

Explore, Focus, Grow: An IT Career Journey in Michigan

The State of Recruiting and Retaining Women in Technology Careers

An MCWT Foundation Study funded by Ford Motor Co.

Background



MCWT set out to answer two key questions to help it better achieve its mission to inspire and grow women in technology and ultimately make Michigan the No. 1 state for women in technology.

How can we:

- Create and nurture interest in the field among girls and young women?
- Nurture commitment to the field and support career success among professional women?

In order to best answer these questions, we interviewed four key audiences in Michigan:

- Younger students as they begin to consider careers (girls in 5-8th grades who participated in two MCWT cam)
- University students who have chosen their career path (female college/university students focusing on IT/tech)
- Professional women in the IT/tech field
- HR professionals with responsibility for recruiting or retaining female IT/tech talent

We interviewed nearly 500 people from different stakeholder groups to maximize opportunity and response. All interviews were conducted by The Insight Scout on behalf of MCWT.

Girls in Grades 5-8

- We visited MCWT's Camp Infinity summer technology camp in both Detroit and Grand Rapids to conduct in-person interviews with campers. The interviews consisted of worksheet exercises and discussion. **In total, we interviewed 72 campers.**

University Students

- We conducted **an online survey with 69 female university students**. They were invited through the MCWT contact list and encouraged to pass along the link to other female IT/tech university students. We offered a \$5 Starbucks gift card as a thank you for their time. They represented schools across Michigan including, but not limited to: University of Michigan, Oakland University, Central Michigan University, Kettering University, Grand Valley State University and Wayne State University.

Professional Women

- We conducted **an online survey with 333 female IT/tech professionals** in Michigan. They were invited through the MCWT contact list and the first 200 to complete were given a \$5 Starbucks gift card as a thank you for their time. They represented well-known businesses across the state. A few examples include: Dow, Amway, Herman Miller, FCA, Ford, GM, Ally, Stryker, Microsoft, Blue Cross Blue Shield of Michigan and Deloitte.

HR Professionals

- We offered HR professionals located in Michigan with responsibility for recruiting and maintaining female IT/tech talent the opportunity to be interviewed by telephone or online. All **12 who participated chose the online mode of interviews**. These professionals were recruited through the MCWT contact list. They represented well-known businesses across the state. A few examples include Blue Cross Blue Shield of Michigan, Dow, Masco, Consumers Energy and AHEAD.

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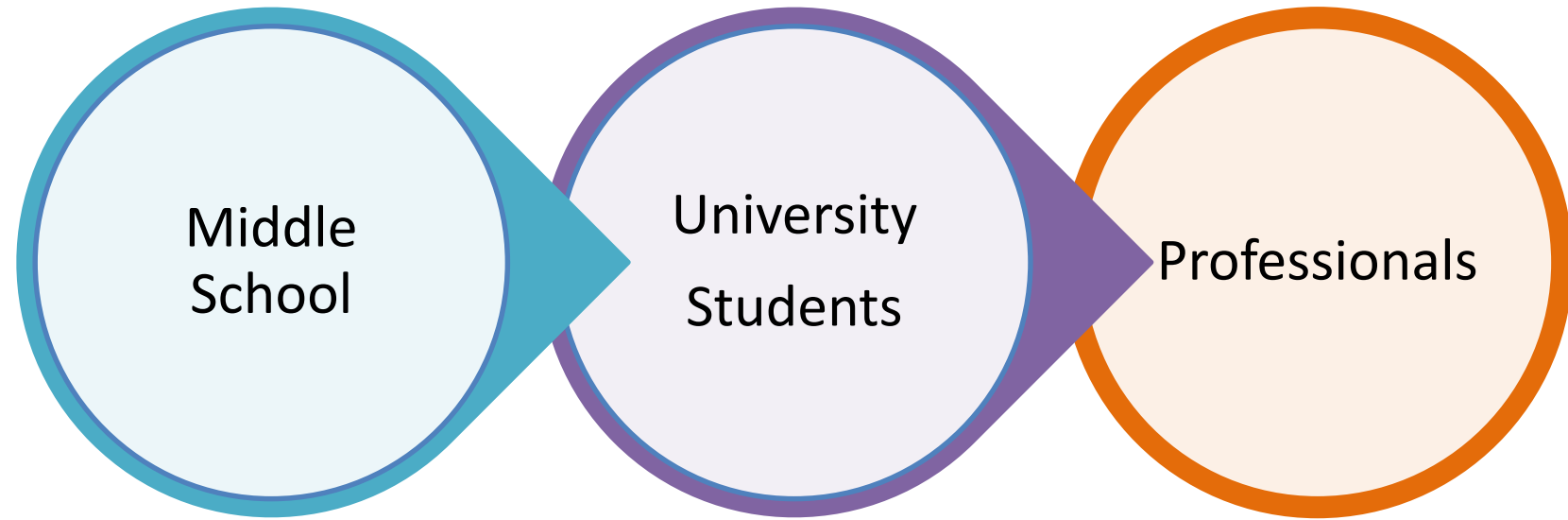
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Key Findings Across All Groups

We ultimately set out to answer two key questions:

- 1 How can we nurture the interest in the field among girls and young women?
- 2 How can we nurture commitment to field and support career success among women?

The Journey to an IT Career



What is she doing?

Exploring

Focusing

Growing

What motivates her?

Positive impact
Problem solving
Creativity

Positive impact
Learning/opportunities
Problem solving
Creativity

Positive impact
Learning/growth
Problem solving
Creativity
Financial reward and stability

What concerns her?

Few, mostly just curious

How will lack of representation impact me?
Can I thrive in the demanding environment?

Am I making the right decisions and seizing opportunities to grow?
Am I valued equally?
Can I balance this demanding career and other priorities?

Nurturing Interest in Girls and Young Women: Family Role Models



IT/Tech Family Role Models

A high proportion of campers and over half of university students indicate that they have a family member in the field. Having this influence is cited by many as having sparked their interest in the field. Many recount time spent together (especially with parents) learning how to engineer, code and use computers as their first memory of interest.

Thought Starters

Encourage professionals to share experience with girls in their families (extended as well) from a very early age. Develop and share ideas for age-appropriate activities to help them get started and stay engaged.

Encourage educators to leverage class parents with this professional experience to talk about what a job in the field means and why it might interest them.

Nurturing Interest in Girls and Young Women: Early Computer Education



Early Computer Education

Both campers and university students cite computer educators and classes as igniting their interest. In interviews with campers, some remember back to experiences they had in early elementary. For girls and young women with a love for problem solving and creating, early exposure appears to be meaningful and leads to more in-depth activities like robotics teams and camps as students grow older in a desire to learn more. Over half of university students cite a computer class teacher as very influential.

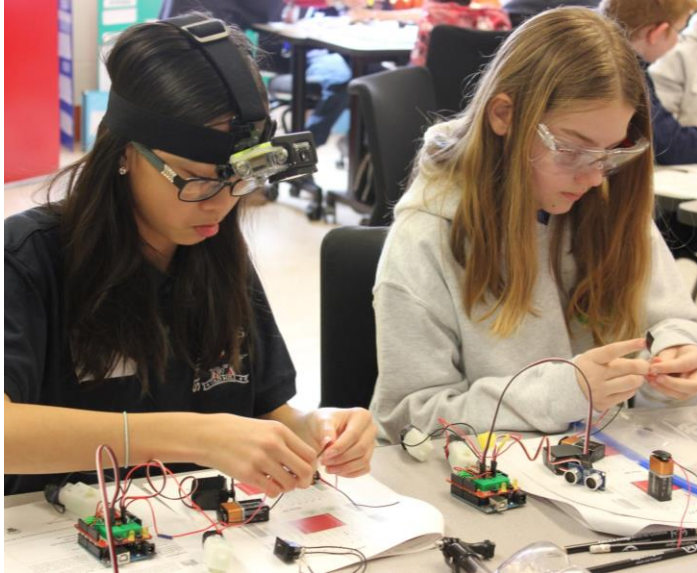
Thought Starters

Continue to support early education funding and consider supporting curriculum and classroom material development.

Celebrate computer educators and provide them with a means to network similar to professionals.

Consider grant opportunities for early computer education (e.g., development conferences, equipment grants)

Nurturing Interest in Girls and Young Women: Emphasize How It Reflects Their Interests



Benefits that Align With Interests

The benefits that align with the personal interests of campers, university students and professionals are consistent across groups.

- Requires and celebrates problem/puzzle solving
- Allows them to be creative
- Can help them to impact others and the way they live positively
- Offers opportunity for constant learning and development

Thought Starters

Make sure girls understand the “whys” and not just the “hows” when in computer education and extracurricular activities.

Dimensionalize how these benefits line up with specific careers for older students choosing paths of study.

Create tools to help educators and girls themselves self-identify their interest through these benefits as part of the career exploration curriculum.

Nurturing Interest in Girls and Young Women: Highlight Role Models



Address Older Student Concerns

Directly by Highlighting Role Models

University students express concerns about the lack of representation in the field, that they wouldn't be taken seriously and their own lack of confidence. Relatable role models can help ease these concerns and inspire confidence in choices yet to be made and reinforce those choices of those who have selected the field for study.

Thought Starters

Consider creating role model-focused content on channels they consume (e.g., YouTube) that brings role models to them who are willing to answer questions.

Provide educators with a panel of volunteers to speak in classrooms and answer questions and concerns.

Create tools to help educators and girls themselves self-identify their interest through these benefits as part of the career exploration curriculum.

Nurture Professional Commitment/Support Success: Growth Opportunities

Growth Opportunities Drive Both Commitment and Success

Professional women consistently highlight four types of growth opportunities throughout the survey.

- Training and development
- Mentorship
- Opportunities to lead
- Being given a new challenge

It is seen as the most prevalent reason young women should consider the field and was the most popular write-in answer when asked what motivates them to stay.

HR professionals also indicate that focusing on giving IT professionals these types of opportunities, and concentrated communications about their opportunities and successes supports talent retention.

Thought Starters

Develop opportunities for more mentorship programs or provide support to employers who wish to offer one.

Provide members with resources for training opportunities that they can ask their employer to support.

Support employers with research tools to help them better understand which types of growth opportunities are most meaningful to their employees.



Nurture Professional Commitment/Support Success: Encourage Flexibility



Encourage Flexible Schedules

While professional women compare IT/tech favorable across all measured aspects, work-life balance shows the weakest advantage.

In addition, offering flexible full-time schedules is seen as the most effective recruitment tactic by 35% of professional women. It is also a top mention in ways that employers have encouraged their careers.

Thought Starters

Facilitate case study sharing from employers who offer this benefit, so those who don't can see the successes and even challenges of offering it.

Provide education and guidance to women on how to positively discuss and request this benefit if needed or desired.

Develop a bulletin utilizing key survey results to educate employers on its value and importance to employees.

Nurture Professional Commitment/Support Success: Address Bias



Professionals Cite Lack of Representation and Gender Bias as Biggest Challenges Facing Young Women Today

When asked to identify challenges facing young women entering the field today more than one-third write in a response about lack of representation and more than a quarter about gender bias.

If women do not feel confident that they are valued equally or compensated equally for their value other options may become more attractive to them.



Thought Starters

Consider developing curriculum that employers can use to facilitate discussion about unintentional or unconscious bias in their culture.

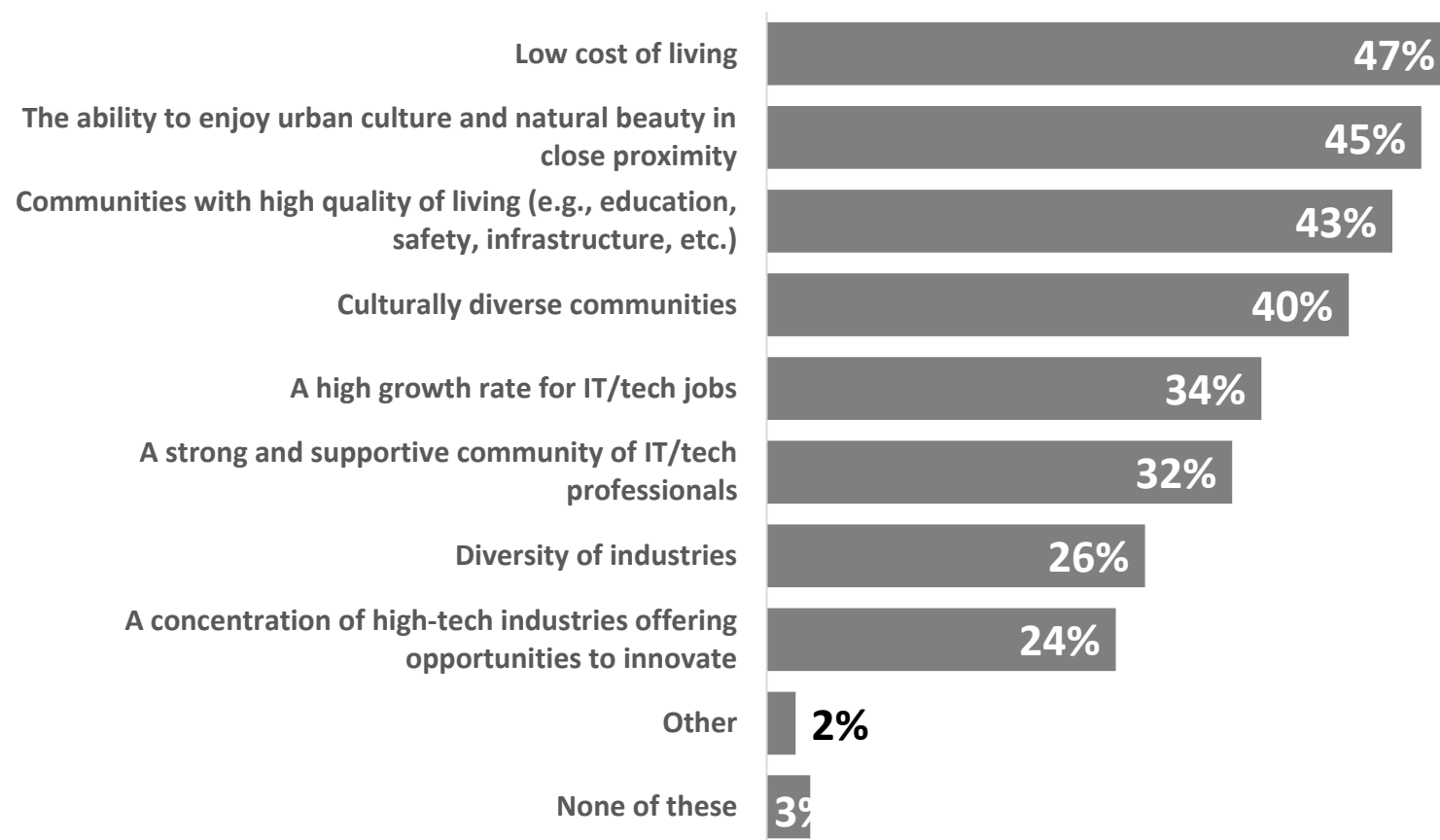
Consider further research on how professionals feel they are experiencing this bias and ask for their help in providing suggestions for solutions.

Facilitate discussions for employers and allow them to share success stories with members.

IT/Tech Professionals: Why Michigan Is the Best Place for Female IT/Tech Talent to Thrive



Advantages Michigan Provides to Tech Professionals



Michigan IT/tech professionals see the state as offering many advantages to those in the industry. Michigan is an attractive place to live and work with a low cost of living, high quality, diverse communities and a strong perception of opportunity.

Detailed Findings

Girls in Grades 5-8: Camp Infinity Interviews

Campers: Key Findings



1. Family members (especially parents) with careers in IT/tech play a critical role in sparking and nurturing interest.
2. For girls with no IT/tech professional in the family, early education computer classes are a key moment.
3. Parents and teachers are seen as those who have taught them the most. While many say that they interact through technology with peers, relatively few cite them as having taught them about computing. Only one said a friend was most influential.
4. Many are at the very beginning of their career exploration journey, it is a critical time to present IT/tech as an attractive option. Current career interests focus on two key areas: creativity and helping. Positioning IT/tech within this framework should increase appeal.
5. Students interpret a wide variety of professions as IT/tech related because they include use of technology. For example, several mentioned medical professions such as doctors or creative professionals such as graphic designers. Many are not able to distinguish the difference between using technology and a career in IT/tech.
6. Aspects of a career in IT/tech that are most meaningful to students include problem solving, creativity, creation/building and helping others.
7. Many aren't even sure what questions to ask about the field, exposure to different career options within the field will be critical to further consideration. Those who do have questions focus on what they will be doing and the environment in which they will work rather than compensation or benefits.

Games Most Popular Computer Activity



Below are the most common activities on the computer for campers. Given their interest in IT/tech, these are likely not representative of all girls in their age group. Not surprisingly, games top the list and is consistent with an overall cultural trend of gamification.

Favorite Computer Activities (Write-in, can name more than one)

1. Play games (45%)
2. Code (34%)
3. Watch YouTube (14%)

Parents With IT/tech Careers Are Strong Influence



Family members and especially parents with careers in IT/tech play a critical role in sparking and nurturing interest. Dads are most often cited.

Parents with this valuable experience and passion should consider not only sharing it with their own children, but also other children (friends and through school programs).

Ever since I was born my Dad has worked with computers all my life. I wanted to learn about his job more and I want to learn to code because I think it's cool.

The first time (I remember being interested) was going to my Dad's work (a hospital.)

The person who originally got me into programming was my step-dad. He brought me to his computer while my mom was on vacation and showed me how to make a website.

My mom showed me how to do half of a website, and I got interested.

When I was in 5th grade, my dad enrolled me in Science Olympiad computer science. He is a software engineer in aviation and since my sister was never interested in technology, he pushed me to explore it. I did the program with my friend and I ended up enjoying it.

Early Computer Education Is Key



For those without the benefit of a parent or family member with career experience, early computer education through school or camps plays an important role. Teachers inspire as well as educate.

I found I was interested in technology when I went to school. That was kindergarten when I first saw a computer.

I got even more interested this spring when I participated in Girls Solve IT and I was in a group of 4 with my science teacher.

The first time I started coding was when my mom signed me up for coding at school in 5th grade and that's when I realized.

In 4th grade I was on Khan Academy and I saw a video game about animation artists working in Pixar. The video gave a brief explanation about their job and I loved it! That was when I really fell in love with tech and animation and coding.

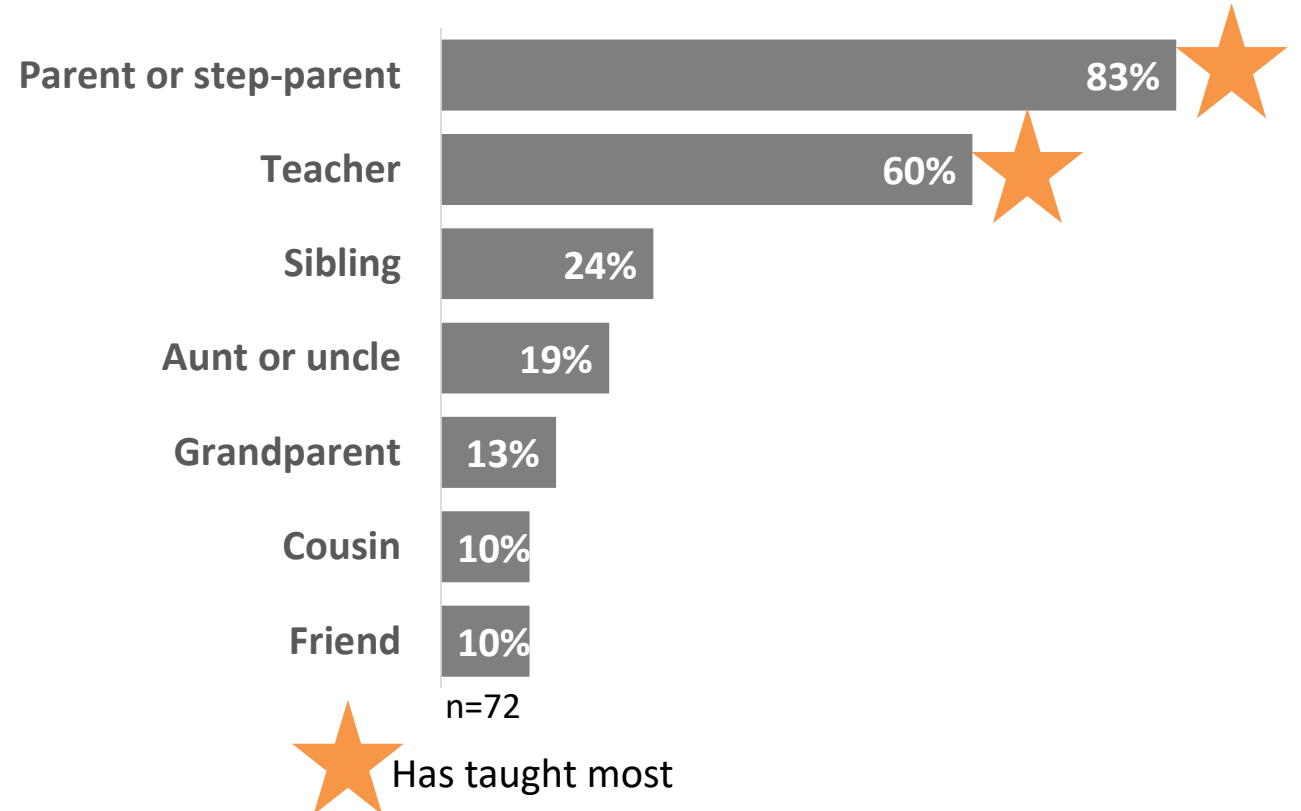
It was at school. When we had to go on the computers and do a coding game.

Parents and Teachers, Not Peers, Are Teaching and Encouraging

We asked campers who had taught them about using computers and who had taught them the most. Parents and teachers are by far the biggest influencers.

While they interact with peers using technology, they do not tend to be seen as influencers or mentors. They are more likely seen as learning and exploring alongside or as gaming partners.

Has Taught Her About Computers



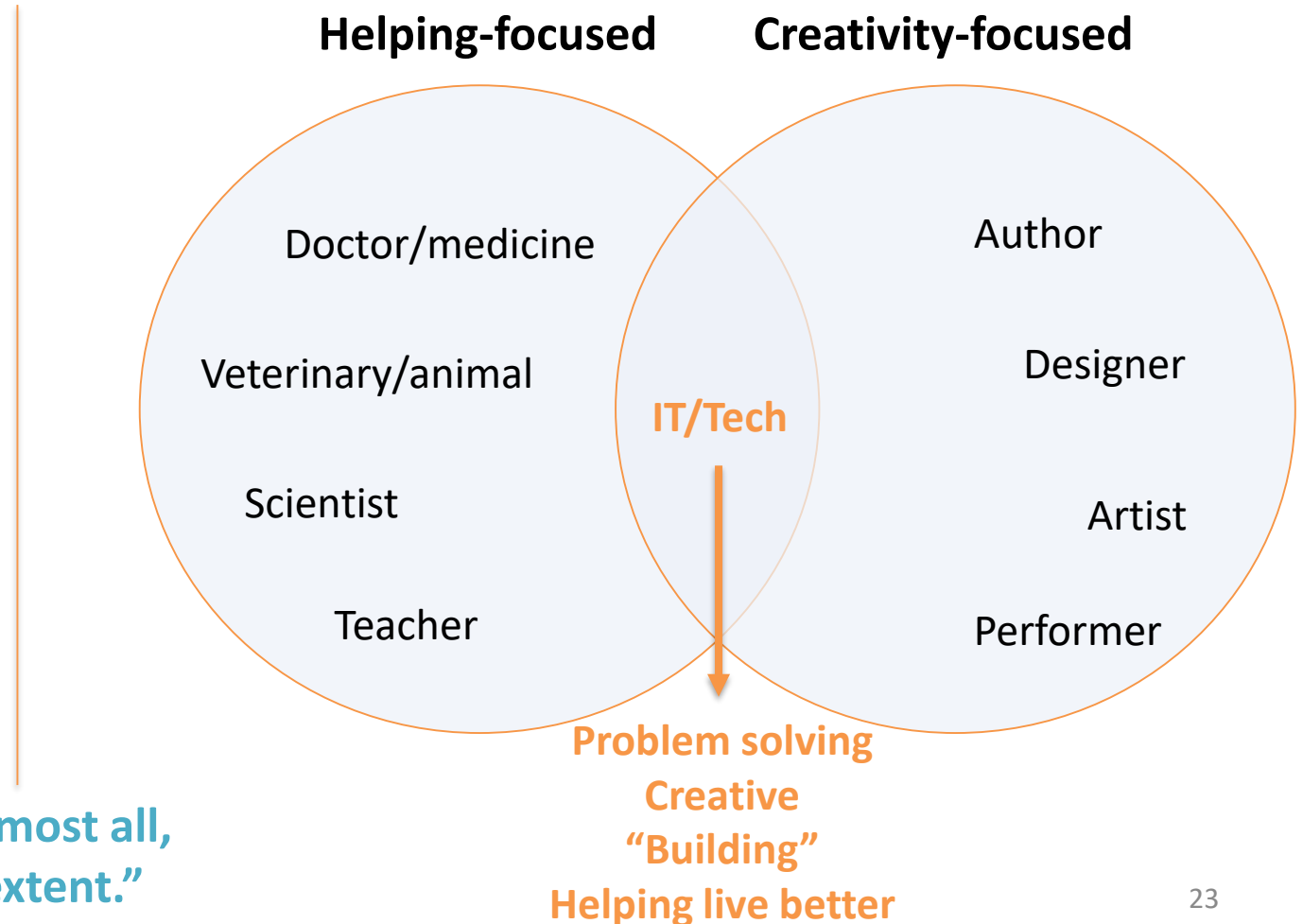
They Are Currently in the Career Exploration Phase

Most have some ideas of what they might be interested in, but few are firm in their potential choices at this point. (Those interested in medicine are most committed.)

Many express interest in helping-focused and creative-focused professions. Also, due to the use of technology in almost all fields, many have a difficult time seeing technology as a stand-alone profession rather than an integral part of other professions they are interested in.

Framing up IT/tech within these personal fulfillment categories could increase interest in the field. Several at camp can see how IT/tech could allow them to be both creative and help others already given their increased exposure to mentors and the field.

“I don’t really know what career I want, but almost all, if not all careers, involve technology to some extent.”



What's Most Interesting and Positive About IT/Tech?



Those with an interest in IT/tech careers describe their interest within the context of three key themes:

- Solving problems or puzzles
- Creativity and making or building things
- Helping others live better

Solving

- “Because I get to test things out.”
- “I like to solve puzzles. To me code is one big puzzle.”

Creativity/ making

- “I think it would be fun to make videogames and websites.”
- “Because you can make it however you like.”
- “I love to draw and code and think designing a video game would be fun.”
- “I love to build things and have a plan.”

Helping

- “I want to make people and animals’ lives easier.”
- “Making sure that no one hacks anyone.”
- “I love to be on the computer and with code you can keep bad guys out of the system.”
- “Because I get to help people with tech.”

Get More Girls Interested? They Say Tell or Show Others...



Interestingly, when asked, campers suggest that we tell other girls about those same benefits in order to gain their interest.

Solving
Creativity/
making
Helping

- “Coding is like a secret language.”
- “Once you create something you feel so proud that you make more and get interested.”
- “I would tell them that you can be creative with your ideas and knowledge”
- “Tell them that it really can be fun and interesting and help the world.”
- “I would tell them that you can be creative with your ideas and knowledge.”

Many Don't Know What Questions to Ask, but Those Who Do...



Many campers are not able to articulate questions they might have about a career in IT/tech despite a healthy level of interest.

Those who do focus more on what they might do and the environment where they might do it over salary or stability.

Do you have to stay inside to code or do you get fresh air in between?

I wonder what kind of people I would work with?

What are the pros and cons of the job?

Why do you do this job? What inspired you?

Do you get to be creative when you code and program?

Do these types of careers have specific work hours? Since they are on a computer, they could work anytime, right? Is it hard to get clients as a data analyst? Is collaboration always required? What kind of background knowledge do you need?

What classes or courses do I need to take?

Women Studying IT/Tech at Michigan Universities: Survey Results

University Students: Key Findings

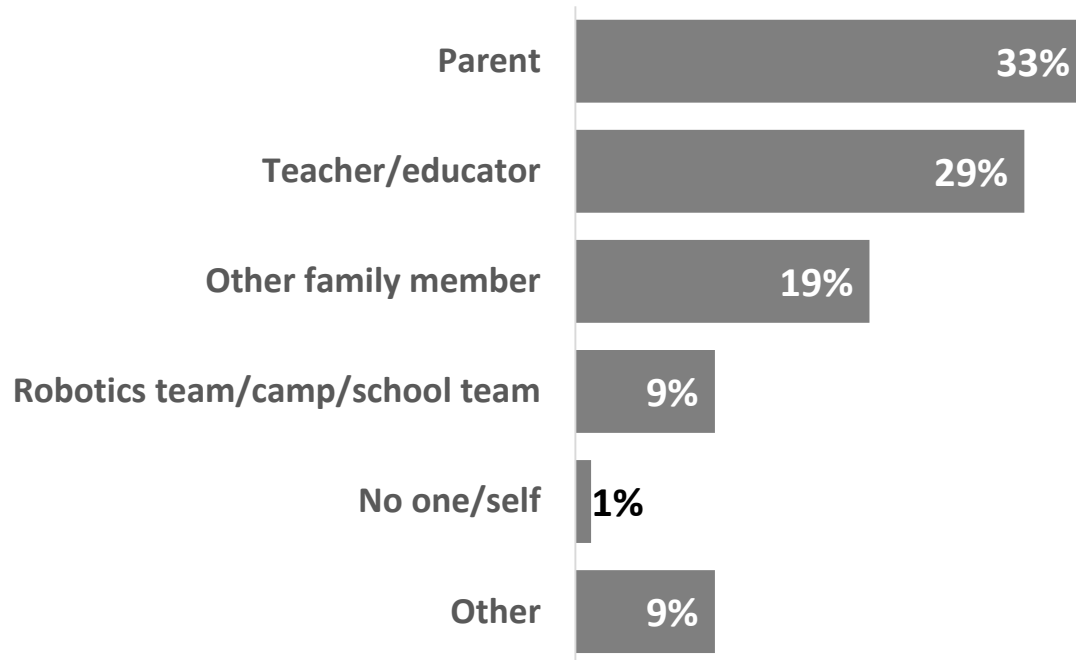


1. Parents and educators are top-of-mind as most influential in encouraging their interest in IT/tech. But when presented with other possibilities, we see other important influencers such as peers/friends, other family and extracurricular activities such as camps and computer clubs/teams.
2. With over half reporting that someone in her family has a job in technology, this exposure is undoubtedly valuable and positive to their choices.
3. These students show an innate curiosity about how things work and a love for problem solving that has been nurtured by family, education and extracurricular activities such as computer clubs, teams and camps. Most also considered another STEM career path.
4. They are most excited about the prospect of applying their love for problem solving to improving the lives of others and society at large. One-third write in thoughts that express this notion as what excites them most about this career opportunity.
5. Security and personal fulfillment are the two key themes that emerge when asked why they would choose IT/tech over other paths. Many see the field as a growing one with good career prospects and stable demand for talent. We also hear from written responses how they believe that this career path will provide them with satisfaction and a sense of personal accomplishment. In essence, it is a path they will enjoy and will afford them a secure and comfortable lifestyle.
6. Despite their enthusiasm and optimism about their choice, they are not without concerns. Two rise to the top — lack of female representation (not being taken seriously) and lack of self confidence. Both are likely areas that can be addressed through mentoring and education.

Parents and Educators Are Most Influential



Most Influential in Encouraging Career

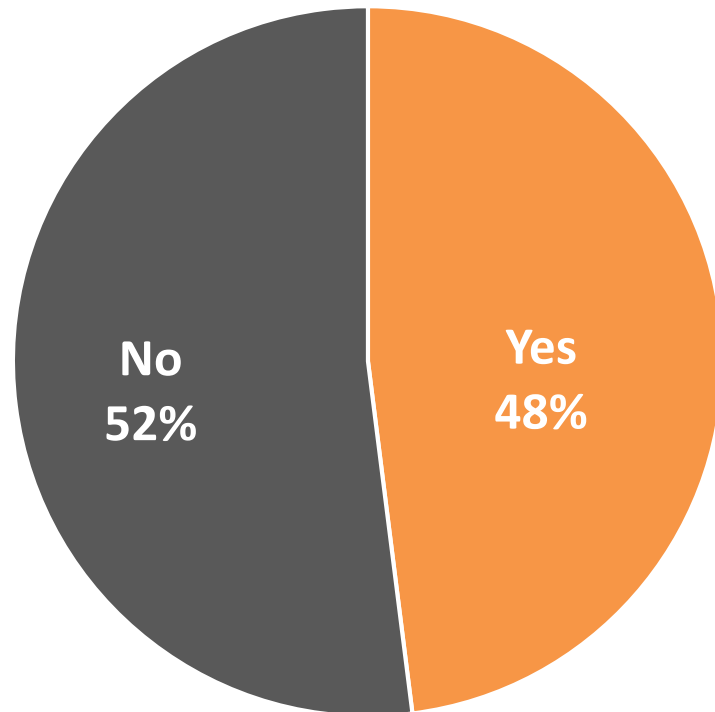


- My father and grandpa were the ones who really got me into engineering. Neither are engineers, but they are both wise men who taught me a lot about how things work and how to use tools.
- It was primarily a high school teacher that inspired me to pursue IT/technology. It was because of the material they taught and how passionate they were that caught my interest in the field.
- The woman who spearheaded Girls in Programming was a computer science professor at Northwestern who not only designed complex learning algorithms for AI systems, but also implemented those algorithms into video game design. She was my mentor for a lot of computer programming concepts.
- My high school robotics mentor, who was just a few years older, but so much smarter. I feel like I learned a lot from him.
- I just always liked STEM. My parents are the ones who pushed me to continue with STEM.



Nearly Half Say That They Have a Tech Professional in the Family

Family Member Has Career in IT/Tech



“

- I was influenced by my dad and sister. Both are in technology fields. I have always been interested to hear about their work. This drove me to explore a technical career path.
- My family always encouraged me to do what I enjoyed most, and my brother and dad are both engineers. From that, I decided I wanted to do engineering.
- My cousin TJ and his constantly growing interest in technology.
- My sister and teacher have influenced me greatly to pursue a career in IT/technology. We both had this outstanding coding teacher. Because of her, my sister and I have both won numerous amounts of scholarships, internships, and have both decided to major in something within the STEM field.
- My father. He has worked in the industry since I was a kid and always encouraged me to pursue the field.

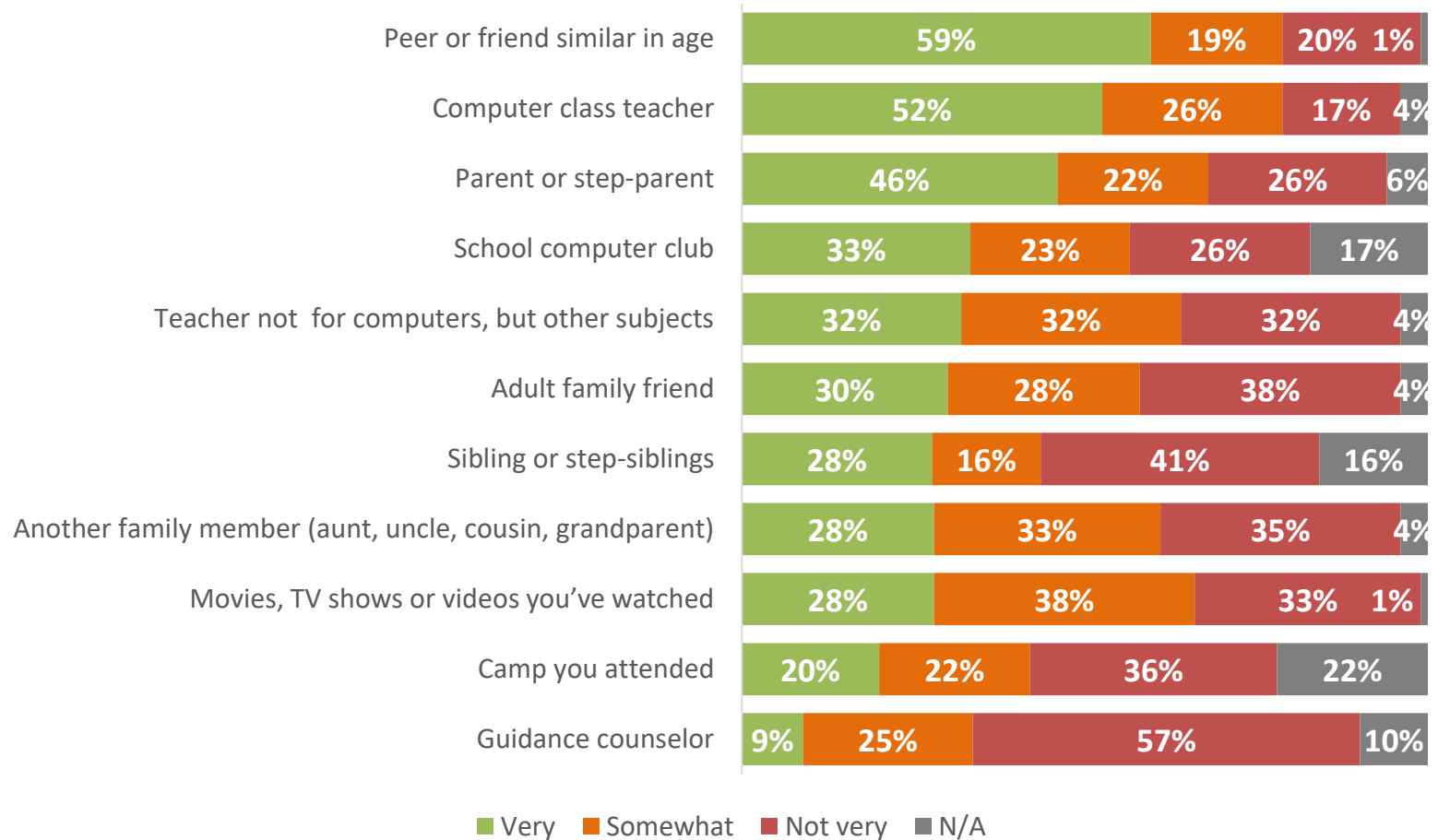
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While Perhaps Not Top of Mind, Peers Can Play an Influential Role



While all influences may not have been top of mind earlier, we see many different types of influencers when prompted. When grouped, family and educators are still most influential, but we see peers also emerging as strong influencers. This group appears to have grown in importance compared to the middle school students we interviewed.

Level of Influence in Encouraging Learning About Computers



Four Key Themes Describe First Experience That Inspire Them



1. Family

- “Encouragement from big brother. Being able to program in high school.”
- “My sister who had attended the University of Michigan was holding a class to teach younger girls the basics of circuits and how to solder.”

2. Education

- “When we started working with circuits in physics, I knew I wanted to learn more on how to solve these problems and work with circuits.”
- “Taking a programming class at school sparked my interest in IT because I hadn’t been exposed to programming beforehand and it was fascinating to learn about core coding concepts.”

3. Culture

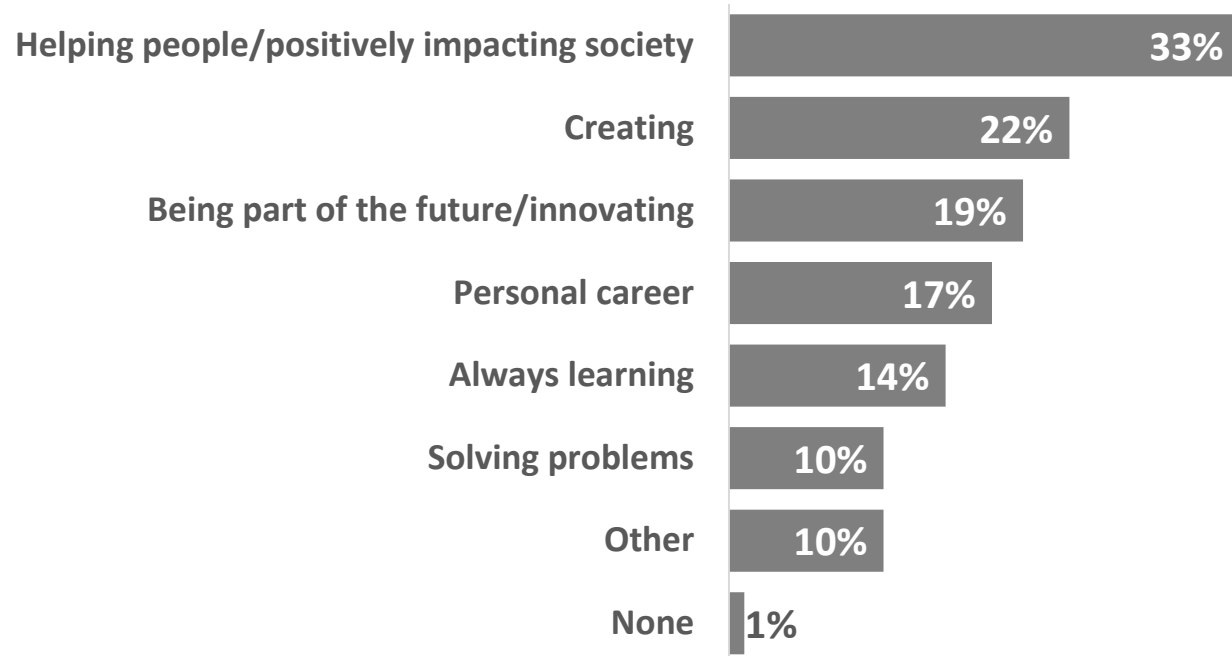
- “I am not quite sure, but I remember wanting to be a hacker because of some action movies.”
- “Probably the news, movies, interest in technology, my first job at EDS and wanting to know more.”
- “I started playing Minecraft with my friends in high school.”

4. Curiosity

- “It was mostly a project of mine along with school material related to programming that sparked my interest.”
- “I liked to break apart machines, see how they function and then put them together.”
- “I worked on a self-started app project with a few of my classmates in high school. We self-initiated this project.”

Helping People and Impacting Society Is Most Exciting Aspect of Future

What Excites You About a Career in IT/Tech?



“

- Just being able to be on the forefront of all big change. I think technology has the ultimate power to make a difference, and I want to be a part of that.
- Changing ideas and standards. Cutting edge innovations.
- I feel most excited about all of the possibilities with AI.
- Making something new that I can call my own.
- Being able to translate technology into solutions for business and people.
- Collaboration and learning. I am excited to collaborate with other technologists to develop solutions, and I am excited to continue learning more throughout my entire career!

”

Security/Opportunity and Personal Fulfillment Are Reasons to Choose



University students passionately talk about the reasons to choose IT/tech over other fields. The first theme focuses on demand for talent and employment opportunities as well as the ability to grow.

The second is more internally focused on solving, creating and helping, which bring a high level of personal fulfillment.

Security and Opportunity

- “It is a field that is growing and will be needed in the future for business and commercial purposes.”
- “I like the diverse opportunities that come from a degree in technology.”
- “I think that my degree will allow me to follow whatever kind of industry I find interesting.”
- “Very employable, major impact, tech heavy.”
- “There was a shortage of people in IT, also according to my teachers I was good at coding. And a good salary that comes with it.”

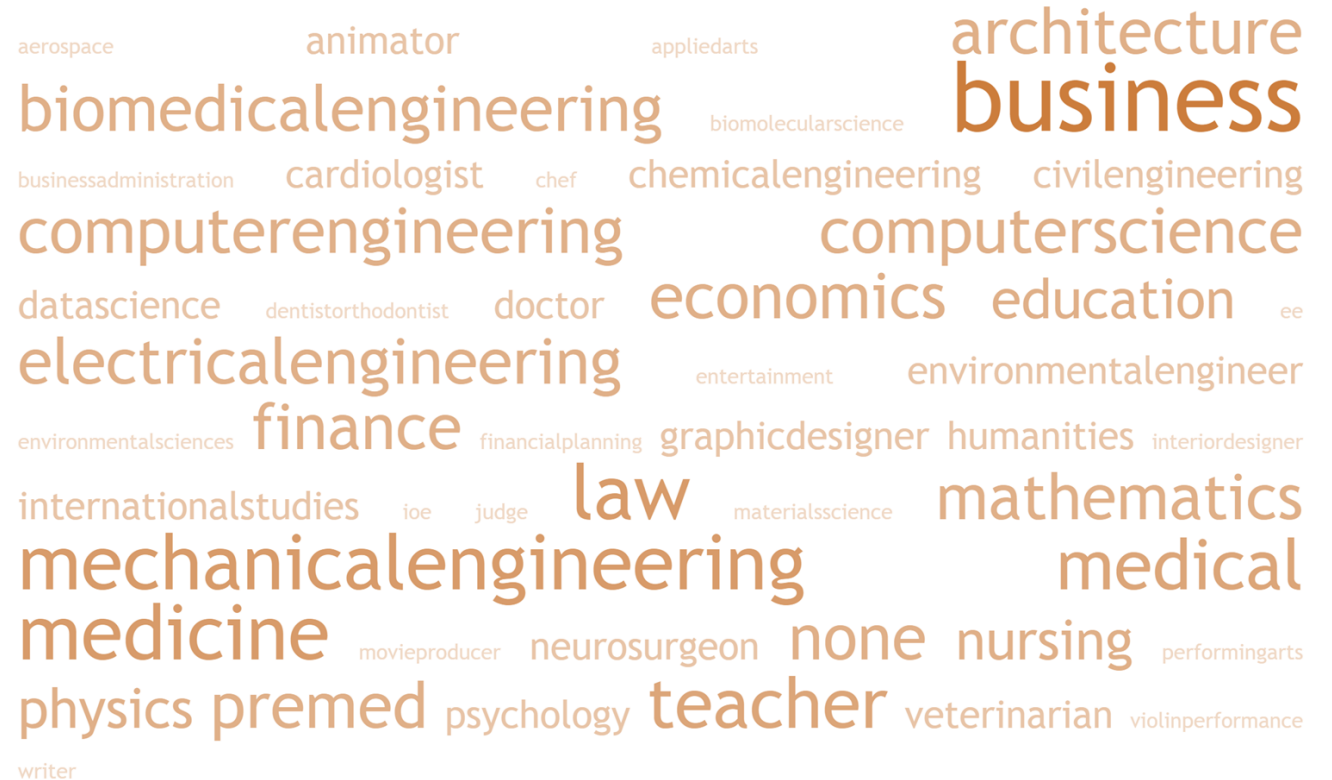
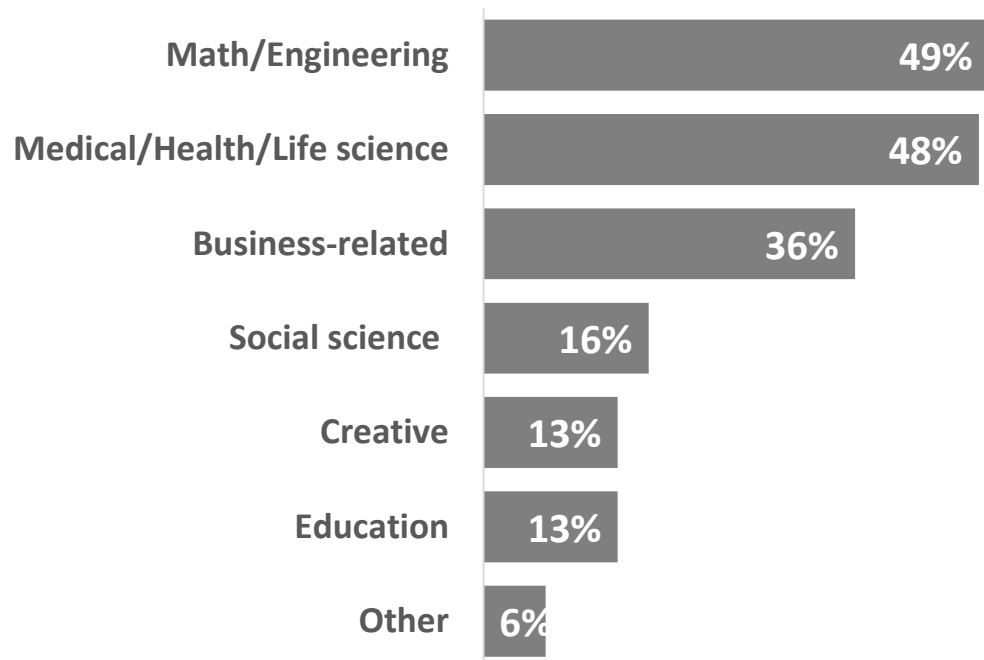
Personal Fulfillment

- “I love the aspect of creating technology to improve and impact a lot of people’s lives at a time instead of helping one person at a time...”
- “I am intrigued in the kinds of problems and solutions developed by technology.”
- “It's challenging, but when I complete a project I feel very fulfilled.”
- “I can feel my passion for technology. While I have an interest in other subjects, as soon as I started learning computer science I fell in love.”

STEM Fields Also Likely Considered

Compared to middle school campers, fewer university students suggest that they considered creative fields, which suggests that as they grow closer to study selection, those that choose IT/tech hone in on other STEM careers as well.

Other Fields Seriously Considered



Being Taken Seriously by Others and Lack of Self Confidence Top Concerns

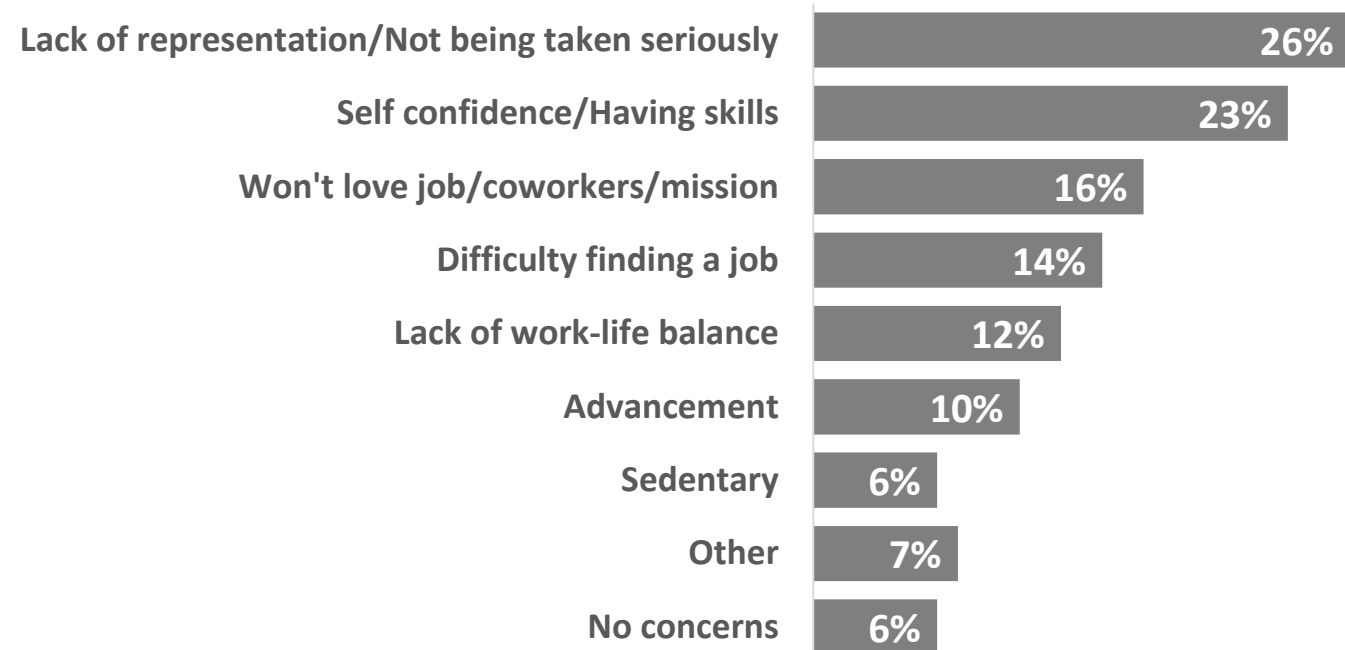


Concerns About Career in Technology

Actual operational concerns such as finding a job, enjoying the job and finding balance are cited.

But lack of representation and being taken seriously as one of relatively few women is a key concern. And this uneasiness seems to also be manifesting in a potential lack of confidence that they will be successful.

Examples of verbatim can be found over the next few pages.



Verbatim About Concerns



Lack of representation/not being taken seriously (26%)	<ul style="list-style-type: none">• “I think my main concern is just being taken seriously and also taking myself seriously. I suffer from a textbook case of imposter syndrome which I think can sometimes hold me back.”• “I am concerned about my ideas not being taken seriously as a female software engineer, because I am often treated without respect.”• “Discrimination. A woman and person of color in STEM who has trouble speaking up for herself is at a major disadvantage in most fields.”• “Worried about other women being present. I just joined a technology group on campus and am the only girl.”• “I hope women in this field will be welcomed and appreciated in the IT workforce.”
Self confidence/having skills (23%)	<ul style="list-style-type: none">• “Competitive job market and my lack of skills.”• “I don't often get concerned with this, but sometimes I get concerned I may not get a job or be qualified enough.”• “My concerns include being overwhelmed with trying to keep up with the new technologies, but then again that is also exciting to be able to witness the evolution of it.”• “I'm not good enough.”• “That I won't remember enough information from school or have enough hands-on experience in the workforce to succeed.”• “Being an older worker and trying to stay relevant.”

Verbatim About Concerns



<p>Won't love job/ coworkers/mission (16%)</p>	<ul style="list-style-type: none"> • “I am concerned about getting ‘burned out’ and not having enough opportunities to collaborate with other technologists. I am looking for a good work/life balance, and a collaborative team. I do not want to be isolated in my career, nor do I want to work 80 hours/week.” • “How it aligns with my morals and ethics. I want to be able to create social change and not just be part of a capitalistic system.” • “Falling into the trap of big companies instead of following my own passions.” • “That I'll end up with coworkers as full of themselves as my classmates are.” • “I hope I don't get sucked in to a big corporation and act with only the company's interest in mind. I want to use my skills for good: to help consumers and also help the company.” • “I am scared that I won’t like my job environment, or that I won’t find a group of people I like who work with me.”
<p>Difficulty finding a job (14%)</p>	<ul style="list-style-type: none"> • “Competitive job market and my lack of skills.” • “I don’t often get concerned with this, but sometimes I get concerned I may not get a job or be qualified enough.” • “I'm concerned I won't ever find a job I really love. I'm concerned I might get too excited about my work and end up with a horrible work-life balance. I'm concerned I won't be able to find a job that's both challenging and fun.” • “Getting a foot in the door! Or being thrown to the wolves. Even internships I see posted ask for two years experience. How much do they expect me to know at first? How much REAL on the job training will I get?” • “Not get involved in opportunities I admire.”

Verbatim About Concerns



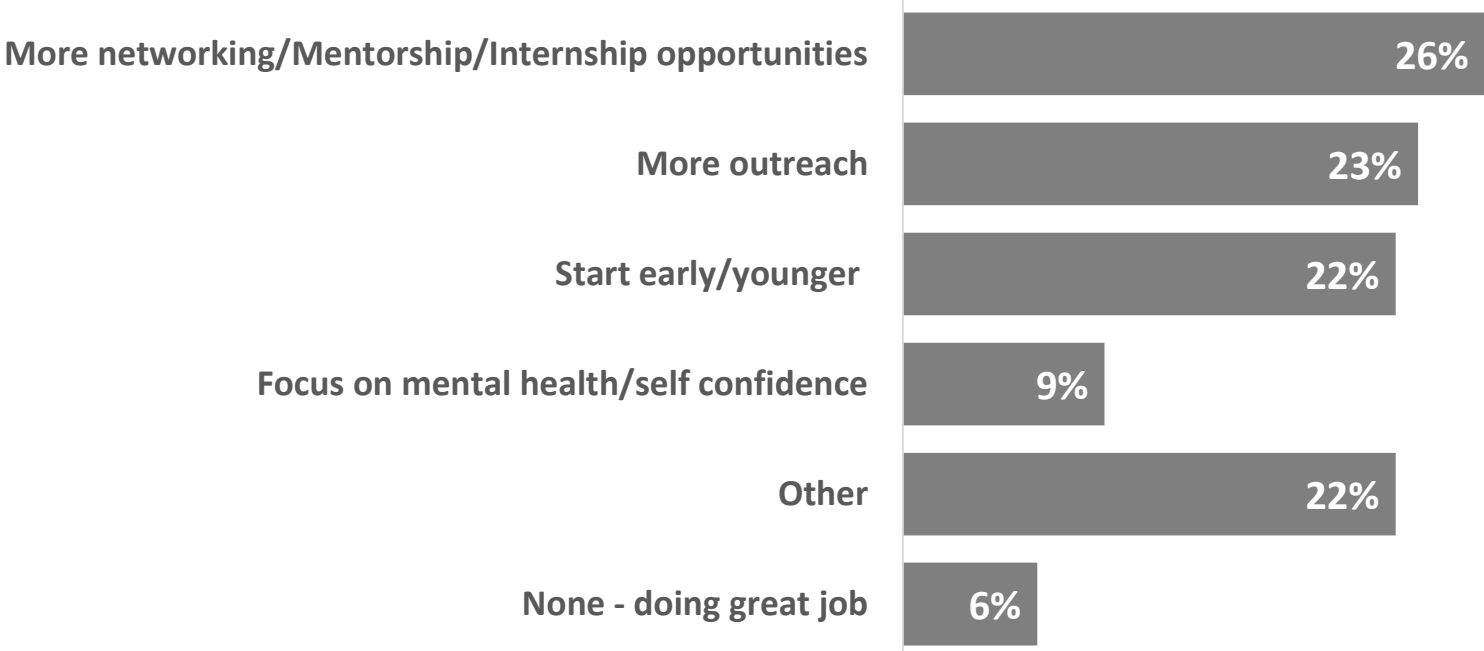
<p>Lack of work-life balance (12%)</p>	<ul style="list-style-type: none"> • “I am concerned about how to structure a proper work-life balance. I am not that good at separating my school life and personal life already, and I am afraid of possible burn-out in a couple decades...” • “Not being able to enjoy life.” • “The fact that I am a woman and expected to dedicate my time to home stuff. I want to become an astronaut, so I will most likely not find a partner because no one wants to deal with an astronaut.”
<p>Advancement (10%)</p>	<ul style="list-style-type: none"> • “I am worried that it is hard for me to advance in my career.” • “Opportunity and being able to break through to next level.” • “I don’t want to get boxed in and seen as only a computer scientist.” • “Career growth, sustainability, security and learning opportunities.” • “Promotions from entry level positions.”
<p>Sedentary (6%)</p>	<ul style="list-style-type: none"> • “I’m concerned about sitting at a desk all day.” • “I am concerned with how sedentary the job’s lifestyle is, but I know I can combat it with standing desks and exercise throughout the day.” • “I am concerned that I won't enjoy what I am doing, sitting at a desk all day, working in a group that doesn't inspire me and promote a good work ethic, getting bored with my work too quickly, not knowing how to do my job, not getting to interact with people on a daily basis, not making enough money, and more.” • “Don’t want to code all day, imbalance of men.”
<p>Other (7%)</p>	<ul style="list-style-type: none"> • “Future salary.” • “If I am going to be satisfied with just one career, or if I should pursue other IT/technology options after gaining experience with one specific career.”

A Variety of Suggestions Are Offered to MCWT



Suggestions for MCWT

University students offer a variety of suggestions to MCWT. Examples of those suggestions can be found on the following pages.



Suggestions for MCWT: Verbatim



<p>More networking/ mentorship/ internship opportunities (26%)</p>	<ul style="list-style-type: none"> • “Show them examples of all the real life awesome women in this field!!” • “Be good role models and mentor the youth.” • “More events to expose women to CA with female mentors that provide a positive role model.” • “Just more outreach about career opportunities. Seeing women in the jobs you want to be in makes it seem more possible and real.” • “Require that all scholarship recipients have a mentor throughout their college career.”
<p>More outreach (23%)</p>	<ul style="list-style-type: none"> • “Go to them. Get into the school and run workshops.” • “Volunteering in schools, tutoring in schools.” • “One suggestion I have would be to hold a job fair (if that's not something that's already done), as well as have resumé checks and mock interview sessions to help better prepare young women for the workforce.” • “Host speaker events to make others aware of how women can excel in technology.” • “More events to expose women to CA with female mentors that provide a positive role model.”
<p>Start early/younger (22%)</p>	<ul style="list-style-type: none"> • “Reach out to young girls who are still in middle and high school.” • “Have as many activities for high schoolers. Everyone says engineering is hard, and forget to mention that it is so much fun. I have never felt like I am being treated differently because of my gender. We should focus more on how nothing is impossible.” • “I think starting to teach kids about technology early can make the biggest impact because I found out about what programming is like very late in my education and I wish I had known earlier.” • “Start early and don't emphasize gender.” • “My mom putting me in a robotic camp is what made me interested in STEM as a child.” • “Get students started young, relate the love of technology to the devices that they use everyday already”.

Suggestions for MCWT: Verbatim



<p>Focus on mental health/self confidence (9%)</p>	<ul style="list-style-type: none"> • “A mentorship program, sort of like #BUILTBYGIRLS. Maybe also non-intrusive workshops on impostor syndrome.” • “Integrating mental health resources in as many events and initiatives as possible.” • “I would tell them to make sure the young women know how smart they are and to never doubt themselves in a field like this.”
<p>Other (22%)</p>	<ul style="list-style-type: none"> • “Explain all the benefits as well as drawbacks. People should be as informed as possible and that helps them learn the truth about a career.” • “The main problem I am having is that the teachers aren't teachers. They have industry knowledge, but aren't 'teachers.' Please send more people (women/men) with teaching experience to help the newcomers. Or help the current teachers to learn some better teaching techniques. Girls seem to learn better in groups where guys are more competitive. Building social networks (groups) in the classroom would be helpful. I also can not find evening tutors. Needed a tutor for C++. Please make tutoring available!!...” • “Don't put anyone on a high horse for studying IT/tech.” • “I would say to help them find more people who look different than the ordinary typical person in tech that are local to them.” • “Encouraging it is normal!” • “Make it more accessible.”

Women IT/Tech Professionals: Survey Results

IT/Tech Professionals: Key Findings



1. Women in the IT/tech field compare it favorably to other career paths overall. It is most favorably compared on the aspects of opportunities for personal growth, compensation and stability. And while still at an advantage, a smaller advantage is seen as it relates to positively impacting others/society and work-life balance.
2. While personal growth and fulfillment remains important to their motivations to remain, the transition to career appears to heighten the importance of more practical aspects of the career such as security and compensation. When asked top-of-mind (write-in) compensation is a less prevalent motivator, but when asked to rank a list and thereby make choices, compensation and stability rise to the top. Given the transition to self-provision and provision for others as they mature into their careers, this importance is not surprising.
3. Growth/opportunity and compensation are the two most prevalent themes offered as to why young women should consider the field today, but they readily admit to two significant challenges that they will face: lack of representation and gender bias.
4. Flexible schedules and mentoring programs are prioritized as the most effective tactics for recruiting female IT/tech talent.
5. Most who answer the question (85%) say that they have been encouraged by their employers. Flexible working arrangements, training/skill increase, schedule flexibility and mentorship top their lists. They are also the top themes they suggest to help recruit more female talent from a write-in perspective. When asked to rate, these attributes are all seen as very effective by nearly three-quarters. Flexibility is seen as the most effective with more than one-third (35%) prioritizing it.
6. Michigan is seen to provide a lot advantage over other states. Low cost of living (47%) a combination of urban culture and natural beauty (45%) and communities with a high quality of living (43%) top the list of advantages, but a minimum of a quarter recognize Michigan as offering an advantage across all attributes.

Constant Change, Variety and Growth Top Motivations to Stay in IT/Tech



Motivation for Continuing IT/Tech Career – Write In



- “
- You get the opportunity to learn something new every day, be on the cusp of new ideas/innovation and you get to help customers.
 - Compensation and the ability to design and create technology for the future.
 - I enjoy flexibility at work, the financial benefits and most of all working with leading technology.
 - I like to make things work. I like having agency over systems and influence an outcome.
 - I am a very organized, logical thinker and that mindset is ideal for this area of work.
 - It gives me an opportunity to explore different areas and learn new things and also provides the flexibility with my work schedules to accommodate family needs.
- ”

Compensation for Effort Top Motivator to Remain in IT/Tech Followed by Stability and Personal Growth



Top 3 Ranked Reasons to Continue Working in Tech Ranked 1st



n=333 Please rank the following attributes in order of their importance as it relates to your choice to continue working in the IT/technology field over others. Please drag and drop them in order of importance with the most important at the top (1) and the least important at the bottom (8).

IT/Tech Compares Favorably to Other Career Options



IT/tech compares most favorably to others on the dimensions of personal growth opportunities, compensation and stability. It compares favorably, although less so on the dimensions of work-life balance and ability to impact society/help others.

How Career in IT/Tech Compares to Others Young Women Can Choose



Growth and Opportunity Most Mentioned Reasons Young Women Should Consider



Reasons Young Women Should Consider IT/Tech



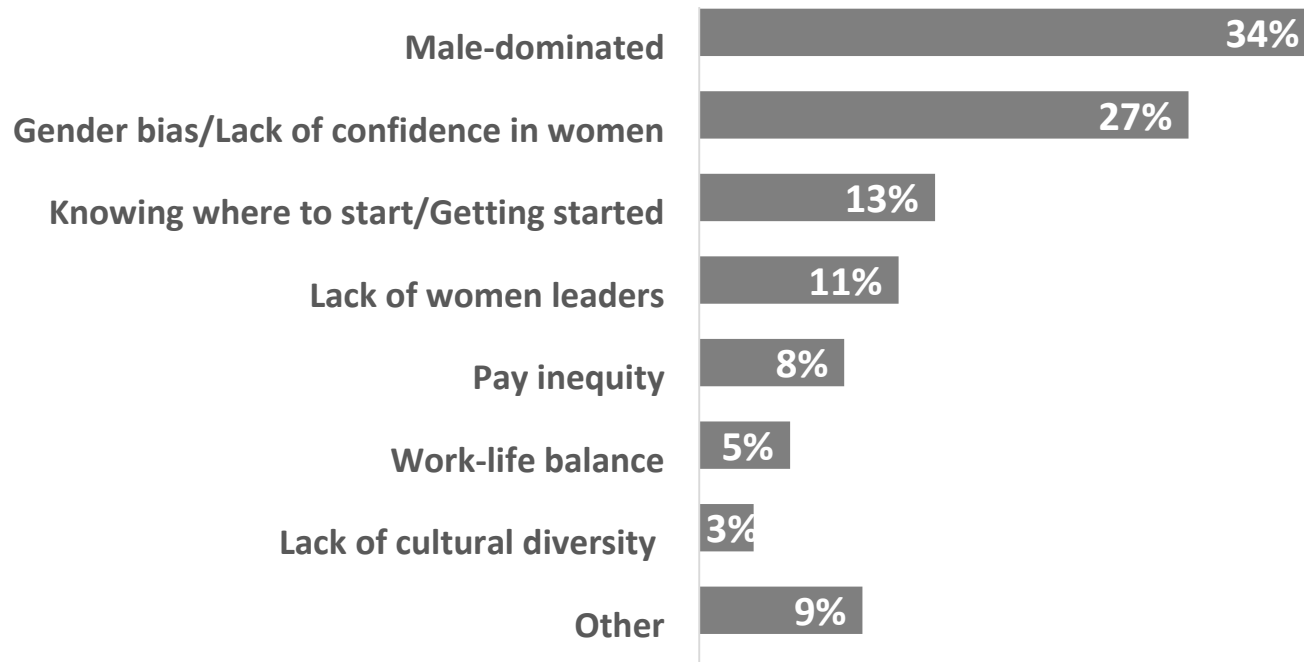
- Learning new technology constantly.
- Enables personal financial stability and independence.
- Diversity of thought.
- Opportunities and potential avenues for careers.
- There is not an industry technology does not touch.
- Improve the world.
- Ability to work remotely and almost anywhere in the world.
- Get to be a part of something that will be even bigger in the future, leaving a mark on female accomplishments.



Lack of Representation and Bias/Lack of Confidence in Women Top List of Challenges for New Professionals



Biggest Challenges Women Entering IT/Tech Face Today – Write-in



Professional women identify one of university students key concerns as a top challenge — lack of representation.

Example verbatim follow on the next pages.

Biggest Challenges Facing Women Entering IT/Tech Today: Verbatim



Male-dominated (34%)	<ul style="list-style-type: none">• “It's still very much a male-dominated field, so proving your value and demonstrating thought leadership is still challenging.”• “Historically male-dominated field with mostly male leaders. Lack of female role models and leaders in the IT field.”• “Still male-dominated. Being taken seriously. Maybe just their own fear since girls are often taught to be polite and not stand out.”• “Not having more women that they can collaborate with on a daily basis, and not being able to work on teams that are used to working with women.”
Gender bias/Lack of confidence in women (27%)	<ul style="list-style-type: none">• “I find myself being the only woman at the table more often than not, and whether true or perceived, I often am made to feel 'less than'. With a stronger team of women, we will be able to make a stronger impact.”• “There are perceived disadvantages for women entering the technology field. I believe that a lot of it is mindset. With the right attitude young women can push forward and compete.”• “There is still a stigma that these careers require only technical expertise. We need to let girls - especially - realize that IT/technology has a place for everyone. I think we need to continue to let girls see women in the various IT technology roles - so they can imagine themselves in those roles.”• “There aren't always enough women in IT fields so sometimes I feel there can be a disparity or people might not think we are as capable.”

Biggest Challenges Facing Women Entering IT/Tech Today: Verbatim

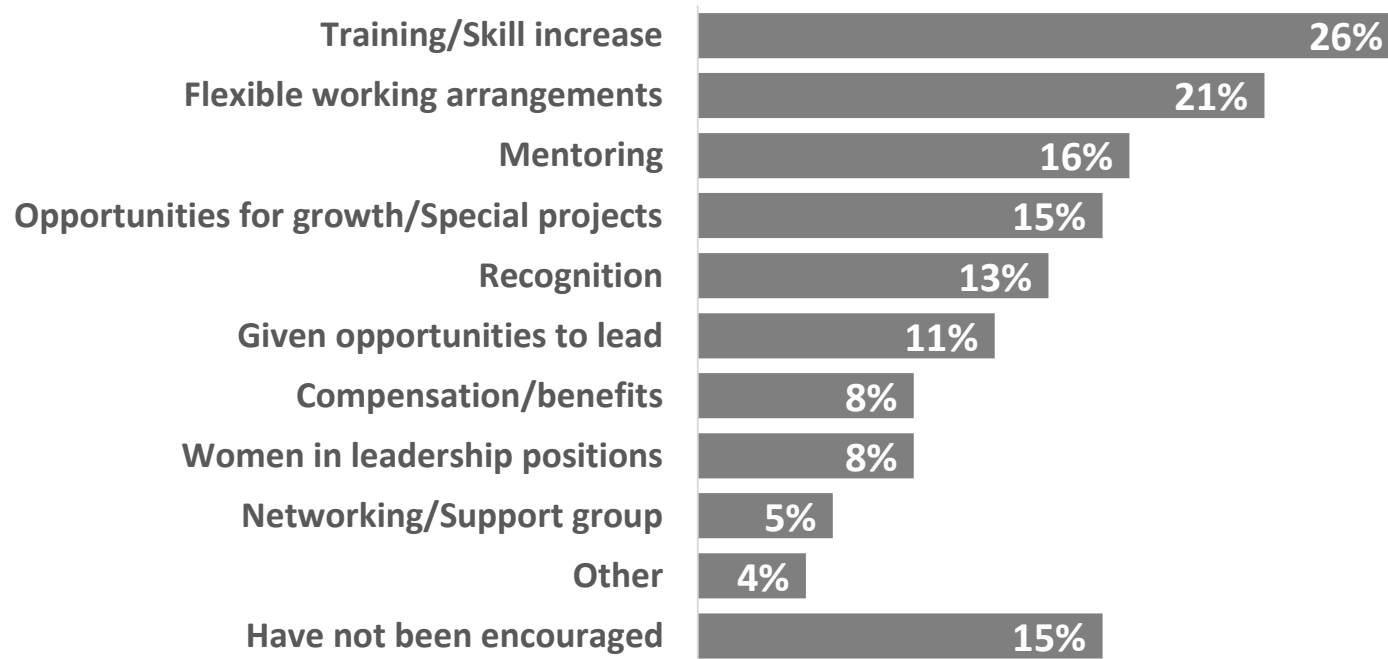


<p>Knowing where to start/ Getting started (13%)</p>	<ul style="list-style-type: none"> • “Maybe not being aware of the variety of career paths that exist or could exist.” • “High school background. Counselors not steering them toward IT.” • “Support with getting started in an area that leads to other or non-temporary opportunities.” • “Getting the initial experience with computers and dealing with gender bias.”
<p>Lack of women leaders (11%)</p>	<ul style="list-style-type: none"> • “Few females in leadership to mentor, aspire to and be supported by.” • “Not many women in senior IT leadership positions.” • “Lack of female leadership in existing organizations. It is hard to picture yourself as a leader or manager if those who are there do not look like you.”
<p>Pay inequity (8%)</p>	<ul style="list-style-type: none"> • “The wage gap is still real.” • “There is still a divide in pay scale with men.” • “Low compensation since they cannot negotiate.”
<p>Work-life balance (5%)</p>	<ul style="list-style-type: none"> • “Work-life balance. More companies should offer part-time or 4-day work week.” • “The biggest challenge for women entering and staying in IT is probably competing demands of work and life. That balancing act is NEVER done.”
<p>Lack of cultural diversity (3%)</p>	<ul style="list-style-type: none"> • “Inclusivity” • “Diversity in cultural backgrounds in IT present some cultures that are lagging in women equality.” • “There are some stigmas you still have to face.”
<p>Other (9%)</p>	<ul style="list-style-type: none"> • “Even with great ideas, opportunities are less.” • “Gaming culture instills habit of thinking like a predator (trolling, othering, etc.) and that leaks over to daily life.” • “Keeping up with the new updates and technology.”

Most Share Concrete Examples of How Their Employers Have Encouraged Them



Ways Employer Has Encouraged IT/Tech Career – Write-in



Professional women offer a variety of examples of how their employers have encouraged them. Increasing their skills/experience, mentoring and flexibility top the list.

Example verbatim follow on the next pages.

Examples of Employer Encouragement: Verbatim



<p>Training/Skill increase (26%)</p>	<ul style="list-style-type: none"> • “Allowing me the flexibility to learn and grow by OJT (On the Job Training), providing me with opportunities to test and implement new technologies and the ability to lead.” • “Great training opportunities.” • “Worked with me to develop my training plan. Given me opportunities to change job roles when I was wanting to.” • “Helped me via encouraging training and certifications and mentoring.”
<p>Flexible working arrangements (21%)</p>	<ul style="list-style-type: none"> • “Even as a global leader, it is the ability to have a flexible schedule to be able to participate in events that happen in my child's life.” • “She sponsors (pays for) my team to work in a co-working space so we can be around other people in tech while also allowing us to work from home a couple of days a week.” • “My female supervisors have been completely understanding of my start times changing from summer to school year as well as flexing my hours to cover childcare gaps and doctor appointments. I am so appreciative of this consideration and work hard to show it.”
<p>Mentoring (16%)</p>	<ul style="list-style-type: none"> • “Mentorship opportunities” • “My mentor was from Ally Finance. She encouraged me to go for IT field. Because the next world is IT, and it's always growing.” • “I have received 1 on 1 mentoring from other female leaders in the company. Sometimes they discuss my career growth and furthering education. To me, that is very important!”
<p>Opportunities for growth/Special projects (15%)</p>	<ul style="list-style-type: none"> • “Offered challenging assignments with constant feedback.” • “Invest in me. Having leadership assist with getting to where I want to be. Helping me ‘build my brand.’” • “Giving me an opportunity to move to a different area to learn new things.”

Examples of Employer Encouragement: Verbatim

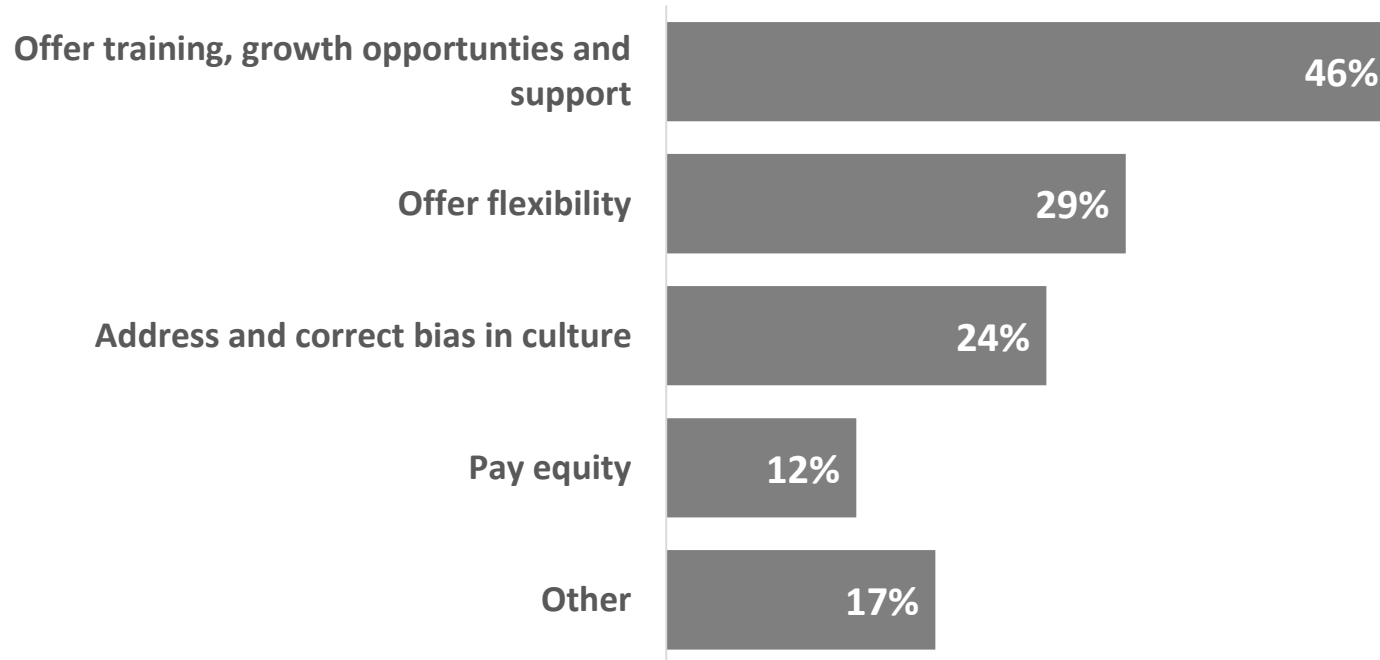


Recognition (13%)	<ul style="list-style-type: none"> • “Employer has treated me fairly and as an equal to men in recognizing my contributions.” • “Acknowledging when hard work has paid off.” • “Thanked me when I have done a job well done and really showing me that women belong in tech.”
Given opportunities to lead (11%)	<ul style="list-style-type: none"> • “Investments in ongoing professional development, opportunity to earn management/leadership roles.” • “Offering me opportunities to lead in different areas. I've been able to volunteer for newer assignments.” • “Provided opportunities for leadership within my role to help position me for promotions and raises.”
Compensation/benefits (8%)	<ul style="list-style-type: none"> • “My employer has a very good tuition reimbursement program, and my bosses have always been supportive of additional training requests.” • “My employer pays a very nice bonus for each certification I earn. It keeps my skills fresh and gives me the opportunity to pivot into other technologies if I like them more than my current role.” • “Equal pay for equal work- made sure to correct wage gap early in my career. So, now I am compensated better than male peers.”
Women in leadership positions (8%)	<ul style="list-style-type: none"> • “Women are being placed in more leadership roles.” • “Increased focus (lately) on seeking out female hires and leaders, which is motivating and makes me feel valued.” • “I work with a lot of women who are in leadership positions and it is an amazing opportunity to be able to learn from them. What is most encouraging about being surrounded by these women, is that they build you up, and empower you to move forward in your career.”
Networking/support group (5%)	<ul style="list-style-type: none"> • “Establish women in IT support groups.” • “Encouraged participation in professional organizations outside the workplace.” • “Offered network management opportunities and monthly Women & IT Lunch and Learns.”

Advice for Employers on Recruiting



Advice to Employers for Recruiting Female Talent – Write In



When asked top-of-mind, professional women are most likely to mention training, growth opportunities and support as advice for recruiting, but flexibility and addressing bias in culture are also popular suggestions.

Examples of these suggestions can be found on the next page.

Advice for Employers on Recruiting: Verbatim

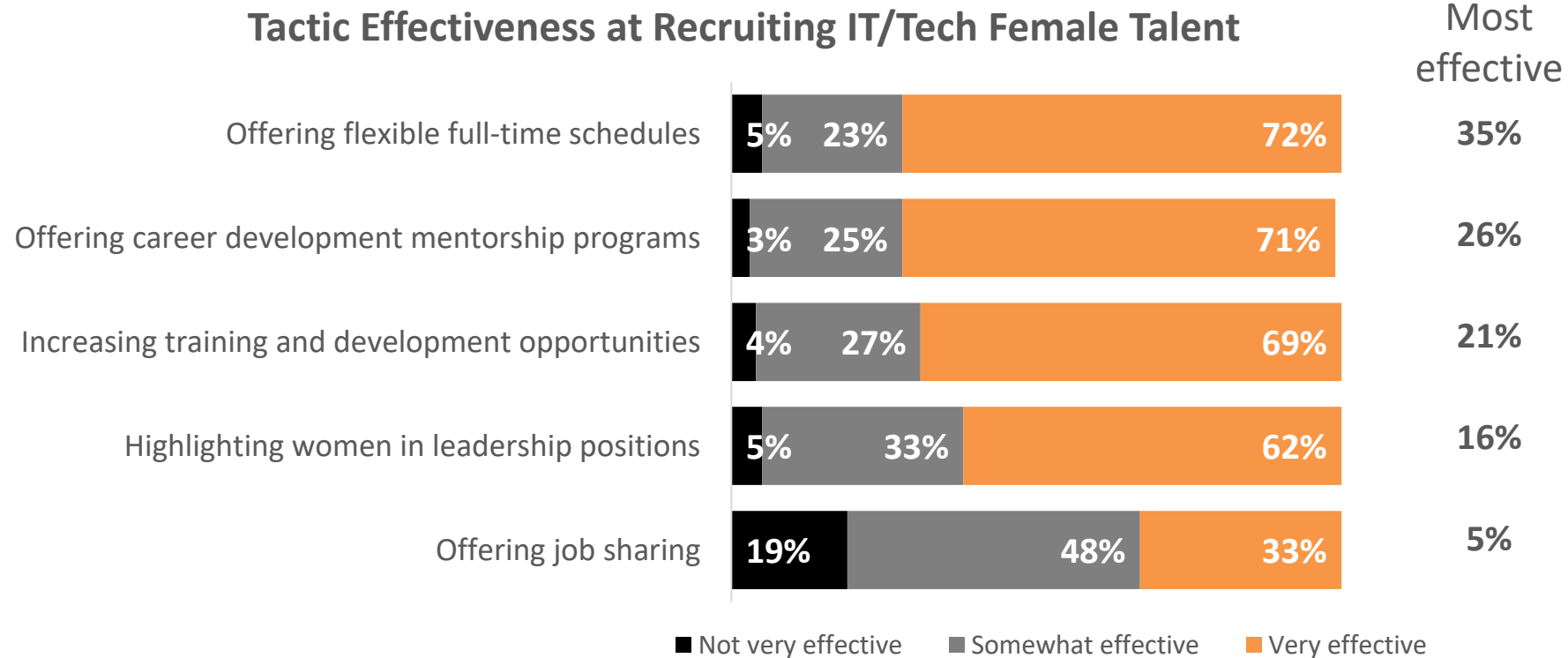


<p>Offer training, growth opportunities and support (46%)</p>	<ul style="list-style-type: none"> • “Offer growth and mentoring opportunities.” • “Training and development program being offered.” • “Provide encouragement through mentorship. Offer leadership programs. Show respect. Build confidence.” • “Make a conscious effort to promote female talent.” • “More women in leadership.”
<p>Offer flexibility (29%)</p>	<ul style="list-style-type: none"> • “As long as I have my computer I can work anywhere.” • “Flexible hours, especially for women whom have families and small children.” • “Don’t just talk about work/life balance; nurture and demonstrate it. Don’t single out women/mothers. Be mindful of networking at night, and impact of travel. Don’t make those activities requirement for advancement.”
<p>Address and correct bias in culture (24%)</p>	<ul style="list-style-type: none"> • “Strive for a culture that includes women in key roles so female talent can see a career path.” • “Lose preconceived notions about women being ‘less than.’” • “Treat women with equal opportunity as men. Do not talk over women or treat women as ‘emotional’ beings.” • “Don’t overlook us because we don’t always cause a commotion. We are valued and offer a different perspective. We are fierce and work hard.”
<p>Pay equity (12%)</p>	<ul style="list-style-type: none"> • “Give women a chance, and pay them what they are worth.” • “Pay women well and hire men who are professional and capable of working well with women.” • “Compensate and acknowledge for work done while offering a good support system.”
<p>Other (17%)</p>	<ul style="list-style-type: none"> • “Maybe don’t be afraid to talk to women.” • “Be willing to talk to and hire people from non-traditional tech backgrounds.”

Offering Flexible Schedules and Mentorship Programs Seen as Best Tactics to Help Recruit Female Talent



When rated, professional women rate offering flexible full-time schedules, development and mentorship programs and increasing training and development similarly as very effective. But when asked to select the most effective, flexibility is deemed most effective by more than one-third (35%).



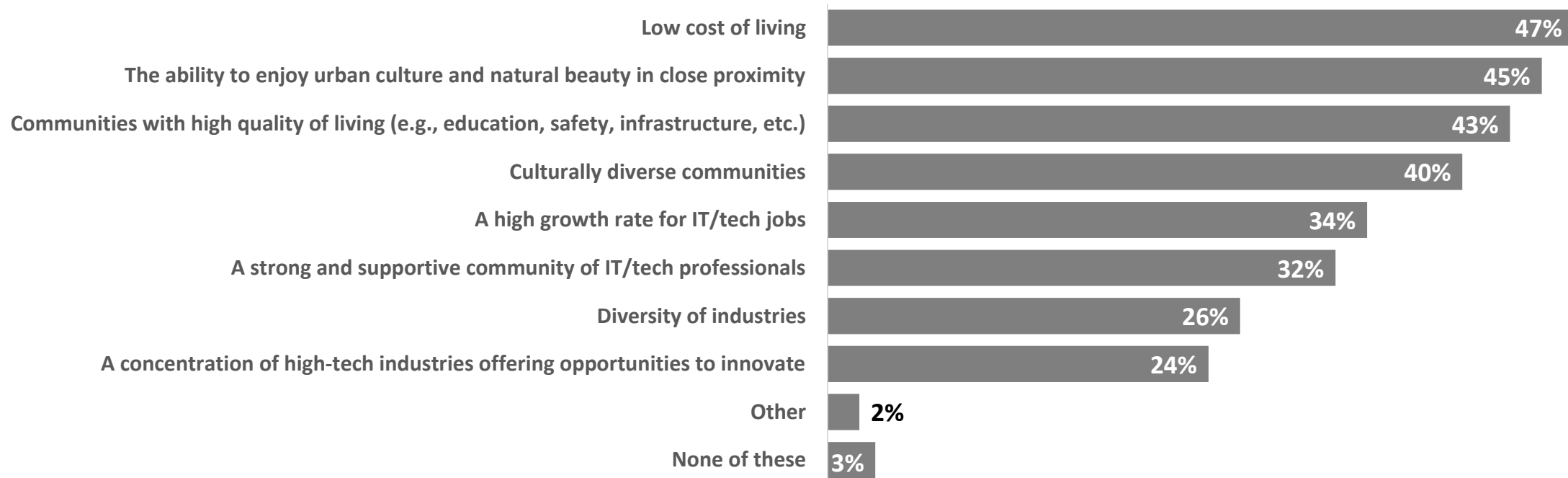
n=333 When you think about the most effective ways for employers to recruit women into IT/technology positions, how effective are each of the following at supporting that goal? Which of the following do you believe would be most effective in helping an employer recruit female IT/technology talent?

Advantages Michigan Gives IT/Tech Professionals



Michigan is seen to provide a lot advantage over other states. Low cost of living (47%), a combination of urban culture and natural beauty (45%) and communities with a high quality of living (43%) top the list of advantages, but a minimum of a quarter recognize Michigan as offering an advantage across all attributes.

Advantages Michigan Provides to Tech Professionals



HR Professionals: Interview Results

HR Professionals: Key Findings



1. HR Professionals recognize the importance and value of IT/tech talent in their organizations and the importance of a diverse talent group.
2. This group, although small in sample size, agrees that recruiting female IT/tech talent is challenging due to the size of the pool, but feels once they are successful they are able to retain that talent. They attribute their retention to a focus on growth and development opportunities and concentrated communication to ensure all talent thrives.
3. There appears to be a consensus that the key to future recruitment success is focusing on encouraging girls and younger women to be interested in the field.

IT/Tech Viewed as Critical to Organizations' Value for Many



Most see IT/tech talent as critical to their company's success. It is the core offering for a few.

- “
- It is at the forefront.
- Continuous improvement, as well as leveraging processes and technology to get our jobs done is a part of our culture and values. It enables us to be efficient and draw better linkages amongst all of our Business Units.
- IT/technology talent is among one of our IT Divisional Goals - it is highly important to us.
- IT carries the most responsibility for our firms success or failure.
- We provide complete, turnkey information technology solutions. Our staff holds current certifications from major network hardware companies including Cisco and Extreme Networks to ensure best practices are always in place. Because we provide IT solutions, we are always looking for the best fit IT candidates for our open positions.
- Our CEO and board have identified the digitalization of our organization as a key objective now and in the coming years. IT plays a critical role in enabling that outcome and the organization is structured to deliver on this objective.
- We are a digital bank so our IT population is a key driver is our programs and enhancements for our clients and customers in numerous aspects.
- It is our life blood. It is the service we sell.
- ”

Many See Recruitment as Challenging



On a measured scale, five of 10 rate recruiting female IT/tech talent as challenging or very challenging, while three selected somewhat challenging. The reason most often cited was lack of female candidates for needed positions.

“

- The location of the corporate office where IT is located.
- Employer branding.
- Finding women who are able to work beyond software development and can work/think/communicate more strategically and can effectively interface w/our clients and business partners.
- There are just not a lot of qualified female developers/technologists in this area.
- Lack of resource availability.
- I believe one of the biggest challenges in recruiting female talent is the lack of females that are in this field. There are many more males that apply for IT related jobs, and even if we were to search for talent, it is hard to find many females with the qualifications we are looking for.
- Female candidates at the senior level has been challenging to find. The industry at that level is tight.
- The pool is small in the specific areas we are looking in.

”

Current Efforts to Recruit Vary



Organizations are taking different approaches to this challenge, but involvement with MCWT (and similar organizations) and working with a diverse group of universities are most often cited.

- We currently attend career fairs and do outreach to help build our pipeline.
- We've begun engaging with organizations such as MCWT in a more meaningful way. The engagement is not only at a senior level, but we've also begun engaging our own IT team members to help us through this journey and get more involved with organizations like MCWT.
- Beyond our involvement with MCWT, we are also working with various colleges to recruit female talent and participate in other diversity programs through our corporate diversity initiative to reach out to women.
- Three ways: (1) recruiting firms (2) setting criteria (3) working on female workforce re-entry.
- We are always looking for new recruiting methods to have a more diverse pool of candidates to choose from. For example, we recently met with a Cisco Networking Academy that is locally based out of Detroit and interviewed four students who were studying IT and Networking. Out of the 4 students we interviewed, three were female. By making new connections and trying new methods, we are able to connect with more females.
- We have established strong relationships with local and regional universities where we have been successful in recruiting female talent. Experienced hiring is a much smaller part of our incoming talent, and we do see some more difficulty there.
- We ensure we have a strong pipeline for our leadership roles. Recruiting at diverse schools to build the bench. Ensuring our benefits are top notch and are appealing to hard to find candidates.
- Networking with women in technology groups, encouraging referrals from current employees.

Growth Opportunities and Communication Are Key Efforts to Retain



Providing opportunities for growth and development and concentrated communication efforts to ensure individuals are thriving and supported are cited by many as efforts to retain talent.

But these efforts appear to be required across all IT/tech talent. Only two in nine say that retaining female talent is more difficult.

- “ • Having a solid career structure for growth and mobility. Flexibility and appealing benefits and coaches for high potential employees.
- We have opportunities for growth into different roles in the organization.
- We are constantly checking in with all of our employees, especially females in the industry who may be outnumbered by male coworkers. We make it a priority to review their role and performance, as well as asking our employees what we can do as an organization to make their job better. By having these relationships with our female employees, they feel important and recognized, which helps to retain these individuals.
- Continue to offer meaningful development, continue to empower each individual, and draw a better linkage between their role and how it impacts the organization.
- Frequent touch-base meetings and placing different challenges in front of our female IT talent.
- Approximately 1/3 of our IT leadership team are women, which creates an environment that both men and women can see themselves as successful. In addition we have a few programs that we run to engage women and underrepresented minorities with higher level staff for visibility and mentoring.
- As part of our IT Divisional goal, we are working to retain all talent - male or female. Our goal is to ensure we can attract top talent, enable their growth within the organization and retain them.
- We have a maternity leave policy that has recently been improved to make it more generous. We have a nursing room for mothers who return to work. We are open to flexible work schedules. ”

Most Seem to Feel They Are Making Progress



Measured results seem hard to come by (or difficult to share), but most seem to feel they are making progress in this area.

But these efforts are not necessarily specific to IT/tech. Only one in seven indicate that their efforts are specific to the discipline.

“

- We have made some headway, however we have a way to go in terms of continuing to fill our high level positions with female candidates.
- Although females are the minority in our IT department, we have not had any females leave the department since being hired. The females we hire seem to genuinely enjoy their job and have interest in the work they are doing.
- Given that we're in the initial stages, we're doing well establishing contact and beginning some of this work. No metrics are set/available to share.
- Reasonably successful.
- Our attrition rate for women is less than half of that for men.
- We do have women at the Executive IT level, Director and Manager level within IT. However, I do not have any stats to share.
- We have only just begun focusing on it this year. We have not seen any change in metrics yet.

”

Most Believe That Encouraging Girls and Young Women Earlier Key to Future Success



Many cite a shortage of current talent and see encouraging more female talent at younger ages as the key to growing diversity within the discipline.

“

- We would start recruiting and mentoring at the high school level and have a strong bench of female talent.
- More assertive and resourceful - to find female talent.
- The issue is that there aren't enough women; efforts need to be placed on encouraging girls and young women to pursue technical degrees and show them that they can be highly successful following that path.
- Would approach more of the schools within Detroit and highlight the need and possibilities available for women within IT/STEM. I believe there is not much awareness about the possibilities and longevity of STEM for women.

”

Thank you.



For more information about the MCWT Foundation, visit mcwt.org.

For communications inquiries, contact communications@mcwt.org.