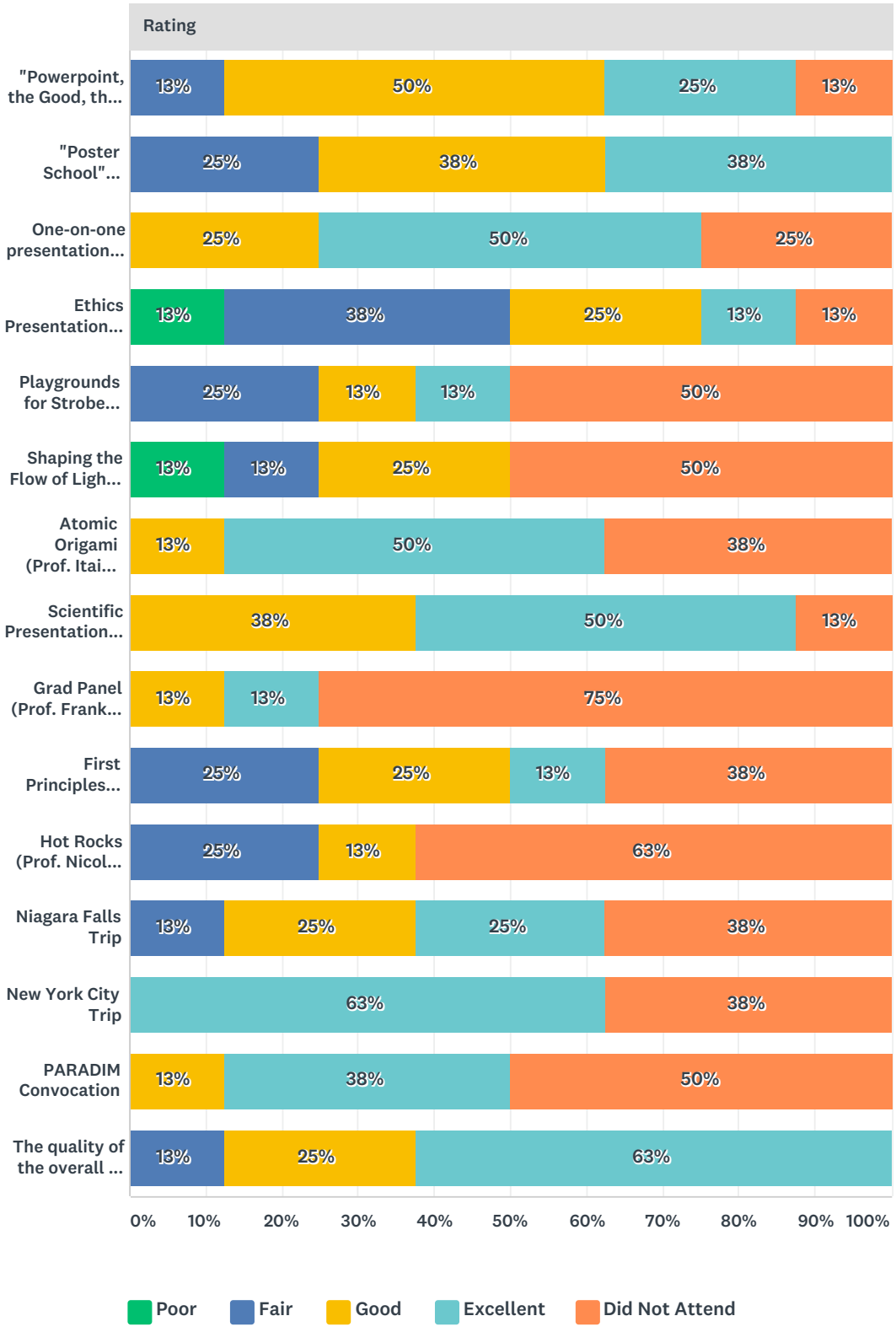


ANSWER CHOICES	RESPONSES	
PARADIM @ Cornell University	44%	4
PARADIM @ Johns Hopkins University	11%	1
Cornell NanoScale Science and Technology Facility (CNF) REU	44%	4
Other (please specify)	0%	0
TOTAL		9

#	OTHER (PLEASE SPECIFY)	DATE
	There are no responses.	

Q2 Please rate the following lecture, training session, and activities, as well as your overall REU experience:

Answered: 8 Skipped: 1



Rating						
	POOR	FAIR	GOOD	EXCELLENT	DID NOT ATTEND	TOTAL
"Powerpoint, the Good, the Bad and the Ugly" (Prof. Julie Nucci)	0% 0	13% 1	50% 4	25% 2	13% 1	8
"Poster School" Workshop (Prof. Julie Nucci)	0% 0	25% 2	38% 3	38% 3	0% 0	8
One-on-one presentation editing sessions (Prof. Julie Nucci and Jim Overhiser)	0% 0	0% 0	25% 2	50% 4	25% 2	8
Ethics Presentation (Prof. Paul McEuen)	13% 1	38% 3	25% 2	13% 1	13% 1	8
Playgrounds for Strobe Lights (Prof. Farhan Rana)	0% 0	25% 2	13% 1	13% 1	50% 4	8
Shaping the Flow of Light with Optical Metamaterials (Prof. Gennady Shvets)	13% 1	13% 1	25% 2	0% 0	50% 4	8
Atomic Origami (Prof. Itai Cohen)	0% 0	0% 0	13% 1	50% 4	38% 3	8
Scientific Presentation (Prof. Melissa Hines)	0% 0	0% 0	38% 3	50% 4	13% 1	8
Grad Panel (Prof. Frank Wise)	0% 0	0% 0	13% 1	13% 1	75% 6	8
First Principles Approaches for Intermolecular Interactions (Prof. Robert DiStasio Jr.)	0% 0	25% 2	25% 2	13% 1	38% 3	8
Hot Rocks (Prof. Nicole Benedek)	0% 0	25% 2	13% 1	0% 0	63% 5	8
Niagara Falls Trip	0% 0	13% 1	25% 2	25% 2	38% 3	8
New York City Trip	0% 0	0% 0	0% 0	63% 5	38% 3	8
PARADIM Convocation	0% 0	0% 0	13% 1	38% 3	50% 4	8
The quality of the overall REU research experience	0% 0	13% 1	25% 2	63% 5	0% 0	8

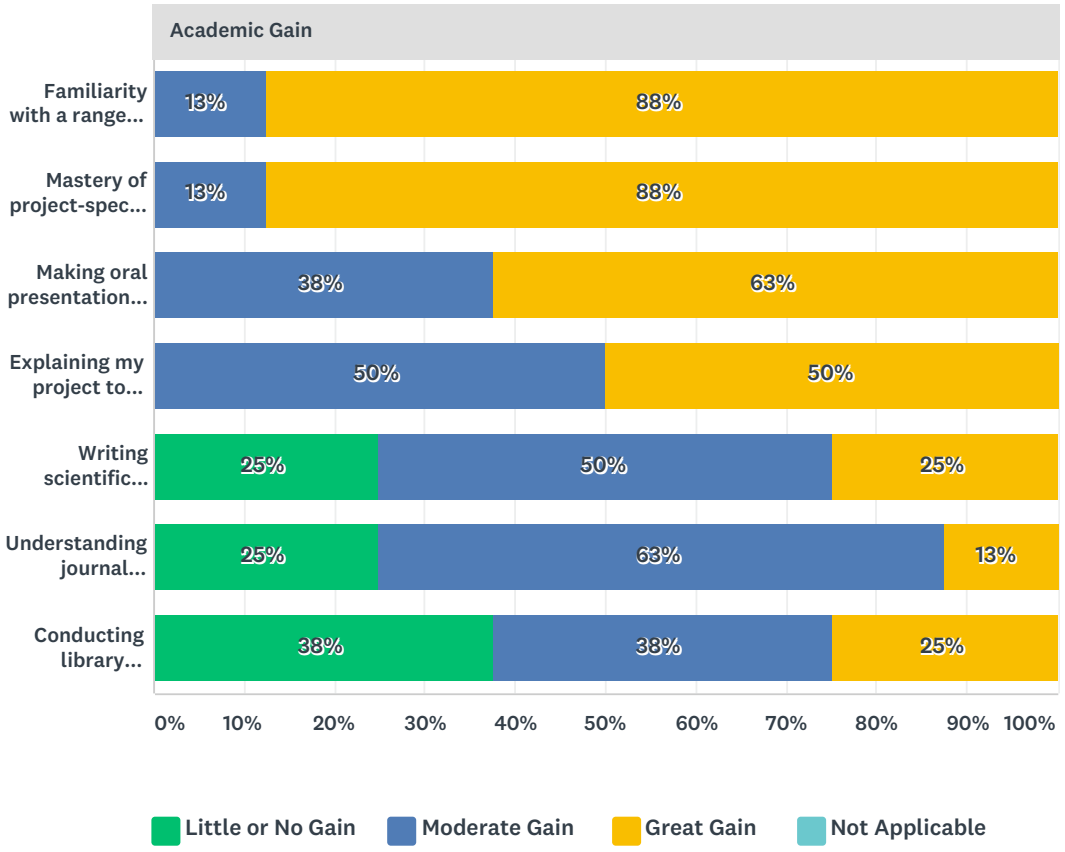
Q3 If you are a PARADIM student you were offered an apartment rather than a dorm for this summer's housing. Did you find this accommodation preferable to a dorm? Also, if we continue to offer apartments as housing options, what additional supports might be needed?

Answered: 4 Skipped: 5

#	RESPONSES	DATE
1	I suppose the accommodation worked for me because it was much cheaper and they are letting me stay even till the end of first week of classes. However, since I also arrived later than everyone else it was just a little harder to make friends with the other interns.	8/15/2017 6:14 PM
2	I very much preferred the apartment to a dorm. If possible, sublet apartments for PARADIM interns in the same general area (Collegetown, north campus, etc.).	8/14/2017 6:30 PM
3	I enjoyed having an apartment instead of a dorm. I suggest keeping the PARADIM REU students in a closer proximity to each other.	8/11/2017 11:21 AM
4	I did prefer the apartment to the dorms because of the convenience of having our own kitchen, bathrooms, etc. I think that my roommate and the other PARADIM students may have missed out on some of the camaraderie that the REU students who lived in the dorms had. This makes sense because they were all living relatively close together. Myself and the other PARADIM students formed our own bonds together but not as much with the other REUs.	8/11/2017 9:18 AM

Q4 How much did you gain in the following areas as a result of this REU research experience?

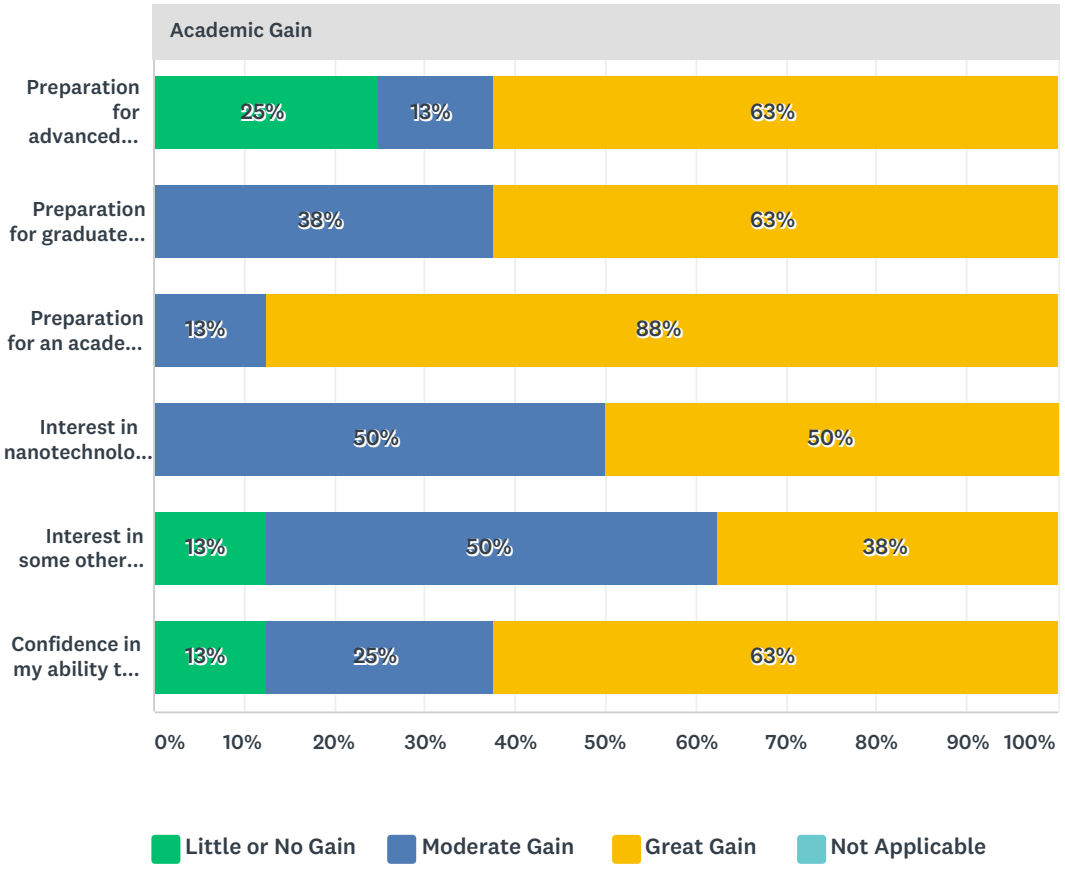
Answered: 8 Skipped: 1



Academic Gain	LITTLE OR NO GAIN	MODERATE GAIN	GREAT GAIN	NOT APPLICABLE	TOTAL
Familiarity with a range of research techniques	0% 0	13% 1	88% 7	0% 0	8
Mastery of project-specific research techniques	0% 0	13% 1	88% 7	0% 0	8
Making oral presentations of my research	0% 0	38% 3	63% 5	0% 0	8
Explaining my project to people outside my field	0% 0	50% 4	50% 4	0% 0	8
Writing scientific reports or papers	25% 2	50% 4	25% 2	0% 0	8
Understanding journal articles	25% 2	63% 5	13% 1	0% 0	8
Conducting library database searches	38% 3	38% 3	25% 2	0% 0	8

Q5 How much did you GAIN in the following areas as a result of this REU research experience?

Answered: 8 Skipped: 1



Academic Gain	LITTLE OR NO GAIN	MODERATE GAIN	GREAT GAIN	NOT APPLICABLE	TOTAL
Preparation for advanced course/thesis work	25% 2	13% 1	63% 5	0% 0	8
Preparation for graduate school	0% 0	38% 3	63% 5	0% 0	8
Preparation for an academic or industrial career	0% 0	13% 1	88% 7	0% 0	8
Interest in nanotechnology/materials science research	0% 0	50% 4	50% 4	0% 0	8
Interest in some other scientific research/career	13% 1	50% 4	38% 3	0% 0	8
Confidence in my ability to contribute to science	13% 1	25% 2	63% 5	0% 0	8

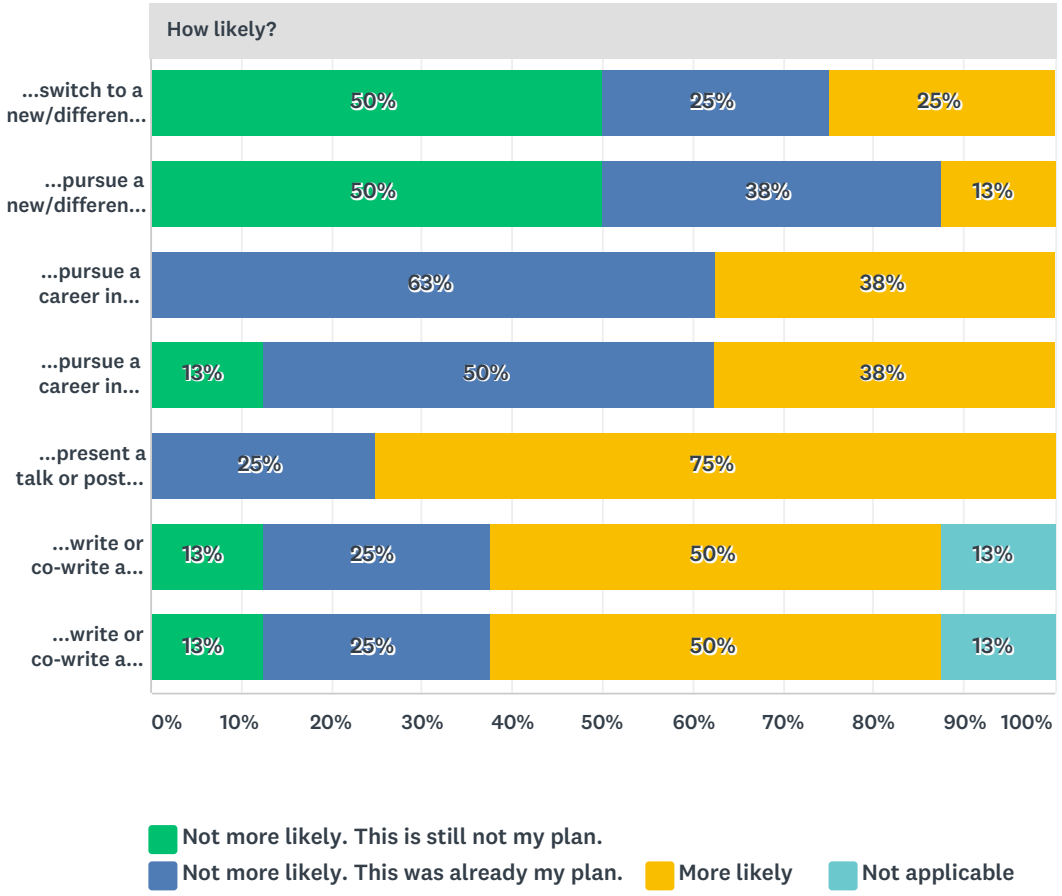
Q6 Please provide further explanation of your responses, particularly any "little or no gain" responses. Also, did you make any other gains that we didn't mention?

Answered: 6 Skipped: 3

#	RESPONSES	DATE
1	I became better at dealing with frustration and became more patient with research.	8/15/2017 6:15 PM
2	Gains were made in several areas such as those mentioned above, very helpful and informative.	8/14/2017 9:18 PM
3	Did not do much individual academic searching, papers were provided to me by mentors.	8/14/2017 6:32 PM
4	N/A	8/11/2017 11:24 AM
5	I felt that I grew significantly in almost every single area as a result of this REU. Definitely increased my efficacy to perform materials science research and my interest in graduate school in the field. The answers I responded 'moderate gain' to were a result of not actually writing a paper myself.	8/11/2017 11:03 AM
6	I feel that my ability to comprehend journal articles was not significantly increased because I already felt fairly confident in that area prior to this REU. I did not have to conduct many literary database searches as my mentors provided me with most of the information I needed. I'm not sure that I feel more prepared for advanced thesis work as a result of this REU; it still feels somewhat nebulous, but I also have another two years until graduate school so that may just be a result of my own inexperience in higher academia. I feel as if I was not able to contribute as much as I would have liked to this project due to a lack of communication and disorganization throughout the summer. I don't feel less confident in contributing to science as a whole, but this REU did not help me gain any confidence either.	8/11/2017 9:21 AM

Q7 As a result of this REU research experience, how likely you are to:

Answered: 8 Skipped: 1

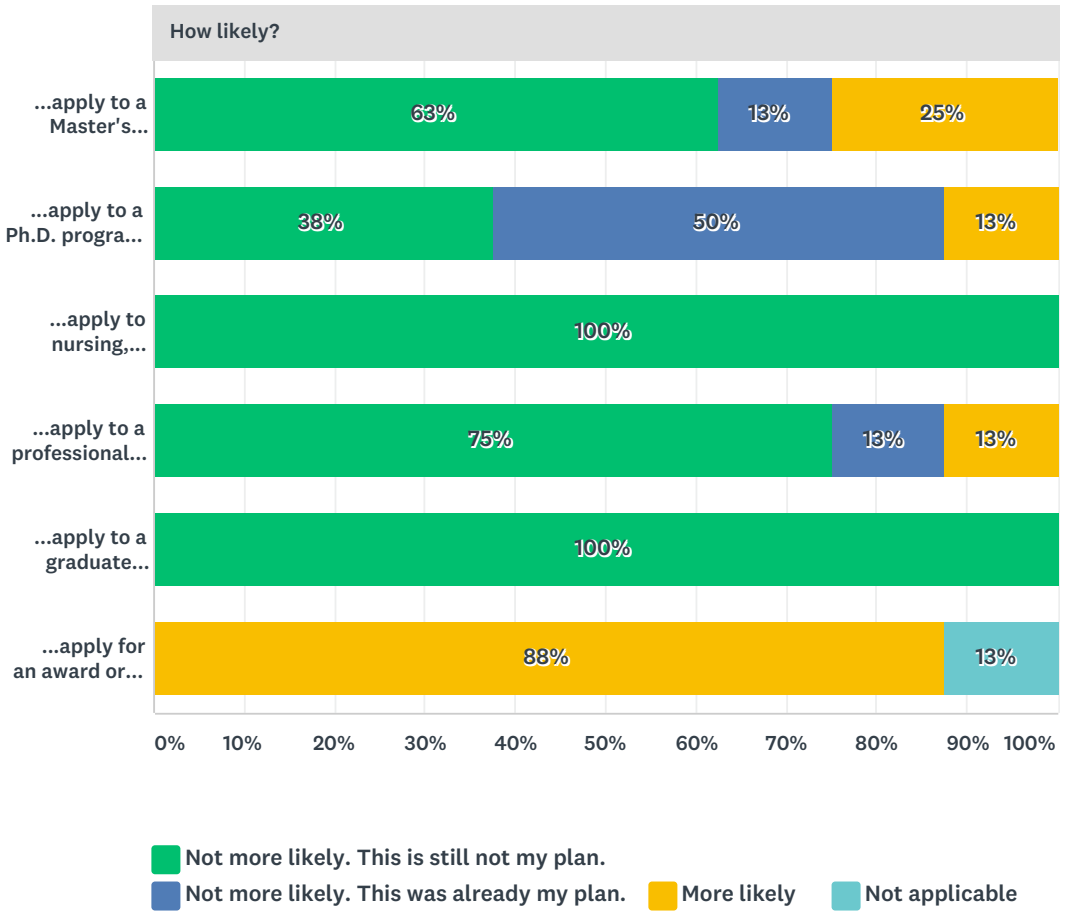


How likely?

	NOT MORE LIKELY. THIS IS STILL NOT MY PLAN.	NOT MORE LIKELY. THIS WAS ALREADY MY PLAN.	MORE LIKELY	NOT APPLICABLE	TOTAL
...switch to a new/different major in college?	50% 4	25% 2	25% 2	0% 0	8
...pursue a new/different minor in college?	50% 4	38% 3	13% 1	0% 0	8
...pursue a career in science or engineering? (industry and/or academic)	0% 0	63% 5	38% 3	0% 0	8
...pursue a career in nanotechnology/materials science, specifically? (industry and/or academic)	13% 1	50% 4	38% 3	0% 0	8
...present a talk or poster at a conference?	0% 0	25% 2	75% 6	0% 0	8
...write or co-write a paper to be published in an academic journal?	13% 1	25% 2	50% 4	13% 1	8
...write or co-write a paper to be published in an undergraduate research journal?	13% 1	25% 2	50% 4	13% 1	8

Q8 As a result of this REU research experience, how likely you are to:

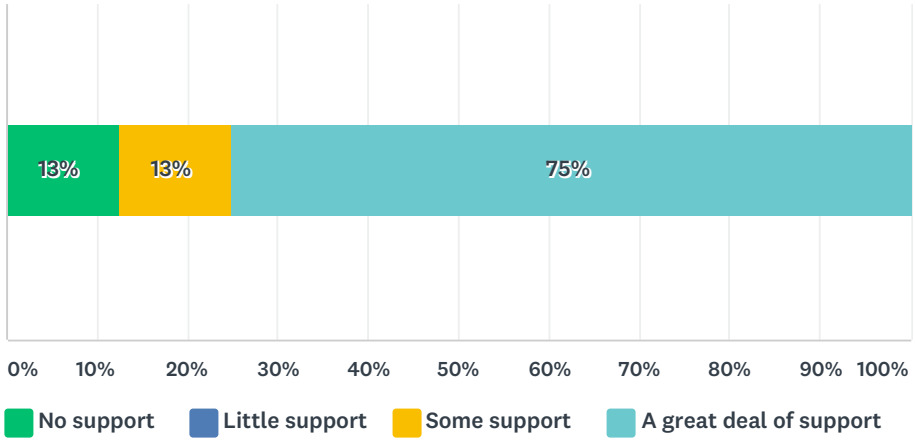
Answered: 8 Skipped: 1



How likely?	NOT MORE LIKELY. THIS IS STILL NOT MY PLAN.	NOT MORE LIKELY. THIS WAS ALREADY MY PLAN.	MORE LIKELY	NOT APPLICABLE	TOTAL
...apply to a Master's program in science, math, or engineering?	63% 5	13% 1	25% 2	0% 0	8
...apply to a Ph.D. program in science, math, or engineering?	38% 3	50% 4	13% 1	0% 0	8
...apply to nursing, medical, dental, pharmaceutical, or veterinary school?	100% 8	0% 0	0% 0	0% 0	8
...apply to a professional program not already mentioned? (e.g., law, library science, business, social work, journalism, etc.)	75% 6	13% 1	13% 1	0% 0	8
...apply to a graduate program in a non-STEM field? (e.g., social science, humanities, fine arts, etc.)	100% 8	0% 0	0% 0	0% 0	8
...apply for an award or scholarship based on your research?	0% 0	0% 0	88% 7	13% 1	8

Q9 Please indicate the degree of support you received from your PI/Grad mentor in the preparation of your final presentation:

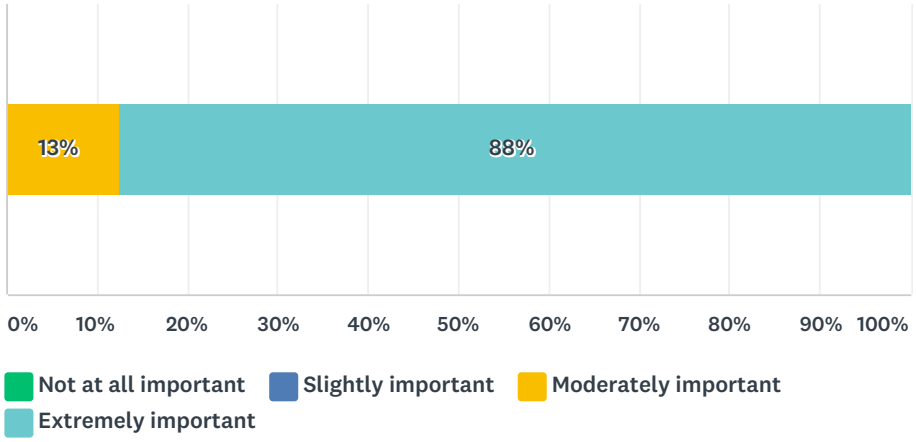
Answered: 8 Skipped: 1



ANSWER CHOICES	RESPONSES	
No support	13%	1
Little support	0%	0
Some support	13%	1
A great deal of support	75%	6
TOTAL		8

Q10 From your perspective, how important is the mentor to the success of the REU experience?

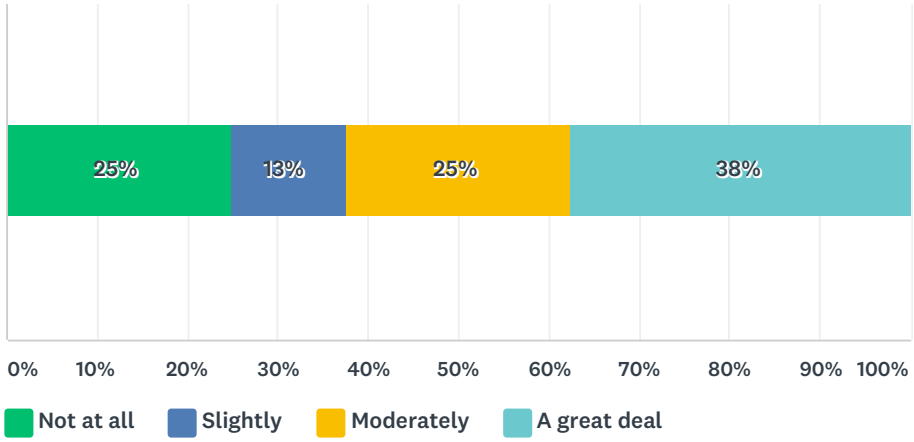
Answered: 8 Skipped: 1



ANSWER CHOICES	RESPONSES	
Not at all important	0%	0
Slightly important	0%	0
Moderately important	13%	1
Extremely important	88%	7
TOTAL		8

Q11 From your perspective, to what degree did your mentor influence your future plans?

Answered: 8 Skipped: 1



ANSWER CHOICES	RESPONSES	
Not at all	25%	2
Slightly	13%	1
Moderately	25%	2
A great deal	38%	3
TOTAL		8

Q12 Please elaborate on your mentor experience:

Answered: 8 Skipped: 1

#	RESPONSES	DATE
1	My mentor introduced me to the project, led me through the cleanroom, answered all the questions I had, gave me what I needed, and then let me go work otherwise independently.	8/16/2017 7:48 PM
2	It was fine. She was quite helpful. The only issue I can point out is that I wish the mentors had checked the dates of my REU to make sure I could do a CNF project. That was really the main obstacle to my project.	8/15/2017 6:18 PM
3	She was incredible.	8/15/2017 2:44 PM
4	My interactions with my mentor really defined my experience during this REU. He was there for me in the very beginning and he was there for me at the very end. He gave me countless lessons in science, research, and just life in general. I could not have asked for a better mentor in any way. While the days were long and the work was tough, I wouldn't have changed anything.	8/14/2017 9:32 PM
5	Mentor was great. Provided help when needed and helped me learn how to operate instruments and learn the physics behind the research.	8/14/2017 6:35 PM
6	My mentor was extremely instrumental in my success during my REU experience. He supplied literature and provided important background information pertaining to my research project. He demonstrated and guided instrumentation techniques allowing me to become an independent researcher this summer.	8/11/2017 11:29 AM
7	I had not one but actually two mentors, both of whom were wonderful. I worked with a PhD research scientist, who was able to give me very specific theoretically instruction. In the laboratory I worked with a PhD student, who showed me how to perform the actual experiments. I became very close with both of my mentors and they were vital in my learning and success during the REU. I cannot speak highly enough about them.	8/11/2017 11:07 AM
8	I had two mentors during this REU experience, and two separate projects. This was partially due to the fact that two more students were added to the REU about halfway between my acceptance to/of the program and my getting here. These students were also assigned to work with my mentors. This, overall, split the workload perhaps a little too much; my projects both felt like half-projects and one of these other students actually had to wait on me to complete my part before she could start her research, which was not ideal for either of us. My first mentor was more approachable and more willing to offer help, guidance, and support, but her project required less involvement from the beginning (I was primarily working in the cleanroom with CNF staff as opposed to my mentor) and there was no further research after the cleanroom work was completed. My second mentor was often difficult to get a hold of; even before coming to Cornell, I emailed both of my mentors to learn about my project and she never responded to me. Therefore, coming into this REU, the extent and requirements of her project were a little unclear. I did not even start her project until about halfway through the summer because she wanted me to focus on the other mentor's project and then switch to hers. She did not provide much guidance for her project once I actually started, and actually forgot to mention some key information that would have made my measurements easier and more consistent (which was frustrating). Additionally, neither mentor was available during our CNF final presentations. This was due to a conference that a lot of the research group went to, but it was not ideal and the situation should be avoided, if possible, for future REUs. My mentors were away and therefore were not available to help me prepare for this final presentation. They did, however, help me prepare for the second round of presentations which was held for PARADIM after the research group returned.	8/11/2017 9:41 AM

Q13 If you indicated that you are likely to present, publish, or apply for an award/scholarship based on your research this summer, please tell us more:

Answered: 5 Skipped: 4

#	RESPONSES	DATE
1	More likely to publish because I know a little more about how papers are written and I have a good grasp of the amount of effort that goes into writing one. More likely to apply for a fellowship because I know which ones exist.	8/16/2017 8:01 PM
2	Will most likely present my research this summer to my group at my home institution. Will also ask my academic adviser if they have any poster sessions or anything like that.	8/14/2017 6:40 PM
3	Collaboration with my mentor on publishable material is very likely.	8/11/2017 2:46 PM
4	At my home university they have awards for distinguished undergraduate research; I will certainly apply for this and highlight my experiences in PARADIM. Furthermore I will apply for the NSF Fellowship for graduate school incorporating my summer REU.	8/11/2017 11:24 AM
5	I will try to present this research at the undergraduate research symposium held at my home university this fall.	8/11/2017 9:41 AM

Q14 In your own words, how did your REU experience influence your thinking about future career and graduate school plans (or not)? Please explain. Finally, please share any additional thoughts you might have:

Answered: 8 Skipped: 1

#	RESPONSES	DATE
1	I had already planned to attend a graduate program for a Ph.D., but this REU experience showed me just what that would be like. I know much more about graduate school culture and what to expect, so I'm more prepared.	8/16/2017 8:01 PM
2	I'm not sure. I haven't tried an industry internship yet, so I might aim towards doing that next year before solidifying my future plans.	8/15/2017 6:19 PM
3	I am more likely to pursue grad school but it sure about PhD	8/15/2017 2:46 PM
4	This REU really allowed me to get a better feel for the graduate life. It helped to affirm my decision to work towards a PhD and helped me to realize what I needed to work on to get to a place where I would be able to get my PhD.	8/14/2017 9:44 PM
5	Already planned on applying for graduate school, but the REU helped me realize what I was getting into. I am much more confident in my decision to apply and have been reassured that I would be successful as a graduate student.	8/14/2017 6:40 PM
6	This REU experience redirected my focus toward material science from solely chemistry. I am extremely interested in pursuing graduate school after this experience.	8/11/2017 2:46 PM
7	I worked with a research scientist who ran the facility who had a PhD in chemistry. At the facility we also had users come to operate instruments who worked at national labs. Working alongside these people encouraged me that there can be many opportunities for PhDs in academia besides only becoming a professor. Knowing this definitely encourages me to pursue for graduate school. Also, speaking generally, being surrounded by many encouraging labmates and PhD students and seeing how much fun graduate school can be breaks the stereotype of the stressed, frantic graduate student. It gave me confidence that graduate school is something that could well be achievable for me.	8/11/2017 11:24 AM
8	I am still on the fence about my future career; I either want to pursue a graduate degree in materials science, focusing on energy research (a path which is more firmly cemented in my mind after this summer; I did not enjoy this branch of materials science as much), or I want to go to law school and study environmental or patent law. This REU definitely made me consider graduate school more strongly, but I will have to look more closely at the schools I might end up at and the labs I might work with.	8/11/2017 9:41 AM

Q15 Your REU was located in a “facility.” Others are held in “labs.”Compared to a lab location, what advantages/benefits do you see in a facility-based REU? Compared to a lab location, what limitations do you see in a facility-based REU?

Answered: 7 Skipped: 2

#	RESPONSES	DATE
1	I actually used both; my PI owns a lab that I worked in about half the time. The facility - the CNF - was larger, owned more tools, and was better organized. I could expect to get work done more reliably in the CNF. However, my lab owned specialist tools for my research - a high frequency scanning doppler vibrometer, for example, that a facility may not get enough use out of to buy.	8/16/2017 8:01 PM
2	Facility has staff that train you on tools which is nice.	8/15/2017 2:46 PM
3	A facility offers a lot more options in terms of equipment that can be used and staff that can be talked to. It also gives you a greater network of researchers to pull from. That being said it is sometimes tough getting tool time and getting quickly trained on equipment.	8/14/2017 9:44 PM
4	Well I was in a lab...	8/14/2017 6:40 PM
5	A facility-based REU promotes collaboration and sharing of ideas between the various research groups in that facility. Also, optimal use of instrument time by using instruments to their fullest potential shows the strength of the facility only damped by their lack of available scheduling.	8/11/2017 2:46 PM
6	You get to meet so many people at a facility; for me this was a huge benefit. We worked on collaborations with users from so many different places; one user we had was even starting a faculty position outside this country! So it is a great networking opportunity and you get to learn a lot about many different projects. A limitation is that with many visitors, sometimes it is hard to focus on your own project. I always wanted to help users who came to do research and that gave me less time to study and work on my individual project. Also it can get hectic, and if there are tight time constraints on a project, you might not always have time to ask as many questions to your mentor or focus on small details.	8/11/2017 11:24 AM
7	The CNF has a strong community among the staff and users which was definitely beneficial; everyone was excited about their research and wanted to help with everyone else's projects. However, a lab is more closely connected and everyone can, perhaps, understand each others' research more fully.	8/11/2017 9:41 AM

Q16 What were the best aspects of the REU program? What aspects are most need of improvement? Please take time to reflect and elaborate

Answered: 7 Skipped: 2

#	RESPONSES	DATE
1	I loved the work - the core of the REU program. However, a few additions need work. The ethics introduction was horribly vague and inconclusive, the TCN short course was unengaging and boring (thus difficult to follow), and I'd appreciate more thought and care and time put into paper, presentation, and poster advising.	8/16/2017 8:01 PM
2	The best aspect is all the help and learning, but project goals could be more realistic for a 10 week span.	8/15/2017 2:46 PM
3	If the right mentor is in place, the mentor/student relationship is by far the best and most important part of the REU. If the wrong mentor is in place, catastrophe can happen. A mentor that is really wiling to invest in the student is needed. It was also great to be exposed to such a big school with such vast resources coming from a small school. I would never in a million years be able to use the equipment and do the research that I did at the college where I come from. Sometimes the work days were long, but that was only because I pushed to complete as much research as possible. While this made me miss a lot of the side events put on by the program, I thought it was worth it. Overall I thought the program was fantastic and it has changed me for the better in countless ways. I will always use the lessons that I learned from the program in my future, and will remember the memories made here.	8/14/2017 9:44 PM
4	I think the best aspect was the support we received for presenting our work. I think the overall organization of the program could use some improvement, but nothing was terrible.	8/14/2017 6:40 PM
5	The best aspects of the REU program were learning the in-depth breadth of the research material while expanding my focus to regions of science I had previously not encountered. Being a part of a cohort allowed me to interact with like-minded individuals that I will remember for the rest of my life. Aspects that can be improved are: the downtime during the first few weeks that involved online training that could have been completed prior to arriving so that research could start immediately, also, the lack of group meetings made the research group seem disconnected at times.	8/11/2017 2:46 PM
6	Best aspects: Networking/working with users was great. I met so many people from top universities through this REU. It also gave me the opportunity to work on collaborations that will likely become published works and result in co-authorships for me. My PI and mentors were phenomenal and I learned so much about a different area of materials science in a very short time. Needs improvement: The structure of the REU felt confusing at times. I was at JHU and also involved in some REU activities for BioREUs there, such as the poster presentations and GRE Prep sessions. But I felt disconnected from the CNF group and sometimes I did not get many of the emails at first for the BioREUs at JHU. For the first few weeks I felt isolated from other REUs undergraduates, though I was able to make great friends with the students in my lab. I wish it could be a bit more cohesive for the students who aren't at Cornell, so we can integrate with the REUs who might be at our summer campus.	8/11/2017 11:24 AM
7	I am extremely grateful for the opportunity I had to come to Cornell and learn to use many interesting tools and processes that will likely be useful throughout my career (either as a student or in the future). Working in the cleanroom especially was such an exciting opportunity. I feel that the PARADIM program needs a little more structure throughout. Other students in the program had mentors who provided that structure to them; my mentors did not. My projects were therefore somewhat nebulous and I feel like I was not always able to be as productive as I would have liked.	8/11/2017 9:41 AM