

Inside Wireman Apprentices Retention Study

Findings and Recommendations

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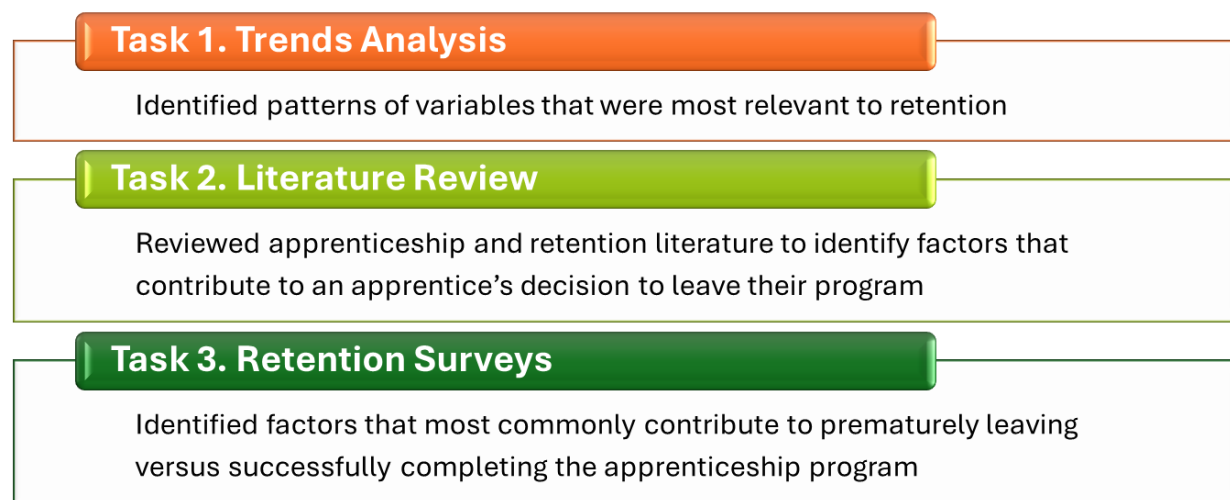
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1. Background

In December 2022, electrical training ALLIANCE (*etA*) partnered with the American Institutes for Research (AIR) to better understand the retention challenges faced by Inside Wireman apprentices. *etA* supports the training of roughly 40,000 Inside Wireman apprentices. However, *etA* has previously reported that 32% of Inside Wireman apprentices do not complete their apprenticeships. Consequently, the AIR team conducted this study to help *etA* **better understand the factors influencing Inside Wireman apprentices' decisions to remain in or withdraw from their program.**

As shown in Exhibit 1, for this work, AIR executed a three-step approach, which included the following: Task 1: Trends Analysis, Task 2: Literature review, and Task 3: Retention Surveys. The findings from the trends analysis and literature review helped to inform the development of the retention surveys.

Exhibit 1. Inside Wireman Apprentice Retention Study Approach



Based on the findings from the trends analysis and literature review, AIR developed two sets of survey questions: one for current apprentices and one for those who did not complete their apprenticeship program (henceforth referred to as “non-completers”). The survey was designed to be short to encourage participation. The set of questions for current apprentices was estimated to take 10-15 minutes to complete, while the set for non-completers was estimated to take no longer than 5 minutes. The content of the survey covered the following five domains:



Demographic and Background Information: Asked current apprentices and non-completers about their demographic and background information (e.g., pre-apprenticeship participation, apprenticeship year, experience as a Construction Wireman or Construction Electrician).



Information and Resources Prior to Joining the Apprenticeship Program: Asked current apprentices and non-completers about the information and resources they had and benefited from before joining the apprenticeship program.



Information and Resources During the Apprenticeship Program: Asked current apprentices and non-completers about the information and resources they had and benefited from during the apprenticeship program.



Factors Impacting the Apprentice Experience: Asked current apprentices about factors that affected their experience in the apprenticeship program.



Personal Challenges and Supports: Asked current apprentices and non-completers about personal and life challenges they faced during their apprenticeship and whether they benefited from resources to navigate these challenges.

The majority of the survey questions offered a set of fixed responses. In addition, an open-response survey item asked participants to provide any additional information about what kept them motivated to stay in the apprentice program (current apprentice survey only) and/or the challenges they faced that might hinder program completion.

In the next section, we present survey findings categorized by domain for both current apprentices and non-completers. Within each domain, we identify factors that apprentices benefit from and serve as facilitators to retention and those that pose challenges to apprenticeship participation. Following the findings, in section 3, we discuss recommendations based on the survey findings.

2. Detailed Findings by Domain

In this section, we present detailed survey findings, including insights gleaned from the trends analysis and literature review conducted as a part of this study. The findings are primarily focused on results obtained from the current apprentices. For the non-completers, the sample size was smaller and less likely to be representative of the non-completer population, so those results are not emphasized as heavily in the findings. However, the responses of non-completers generally exhibited similar patterns to those of current apprentices, with a few notable exceptions that will be addressed in this report.



A. Sample Demographics and Background Information

Data from a total of **2,011 current apprentices** and **149 non-completers** were used in the analyses presented in this report. Overall, participants represented a diverse mix of gender, age, education, and racial/ethnic groups. **A majority of both current apprentices and non-completers were White (72.2% of current apprentices, 65.7% of non-completers), not of Hispanic, Latino/a, or Spanish origin (67.7% of current apprentices, 62.4% of non-completers), male (90.8% of current apprentices, 86.5% of non-completers), and 25 years of age or older (63.2% of current apprentices, 59.7% of non-completers).**

Additionally, a majority of current apprentices and non-completers did not have a college degree, did not have previous experience as a Construction Wireman (CW) or Construction Electrician (CE), and had not completed the Pre-Apprenticeship program.

There were a **minimum of 200 current apprentices from each of the five years of the program, whereas non-completers had primarily left the program during their first and second year.**

There were a minimum of 100 current apprentices from each region (West, Southwest, Southeast, Northwest, Northeast, Midwest), with the **largest number from the Southwest and the smallest number from the Midwest.**



B. Information & Resources Prior to Joining the Apprenticeship Program

The findings indicate that most candidates enter the **Inside Wireman apprenticeship program with a realistic understanding of what the program may require and how they would be compensated while in the program.** Most current apprentices and non-completers (60% or more) reported having crucial information related to the nature of the role, such as an understanding of the demand for electricians in the United States, the pay structure, and average income potential. Sixty-three percent also stated that they had clarity on the nature of the apprenticeship and what it would take to be successful. This suggests that apprenticeship candidates have access to and

At least 60% of respondents reported that they benefited from having:

- Knowledge of average income potential
- Understanding of pay structure
- Access to resources to help improve skills (e.g., math and reading)
- Understanding of demand for electricians in the United States
- Clarity on the nature of the apprenticeship and requirements for success

understand crucial information about the apprenticeship program and the job prior to beginning the program.

There may be some gaps in apprentices' understanding of the nature of the work and costs associated with apprenticeship participation. Thirty-seven percent reported that they did not have a realistic understanding of the nature of electrical work, and 41% reported not being aware of the potential cyclical nature of work.

A third of current apprentices and non-completer respondents (33% or more) reported not having a realistic understanding of the costs and travel requirements associated with apprenticeship participation. At the start of this study, the trends analysis had indicated that higher tuition fees corresponded to higher voluntary turnover ($r = 0.22$)¹. This aligns with the literature review findings (Rege et al., 2023), which indicate that start-up and ongoing costs associated with apprenticeships can pose a challenge to apprentices' participation in their programs.

These findings suggest that while candidates may have a good understanding of the apprenticeship program's nature and pay potential, they may be less likely to understand the nature of the work, the associated costs, and travel requirements.

At least 33% of respondents reported that they wish they had:

- A realistic understanding of the potential cyclical nature of the work
- A realistic understanding of the start-up and ongoing costs associated with apprenticeship (e.g., books, tools, tuition, travel)
- A realistic understanding of the nature of electrical work
- Access to training resources to gain the skills needed in the apprenticeship
- A realistic understanding of travel requirements during the apprenticeship

Differences by Prior Experience

The survey findings show that participation in a **pre-apprenticeship program** or prior experience as a **Construction Wireman (CW)** or **Construction Electrician (CE)** can uniquely contribute to a prospective apprentice's experience in an apprenticeship program. Specifically:

- **Twenty-eight percent of survey respondents who were non-completers participated in a pre-apprenticeship program. Among them, 80% reported having a realistic understanding of the nature of electrical work; however, these individuals also reported more dissatisfaction with the program.** This finding is consistent with previous research (Rege et al., 2023), which suggests that while pre-apprenticeship programs may help to cultivate a diverse pool of job seekers (Wilkinson & Kelly, 2016; Kelly & Wilkinson, 2020; Worksystems Inc. et al., 2018), apprentices who have completed such programs are less likely to complete their apprenticeship compared to those

"Not getting accepted into the apprenticeship immediately and having to become a pre-apprentice set me back a year, that accumulated with the hours I worked my 2nd year pay was 5 dollars less then if I was out of school. So due to my personal life the money was more important at the time." – Non-completer

¹ A positive r value indicates that higher tuition fees are generally observed together with higher voluntary turnover.

without pre-apprenticeship experience. This discrepancy may be explained by the unique challenges faced by participants in pre-apprenticeship programs, such as minority group status, criminal history, public assistance benefits, and poverty.

- **Thirty-five percent of the current apprentices who responded to the survey had previous experience as a CW or CE. They were generally more likely to report having information and resources prior to joining the apprenticeship program.** Specifically, they more frequently reported having a realistic understanding of the demand for electricians in the United States, knowledge of the average income potential, a clear understanding of the nature of electrical work (including its cyclical nature), familiarity with the requirements for success in an apprenticeship, and awareness of the associated costs.

Differences by Demographic Variables

Personal factors (i.e., age, race, and ethnicity) also influenced some of the information that apprentices had prior to joining the program. Key findings include:

- Non-completers who were **older** (i.e., 25 or older) or had **some college experience** were less likely to report having an understanding of the role.
- Current apprentices and non-completers identifying as **non-White and/or of Hispanic, Latino/a, or Spanish origin** were less likely to report understanding the role, nature of electrical work, pay structure, ongoing costs, travel requirements, and access to resources to help improve skills, such as math and reading comprehension, in preparation for the aptitude test.



C. Information & Resources During the Apprenticeship Program

Survey findings about information and resources during the apprenticeship program revealed factors at both the individual (e.g., expenses) and program (e.g., mentorship, quality of training instruction) levels. At the program level, most current apprentices (60% or greater) reported having a supportive on-the-job mentor, opportunities to engage in meaningful tasks rather than basic and/or routine ones, and excellent quality instruction in the classroom. Sixty percent of apprentices also reported receiving safety and social support from mentors or co-workers in navigating harassment and/or discrimination.

At least a third of apprentices (33% or greater) expressed a desire for financial assistance to cover a variety of expenses and for a flexible classroom schedule. Survey data revealed that current apprentices would have found it beneficial to have access to financial assistance for expenses such as travel, on-the-job work gear and clothing, tools, union dues, and initiation fees. Almost 40% of non-completers also reported that access to financial assistance for non-tuition expenses (e.g., tools, books, initiation fees) would have been beneficial. As mentioned in

At least 60% of respondents reported that they benefited from having:

- A supportive on-the-job mentor
- Opportunities to engage in meaningful tasks rather than basic and/or routine ones
- Excellent quality instruction in the classroom
- Safety and social support (from mentors or co-workers) in navigating harassment and/or discrimination

Section B. Information & Resources Prior to Joining the Apprenticeship Program, ongoing costs for apprenticeships can hinder apprentices' ability to continue participating in their program.

Almost 30% of current apprentices and non-completers reported that they would have found it beneficial to have access to financial assistance for tuition fees. This finding is further supported by findings from the Trends Analysis (Task 1), which showed that higher tuition fees corresponded to higher voluntary turnover ($r = 0.22$), and lower voluntary turnover corresponded to the presence of a Scholarship Loan Agreement ($r = -0.14$).²

Forty-one percent of current apprentices reported that they would have found it beneficial to have access to flexible classroom schedules, such as online training offerings (instead of classroom training). This need may be met with the roll-out of the new Learning Management System, which will allow for flexible learning outside the classroom.

Differences by Demographic Characteristics

Personal factors (i.e., age, education, and ethnicity) also influenced some of the information and resources that apprentices had and benefited from while in the program. Specifically:

- **Non-completers** who were **younger (i.e., 24 or below)** or **did not have college experience** were more likely to report that they wished they had access to support for specific skills (e.g., math, computer, reading, and/or comprehension).
- **Current apprentices and non-completers not of Hispanic, Latino/a, or Spanish** origin were more like to report having opportunities to engage in meaningful tasks rather than basic and/or routine tasks. They were also more likely to report having greater financial assistance with tuition fees and non-tuition expenses.
- **Current apprentices of Hispanic, Latino/a, or Spanish** origin were more likely to report needing financial support with tuition fees, initiation fees, book fees, and childcare.

"I can't learn from being handed a packet...[t]he instructor never once worked a single math problem out on the board or explained the formulas to us not once!" – Non-completer

Differences Between Current Apprentice and Non-Completer Responses

A key difference was observed in the responses between current apprentices and non-completers in terms of access to support for navigating hostile environments and having an on-the-job mentor. Based on the survey findings, non-completers were less likely to have a supportive on-the-job mentor and less likely to have systemic and social support navigating harassment and/or discrimination. Exhibit 2 summarizes the findings.

² A positive r value indicates that higher tuition fees are generally observed together with higher voluntary turnover. A negative r value indicates that the presence of a Scholarship Loan Agreement is generally observed together with lower voluntary turnover.

Exhibit 2. Key Differences Between Current Apprentices and Non-Completer Responses

Benefit from having:	Current Apprentices (n = 2,011)	Non-Completers (n = 149*)
A supportive on-the-job mentor	76%	49%
Support navigating harassment and/or discrimination (e.g., no fear of repercussions, anonymous reporting mechanisms)	51%	27%
Safety and social support (from mentors or co-workers) in navigating harassment and/or discrimination	60%	35%



D. Factors Influencing the Apprenticeship Experience

Most current apprentices reported positive experiences related to the training and the program. More than 70% agreed or strongly agreed that they are satisfied with the guidance from their supervising journeyman, the quality of skills gained through the training, and the nature of the tasks assigned to them. Additionally, more than 70% of apprentices disagreed or strongly disagreed that they had been repeatedly laid off during the apprenticeship.

However, many current apprentices also reported financial challenges during the apprenticeship. Over 40% agreed or strongly agreed that their apprentice wages are low, the startup costs are high, and that they have limited or no savings.

Additionally, among current apprentices, **low wages** emerged as the second most common topic in open-ended comments, while for non-completers, it was cited as the primary reason for leaving the apprenticeship. This finding is further supported by the findings from the Trends Analysis (Task 1), which showed that lower pay rates, both during the apprenticeship and as eventual journeymen, corresponded to higher voluntary turnover (r values between -0.12 and -0.32).³

"Pay is inadequate with regards to location of jobsite and the level of labor required."
– Non-completer

Differences by Region

In some instances, the reported experience of apprentices differed by region.⁴ Specifically:

- Regarding financial strain, current apprentices from the Northwest were the most likely to agree or strongly agree that startup costs are high (65%) and that apprentices' wages are low (67%). Additionally, current apprentices in the Northeast and Northwest most frequently reported a lack of access to, but a desire for, financial assistance with tuition fees, initiation fees, books, tools, on-the-job gear, and travel expenses.
- Concerning classroom experience, current apprentices from the Northwest, Southwest, and Southeast most often reported having and benefiting from a classroom mentor (62%, 58%, and 57%, respectively). The same apprentices also reported having and benefiting from a flexible classroom schedule, including online training offerings (31%, 33%, and 38%, respectively).



E. Personal Challenges and Supports

Participating in an apprenticeship program can be especially challenging due to the nature of the role. The *literature review* supported the survey findings, highlighting several factors—such as childcare responsibilities, transportation issues, the high demands of the apprenticeship program, the availability of familial and social support, as well as barriers related to substance abuse issues and mental health—that could potentially hinder successful completion of the program.

³ A negative r value indicates that lower pay rates are generally observed together with higher voluntary turnover.

⁴ Sample sizes varied by region, with most current apprentices being in the Southwest (26%), Northeast (21%), and West (21%).

Transportation emerged as the primary issue for current apprentices, followed by a lack of familial and social support, challenges related to mental health, and childcare. More than half of the current apprentices (51%) reported that affording travel-related costs (e.g., paying for gas, overnight stays) was a challenge, and almost a third (28%) reported accessing transportation for work travel as a challenge they navigated to at least “some extent.” Additionally, over 80% of these apprentices indicated that they lacked access to a resource for either of these transportation-related issues. Almost 60% expressed a wish for a resource to assist with travel-related costs, and over 40% expressed a wish for access to a resource to help them access transportation for work travel. According to the non-completers survey, over a third of the respondents (32%) reported a lack of support with transportation to and from the program and would have benefited from it.

Nearly 40% of current apprentices reported not having enough family (39%) or social (39%) support as a challenge to at least “some extent.” While 31% stated that they had a resource for social support through their program, only 18% stated that they had a resource for family support. Additionally, 26% reported that they would use a resource for family support if available. According to the non-completers survey, 37% of respondents reported that it would have been beneficial for them to receive support from a network of individuals who could provide physical, mental, and financial support.

Over a third of current apprentices (34%) reported that dealing with mental health-related issues was a challenge they navigated to at least “some extent.” While more than 40% of these apprentices reported having access to a resource to help them navigate this challenge, more than a quarter (26%) expressed a wish for access to a resource that could help them navigate their mental health-related issue(s). Sixty-four percent of the non-completer survey respondents expressed a wish for support in managing stress and balancing the high demands of the apprenticeship, with more than half (53%) expressing a wish for access to mental health support programs and resources.

Over 30% of current apprentice respondents reported having challenges to at least “some extent” with managing childcare and work schedules (34%) and finding affordable childcare (31%). A little less than a third (28%) reported challenges with accessing consistent childcare to at least “some extent.” Across these childcare-related challenges, about 30% of respondents expressed a wish for support to navigate these challenges. Similarly, almost a third of non-completer survey respondents (28%) expressed a wish for access to a resource to help them find consistent and affordable childcare during their apprenticeship program.

F. Additional Comments

Both current apprentices and non-completers were provided an opportunity to provide written information about their experience as an Inside Wireman apprentice. Current apprentices were asked to share what keeps them motivated to stay in their program and/or what challenges they face that make it difficult to complete their program. Non-completers were asked to explain why they left their apprenticeship program as one of their first questions.

“... Having to get up before dawn to work a full-time manual labor job and then spend 3 hours AFTER work in class twice a week, plus giving up a handful of Saturdays, isn't exactly my idea of a healthy life/work balance...And god forbid life comes up and you miss a class and get an automatic pay withhold.” – Current Apprentice

Almost a third of current apprentices (32%) and most of the non-completers (94%)⁵ shared that low wages and issues with the training process emerged as the top challenges for completing the apprenticeship program.

Current apprentices reported their future wages and potential for career stability, followed by loving the work they do, as the top motivating factors for wanting to complete their program.

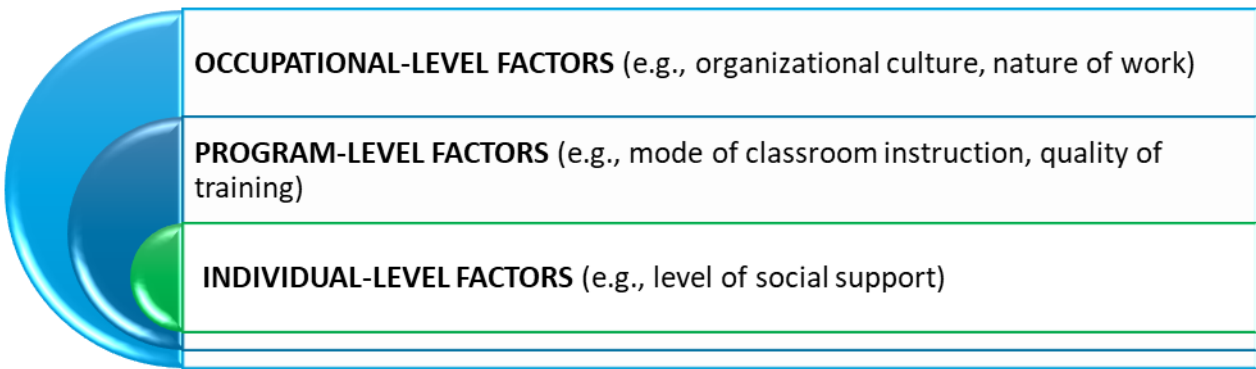
"I am very excited and motivated to remain in the program because the work is something I can be proud of and the career is stable and lucrative..."
– Current Apprentice

⁵ Sample sizes varied: 2,011 current apprentices responded to the survey, while 149 non-completers responded.

3. Recommendations

Apprentice retention is a dynamic process that is affected by multiple factors that change over time. As illustrated in Exhibit 3, these factors can be considered at the individual level (e.g., a lack of social support or childcare assistance), program level (e.g., the mode and quality of training instruction), and occupational level (e.g., culture and nature of the work). The findings presented in the previous section highlight factors at each of these levels, indicating how they either support apprentices in their apprenticeship journey or pose challenges, making it harder for apprentices to complete their program.

Exhibit 3. Retention Factors by Level



At the occupational level, apprenticeship candidates could benefit from more detailed and realistic information tailored to demographically non-traditional candidates. The survey findings show that current apprentices and non-completers reported have a good understanding of the apprenticeship program requirements, including the demand for electricians in the United States, average income potential, pay structure, and requirements for success. Based on the qualitative responses received in the survey, current apprentices most frequently cited the promise of future wages and career stability as the key factors that helped them persevere in the program. However, they also reported having gaps in their understanding of the nature of electrical work and the cyclical nature of jobs.

“Financial stability is what keeps me motivated to stay in the apprenticeship I know at the end it’ll be worth it”
– Current Apprentice

The survey findings also revealed differences based on demographic variables. Specifically, non-completers who were older (i.e., 25 or older) or had some college experience were less likely to report understanding the role. Additionally, current apprentices and non-completers who identified as non-White or Hispanic, Latino/a, or of Spanish origin were less likely to report understanding the role. This suggests that apprenticeship candidates could benefit from more detailed and realistic information tailored to demographically non-traditional candidates. It would be beneficial for this information to emphasize the nature of electrical work and the cyclical nature of jobs, along with the financial and professional implications of this cyclical nature.

At a programmatic level, a need for effective on-the-job mentorship, support navigating harassment and/or discrimination, and financial assistance with costs associated with apprenticeship participation emerged. The survey findings show that current apprentices and non-completers reported satisfaction with the guidance and training from their supervising journey person, meaningful opportunities for skill development, and excellent quality instruction. Current apprentices were more likely than non-completers to report they had supportive on-the-job mentors and safety and social support in navigating harassment and/or discrimination. The survey findings also highlight differences in experience by demographics and region. Current apprentices and non-completers identifying as Hispanic, Latino/a, or Spanish origin were less likely to report having meaningful role-essential opportunities. This suggests a need for effective formalized mentorship resources for each Joint Apprenticeship Training Center, ensuring that mentors are appropriately trained and all apprentices are matched with a dedicated and trained mentor.

Across all survey respondents, challenges related to start-up and ongoing costs, including tuition fees and non-tuition fees, emerged as a challenge. Specifically, those identifying as Hispanic, Latino/a, or Spanish origin were more likely to report needing financial assistance with tuition fees and non-tuition expenses. Based on qualitative responses received in the survey, apprentices can find it challenging to balance the cost of living and apprenticeship-related costs on the first-year apprentice's pay. These findings suggest that across apprentices, there is a need for financial assistance with costs associated with participating in the apprenticeship program. Additionally, apprentices who do not have access to effective on-the-job mentorship and support navigating harassment and/or discrimination may be more likely to discontinue their program.

"I find it hard to keep up [with] bills, and necessities for my small family. Wages need to be rose to meet the cost of living for an average person who works 40 hours a week to be comfortable and save [money] for those times of unemployment." – **Current Apprentice**



The survey findings also revealed regional differences. For example, current apprentices from the **Northwest were more likely to report financial difficulties** and wish they had access to financial assistance with tuition fees, initiation fees, books, tools, on-the-job gear, and travel expenses. In contrast, current apprentices in the **Southwest and Southeast were less likely to report financial difficulties**. Additionally, current apprentices in the **Northeast more frequently expressed a need for financial assistance** compared to those in other regions.

At an individual level, apprentices need access to wraparound services to help them navigate personal and life challenges and stay in the apprenticeship program. As discussed in section 2, transportation emerged as the primary issue for current apprentices, followed by concerns related to mental health, childcare, and familial and social supports. Both current apprentices and non-completers expressed a desire for resources to overcome these challenges. These challenges were reported by at least a third of the survey respondents, with 20% or more of respondents expressing a wish for resources to navigate them. Individual apprentices will likely have unique circumstances and challenges to navigate as they progress through an apprenticeship program. Our survey findings suggest that the availability of wraparound services to help support apprentices and navigate these challenges could help them stay in the apprenticeship program.

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