

Regenerative Medicine Minnesota Progress Report

Due one month after grant's end date or after payout of grant.

Grant Title: Let's Explore STEM Grant Number: RMM-2017-K12ED-7

Requester: Stephanie Zojonc, MS (*resigned from position 6/2017*)

Report Prepared by: Melissa Huppert

Project Timeline: 5/30/2017 – 5/29/2018

Brief description of project: The Let's Explore STEM Project included three programs: Girl's Explore STEM and Zap Day Camps, Girl's Explore STEM Academic Day, and Women in STEM Networking Event. Collectively, the purpose of these programs were to provide opportunities for exploration in STEM and STEM Careers, as well as to build networks and connections among underrepresented population of 6th-12th grade youth, university and college students, and industry members.

Where did this project take place? Minnesota State University, Mankato

People impacted by project and where they are from:

Girl's Explore STEM and Zap Day Camps

- **Participants:** 41
- **Grade:** 5th Grade = 2.4%; 6th Grade = 29.3%; 7th Grade = 24.4%; 8th Grade = 39.0%; 9th Grade = 4.9%
- **Gender:** Female = 61%; Male = 39%
- **Residence:** Greater Mankato, Minnesota Area / South Central Minnesota

Girl's Explore STEM Academic Day

- **Participants:** 150
- **Grade:** 8th Grade = 19.8%; 9th Grade = 8.8%; 10th Grade = 20.9%; 11th Grade = 29.7%; 12th Grade = 20.9%
- **Gender:** Female = 100%; Male = 0%
- **Residence:** Greater Mankato, Minnesota Area/ South Central Minnesota and the Twin Cities

Women in STEM Networking Event

- **Participants:** 66
- **Post-secondary Students:** 66.7%
- **Industry Members:** 33.3%
- **Gender:** Female = 100%; Male = 0%
- **Residence:** Greater Mankato, Minnesota Area/ South Central Minnesota and the Twin Cities

What was the outcome of the project?

The *Girl's Explore STEM and Zap Day Camps* were highly engaging and exposed youth to various aspects of STEM and connections to regenerative medicine. Over 90% of the youth were somewhat to extremely

satisfied with the day camp experience. Most (77.27%) parents agreed that the day camps helped to guide their child's career interest or pathway. One parent stated:

“Seriously - this was a fantastic camp for our daughter. The professionalism and focus on girls in STEM helped my daughter to see what potential there might be out there for women in these professions. What this team put together was outstanding and looks to have a big impact on my daughter's professional future. At least at this stage. :)”



Another parent stated:

“This camp was very well run. Between the smaller group sizes, the hands on activities lead by highly qualified professors, the variety of activities, the ease of registration and the comfort level I had with leaving my son with the staff from the very beginning, I would consider this a smashing success all around. The entire team involved deserve great kudos for their efforts.”

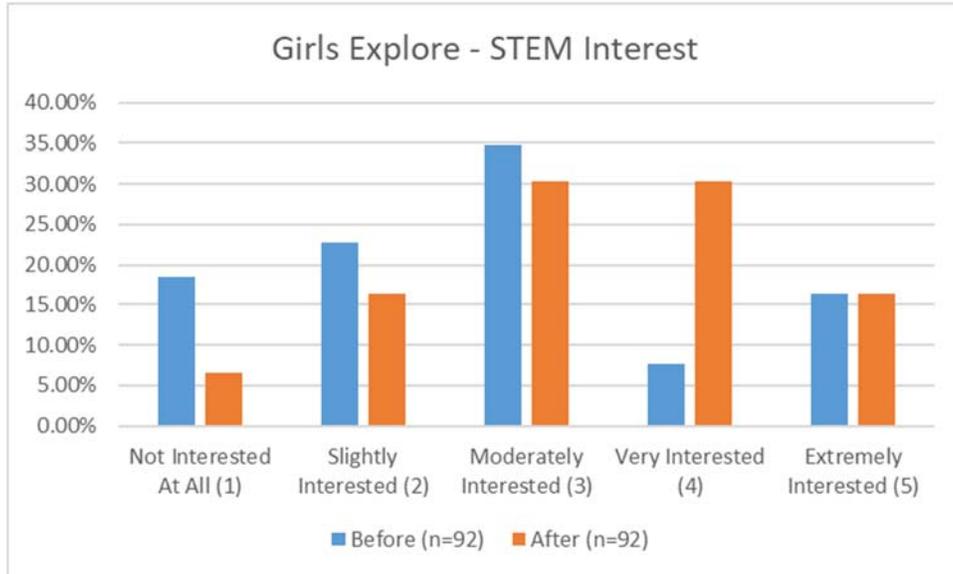
The primary challenge during the organizing and implementation of these day camps was an unexpected turnover in lead staff. However, this was compensated by organization of day camp logistics prior to staff departure and willingness of other staff to take on the oversight of the programming.

The ***Girl's Explore STEM Academic Day*** brought 150 8th-12th grade girls together to learn about potential career and post-secondary opportunities in the STEM field. The purpose of this event was to encourage and motivate high school students of underrepresented populations to pursue educational opportunities in STEM and to increase their access to higher education. This event provided students with the opportunity to meet current professionals in STEM disciplines and become familiar with higher education institutions. Students attended a college preparation session, keynote presentation, hands-on activities and demonstrations by faculty, students and industry representatives, and a university tour that highlighted the opportunities offered to students interested in STEM disciplines. The activities and demonstrations included such topics as biological science, anatomy, anatomage table, virtual reality simulation, and others.

Based on this event, the youth had a trending increased interest in STEM after the event ($\bar{x} = 3.34 \pm 1.132$) compared to prior to the event ($\bar{x} = 2.80 \pm 1.294$), however, this increase was not statistically



significant (Interest Scale: 1=Not Interested At all to 5=Extremely Interested). See the table below for comparison of before and after event interest in STEM.



The teachers of these students had a high level of perceived importance of this event for students' future. In total, 93.33% of teachers indicated this event was very to extremely important to their students' future. One teacher stated:

“Students came back very excited and open about their futures. They were able to have hands-on experience and see women in the STEAM field. This was a wonderful opportunity for our students... getting them into the STEAM mindset early on will jump-start their future.”

Another teacher stated:

“I think the impact on my students is that they will have a better understanding of the types of careers they can choose from, what kind of education they may need, and that they will need to work hard.”

One challenge faced during this event was that a group of 50 youth were unable attend unexpectedly. This was unfortunate for these youth and also resulted in logistical challenges for the event as group sizes for rotation sessions needed to be quickly modified. Based on the teacher and youth evaluations, the amount of time spent focusing on the college preparation session will be reduced for the next event, providing more opportunity for hands-on activity engagement with industry professionals and university faculty and students.



The **Women in STEM Networking Event** was a strategic initiative providing an opportunity for women in STEM degree programs and careers to network and form informal mentorships, collectively building a network of support and positive role models. The event included networking activities, plated dinner, keynote speaker, panel discussion, and professional headshots.

After attending this event, 92% of the participants indicated that they felt somewhat to very confident in their ability to network. One student stated:

“It was an interesting event. A great platform to connect with people that motivate you to be yourself and experience part of their accomplishment and roadblocks encountered during that phase of their life as well. It is really motivating, and I enjoyed every part of it.”

Another student stated:

“I had a lovely time at the STEM networking dinner and it was a great opportunity to meet all the industry professionals and build networking. Being a senior just about to graduate in May, this session was something that I needed. I got more encouragement and motivation to do more and to talk to more people. The more you talk, the more relationship you build and that's how some of the industry professionals got job in real world. I was nervous and stressed but this session has helped me prepare for what will come next and nothing comes easy, but I learnt how to handle those situations in the future. Thank you for the opportunity.”

An industry member stated:

“This was an excellent event. I appreciated being included and having the opportunity to spend some time with the students, learning more about their passion and how I might help. I would allow more time for the speed networking activity in the next session. This connecting felt like a much needed and great opportunity. Excellent choice on the keynote speaker. She did an outstanding job delivering helpful content in a context that really felt like it aligned to where the students were at and where they're going.”

This was the first time organizing this event and it was a great success. Based on evaluation feedback, future events will include more time for networking and more representation from industry.

These programs helped increase the awareness and understanding of STEM and regenerative medicine in Minnesota. Through hands-on experiences and networking opportunities, participants learned about the many facets of these fields and need in Minnesota. Public awareness of regenerative medicine in Minnesota was advanced through the promotion of these programs and dissemination of outcomes. Through the many direct interactions with youth, their parents, university students, industry members, and the public, we aimed to increase the number of people who may choose career paths in this field or in a support position to this field.

Please list any of the following that have resulted from your Regenerative Medicine Minnesota grant funding: None of the following.

- Publications and/or manuscripts submitted for publication
- Disclosures/patents
- Other grant applications and/or awards

Responsible Spending:

The following table shows how funds were spent throughout the grant period.

Category	Original Budget	Total spent
Faculty Salary	\$2,400.00	\$2,361.18
Student Mentors	\$3,200.00	\$3,875.05
Meals (includes housing)	\$6,100.00	\$5,449.52
T-shirts	\$1,257.00	\$912.50
Supplies for activities	\$3,200.00	\$4,317.27
Technology	\$200.00	\$197.84
Mileage/Transportation	\$1,500.00	\$429.28
Indirect Costs	\$2,143.00	\$2,105.12
	\$20,000.00	\$19,647.76