

Final Panel Project Report
Women in Welding
Investigating Recruitment and Training Practices for Women
Agreement 2018-455-021

Overview of Women’s Representation in Manufacturing

During the labor shortages in the 1940’s, the iconic image of “Rosie the Riveter” rallied women to fill wartime manufacturing jobs, giving them the chance to perform historically male roles. Female artisans flourished during this time and proved they are just as effective as men in these positions. After the war, gender norms returned to the work place, and today, welding and other manufacturing careers remain “non-traditional” jobs for women.

The manufacturing sector, which has always offered stability for America’s work force, is facing a massive labor shortage. Over the next decade, 3.5 million manufacturing jobs will need to be filled; unfortunately a lack of skills will leave nearly 2 million of these jobs vacant. A majority of employers universally agree there is a talent scarcity in US manufacturing, disproportionately impacting women. In 2016, women represented 47 percent of the total US labor force¹, but only 29 percent of positions were held by women [1].

With manufacturing jobs now being actively promoted in trade classes and vocational schools, more women are considering manufacturing as a career option. Trends indicate more women being encouraged to enter manufacturing as a career, with a recent survey showing 58% of women noting a positive change in their industry’s attitude towards female professionals over the last five years. However, women remain severely underrepresented in manufacturing occupations, especially in shipbuilding and metalworking [1].

Project Goals

In an attempt to address these labor shortages, this project was pursued to find pathways for increasing female participation in welding as a career choice. Newport News Shipbuilding (NNS) collaborated with National Shipbuilding Research Program (NSRP) for FY2020-2021 project funding to perform a study to determine which structural issues inherent in the welding labor market negatively impact women. From these findings, recruitment and training efforts can be developed to increase the amount of women who are hired and trained in the welding field for shipbuilding. This project will leverage efforts similar to the “Women Who Weld.” a non-profit based in Detroit teaching women to weld and find employment within the industry. Other sources of training and research specific to women will be used to determine a baseline for expected results. Using a combination of surveys and focus groups, as well as discussions with industry leaders, this project can provide concrete steps for change.

Goals:

- Evaluate current recruiting practices for welding
 - Determine how to tailor those practices to improve recruitment for women.
- Evaluate programs adapted for recruiting women

¹ Comprises all persons who fulfil the requirements for inclusion among the employed or the unemployed during a specified brief reference period.

- Incorporate those techniques in recruiting women.
- Assess existing training programs for welding
 - Determine how to modify those programs to improve training rates for women.
- Assess industry training specific to women
 - Integrate training to improve training for women

Project Approach – Pre-Covid

COVID-19 had an outsized impact on this project, as the original plan called for several large in-person gatherings. Paper surveys were to be handed out at these events, and at least two in-person events were planned in the beginning of the project. The two events were a Women in Welding hiring event (to be held at NNS) and an American Welding Society (AWS) National Welding Month Event at Tidewater Community College in Portsmouth, Virginia.

- **Women in Welding Hiring Event**
 - Panel consisting of three women welders in an hour-long discussion
 - A question and answer session following after Panel Discussion
 - Welding equipment and simulators set up for people to review
 - Interviews available for pre-selected attendees
 - Planned for the end of March
- **AWS Event**
 - AWS, locally based Miller Welding, and NNS were setting up trailers at a local school
 - 2 day celebration of welding, with women the focus of day 2
 - Expected ~1000 attendees
 - Planned for the end of April

Under the initial plan, after data was collected from the participants, it would be evaluated and used to develop focus group questions. Once the shutdowns in Virginia occurred, these large events were cancelled, and the team had to modify its approach.

An additional item under consideration in the pre-COVID project plans was hosting a group of welders through a training program. The team would conduct pilot programs with this group using some of the knowledge gained by surveys, focus groups, and industry research. These programs would be evaluated for performance to see if there was any objective data applicable for future training programs. One example is the Detroit based *Women Who Weld* program that runs women-only courses led by women welders. Putting a similar system to the test with a control group might have provided an example for future courses.

Project Approach – During COVID

Due to COVID-19, the project was restructured to perform the majority of work online. Three surveys were developed and distributed to various audiences: shipbuilders at NNS, members of the AWS community, employers in the local region. These survey results were then used to create questions for two sets of focus groups. The first set was targeted towards women welders at NNS, while the second set was formed in partnership with the Virginia Manufacturers' Association, and had a broader audience that included industry representatives. The following sections will discuss the survey results and the focus groups.

Survey results

Three surveys were deployed virtually to different audiences. One went to internal NNS personnel, one went to AWS members, and one went to employers through the Virginia Manufacturer's Association (VMA) network. The following sections will describe the structure of each survey and the results.

- **NNS Survey Results**

This survey was sent internally throughout NNS. It was developed using an application called Wufoo and was accessible on the internal NNS network as well as external users. There were 136 responses received from the survey, with almost 50% of the responses being from women. The survey was broken into four sections: the first section collected demographic information, the second section had a word association question, and the third section had two Likert scale questions. The fourth section had only one question: “Would you recommend welding to a woman you know? Why/Why Not?” There were 99 responses to this question. 80% of responders said they would recommend welding to a woman they know. The long answer responses are discussed below.

The word association question was designed to see which words responders would associate with welding. These descriptors were agreed upon by a team of welders and welding engineers. The team tried to use a combination of negative and positive connotations with the given words. Interestingly, as shown in Figure 1, the top three choices were what were considered positive words, with a majority considering welding as a “hands-on” field. A suggested use of this chart is for marketing purposes and recruitment advertising.

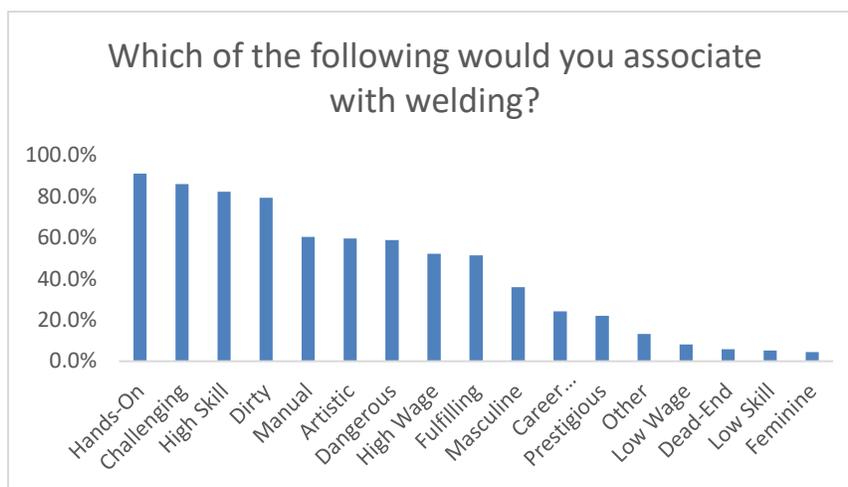


Figure 1. Word association question results

Two Likert² scale questions were asked on the survey. They were written to understand what encourages and discourages women from entering welding as a career. The statements were chosen by the team after several brainstorming sessions to cover as many options as we felt possible without overwhelming the survey taker with options. Figure 2 shows the first question. As shown, many responders felt that welding is a competitive field that is in demand. Welders feel accomplished in their roles, and feel that they are in charge of their work. Less agreement was on opportunities for growth and expressing creativity. This shows that more work needs to be done to show what opportunities are available for welders, and to show how welding can be used as a creative outlet.

² It's a question that uses a 5 or 7-point scale, sometimes referred to as a satisfaction scale, which ranges from one extreme attitude to another.

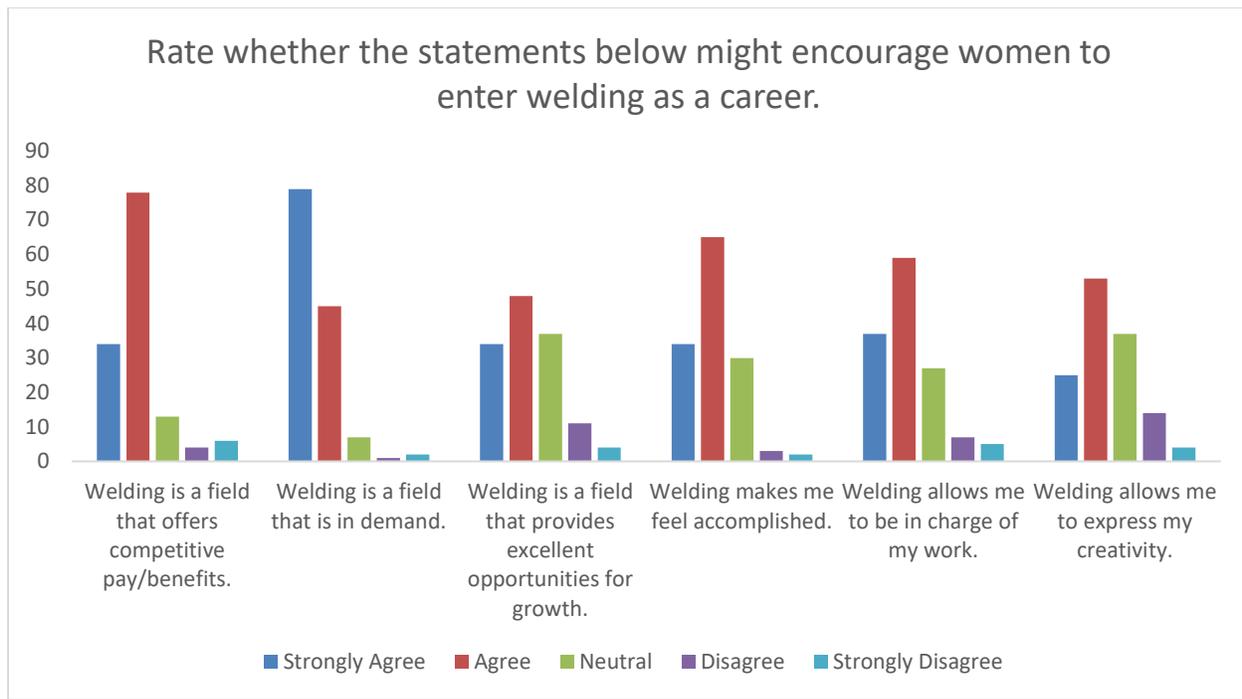


Figure 2. Likert scale question on what encourages women to enter welding as a career.

The second Likert scale question is shown in Figure (2). Here the team was looking to understand what might discourage women from entering welding as a career, and a similar approach to choosing the categories was taken as above. There was broad agreement that the intimidating environment, weather extremes, and safety concerns were discouraging factors for women. Gender stereotypes also had many strongly agreeing that it was a discouragement. However, there was less agreement that active discouragement or wearing welding equipment was an issue. The team believes this is due to cultural changes; there is much less overt discouragement of women as welders and many supervisors have a philosophy of being “gender neutral.” One of the most interesting responses in this question is that lack of available childcare had a very neutral response. This is further discussed in the focus groups, but the team had originally believed that childcare was a much larger issue than it appears in this chart.

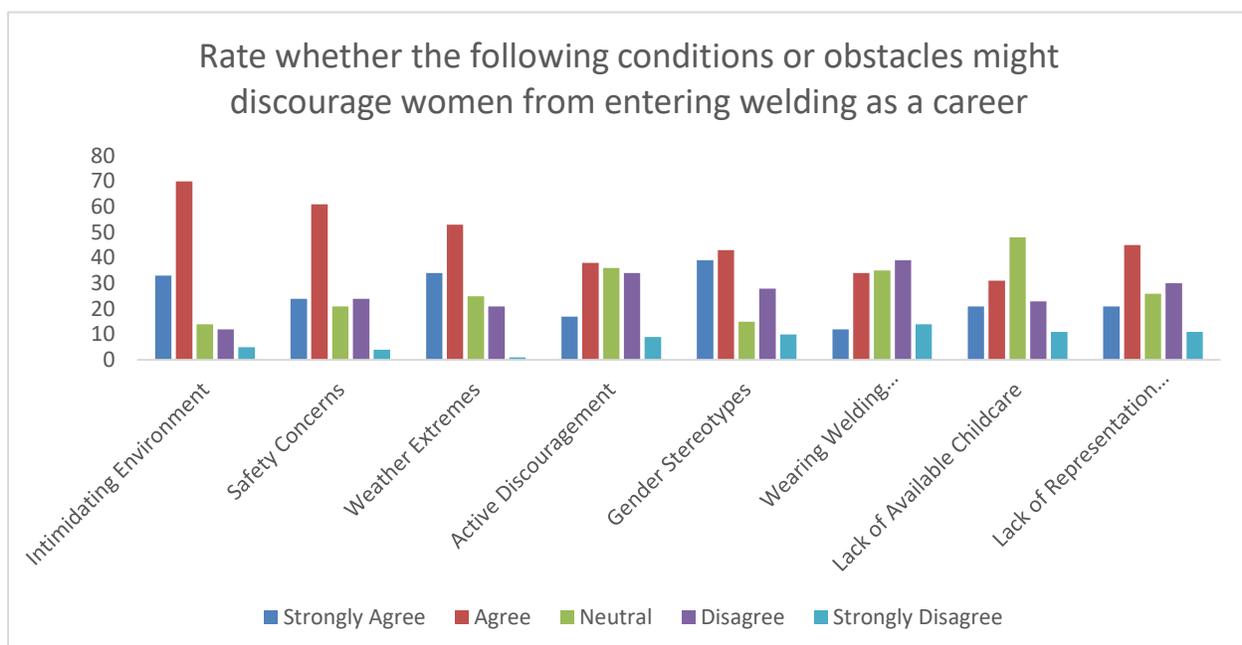


Figure 3. Likert scale question on what discourages women from entering welding as a career.

The team analyzed the 99 responses to the question, “Would you recommend welding to a woman you know? Why/Why Not?” These responses were broken up into nine categories for further discussion. The categories were as shown in the following table:

Category	Count	Percentage
<i>Women can be successful welders</i>	36	26.5%
<i>Great Trade; Provide for family</i>	24	17.6%
<i>Good Career Advancement</i>	10	7.4%
<i>Too hard/Health Issues</i>	11	8.1%
<i>Lacking support from management</i>	5	3.7%
<i>Multiple categories</i>	5	3.7%
<i>Gender doesn't matter</i>	4	2.9%
<i>Lots of Harassment</i>	3	2.2%
<i>Uncategorized</i>	1	0.7%

Table 1. Categories of responses to the question: “Would you recommend welding to a woman you know? Why/Why Not?”

These categories were then used to develop focus group questions for the NNS and VMA focus groups.

- **AWS Survey Results**

This survey was sent through official channels to members who are subscribed to notifications from AWS. The survey was developed using the survey app, “Survey Monkey” and distributed to AWS members, however, it was still a public survey. There were 175 responses to the survey, with the majority of responses having 20+ years in the welding industry. The questions for this survey were developed by the NNS Women in Welding team, and the Communications Division.

There was overlap in the responses received from the AWS survey and the NNS survey. A similar number of responders stated that they would recommend welding as a career to a woman they know (~80%) as in the NNS survey. 66% of responders felt that middle school and high school was a good place to introduce welding as a career to students.

Q8 Where should we start making people aware of welding careers?
(Please specify "Other" ideas you may have below, and then mark all that apply.)

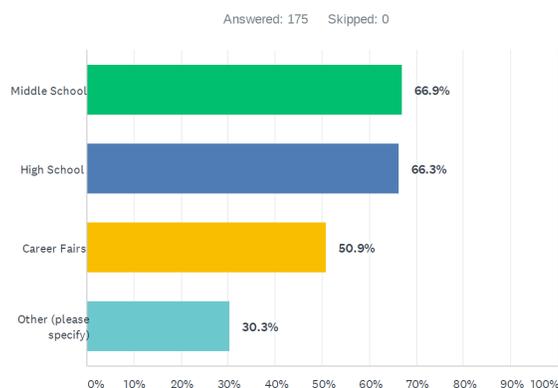


Figure 4. Question on where we should start making people aware of welding careers.

Social media was identified as the best place to recruit for welding jobs. 69% of responders felt that social media is the most effective way to recruit women. 47% of responders felt that online sources (Indeed) were the most effective way to women, while only 15% believed that newspapers were the most effective.

Q9 What do you think is the most effective way to recruit women? (Please specify "Other" ideas you may have below, and then mark all that apply.)

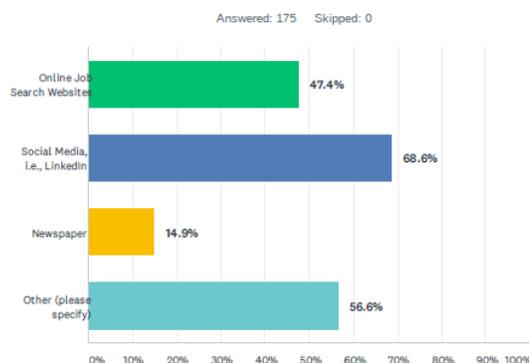


Figure 5. Question on what the most effective way to recruit women is.

- **Employer Survey**

This survey was sent through the VMA network. This survey was developed using Wufoo; there were 27 responses. 74% of responders stated that their companies have less than 2% women as welders. Eight of the responders stated that they have recruiting practices tailored to women; however, there was no elaboration of the programs. Twelve responders stated that they are actively recruiting women as welders, with one company stating they work with Women in Skilled Careers (WiSC); one company actively ensures that a woman is at recruiting events; and another posts job openings specifically for women.

Focus Groups

As described above, there were two sets of focus groups that the team worked on: one for NNS welders, and one for the broader industry. The NNS focus groups were held in person and consisted of only women welders. The broader industry focus group was held virtually via Webex and hosted by VMA. The following sections will describe each focus group and the questions that were asked at each focus group.

- **NNS Focus Groups**

Four (4) focus groups were conducted by Organizational Development & Leadership Representatives from the NNS Career and Professional Development Department earlier this year. A total of 26 women participants: welders, some high performers who have moved into other roles, and one foreman comprised the group. The participants' years of experience at NNS ranged from 3 months to 16 years. To ensure consistency of messaging and communication, each session was kicked-off by management sharing rationale as to why the focus groups were being conducted.

Each group was posed with seven questions. These questions were generated based on survey data. Survey responses were analyzed by the team to determine which subject areas warranted further investigation. The questions are shown below:

- Why do you think over 80% of responses said welding is a good career for women?
- Why do you think many responses said there was a lack of management support for women in welding?

- Why do you think a majority of responders said an intimidating environment, safety concerns, and weather extremes discourage women from entering the welding field?
- Do you think harassment is a reason women are not getting into welding?
- Why do you think approximately 50% of responses said welding was a high wage career?
- Why do you think 40% of responders did not agree welding is a field that provides excellent opportunities for growth?
- Why do you think 40% of responders agreed lack of available childcare discouraged women from entering the welding field?

The survey questions and the aggregate responses are located in Attachment 1.

- **VMA Focus Groups**

NNS partnered with the VMA to perform virtual focus groups with industry representatives and leaders. Two focus groups were held virtually using WebEx and hosted by VMA. A compilation of notes taken by VMA during the focus groups is located in the attachments. Each focus group was held for an hour and twenty minutes and covered a series of topics that were of interest to the project members. These topics are covered in the following paragraphs.

The first group focused on recruitment and training programs for women. Each topic was given 40 minutes to discuss and understand how the industry is trying to recruit or train women as welders. The topics were further broken down into the following questions:

- Recruitment practices for women:
 - What successful programs does your organization use today to raise awareness and interest in the welding occupation?
 - Are you currently promoting and using your existing workforce to appeal to women and minorities to join the welding occupation?
 - Can you give an example of recruitment practices that might hinder or limit women from being recruited into a welding program?
 - Does your organization use upskilling of female employees to address gender imbalance and talent shortage in the welding and/or other trade occupations?
- Training programs for women:
 - Can you describe a training practice specifically aimed at women that has worked for your organization?
 - Are there specific practices that your organization uses to keep female welders engaged throughout the training program?
 - Does your organization have female welding instructors?
 - Does your organization do any prescreening for physical requirements or testing for women (or men) before they are accepted into a welding program?
 - Does your organization provide post training follow up - or - touchpoints for employees who have successfully graduated from your welding or trade programs?

The second focus group was centered on the topic of retention of women in welding. The topics were broken down into four categories; each category was given 20 minutes for discussion. Within these topics were prompting questions that were used to spark discussion. These categories and questions are listed below:

- **Opportunities for Career Development & Career Advancement**
 - What are organizations doing to provide women welders opportunities for career advancement within their trade and/or leadership advancement?

- What are organizations doing to provide women welders career development opportunities?
- What might deter a female welder from seeking career advancement or career development opportunities?
- How do female role models influence or have a bearing on a female welder's decision to seek advancement within an organization?
- **Management Support & Recognition**
 - How does your organization demonstrate a high level of importance by management and leadership support for women in trade occupations such as welding?
 - Can you identify obstacles or reasons that a woman would not seek management support?
 - How do you train your managers/supervisors so they have the necessary skills to have development discussions with women welders?
 - How does your organization recognize employees in trade occupations (i.e., recognition programs, etc.)?
- **Gender Bias & Harassment in the Workplace**
 - What policies does your organization have to address gender bias and harassment in the workplace?
 - Do you think your organizations harassment policies are effective?
 - Is there a perception that there is gender bias and harassment in trade occupations that could deter women from entering and remaining in the welding trade?
- **Managing Career and Family.**
 - What accommodations does your organization make for employees with pregnancy restrictions in trade occupations?
 - Examples of programs or benefits that help attract or retain women wanting to have or start a family
 - Statistics show that women are leaving the workforce at four times the rate as men due to the burden that COVID has created around parenting and running a household while working in a pandemic. How is your organization addressing this disruption to their workforce and skilled labor force?

Key Takeaways

This project reached out to many different branches of the welding industry, from the person holding the torch, to management of welding businesses, to gain an understanding of where the industry is, and where it can go to help bring more women into shop floors and leadership positions. Through the use of surveys and focus groups, we heard the voices of many representatives and gathered their opinions to build recommendations for others to follow to try and close the gap on women being welders. The next few paragraphs will describe some key takeaways that were generated based on the different tasks the project completed.

- **NNS Surveys**
 - Marketing materials should take note of the word association question and focus on the hands-on, challenging, and high-skill nature of welding. Remarkably, most responders did not see welding as high wage or masculine, which is what most welding career advertisements appear to focus on.
 - More effort needs to be done to show what opportunities are available for welders in the industry.

- Companies have to work to eliminate the intimidating environment of welding shops to bring more women into the field.
- **AWS Surveys**
 - People don't feel that the industry is doing enough to recruit women.
 - Women are more interested in welding as a career.
 - Despite these issues, people are recommending welding as a career to women that they know.
- **NNS Focus Groups**
 - The majority of participants felt welding was a good career for women, but there are not enough women in leadership roles in the trades. This absence of diversity may be a major contributing factor as to why there is lack of management support for women in welding. Welding is still perceived as a male-dominated trade, however, some advancements have been made over the years to counter this type of behavior. Growth opportunities in welding will remain a challenge for women, however, leadership commitment to growth and development can have a significant impact.
 - There were mixed comments about welding as a high wage career choice. Most believe lack of education and marketing are major factors. There was a consensus more qualifications should equate to a higher salary – women should have more opportunities to obtain additional qualifications. A concerted effort should be made to provide more training for inexperienced welders. Many felt the environment, including weather conditions and perception welding is a male-dominated industry are issues discouraging women from entering the profession.
 - If manufacturers want to recruit talented workers, they must make conditions better in the workplace for women. A lack of daycare is a major deterrent and discourages women from entering the field.
- **VMA Focus Groups**
 - Companies must work on bringing welding to younger female students. Middle school is a grade range that a lot of companies are targeting to get younger students interested in welding.
 - There are multiple pipelines available for getting women interested in welding, however, more has to be done by companies to ensure that bias isn't being introduced in the recruiting process. For example, hire women welders as recruiters since they have experience with the job and can give an accurate representation of the work.
 - It is important to build diversity into your staff at all levels. If women see that the company they are applying for has no diversity in recruitment and management, they will be less likely to join the company.

Recommendations

Some recommendations have long and short term impact. Others may be instituted and requires additional communication or education based on the recommendation.

ACCOMODATIONS AND POLICY-RELATED CONSIDERATIONS

- Provide an onsite-24 hour day-care facility or center-based infant care facility
- Offer dependent care assistance plans helping parents pay for child care with pre-tax dollars
- Partner with other daycare facilities to assists parents with having a suitable and reliable facility – cost reductions should be considered, and facility opening and closing times are big factors – admission priority provided to children of NNS employees
- Provide additional designated parking spots for expecting mothers
- Provide feminine hygiene products on the waterfront
- Remove penalties for taking PT for child related reasons
- Expand maternity and paternity leave policy – increase current allotted time frame. Recognize single father’s dilemmas too
- Provide more women friendly tools and equipment. Consider better resources, supplies and equipment during extreme weather conditions
- If the company provides staff with 10 minutes for a smoking break, then expecting mothers should not have to clock in and out to breast pump
- Ensure expecting mothers have ample facilities and clean conditions for pumping
- Provide expecting mothers with the opportunity to perform other less strenuous, value-added work.

LEADERSHIP, MARKETING, EDUCATION AND RECURITMENT

- Promote and hire more women in trade-related leadership positions
- Increase educational and marketing to women about the trade - women don’t know enough about welding and should be featured and/or a part of the marketing and recruitment campaign
 - Utilize President Jennifer Boykin’s, LASSO video to inspire and promote the trade
 - Create a video featuring women in welding to serve as a marketing and recruiting communication medium
 - Establish a “Women in Welding” recruitment campaign exclusively to hire more women in the trade

- Recruiters for this trade should work or be familiar with the trade. Example: “A Welder” recruiter

TRAINING AND DEVELOPMENT

- Re-institute the Thomas Nelson welders program. Helps train up new and inexperienced welders
- Make a concerted effort to provide more training to less experience welders. Losing skilled welders, boomers are retiring
- Union contracts should include additional pay incentives for highly skilled welders to train the less experienced ones
- Create/establish a mentoring for women and men in the trades to share experiences and encouragement

Next Steps

While this project has run its course, there is still work to do to develop processes and systems that will help attract and retain women as welders. To that end, further research on training programs for women is needed to understand if traditional training models need to be adjusted for women welders. Unfortunately, while that was a goal of this project, COVID prevented the project from having in-person gatherings for the duration of funding. The following pilot programs are example training programs for women that NNS has evaluated in the past. Other shipbuilders can follow the suggestions of this report and build their own models.

Women Who Weld - Detroit

- 6 week course, 10 participants, learn GMAW
- Subsidized training for unemployed and underemployed women from 18-40 years old to establish a career in welding free of charge
- Majority are single moms in 20s, some from shelters, some former incarcerated
- Offered once a year. Funded through donations/grants
- Participants undergo a two part interview
- Learn safety, various positions, terminology, resume/interview workshops, meet hiring employers
- In some cases food, transportation, and child care are provided

Tidewater Community College

- A 3 week program at Tidewater Community College during the summer from 8am-4pm
- 6 participants

New Horizons

- A 4 week course held at New Horizons evenings 5pm-9pm
- 10 participants

Thomas Nelson Community College

- A 4 week course held at Thomas Nelson Community College evenings 5pm-9pm
- 10 participants

Conclusions

Over the next 10 years, the manufacturing sector will be experiencing a tremendous skill gap. With women being severely underrepresented in manufacturing, now is an optimal perfect time to develop strategies to bridge the worker gap. We have a consensus from the field – women are more than ready. However, the manufacturing sector must commit to rigorous recruitment efforts for any initiatives to succeed.

Our project goal was to evaluate existing recruitment, training practices, and offer suggestions to improve recruitment and retention of women in welding. Due to the distancing protocols from COVID-19, the approach was adapted to an on-line format. Fortunately, through the challenges, all major tasks were completed. Recommendations based on the data were made above, and they can be summarized as: bring women into the process as early and often as possible.

References

1. Manufacturing Institute and Deloitte Research:
<https://www2.deloitte.com/us/en/pages/manufacturing/articles/women-in-manufacturing-industrial-products-and-services.html>

Resources

- Original Wufoo Survey Link: [Women in Welding \(wufoo.com\)](http://www.wufoo.com)
- Bureau of Labor Statistics: <https://www.bls.gov/>
- Manufacturing Institute STEP Ahead LEAD Toolkit:
<http://www.themanufacturinginstitute.org/~media/90750E79CC8549BCB2CE7C7BA08AF852.ashx>
- FABTECH: <https://www.fabtechexpo.com/blog/2018/07/10/women-who-weld-lighting-the-way-out-of-poverty>

Attachments

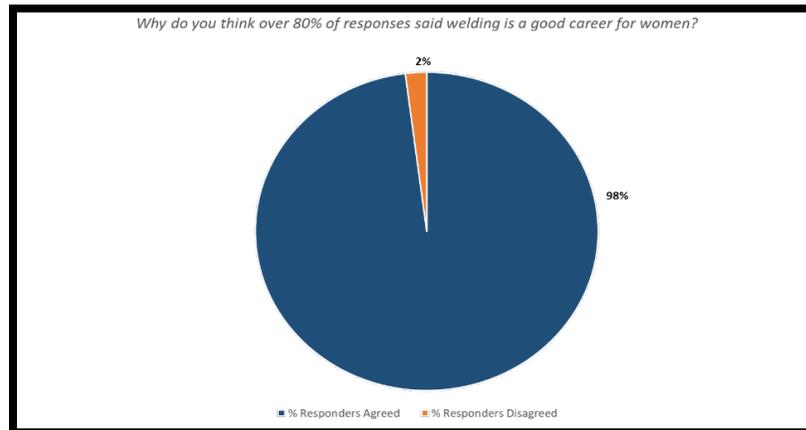
1. Aggregate focus group survey responses
2. Women in Welding focus group 1 notes
3. Women in Welding focus group 2 notes

Aggregate Focus Group Survey Responses Attachment 1

Based on an analysis of the data, the following highlights recurring comments/themes from feedback provided by the participants.

1. *Why do you think over 80% of responses said welding is a good career for women?*

Overall, the majority, 24 of the 26 participants, 98% agreed with the 80% response rate:



- Challenging work
- Creativity/artistic
- Sense of confidence and empowerment; pride in the work; sense of accomplishment
- Independence – autonomy to do the job alone and ability to be self-sufficient
- Pay and benefits are good
- Strong trade in demand; recession proof; ability to use skill set in other applicable industries
- Women are better welders
 - better with hand/eye coordination, more attentive to detail and they support one another
- In other jobs, e.g., white collar or office jobs, you need to look a certain way – at NNS you can be casual

A small percentage, approximately, 2% of the participants provided comments reflecting disagreement with welding being a good career for women:

- Trade is not for everyone woman – takes the right personality; can't be fragile; some women may be discouraged because of the type of work
- It's a dirty job, heavy lifting tools, demanding physical environment, may have to work in some very tight spaces
 - Lifting heavy equipment and tools causes physical problems; fear of fire or getting burned; environment is hazardous due to inhaling various gases
- Women have to work twice as hard to prove themselves since this is a male dominated trade
- Don't think women generally believe it's a good trade for women
- Women with welding skills are often placed on less demanding jobs, e.g., fire watching – as a result, will lose skill set because it's not being utilized

2. *Why do you think many responses said there was a lack of management support for women in welding?*

Participants recurring comments were:

- Most supervisors/management are men and don't understand/think women can do certain jobs
- Lack of females in leadership roles, e.g., Foreman and General Foreman
- Depends where you land – program/project you work for/on or the type of management determines the level of support received
- Women can be overlooked merely because of the nature of the job – welding typically seen as a “male” job
- Stereotyped, perceived as fragile or ‘damsel in distress,’ not capable to do the job, drama queens, too emotional, under-rated
 - Recognize some women come to work with ulterior motives, e.g., not serious about performing the job of a welder which gives women who work hard in this field a bad name
- Women are not afforded the same opportunity to obtain more qualifications - have to take extra steps, go above and beyond and speak up more often to be considered
- Women can be perceived as distractors simply because they are women

3 *Do you think harassment is a reason women are not getting into welding?*

The recurring comments reflect feedback about harassment in the general sense as well as sexual harassment.

The majority of the participants believe some form of harassment exists. Where the term management is mentioned, in most cases it relates to first line supervision:

- Because “welding” is perceived as a male job - men can behave and say whatever they want
- Need to be able to accept criticism; no participation trophies in construction
- The perception of welding being a male-dominated field, and concerns about harassment are reasons parents are not encouraging daughters to work in the shipyard
- ‘You don't want to be that girl who goes to HR’ (you get labeled) but you have to when they go too far
- Women who refuse to acknowledge flirtation by the opposite gender are snubbed or described as having a bad attitude
- Stereotyped if you stand up for self. Then, labelled as “the angry woman’ and reputation is tarnished
- During situations that relate to harassment, management does retaliate although they are not supposed to. They can be very creative
- Challenging to be the only woman working in a crew of men. Regardless of what I wear or look like – I am a woman and some men, based on my physical attributes or appearance use those factors to determine if I will be successful. Perceived as a distraction

- Some men feel like it's okay to say anything use profanity and inappropriate language
- Perceived to give women less time to learn on the job vs. men
- There are times management will take the word of other craftsmen about a women's skill set vs. observing for themselves
- Whether crew members "like you" vs. skill and ability often influences if the female will make it or is shunned
- Women have to be able to tolerate men and how they interact – may feel like they have to act like "one of the guys" in order to be accepted and adopt to the culture on the waterfront
- Lack of management support and accountability if a woman reports a harassment issue

Other participants provided the following feedback:

- Treatment women experience often times depends on the type of leadership and shift you work

4 *Why do you think approximately 50% of responses said welding was a high wage career?*

Participants provided mixed comments about this question, yet most agreed 50% is a low rate response:

- The trade does not receive ample marketing – women don't know enough about welding and if and when more marketing is utilized women need to be featured to spread the word. Lack of awareness about field results in lack of knowledge about wage
- Women can be intimidated by the equipment, tools, and hazardous environment
- Lack of daycare/children facility – challenge for most women in this field. Cost of childcare is increasingly expensive
- For long term and more experienced welders – you can reach max salary. If you want to remain in the welding field you have to live with this or go to another industry that may be willing to offer a higher salary
- More qualifications often equates to a higher salary
- Contractors are paid more than hourly's
- Boomers are retiring - losing institutional knowledge and experienced welders – not enough inexperienced welders are trained
- Additional pay incentive for highly skilled welders willing to train the less experienced ones

Other participants' feedback noted:

- Pay and overtime salary is good
- NNS is one of the few industries that pays for welders with minimum experience
- For first time employees (welders) have nothing else to compare wage too

- The trade sells itself because of the customers we serve; it's a skill in demand. Welding is essential – changing technology may equate to advancing skill set but welders are always needed to perform the work we do at NNS
- Job security
- Welders may make more than someone with a college degree

5 *Why do you think that 40% of responders did not agree that welding is a field that provides excellent opportunities for growth?*

Overall, most responders did not agree that welding is a field that provides excellent opportunities for growth:

- Not enough women on the waterfront in management positions
- Sometimes women are held back; if you are a good welder – crew does not want to lose you and you can get stuck. Selfish mentality hold back best performers because they need to increase production
- Lack of mentorships for hourly's
- Management slow roll qualifications
- Women do not receive enough recognition
- Because women are denied opportunities to grow, they give up and stop trying
- Growth and opportunity is often depended on who you know vs. what you know

Some participants stated:

- Good management with effective leadership skills will provide opportunities for growth
- Although slow movement, about the culture and perception on the waterfront, things are changing. Years ago it was more challenging for women in the field
- Depending where you work on the 'yard' determines if you have the opportunity to advance/grow

6 *Why do you think 40% of responders agreed that lack of available childcare discouraged women from entering the welding field?*

Although question 6 was the primary question, the focus group facilitators expanded the question to include “expecting mothers” and pregnancy. All responders agreed 40% as being a low rating.

- NNS does not have daycare facility. Realize liability maybe a concern. However, this is a big factor in terms of quality of life for the entire company
- Lack of clean, suitable locations for expecting mothers to breast pump
- Limited parking space for expecting mothers
- Maternity/paternity policy provides limited leave for mothers who gave birth
- For expecting mothers – some have good management that supports and take care of them, others don't care and will attempt to get rid of the woman because of their condition – viewed as a potential liability
- Challenge for hourly's vs. salaried staff regarding childcare. Salaried employees can flex
- Concerns of being pregnant and working in a hazardous environment

- Shift work causes challenges for employees with children – some daycare facilities do not open early enough for those working on 1st shift
- Parents have to take PTO if child is sick

7 *Why do you think a majority of responders said an intimidating environment, safety concerns, and weather extremes discourage women from entering the welding field?*

- Takes the right type of person to work in this field
- Marketing and promotion – a lot of people (women) don't know about the trade
- Weather conditions are challenging (too hot or too cold). Covered lockers since you cannot weld when you are wet; coveralls are not a great fit for women
- Heavy equipment and tools

Attachment 2

Women in Welding Focus Group 1**Recruitment Practices Specifically Aimed at Females**

Participants should come prepared to share successful recruitment practices aimed at raising awareness and interest in the welding and trade occupations for women. Programs can be in progress as well as in development. The group will also explore upskilling programs aimed at females that can further feed the pipeline of potential recruits to welding.

- What successful programs does your organization use today to raise awareness and interest in the welding occupation?
 - Female Representation Matters – Crystal with New Horizons is having female welders share their story and testimonials within recruiting videos that are shown to students: <https://www.youtube.com/watch?v=vPAQ1IVzYXw&t=4s>
 - Facilitating orientation sessions/brunches with teachers, counselors, and parents to learn more about opportunities available to students which include skilled trades. This has been very successful at New Horizons. Parents' guide their kid's decision regarding selecting a profession, so it is so important to engage parents.
 - Competitions and welding activities where students can participate hands on and learn skills within the school system. It is important to create a comfortable environment for young women and kids to get involved.
 - Must start early at elementary and middle school level.
 - Explore opportunities at high school level to get students involved
 - Peer group to get students (specifically females) comfortable with the opportunities available for them within trade skills
 - Mission for Tomorrow at Richmond Raceway event – 8th grade students participate and have opportunities to interact with representatives (specifically female welders)
 - Role models / explore mentoring opportunities to get women in the trade occupation involved in mentoring programs. These programs are a great way to expose young girls to females in trades. It is also a great way to recognize your female employees and showcase their skills.

- Are you currently promoting and using your existing workforce to appeal to women and minorities to join the welding occupation?
 - Tobias with the Dept. of Corrections works with women who are transitioning to release. This is a great pipeline for manufacturers who are looking for women with experience. When they are released they can get their certification and get a job in the welding field
 - Women In Skilled Careers (WISC) – help homeless women to get trained in trade skills, get interviews, and jobs in those fields. WISC is a successful training program that is training women and getting them into welding jobs out of training.
 - Work Like A Girl – WHRO
 - Hire women in recruiting roles to ensure your company does not look over any potential women recruits...not just focus on men as recruits.
 - Use campaigns around specific targeted groups (ex. Target veterans around Veterans Day) to recruit for trade programs – use videos/interviews and social media to promote their diversity and recruit more talent. Use press releases and

engage your local news channel to help promote and attract recruits to your program. Local news/paper are often looking for content and ways to engage the public.

- Good Life Solutions Program at New Horizons - works with over 50 different businesses to get them in front of students looking for jobs. Typically, smaller companies without the outreach use the online platform (Cued In- cuedin.us) to learn more about different trades available and companies that have those job opportunities
 - One of the participants has written a children's book, *Willow Discovers Welding*, that focuses on a mother daughter duo and the daughter asks her mother what she does for work and she is a welder. Put out to get kids (specifically little girls) interested in the trade at a young age.
<https://drive.google.com/file/d/1ECwlaTMEnkfBkQ2gwXTXKPeLcmAdxotq/viw?usp=sharing>
 - Use existing videos and stories to recruit young girls.
<https://youtu.be/xAm9AVGZX8A> and <https://youtu.be/cdPzx5yC4VQ>
- Can you give an example of recruitment practices that might hinder or limit women from being recruited into a welding program?
 - Girls tend to be more hesitant when it comes to considering trades and when recruiters are unwilling to answer questions, act frustrated, or preemptively tell them “this is not for you” it can be discouraging.
 - Gender bias – Specifically biased questions and skepticism during recruiting (ex: can you lift a specific amount of weight, can you stand on your feet for x amount of hours, why do you want to be a welder?) can turn off a young girl or female.
 - Make sure that marketing materials reflect diversity. Lack of diversity and representation in marketing materials may discourage a young girl from pursuing a position – most graphics and imagery are male based
 - Lack of women representation within the company (all male recruiters / male instructors/ employees / leaders)
 - Lincoln Technical Institute works closely with their female students to build a good resume and summary statement around why they are a welder and what made them chose their profession. Employers are looking for employees who will stay with them for a long time and building a good resume has helped their students really connect with organizations and overcome their own bias around a female in the role.
 - Companies relying too heavily on employee referral program which provides lack of diversity- people tend to refer those like themselves. Celanese uses a third party recruiter to help bring in new candidates that are diverse and presents those to hiring manager as well as referrals. Also helps fight against biased hiring- “this person is a good worker so their friend must be too”
 - Set diversity goals and utilize resource groups to help with networking and providing support within the community with the hope that it will attract diverse candidates (i.e. veterans, females, etc.)
 - Does your organization use upskilling of female employees to address gender imbalance and talent shortage in the welding and/or other trade occupations?
 - An Austal representative shared that his company has limited opportunities to go from one type of job/department to another and still advance. Typically would need for employee to take a step down to then learn the welding skill. It could be

a decrease in pay if going from something like procurement where the pay is already competitive pay wise. It could also require a lot of overtime which many may not be interested in if they have a set schedule already.

- For those who are not interested in leaving their current role to switch to welding, it could be a good incentive for a referral program to bring others into the trade
- 80% of Newport News Shipbuilding's female welders have less than 2 years of experience and the women only take up 8% of their total welders which is still more than the national average. A future challenge will be how to retain those workers and upskill them within the company.
- A career change can be driven by many things (ex: pay, happiness, work environment, schedule, etc.). Most women in other professions/departments may not consider welding / trade jobs as a career because they don't know if they would enjoy that type of work so they're not willing to take a risk and change roles without hands on experience.

Training Programs for Women

Participants will discuss existing training programs that have been successful in graduating and preparing women for full-time employment or apprenticeship in the welding industry.

- Can you describe a training practice specifically aimed at women that has worked for your organization?
 - ITAC created an apprentice program several years ago for a pipefitter/welder but would be interested in helping to get more women into the field – Engaged people to join via word of mouth, social media, and testimonies from those who have finished the program with a journeyman card is “golden” to other members in the community who are considering the field.
 - Mentoring between peers- set up senior welders with newcomers to teach them specifics to the company and share knowledge.
 - Hold in-person career fairs and school job fairs at community colleges and high schools to introduce welding as a career.
 - Introduce trades to students starting in middle school where they can take classes on specific trades (i.e. carpentry, welding) and get hands on experience. Utilizing them to create a pipeline instead of assuming all students will attend college.
 - Women In Skilled Careers (WISC) – training women specifically to get them into welding jobs once they finish the program
 - Department of Corrections Women's Center started welding program and offered it as one of the few options that offers skills they can use once they are released. They initially started working with men but moved over to the women's center. Used physical flyers to inform women of the option. Since they have an expedited timeline (6 months), it is a full-time role (7am-4pm) to be able to learn all 5 types of welding (Shielded Metal Arc, Gas Metal Arc, Gas Tungsten Arc, Plasma Arc, and Flux Cored Arc) but are NOT certified once they finish.
 - In order to certify new welders who have finished a program (such as the Dept. of Correction's) a company could host certification tests on site for new recruits so they can prove their skills and get a new role. Companies could also sponsor students to get certified.
 - Connecting community colleges, correction centers, and companies to create a new pipeline of trained individuals who are ready to enter the workforce

- Facilities and manufacturers should emphasize the importance of giving tours to students within trade programs to give them a feel of what they look like and what to expect prior to graduation
- Are there specific practices that your organization uses to keep female welders engaged throughout the training program?
 - Department of Corrections Program is hands on, full time, nonstop, and enjoyable while still teaching the skills they need to excel within the workforce- it has led to the department having 0 drop outs from the program due to the person decided the trade was not for them. They set up specific projects to keep students engaged and passionate about what they are learning.
 - Lincoln Technical Institute emphasizes the relationship between students and facility (teachers, administrators, etc.) From the beginning of the admission process to a student's time throughout their education, the staff focuses on creating a warm and welcoming environment to encourage learning. Getting to know students individually and being able to open their eyes to ideas of the types of career pathways, keeping them passionate, giving as much info up front about specifics including wages, keeping their goals in mind throughout the course/program and continuing to discuss them with students are all important aspects of the relationship.
 - Creating a sense of community between students and keeping all students plugged in can keep them engaged not only with the training/classes but also with each other.
- Does your organization have female welding instructors?
 - Newport News Shipyard has a full time female welding instructor at the welding school as well as female craft instructors at the apprentice school – 1st distinguished apprentice graduate from the welding school (distinguished as in met specific criteria, recommended by instructors, and went through review with DOLI)
 - Apple has 75 people total, 50 machinists but 0 women. They do have 5 women on staff. Leverage women staff members, especially during recruiting process. They try to incorporate the women as much as possible, even if not directly in the trade, so there is an understanding that they are still on the team and have a voice within the company.
- Does your organization do any prescreening for physical requirements or testing for women (or men) before they are accepted into a welding program?
 - NNS has an intense physical prescreen for welding specifically (lift 50 lbs., crawl through tunnel with something similar to a welding machine, walk on treadmill, monitor heart rate before and after) to ensure you are able to physically do the role.
 - Uses a third-party company, PIVOT, who set up tests based on the craft they are employed for. It is done for ALL employees, not just women/welders.
- Does your organization provide post training follow up - or - touchpoints for employees who have successfully graduated from your welding or trade programs?
 - New Horizons CTE offers a selection day ceremony offer packet to graduate with full details on a new position, supervisor, HR person, as well as the New Horizons

contact. They have evaluations 30 days, 60 days, 90 days, and 1 year with employers and students to see where they are. They evaluate how their experience with the companies are from the student perspective as well as how was the student, their training, and how successful they have been with the employer.

- ITAC has yearly evaluations with employees and offers many opportunities for advancement after they finish the program. They also offer an in-house program for supervisor training as well to allow them to build on their experiences and be promoted into other roles. Offer monetary benefits once they progress through each role, they get an increase in pay.
- NNS utilizes Craft Learning Center (CLC) in different ways. One way is to help employees understand inspections, fire prevention, being onboard of a ship since it is a high risk for welders, how to identify combustible components that may be in the space, and how to protect and cover those before doing any hot work. It also offers a chance to perfect skills that they learn in welding school.

Attachment 3

Women in Welding Focus Group Discussion Notes 2**Retention of Women in Welding**

The group will explore the following 4 reoccurring themes that have been identified as key indicators that may influence a female's decision to remain in the welding occupation: **Opportunities for Career Development & Career Advancement; Management Support & Recognition; Gender Bias & Harassment in the Workplace; Managing Career and Family.**

1. Opportunities for Career Development & Career Advancement - 20 minutes

What is the difference between Career Development and Career Advancement? Career development is the lifelong journey of a person's work identity. It is the constant process of learning and decision-making that brings a person closer to their ideal job, skillset, and lifestyle. It is the big-picture view of someone's ultimate career goal and includes her years of education, training, and jobs. Career advancement is a short-term step or goal -- just one part of the bigger career development picture.

- [What are organizations doing to provide women welder's opportunities for career advancement within their trade and/or leadership advancement?](#)
 - New Horizons Regional Education Center offers a 2-year program for high school students and helps graduates get apprenticeships once they are ready to enter the workforce. During the program, they recognize strong students and give them the leadership role of "foreman" for the class.
 - Newport News Shipbuilding offers leadership advancement throughout their apprenticeship program. NNS has "Frontline Fast" where they provide a foreman accelerated skills training to qualifying apprentices. They also allow their apprentices to pursue education on the clock for things such as engineering, as well as offering educational reimbursements.
 - NNS also has employee resource groups, such as Women in Shipbuilding Enterprise.
 - Miller Electric has a national women's program at their company. Each month, they get together and invite guest speakers to present on topics that help women advance with different career opportunities.
- [What are organizations doing to provide women welders' career development opportunities?](#)
 - Danville Community College offers a welding program. They also have a partnership with the training Institute in Danville and created the Accelerated Training in Defense Manufacturing (ADTM) program – a 16-week course with 4 basic paths students can choose from (one of which is welding). They are also working on training veterans in trades and offering them opportunities to re-enter the workforce via civilian jobs.
 - Miller Electric regularly talks with employees to discuss career opportunities and their goals each year, as well as how they can recruit new people. Conversations are typically with HR and include a plan to reach goals within a designated period (1 year, 5 years, etc.). Together, HR and each employee create steps to achieve

those goals. Advancing through each step makes an employee eligible within the company to apply for new roles as they match their skills/qualifications.

- Celanese offers education reimbursement, employee resources groups, wage increases, and 16 hours a year for each employee to volunteer.
- What might deter a female welder from seeking career advancement or career development opportunities?
 - NNS has updated their physical requirements over the years. They found that while those requirements are a great way to ensure someone is ready for all the physical necessities of the role, they can rule out qualified candidates who could still complete the tasks but in a different/creative way. There is no differentiation between male/female recruits when giving the test.
 - Leadership opportunities often come with raised expectations of the employee. For example, arriving 30-60 minutes prior to a shift to prepare for the day, staying late after the end of a shift, and not being able to miss any time due to illness or family illness. For those with families (children especially), this causes extra stress and can be a deterrence from seeking advancement.
 - Companies often only have one path to get to a new role/leadership position. Women tend to believe that when others say they cannot do the job fully while still taking care of a family, it must be true. Companies need to have open conversations around creative ways to maintain a work/life balanced, keeping in mind ways to do things that are not the traditional path.
 - Companies/leaders should allow more opportunities for women in trades to volunteer, develop their skills, and recruit other women into the field. Often, women do not pursue these opportunities because they feel that management thinks they are spending too much time away from the job and are needed on the floor doing the work. While it is understood that the job needs to be done, it hinders advancement and development.
 - Women displaying emotion is seen negatively – perceiving women as “too emotional” for a leadership position, while not holding male counterparts who are swearing, yelling, red in the face while on the floor to the same standard. This indicates strong gender bias by managers/leadership, which leads to women missing out on opportunities despite qualifications/skills. Also, women can come off “aggressive,” while a man acting similarly would simply be seen as “assertive.”
 - A lack of diversity on the team can deter women from even starting with a company if they feel that they are not as important/seen equally as their male counterparts. Having women involved in the recruiting process, whether they are in the role or not, can lead to greater interest by prospective women workers.
- How do female role models influence or have a bearing on a female welder’s decision to seek advancement within an organization?
 - “If you see it, you think you can be it”
 - Having female role models is important for other women who want to get into a trade or advance within an organization. They see a woman within the trade, or in a leadership position, and the path becomes clearer for how to get there.
 - It is important to expose young girls to females who work in a trade occupation. When girls see a woman, who looks like them and is happy being a welder, it makes them interested in pursuing that job.

- Colonna's Shipyard actively works to put females into management/leadership positions within the welding field. They are committed to showing women in the occupation that there is a pathway to becoming a leader at their company.
- In some cases, women are discouraged purely because of the mindset that men have always been the welder. We need a culture change to push more women towards the idea that they can also work in the trades and do not need to stick to stereotypical “female” roles (i.e., nursing, admin, etc.). Having well-known female role models within the industry and at your company is a good starting point.
- Seeing other women in similar positions can give female employees the confidence to go after the higher positions and development/advancement opportunities.
- Recognition programs are important. The STEP Ahead/Women in Manufacturing Award helps to promote the importance of being a role model for other women in manufacturing and specifically the welding trade. WiM-VA also recognizes women in industry annually at their November Leadership Conference.

2. Management Support & Recognition – 20 minutes

- **How does your organization demonstrate a high level of importance in management and leadership support for women in trade occupations such as welding?**
 - NNS supports their employees from the beginning of employment and encourages everyone to pursue advancement/development within the company. Some women have had to defend their decision to pursue welding, but once their peers and managers saw they were serious, they felt more actively supported. While defending themselves, the most common question asked by others was “why” – why welding, why shipbuilding, why stay waterfront?
 - Prior to COVID, NNS held a hiring event for welders that had advertising targeted at women. The spots for the event filled up quickly which clearly shows a large amount of interest within the community.
 - Miller Electric had an employee who was creating videos and tutorials to build awareness around female welders in the industry and posting it on her personal social media accounts. Once management found out, they put her in touch with the company’s marketing team to help develop content and more widely market. They also sponsor several women in their roles (ex: Barbie the Welder) and build momentum around the initiative.
 - General Dynamics Bath Iron Works in Maine has 60% female apprentices entering their program, but they are losing them to other areas within their own company. Within a year, they lost half of those onboarded to other departments. The women are poached from within the company and away from the manufacturing side. Women are often pressured to move because they have so many other departments they could work in that would be more “traditional”.
- **Can you identify obstacles or reasons that a woman would not seek management support?**
 - Managers and leaders openly talk about how they do not want women to discuss Women in Welding initiatives too much because it can be off-putting to others (mostly men) or sexist to have a focus on just women. As a result, they may not feel comfortable going to management for assistance or help.
 - Some females feel that going to management to seek help can be seen by their peers (especially men) as asking for special treatment.

- Gender bias can lead recruiters or hiring managers to look at a woman's experience and see it as not enough despite hiring a male with the same amount of experience for the same role. Gaps within work history can also be a reason to overlook women who may have stopped working to have a family whereas it's less of an issue for a man.
 - During interviews with recruiters and hiring managers, women who are straight forward and direct are often seen as "too intimidating" or a carefully thought-out answer may be seen as "too textbook".
 - Managers are interested in hearing about examples of harassment and discomfort when it comes from a male perspective but when a female gives the same example, suddenly she is asked to consider counseling and the conversation turns negative.
 - Female employees are often told that they have the support of the company but are unable to be promoted because once they enter a leadership role, they are going to expect special treatment from others. The fact is that women want equal treatment as men but are less likely to accept poor treatment even if it is the same as everyone else.
 - Companies often make the excuse that there is only one opportunity for females to advance within a department/division, so they pit women against each other for roles. Women may also feel that if there is already a female in leadership, there is no way they will promote another one.... the spot has already been taken.
- How do you train your managers/supervisors so they have the necessary skills to have development discussions with women welders?
 - CSG has requirements for diversity and inclusion training within their company for all employees. They aim to make all teammates aware of the issues facing their diverse workers through education.
 - The industry has a mindset that the job is not for women. People believe that women do not belong in trade occupations, and they do not have the skills / qualifications / physicality to do the job. Teammates feel like they must watch what they say around women as to not easily offend them. Senior management needs to focus on anti-harassment and diversity so that the rest of employees will follow suit. Changing culture starts at the top of the house.
 - Many companies look at diversity as simply "checking the box" instead of focusing on the growth and development that comes with having a more diverse team.
 - Making sure that managers/supervisors are intentional with their actions. This will make females more open to going to them when they show their support not only verbally but physically as well.
 - All foremen are required to do Enhancing Personal Leadership (EPL) training at Danville Community College to help them become better leaders.
 - Companies should teach managers/supervisors to approach a conversation about an issue, not with their opinion, but with an approach that we can find a solution together.
 - NNS has a group where men and women can come to a safe space and discuss the issues people may be having within the company.
 - How does your organization recognize employees in trade occupations (i.e., recognition programs, etc.)?

- New Horizons has a Student of the Quarter award for high school students. It is an opportunity for women to get into welding at an early age (2-year program before you even graduate from high school). The award is given to those who are examples of a strong student and go above and beyond. The winners are often given money as well.
- Celanese has an award program called the “Rock” Award because they believe it is foundation to engagement process. Peer or management gives award for above and beyond performance in any area (ex: technical excellence, safety, etc.) It comes with a monetary bonus ranging from \$200-\$2000.
- NNS has a recognition program. It is a bonus program for employees who show initiative and go above and beyond. The program validates that their extra work is valued and they are making a difference.
- The Tech Force Foundation gives grant/scholarship for students wanting to go into trades.
- Bath Iron Works has an employee recognition effort that is monthly. The Vice President contacts each superintendent to see which employee received the recognition and specifically want to know how many women received it. The recognition comes with a \$500 gift certificate or restaurant gift card. They also ask managers/supervisors to measure/track how many women they interview for a leadership position. There are no set quotas but rather giving a gentle nudge in the right direction and keeping diversity a part of the conversation.

3. Gender Bias & Harassment in the Workplace – 20 minutes

- What policies does your organization have to address gender bias and harassment in the workplace?
 - CSG has the Diversity & Inclusion training that was discussed earlier.
 - Celanese has a written Respect & Dignity Agreement that is strongly abided by at their company. They also train teammates on it as well as anti-harassment. They focus on combating bias at local and corporate levels and through employee resource groups such as the Women’s Impact Network.
 - Kaleo has annual harassment training that comes with a module and test. The company also has a 1-800 number within the organization that can be used to report any sort of harassment.
- Do you think your organizations harassment policies are effective?
 - Many people, women specifically, refuse to come forward out of fear of retribution or the claim being swept under the rug. There is a worry that the policy is simply there because it is required rather than it being something the employees, senior leadership specifically, enforce and follow.
 - Those who have filed claims in the past and/or seen poor handling of a claim will be discouraged from doing it in the future - even if they have a legitimate issue.
 - When reporting harassment, some women feel that they need to constantly prove the harassment is happening rather than leadership believing them and trying to put a stop to it from the beginning.
- Is there a perception that there is gender bias and harassment in trade occupations that could deter women from entering and remaining in the welding trade?

- A perception of bias mostly because many women are not given the opportunity to consider the trade as a career option. Having it in front of them as something they can choose to do is the biggest hurdle.
- Bias that women need special treatment and extra accommodations from the get-go is another hurdle. We should instead be teaching them to think differently and be creative regarding ways to do all portions of their job.
- While there are plenty of women that do not care about the bias that is within the trade, there are enough to let it deter them from entering the industry.
- Outspoken individuals that are giving the perspective that women cannot join the trade and do not have thick enough skin or the ability to do the more demanding jobs are the ones that are being heard and continuing to spread the bias.
- Some recruiters will actively try to convince women not to join trades because they do not believe they can successfully fulfill the role despite having the skills and qualifications for the job.
- Some women believe there is no bias or harassment within trade occupations. They enter the field believing that discriminating against someone because they are female is illegal. Unfortunately, once they enter the occupations, it isn't always the case.
- There is an idea that trades, welding especially, are dangerous roles, and therefore women should not be in them. Everyday tasks such as driving can also be dangerous, but everyone is taught how to drive safely. Similarly, we should be able to teach the trades to everyone.
- Welding can be considered a “dirty” job so many believe it is not a job for women.
- Many parents discourage their daughters from joining trade jobs and instead push them towards traditional colleges and the “traditional” roles. To change biases, it should start with parents encouraging their children to consider all options.

4. Managing Career and Family (childcare, pregnancy, etc.) – 20 minutes

- **What accommodations does your organization make for employees with pregnancy restrictions in trade occupations?**
 - Before, women had to clock out to breastfeed as a break. With more women entering the field, companies are updating the policies to accommodate any pregnancy restrictions.
 - Bath Iron Works offers pumping stations for new moms that are temperature controlled.
 - There tends to be a bias that women cannot have both a successful career and family and it can create resentment from other women who chose not to have both. “I didn’t have that, why should you?” instead of encouraging them not to have to choose between the two. With that, it can be discouraging to those women with families that have to take time off to take care of them when others make them feel guilty for taking the time.
 - Many men who are successful in their role while having a family are applauded for their ability to do both while women in the same boat are penalized and considered not to be taking their job seriously.
 - Women tend to make excuses and apologies for doing family tasks (carpool, taking kids to doctor appointments, staying home with sick kids) where a male will just ask for the time off without giving an explanation as to why.

- Examples of programs or benefits that help attract or retain women wanting to have or start a family
 - Hiring events for women in trades with direct marketing to women can encourage them to consider the option. They still encourage men to join but all marketing materials are directed at women who may not have considered the trades as a career option.
 - Offering flexibility to those who are seeking only part time work. Not discouraging those who are part time from seeking career advancement.
 - Companies being open to negotiation for a variety of leave arrangements and flexible schedules.
 - With COVID-19, it made many companies think about the work/life balance in a different way. With many people working from home, they must integrate more flex time within schedules to be able to juggle all the demands that their role requires while maintaining the household.

- Statistics show that women are leaving the workforce at four times the rate as men due to the burden that COVID has created around parenting and running a household while working in a pandemic. How is your organization addressing this disruption to their workforce and skilled labor force?
 - NNS offers liberal leave to their employees. This is an unpaid leave that can be taken without repercussion. This can be used to take care of family needs.
 - Many employees have also taken advantage of unemployment benefits even though they did still technically have a job that they had to leave during the pandemic.
 - Colonna's Shipyard supported all employees to make necessary adjustments and allow flexibility to staff to let them address personal needs during this time.
 - ITAC allows employees to work from home and received the Payroll Protection Plan which helped accommodate their full payroll.
 - During COVID, many companies are focusing on mental health issues and offering resources and programs on mental health and wellness.