



Women's Voices in College Career and Technical Education

Themes from a Phenomenological Study of Students in Automotive Technician Training Programs

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**College
Impact
Laboratory**



Context and Purpose: The Big Picture

EDiCTS

(Enhancing Diversity in Career and Technical STEM)

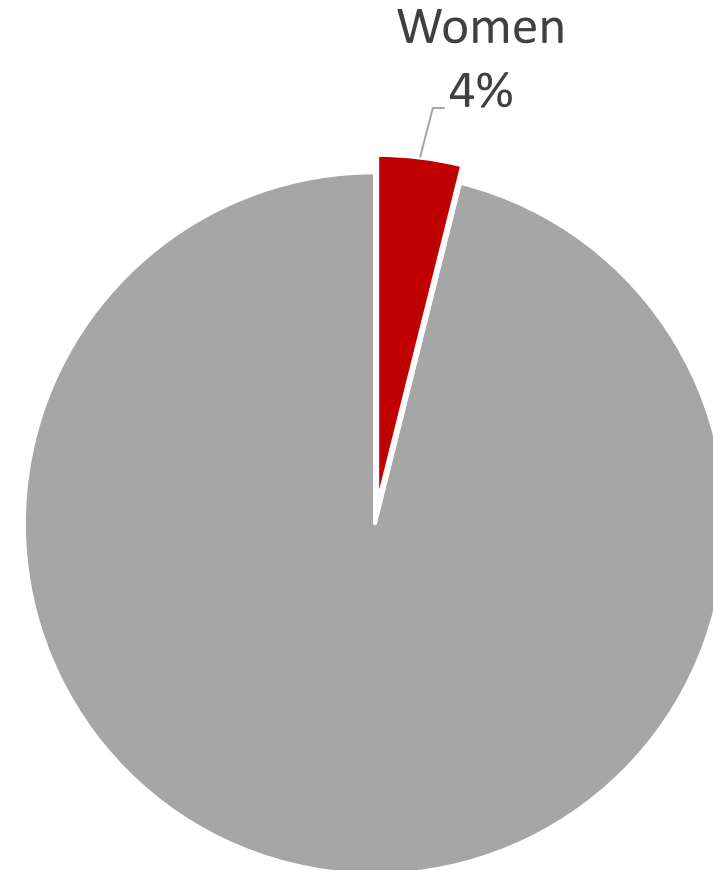
- Mixed-methods case study design
- Four community colleges
- Funded by the ECMC Foundation, 2022-2024
- Partnership with the Ford ASSET program
- Goals:
 - Encourage diverse student recruitment
 - Promote retention and academic success
 - Enhance diversity in workforce entry pipeline
- Activities:
 - Direct scholarships to students
 - Institutional financial support
 - Iterated program evaluation and training



Context and Purpose: Drilling Down

- Women's program experiences are unique
- Women-identifying students are a minority in career & technical STEM education programs¹

2nd Year Students in Participating Ford ASSET Programs (n=78)



¹ National Coalition for Women and Girls in Education. (2022). STEM and CTE. In *Title IX at 50*. <https://www.ncwge.org/TitleIX50/8%20STEM%20%26%20CTE.pdf>

Research Questions

- What are the *experiences* of women in this CTE STEM program?
- How do women in auto technician programs characterize *changes in their perspectives* about the field over time during the program?
- How do women describe the reasons for their *persistence* in the program?



Methods

- Phenomenological approach²
 - Bracketing
 - Intuiting
 - Analyzing
 - Describing
- Open-response surveys
- In-depth, semi-structured 1:1 interviews
- Large focus group conversations
- Two data collection points: Spring 2023 and Fall 2024
- Two cycle coding of transcripts in Nvivo v. 14.0³
- N=3 women⁴



2 Creswell, J.W. and Poth, C.N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications, Inc.

3 Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). Sage Publications Inc.

4 Smith, J.A., Larkin, M. & Flowers, P. (2009). *Interpretative phenomenological analysis: Theory, method and research*. Sage Publications, Inc.

Major Findings

Three overarching themes emerged:

- The critical role of an immersive internship
- Consequences of calling out gender discrimination
- Intrinsic, individual resilience to cope with adversity



Theme #1: The Critical Role of an Internship

- Immersive internship experiences as a “reality check”
- Noticeable shift from first to second year in attitudes of women toward the profession after significant internship experience
- Differential treatment in the field based on gender





The importance of the long-term internship

“I don't have very many regrets, especially in terms of joining this program.

Obviously there's specific hardships that will come just from being in the program, being around certain people and different trials of just learning to get along with people.

But I wouldn't say that's a regret because that's just an everyday part of life. I wouldn't say that I have any regrets. about the program because I'm still learning a lot and I do enjoy what I am doing.”

The importance of the long-term internship

“I mean, now that I've stayed, I'm coming close to a year at the same dealership. Now that I've stayed around the same dealership, I understand what it's gonna require to get further into the profession. And I know that it's gonna be a lot, just a lot physically and mentally on me. Not that that's a bad thing because I actually enjoy the high pace of it.

But I do have a more comprehensive idea of like, wow, this is my job. This is what's needed from me. This is what I'm going to have to do mentally to prepare myself for each day.

I just have a better understanding of what I'm getting myself into.

And working with who I work with and stuff, I have a better understanding of their personalities and how they're going to act with me and how they're going to act towards me. So I think that I have a better grasp of the job. I'm actually kind of thankful for that.”

Theme #2: Hesitancy to Call Out Discrimination

- General hesitancy to call more attention to one's gender
- Blatant gender discrimination while searching for a field placement



Hesitancy to Call Out Gender Discrimination

“The first thing he said is, ‘We've had one we're here before, but we know how old guys are.’ So I'm just sharing that right off rip. He didn't talk about my past and any questions about that, he just went straight to, ‘We've had a woman work here in the past, but you know the old guys don't want to work with a woman.’

He wasn't gonna focus on what I could offer but what would upset his current men?

Whatever, I didn't get upset or anything. I was like, ‘Okay, thank you.’ I'm pretty passive with that.”

Hesitancy to Call Out Gender Discrimination

“I just want to learn. I don't want to get called out for not knowing anything. I don't want anyone else getting booked out for not knowing something. It's just not how I roll. It's like, I'm a big person, and like

especially like as a woman, they don't expect you to know as much as you do sometimes about automotive,

so like when I see, like these young guys in my class, and they don't know something...I would get really upset because I'm like, how are you going to be mad at someone that doesn't know something?”

Theme #3: Reliance on Personal Coping Strategies

- Far less emphasis on the help of mentors, faculty, or peers
- Reliance on internal strength and a “thick skin” to navigate daily challenges and larger concerns
 - Demeaning comments
 - Repeated relegation to menial tasks within internship placement



Individual coping strategies

“There's no use in learning all of these skills here if they're not applicable in the internship.

Two, maybe three hours in the day that I could spend learning the crucial things that I need to learn. **I'm not necessarily gonna complain** because whenever we're slow in the Quick Lane, I'm back inside trying to learn what I can. But it would have been nice to have always been inside learning what I could.

Yeah, it's definitely been a little sad to watch what's happening inside and happening with my friends out there and seeing what they're learning and everything.

And to know that I've been doing oil changes and tire rotations.”

Individual coping strategies

“Anything and everything is a learning opportunity. You just have to change your mindset to be able to understand that, okay, I need to treat everything that I'm doing as a time to learn.

When you have moments of like long periods of just sitting down, like **question that and be willing to go up to other people and be like, hey, what are you doing? How can I help? Can you teach me?**

And just be able to take every experience and just use it to help you better yourself and better your knowledge.”

Individual coping strategies

“You really can't commit to another job, because in eight weeks you're going to have to go back full time. So it's just. It's a little stressful, I guess **less so for me now that I've found a budget that works for me**, how I can manage my money saved for this kind of season of my life when I'm going to go to school.

But, and it's always in the back of your mind, like hey, will I have enough money? I've only planned for the bills that I have now, what if something comes up and I need to spend money on that?

So that is a very stressful aspect of the switching back and forth, but **if you are financially conscious and able to kind of make a nest egg for yourself while you're at work and during that time you can get around it.**”

Individual coping strategies

“We have had a few more internship rotations, so we're not always in the same place. But speaking for when we are and during the school rotation, I do feel like there is more of a close-knit friendship developing.

I wouldn't say specifically with myself, because it's a little hard to relate. I am a little bit older than them.

Also, I am a female, so it works a little bit differently. But there are a few people that I consider really good friends.”

Individual coping strategies

“I really did struggle with the teamwork aspect. I don't succeed in teamwork. I like to hear what everyone has to say. I do like that aspect, but it's always going to be something, and, like I don't want to speak up, almost because often, at least, because everyone is talking at the same time, and I just don't want to break in and be rude into the conversation, like

they'll already be completely in control of it, and I'm just standing in the back, and it's not that I can't speak up. It's just...I just don't.

I just don't see myself really doing it. So I do struggle with teamwork, and I've always been like independent study-wise, like I learned how to do most part things by myself.”

Individual coping strategies

“A lot of the people in here, for better or for worse, sometimes they believe that they know how to do something, they know what they're gonna do, and they just jump right in without reading or anything like that, so sometimes that is a very big detriment, and they end up failing or misunderstanding.

So I think my strength is definitely that I'm able to slow down, step back, see what needs to be done.

I'm good at triaging, making sure like this is what we need to assess first before we can do that. This is why we need to get this done first. So those are some strengths I think I bring to different group settings.”

Implications

- Programs that span two years and require significant time in internship positions is particularly important to women
- Program administrators and faculty need to monitor treatment and experiences of students in internship positions
- Program cultures should be intentionally transformed



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