

Leading the Way:

Women, Leadership and What Works in Construction



“ Transformational leadership, which women tend to adopt, is centered on vision, collaboration, mentorship and the personal development of team members.”

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Executive Summary

Why This Matters

The construction industry faces a widening leadership gap, with an aging workforce, ongoing labor shortages and a need for flexible, people-focused leadership. Advancing women into leadership roles could help fill this gap in construction organizations. Studies show that women bring fresh perspectives and leadership styles that: (a) strengthen safety cultures, (b) improve collaboration within teams, and (c) inspire long-term growth and greater retention within the workforce. However, our Women in Construction studies have shown that women face barriers to advancement, from a lack of tailored leadership training to limited mentorship and sponsorship opportunities.

This white paper presents and analyzes survey data and interviews with women in the construction industry who participated in female-specific leadership development programs. NCCER set out to understand how female-specific leadership training impacts career growth, confidence, and advancement for women. What we found confirms the power of leadership development but also highlights gaps that still need to be addressed.

What We Found

- Confidence is key: Female-focused leadership programs boosted participants' self-confidence, giving them the courage to speak up, advocate for themselves, and take on bigger roles.
- Career growth happens: Many women reported that female-specific leadership training helped them move up, take on new responsibilities, or set clearer career goals.
- Leadership training works: Nearly 75% of women surveyed had participated in leadership training, but more than half said the programs were not specifically designed to address the unique challenges women face in construction.
- Strike a balance: While female-only leadership programs build solidarity and confidence, many participants felt that future leadership training events should also include men, reflecting the reality of the workplace and broadening perspectives.

Key Recommendations

- Create leadership training programs tailored for women in construction, addressing industry-specific challenges like bias, networking gaps, and confidence-building.
- Host women's leadership forums and summits that provide safe spaces for sharing experiences, building networks, and fostering learning.
- Balance female-specific and mixed training models to ensure women gain both confidence and practical leadership experience for the real-world environments they work in.



Why Leadership for Women in Construction Matters

The construction industry has long been predominantly male, where women have been historically underrepresented in both craft and leadership roles. Effective leadership has become an even bigger need in this industry as it faces consistent and continual workforce shortages. This white paper analyzes the experiences, challenges, and opportunities for women in construction, particularly those who have been involved in female-specific leadership training events. The study focused on surveys, qualitative interviews, and statistical analysis, and this white paper works to highlight insights regarding: (a) workplace culture, (b) career advancement, and (c) leadership development for women in the construction industry.

Women represent an untapped talent pool. Supporting their leadership development introduces new perspectives that can strengthen and broaden leadership approaches within the industry. By implementing leadership development programs to advance women in construction, organizations can unlock the full potential of their female employees and enhance their overall workforce. Investing in women's leadership programs can help bridge the skills gap while bringing fresh and potentially more effective views and capabilities to the field.¹

This paper explores three key areas regarding the challenges and opportunities for women's leadership in construction, specifically: (a) how women in leadership naturally align with transformational leadership styles, (b) the effectiveness of female-specific leadership training, and (c) how women-centered leadership training can foster connection, mentorship, and greater psychological safety.



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What is Transformational Leadership?

The construction industry has a long history of command-and-control leadership styles that are more transactional in nature.² Traditionally, transactional leaders operate through structured processes, task delegation, and performance-based rewards or penalties. In many ways, this leadership style aligns well with the construction industry's high-risk and deadline-driven nature. However, this leadership style, often associated with male leaders, emphasizes control, efficiency, and immediate results over relational development.³ Studies have shown that "an excessive emphasis on transactional leadership may hinder innovation and long-term growth."⁴

Transformational leadership, on the other hand, is "a people-oriented, trust-based relationship . . . , which tends to be associated with women."⁵ Transformational leadership is centered on vision, collaboration, mentorship, and the personal development of team members.⁶ Studies have found that employees are more likely to report hazards, follow safety protocols, and look out for one another in workplaces where they feel valued and empowered to speak up; all of which are hallmarks of transformational leadership.⁷ Research has shown that the qualities associated with this transformational leadership style improve job satisfaction and employee retention.⁸

In a workforce where skilled labor is becoming increasingly scarce, companies that invest in leadership that goes beyond the traditional transactional style could reduce turnover rates and cultivate a more engaged workforce. Additionally, construction remains an industry with significant worksite hazards, where safety depends on clear communication, teamwork, and a culture of accountability. If a transactional approach to safety focuses on compliance and rule enforcement, and a transformational leadership approach prioritizes proactive engagement and behavioral change, then organizations that promote both leadership styles could potentially enhance safety, employee engagement, and retention.⁹

Making Sure the Right Course is Provided

One key obstacle to career advancement for women in construction is the lack of tailored leadership development programs specifically designed for the challenges women face.¹⁰ While general training opportunities may exist, few are crafted to address the unique difficulties women face. Women must handle challenges like overcoming implicit and explicit biases, developing confidence in leadership roles, and effective networking in high-pressure environments. Leadership programs that fail to acknowledge and address these female-specific challenges often leave women feeling overlooked and underprepared for advancement opportunities.¹¹

Training programs tailored to women's needs enhance women leaders' abilities by addressing skill gaps, breaking down barriers to inclusion, and cultivating a sense of belonging.¹² These programs prioritize psychological safety, a key factor in learning and growth, allowing women to engage fully without fear of judgment or failure.¹³ A 2018 study on leadership for women found that female-only leadership courses positively impacted women's career decisions and upward mobility.¹⁴ This same study found that programs emphasizing creating a safe learning space for women enabled more participants to explore their potential while receiving feedback more openly.

Other Avenues for Leadership and Advancement

Career advancement remains a significant challenge for women in the construction industry, often due to deeply ingrained biases and systemic barriers.¹⁵ Despite increasing awareness of the need for greater representation of women in the field, opportunities for promotion remain disproportionately limited for women compared to their male counterparts.¹⁶ This disparity is evident in the low percentage of women in senior leadership, project management, and other influential roles within the industry.¹⁷ Despite this, organizations have not established clear and inclusive

career progression pathways, leaving women to navigate their careers without adequate guidance or support.¹⁸

Mentoring and sponsorship are critical yet underutilized tools for promoting women's career growth.¹⁹ Mentorship programs can help bridge the gap between skill development and real-world application, providing women with the insights and

guidance they need to navigate their professional journeys. Sponsorship programs, where influential leaders actively advocate for women's promotions and advancement, are equally important. Studies have shown that women with sponsors are significantly more likely to secure leadership positions and critical assignments. However, these programs remain limited for women in the construction industry.²⁰

What We Found

NCCER's Women in Construction study surveyed over 775 women in 2024. A total of 352 respondents answered the survey question about leadership training. As illustrated in Figure 1, 263 of them, representing 75% of this total, reported having taken part in some form of leadership development.

When asked whether leadership training contributed to improving their leadership skills or advancing their careers, 142 or 46% of the 309 participants who responded said that the training helped them "Somewhat," while a smaller number, 79 or 26% stated that it significantly helped them as shown in Figure 2. Only about 13% stated that the leadership training they had attended did not help them at all. This means that over 85% of women who took leadership training found these training events useful in some way.

FIGURE 1

Have you ever participated in leadership training or development programs offered by your company or another organization?

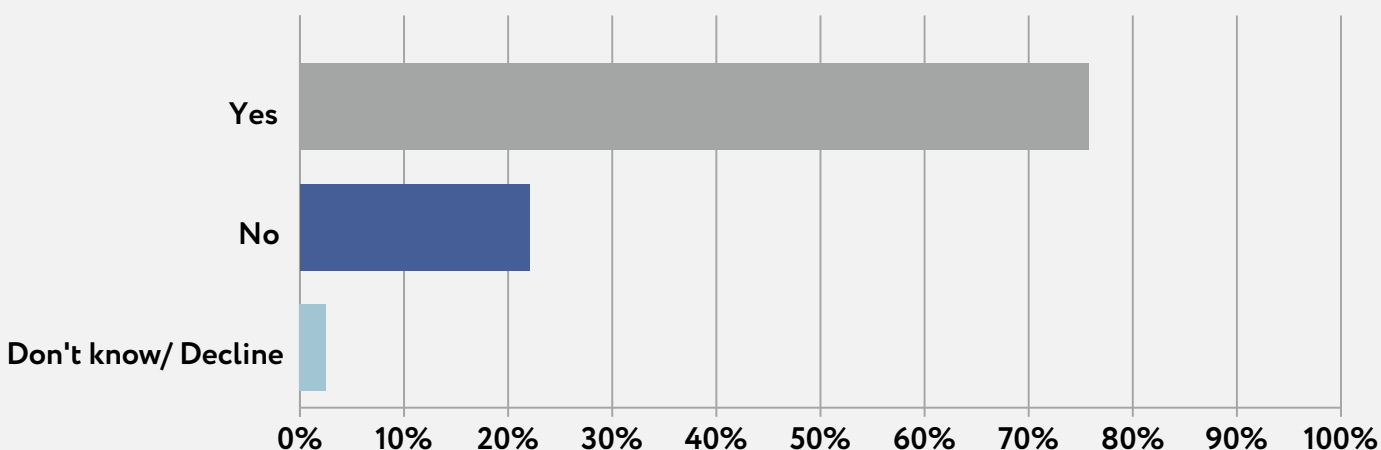
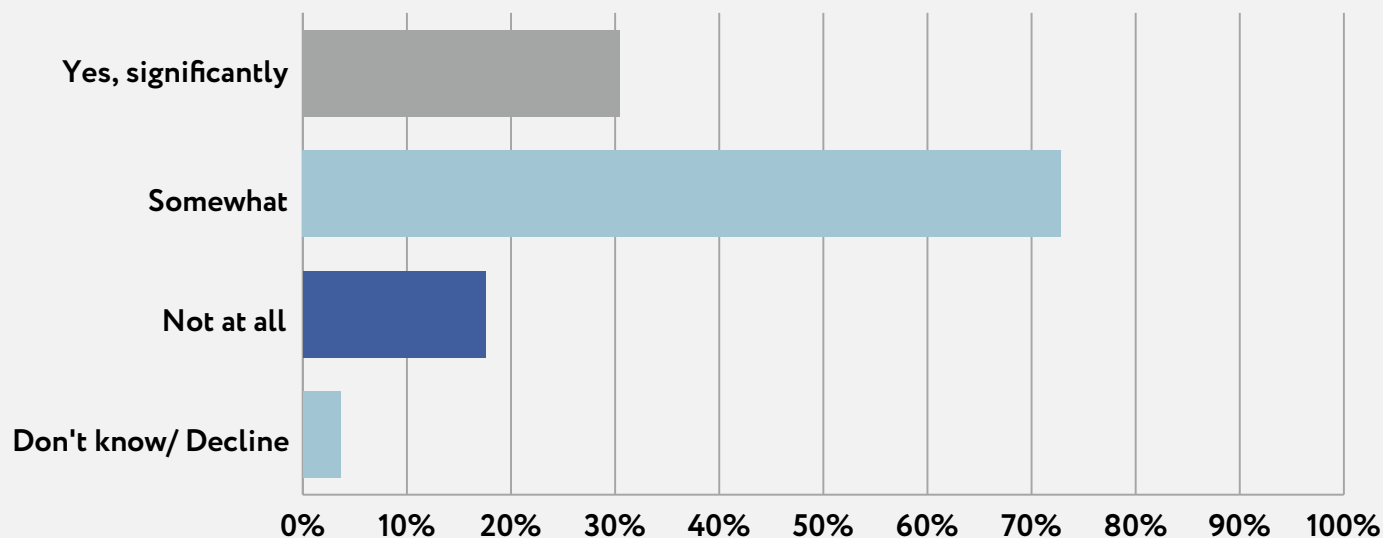


FIGURE 2

Did the leadership training help you improve your leadership skills or advance your career?



Women in our survey were also asked whether the leadership training programs were tailored to address women's unique challenges in the construction industry. The results were mixed, with only 108 participants, or 33% of the total, responding that their training was "Somewhat" or "Directly" tailored to the unique challenges of the construction industry, as shown in Figure 3. This means that over 50% of the respondents had attended leadership training events that were not specifically designed for the challenges that women face in the construction industry.

Why Does a Female-Only Leadership Course Matter?

When discussing female-specific training tailored to the construction industry and its impact on participants' sense of self-confidence, both during and after the training, every participant who was included in our interviews highlighted a sense of

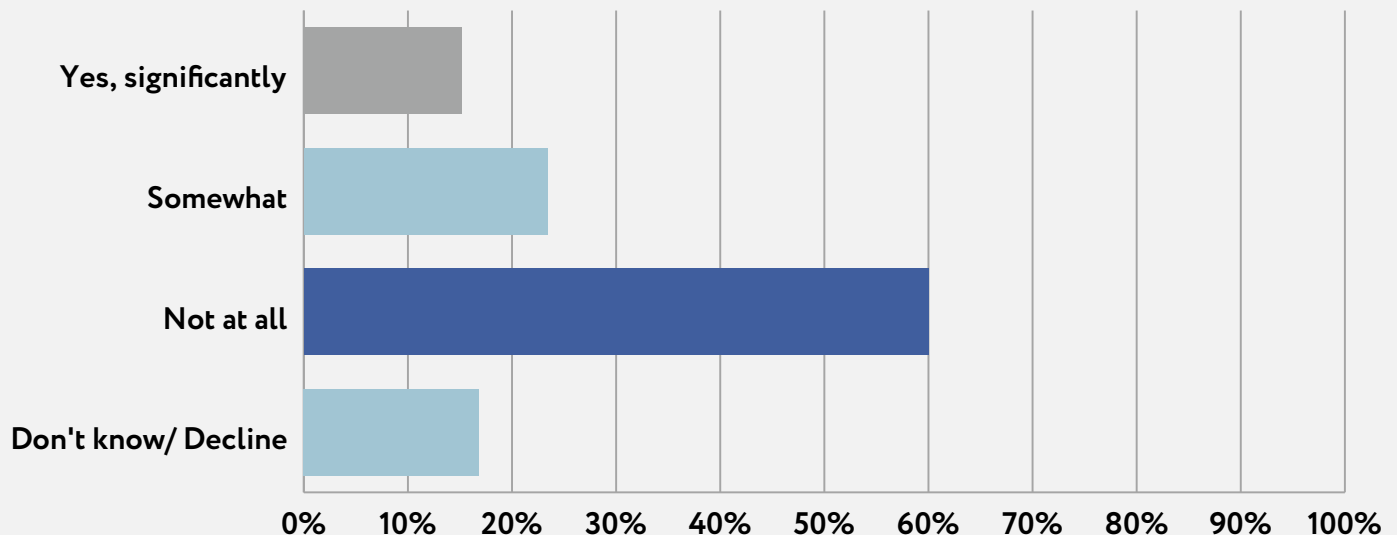
improved self-confidence from being around other women in their training events. These participants mentioned that the female-specific training environment provided a space to reflect on their leadership skills and personal growth.

Specifically, Participant #3 said, *"It was nice being surrounded by other people who could understand the full spectrum of what you had been through rather than just pieces and parts."*

Many stated that confidence-building was a recurring theme in their training events and that it encouraged them to speak up, take initiative, and advocate for themselves in the workplace. Some participants mentioned that they had previously lacked confidence in asserting themselves in spaces where men were present, but the training helped them feel more capable and validated. Additionally, they found greater confidence from their fellow female participants.

FIGURE 3

Was the leadership training tailored to address women's unique barriers or challenges in the construction industry?



Participant #1 said, “There was a running theme that we were all there to boost each other up and improve everyone’s self-confidence.”

This participant continued, “Before the training, I would have described myself as confident, but I still got a major confidence boost from (the training).”

Several participants mentioned in their interviews that hearing other women’s experiences made them realize their struggles were not unique, reinforcing their belief in their own capabilities. Others stated that they felt more comfortable sharing their thoughts and concerns in an environment limited to only other women.

Participants acknowledged that they might have held back their opinions in a setting with both men and women or hesitated to ask questions for fear of being judged. The absence of men removed concerns about being perceived as “too emotional” or “too aggressive” when discussing workplace challenges.

Specifically, Participant #4 said, “For women to be able to sit in this room and ask questions without the fear

that someone is sitting in the back rolling their eyes ... it was refreshing.”

These reactions reflect a broader issue: a lack of psychological safety for women in traditional leadership training settings. Female-specific training settings enhance a sense of psychological safety, or the belief that one can speak up, ask questions, or admit uncertainty without fear of embarrassment or retribution, which is foundational to effective learning.

The participants within this study expressed that courses limited to only women trainees created a safe environment where they could be more open, share experiences, and ask questions without judgment. The fact that participants anticipated eye-rolling or dismissal in co-ed settings suggests that, in mixed or traditional training classrooms, they do not feel free to engage fully. This underscores the need to design learning environments where psychological safety is intentionally prioritized.

How Does Training Affect Women's Careers?

Another theme the participants in our qualitative interviews expressed was that the female-specific training helped them develop skills that directly contributed to their career progression. Several participants said that after completing their training events, they felt more equipped to take on leadership roles or push for promotions. Some participants noted that mentorship and networking opportunities that emerged from the training were valuable for their career growth.

Specifically, Participant #2 said, *"The training helped me move up the ladder in the company. I didn't have any construction experience before, and now my boss is helping me grow."*

Participant #4 noted that the training opened new career pathways, stating, *"They wanted us to develop leadership skills to move upward. The goal was to cross-train women so we could get better positions or move into new roles."*

Additionally, Participant #2 mentioned, *"The training gave me the tools I needed, and hearing other people's stories inspired me. It helped me think differently about what I could do in the industry."*

These expressions suggest that the goal of these events extended beyond leadership skills acquisition. Instead, there was a secondary outcome, that of helping other women through mentorship and sponsorship and positioning women to "move into new roles."

What Else Can Be Done to Support Women?

This theme of the importance of mentorship was brought up by the participants in each of the interviews. What was discovered through these discussions was that each participant became more intentional about mentoring others after participating in their female-specific leadership training events. Some participants discussed how the training inspired



Our participants acknowledged the critical role of female-focused training in building confidence but understood that mixed-gender, role-specific training might better prepare them for real-world advancement.

them to actively seek out and support newly hired women after their training events, showing a shift in leadership mindset.

Participant #3 mentioned during her interview that her training *“kind of started the catalyst for a mentorship network. We realized we needed more of a formal support system beyond just one or two of us taking on all the mentoring responsibilities.”*

Participant #1 said, *“The course made me think about mentorship differently and how important it is to bring others along.”*

She also admitted, *“I’ve hired so many women since I’ve been here—as many as I can get my hands on. I guess in that way, I am their sponsor” and “I do skill development, cross-training, support, mentorship. It’s not something I thought about before the training, but now I see how important it is.”*

Participant #2 said regarding hiring more women, *“When I started, I was the only woman. Now, we have a few more, and I try to mentor them when I can.”*

Finally, Participant #4 said of the training, *“This training gave me exposure to leaders in other departments who I never would have interacted with otherwise. It made me realize how important mentorship and networking are.”*

How Do Women See the Future of Leadership Training?

When we explored the future of training for these participants, NCCER’s study found a unique and surprising nuance to the respondents’ answers. While participants consistently praised the value of the female-specific training opportunities, emphasizing how these training events helped them feel less alone in their challenges, a majority of the interview participants discussed that moving forward, while they understood the benefits of the training, they looked forward to future training events that included both men and women.

Importantly, this was not a rejection of female-specific programs. During follow-ups on these answers, participants consistently stated that they would continue recommending female-focused training to others, recognizing its role in fostering confidence and connection. However, to advance in their own careers, participants acknowledged the importance of learning to collaborate with male colleagues, including through training events. They stated that they would prefer future training opportunities be organized around job roles and responsibilities rather than gender alone.

This shift in perspective highlights a practical awareness among the participants. The participants seem to understand that while female-specific programs provide a critical foundation of support and growth . . . career advancement in an industry that includes so many men, requires a broader perspective. Participants recognized that effective leadership demands navigating the real-world dynamics, managing complex teams of men and women, and building credibility across the workforce.

Participant #3 stated, *“The leadership training was really valuable, and I’d absolutely recommend it to other women, but if I had to choose between an all-women leadership course and a mixed one specific to my career level, I’d probably go with the mixed group. You need that real-world interaction because most of the people you work with aren’t going to be women.”*

She stated, the *“training was great for validation and understanding shared experiences, but in some cases, I want feedback from different perspectives. That’s why I’d go for the mixed training in certain situations.”*

Participant #2 stated something along the same lines when she said, *“I think the (female-specific) training was really helpful, and I liked that it was all women, but if I had the option of doing leadership training just for lead estimators—even if it was mixed—I’d probably pick that. It would be more specific to what I do every day.”*

Participant #2 continued, saying: *“Interacting with men in training is important because most of my coworkers are men. You need that balance of both.”*

Finally, Participant #1 stated, *“I really liked the all-women training. It was a great experience. But if I had to pick between that and a leadership course where everyone was at my same level in the industry, even if it was mixed, I’d go for that 100%.”*

She also added, *“I think both are good in different ways. The training gave me confidence, but mixed training would probably be better for networking and long-term career growth.”*

These responses reflect a mature and strategic approach to leadership development. These participants acknowledged the critical role of female-focused training in building confidence but understood that mixed-gender, role-specific training might better prepare them for real-world advancement. Ultimately, their responses tend to show that they understood both formats were competing interests but were complementary steps in a broader journey toward leadership in construction.



Strategies for Industry Leaders

Elevate Leadership Programs to Meet Industry Challenges

Organizations must design and implement leadership training initiatives that explicitly address the barriers women face in construction. Although generic leadership training courses can be convenient and ubiquitous, training programs tailored to the construction industry's unique challenges and designed specifically for women can provide greater opportunities for women to advance in their careers and create networks that can influence their career trajectories.

When selecting a leadership program, find one that offers participants the chance to refine essential communication, decision-making, and project management skills, all within a framework specifically designed for the construction industry.

Organizations should:

- Develop and implement leadership training programs specifically designed for women in construction, ensuring they address industry-specific challenges.
- Strategically design training and career advancement paths that include both female-specific and traditional formats. While female-specific programs offer essential support and confidence-building, traditional training environments are critical for developing the leadership skills needed to thrive in real-world work settings.
- Participate in industry-led women in construction events, trainings, and seminars.

Strengthen Sponsorship and Mentorship Networks for Women

This study shows that female-specific training events help women connect with influential leaders who can advocate for their advancement. Mentorship should be purposeful and supported by leadership and the organization, and women at all levels should be encouraged to participate and contribute.

Organizations should:

- Establish formal mentorship and sponsorship programs that connect women with senior leaders who actively advocate for their career progression and leadership opportunities.
- Conduct regular evaluations of mentorship programs to ensure they meet women's needs in construction and facilitate measurable career advancement.

Foster Inclusive Leadership Spaces and Networking Opportunities

Beyond training opportunities, companies should host exclusive leadership forums or annual summits where women in construction can connect, share experiences, and gain insights from industry veterans. These forums or summits should be designed to foster leadership development, mentorship, and sponsorship, and expose participants to industry innovations, negotiation skills, and other complementary training.

Organizations should:

- Create industry-specific leadership forums or networking events where women can build connections, gain insights from senior executives, and participate in leadership development initiatives.

Building a Foundation for Lasting Change

This study's findings underscore the need for the construction industry to take proactive steps in developing and promoting women into leadership roles. While progress has been made, a significant gap exists between what organizations say they want to do to support women and what is actually being done. By implementing leadership training that addresses women's challenges, organizations can create a culture where female employees feel empowered to advance their careers.

The recommendations outlined in this paper help create a road map for companies seeking to broaden the reach of women in construction leadership. Female-specific training has proven to be an effective tool in fostering confidence and professional growth. Still, it must be complemented by structured career pathways, industry-tailored leadership development, and learning environments that prepare women for real-world leadership dynamics. As the industry grapples with labor shortages and an aging workforce, harnessing the full potential of all workers, including women, will be critical to sustaining growth and innovation.

How We Captured the Data

This study focused on the following research question to determine how the construction industry has used these opportunities to support women: How do women-specific leadership training programs impact the career advancement, retention, and effectiveness of women leaders in the construction industry?

To do this, NCCER employed a mixed-methods approach. We gathered data via a survey tool that included open-ended and multiple-choice responses. We followed this up with intensive, semi-structured interviews with a random sample of women in the construction industry who had taken different leadership training courses.

We worked to include participants with varying experience levels, ranging from entry-level employees to seasoned professionals.

The survey was conducted over six weeks, from November 11, 2024, to December 22, 2024, using an online survey tool. The survey comprised 13 pages with 57 questions. The interviews took place with six different participants who initially answered the survey, but agreed to be interviewed about their experiences as craft professionals. The interviews took place from January 27 to February 17, 2025.

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National Center for
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13614 Progress Boulevard
Alachua, Florida 32615
866.622.3720 | www.nccer.org