

**MASUK ROBOTICS**  
Monroe, CT  
USA

# GIRL-POWERED ESSAY

**ALISON  
MERRIMAN**



**TANYA  
HUGAR**

**HANNAH  
FEDAK**

**SHIVANI  
ANAND**

**TIERNEY  
MCGUNNIGLE**

**RUTHIKA  
GIDUTHURI**

**4478Z**

Girl-Powered is a stigmatized term in the world of robotics because that's how people, whether consciously or involuntarily, look at it. Thankfully, **the notion that women are incapable of achieving greatness in STEM fields is being challenged in VEX Robotics programs around the world** - especially in our case. Our program, Masuk Robotics, has always prioritized gender equality. Unfortunately, this experience isn't universal. **The likelihood of our all-female team, 4478Z, being treated differently by certain people and programs because of our gender is, frankly, much higher than that of a coed or all-male team.**

Why is that? Where does it say that there's any



Ali, Tanya, and Shivani. (Drive Team)

reason why women aren't able to succeed in robotics? We're kids, we're still young, but through our past robotics experiences, we all knew as much as the next person that young girls in STEM are most vulnerable to this behavior. We knew that as we continued

to grow, this uncomfortable truth would become more and more of a reality - but we wouldn't allow it. **With the help of VEX, the REC Foundation, and Masuk Robotics, who have made strides in encouraging and uplifting Girl-Powered teams, we would stand up against those who second-guess our potential.** In May of 2021, 4478Z - ZAYN - was born. We

came together through the notion that young women like us can learn, grow, and achieve just as much as men can...that we can learn without boundaries. *That's* what Girl-Powered means to us - giving girls in robotics the space and ability to learn and grow as people and, of course, as roboticists in the making.



Our team while accepting the Judges' Award at the Ridgefield, CT High School Qualifier.

*"It's important that we all support each other, you know? **It makes us more powerful.**"*

- Hannah Fedak, 4478Z Writer and Scout



We always make sure to emphasize the value of team-bonding and problem-solving.

Although our team largely consists of members with past experience, we've found that **we all have a shared experience of being excluded and undermined as younger members on past middle school teams.** Middle school robotics was a time of all-important learning, much of that being centered around the importance of teamwork. Our program was really progressive in that **our coaches made it a point to teach us the value of team bonding**...but, of course, it wasn't always easy. We were still learning, and the values of our program

weren't always taken into consideration. During those times, **it was common for us girls to automatically assume positions like Writing and Scouting**, which unfortunately tend to be seen as insignificant despite being so valuable. Meanwhile, **the boys on the team would take control as the Builders, Programmers, and Drivers**. We would then, in most cases, be hesitant to talk to a coach about these gender disparities; and if we *did* eventually speak up, we would fear retaliation (after all, according to middle schoolers, "snitches get stitches"). **This was not okay**. Our coaches never encouraged this behavior nor intended for this to happen; it wasn't supposed to happen. Making the jump from middle to high school, it was clear as day - high school was going to be a time of greater change. Being given more freedom in building our teams, we would create a motivated, open-minded team dynamic **where everyone felt free to openly communicate and share ideas, and where everyone felt that they contributed to our team's accomplishments**. It was all about opportunity - having been previously silenced on past teams, we could now take matters into our own hands. **We could now gather the courage to seize the opportunities given to us by our coaches**. But to be honest - we didn't start off the season on a good foot. As individuals and as a team, we weren't confident in our abilities to succeed and achieve as much as our fellow Masuk teams. This was soon put to rest, though, as we realized that our "underdog" team was, frankly, the closest-knit team any of us have ever been on. This was when our teamwork started to shine, and when we understood that above all, a functional team is most important. **You can't be successful with an unhappy team because nothing will ever get done**. No one will be willing to try while surrounded by people who don't give them the opportunity to.

**"Previously being undermined has only made our bond and determination stronger."**

- Ruthika Giduthuri, 4478Z Main Writer

**"I could do it. I could do it if you let me try."** A phrase we were *all* familiar with, definitely, throughout our past robotics experiences. As a returning member, it can be difficult to get into a new role you're passionate about; as a new member, it's difficult to get into a proper role at all. Either way, this practice leads to an unmotivated, uninterested member who doesn't help their teammates nor, honestly, *themselves*. That is to say, it's mostly the fault of the system - the system automatically implemented in many teams that doesn't allow new learners to find what they're passionate about. **Since Day 1, we've prioritized finding what works for us, both individually and as a team**. A successful team isn't successful because each member is off doing their own thing, only doing what's "expected" of them. Maybe the biggest takeaway from participating in VEX Robotics is that everyone learns something new;



We're a very close-knit team. (left to right: Hannah, Ruthie, Tierney, Shivani, Tanya, and Ali)

**if we aren't learning from each other, we won't learn anything at all.** Our best example is Shivani, who worked on her previous teams as the Main Writer. However, she'd always been interested in coding, which was never brought into action because of the destructive team dynamics present in her past teams. **Because of our collective effort to create an open-minded, fully collaborative team,** she was able to begin learning VEXCode. Now, she's our Main Programmer with several successful autonomous and Skills programs! It's simple - if you allow your teammates to follow their passions, you're going to eventually produce a truly efficient, hardworking team. **When young women are able to learn without boundaries, without anyone telling them they can't, they're going to achieve so much.**

**"We're a very determined team, and I'm very thankful to be able to work with such wise, intelligent women."**

- Tanya Hugar, 4478Z Main Driver and Builder

**"It's so confusing - there's no reason why women 'aren't capable' of accomplishing as much as men in STEM fields."**

- Shivani Anand, 4478Z Main Programmer and Writer

The incorporation of all members is also so beneficial in that it gives more perspectives on different obstacles being faced. There are definitely times where Ali and Tanya will disagree on the solution to a building issue, and will bring in one of the other members to give their objective standpoint. This is *crucial* to creating a healthy team- **your way isn't always the right way.** Even if the outside voice isn't as versed in your role as you are, they can give you a clear, focused viewpoint. Not only does this help your team work efficiently and steadily, **it gives all members a chance to voice their opinions in matters like building and programming** - which, unfortunately, tend to be seen as very prestigious roles, only for the most experienced members. Of course, we can't forget that **hearing your teammates' trains of thought can give you insight into how each member thinks and reasons to find solutions, which only increases team chemistry even more.** Throughout this season, we've found success in hearing what everyone has to say, giving everyone a chance to feel valued on this team.



Vee Sampson, a woman who inspires us, as young women, to pursue our goals every day!

**"Being an all-girl team helps us to connect with other women in STEM."**

- Tierney McGunnigle, 4478Z Writer and Scout

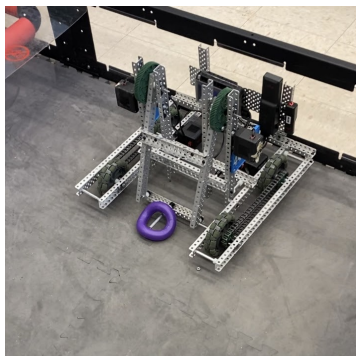


We're not giving enough credit where credit is due. Although some of it came naturally, we as individuals (and, of course, as a team) didn't make this journey of empowerment on our own. We've all found refuge in one specific woman - **Vinathi "Vee" Sampson, a senior at Masuk. Vee's on the Leadership Council here at Masuk - a group of experienced members that work to aid and mentor newer members throughout the year.** She's experienced firsthand the difficulties of being a woman in STEM - she's on a team consisting of only men but her. Despite her team being really open-minded and collaborative, it takes an incredibly headstrong and resilient woman to make her voice heard over a crowd of men...and that's exactly the kind of woman Vee is. Since the beginning of the season, we've learned that **through thick and thin, Vee will support us.** She'll give an all-women, freshmen team a chance. And to us, that's so, so important. It's not just robotics-related - if we're feeling overwhelmed or simply having a bad day, we can go to Vee for reassurance and motivation. Frankly, **it's Vee who helped us realize the importance of team bonding.** Her ability to compromise and problem-solve with her teammates is so, so inspiring.

*"Our experiences this year have shaped us as people, and will impact us for years to come."*

- Alison Merriman, 4478Z Main Builder

Robotics as a program is *not* about being the smartest or most acclaimed team. Honestly, it's not fully about robotics at all! **It's about learning.** We're not far into the 2021-22 season, but as a team, we've already defeated hurdles that we've never defeated before, and **so, so much of that is due to the work done by VEX, the REC Foundation, and Masuk Robotics to help teams like ours feel included in the world of robotics.** Of course, we also have Vee Sampson to thank for all that she does to motivate and inspire us. But above all? We've achieved what we've have because of our willingness to **solve problems together, motivate each other, and truly work as a team** to achieve our goals. It's because of our ambition to **show the true potential of an all-women team in STEM.** If we keep this up, there's truly nothing we can't achieve. Together, we'll soar.



Our progress:  
October to  
December. We're  
incredibly proud of  
ourselves and our  
progress as a team.