

Who Is Served in Sectoral Training Programs? Insights From a Systematic Review

Executive Summary

Sectoral training programs are occupational training programs designed to prepare participants for careers in growing industry sectors, such as information technology, health care, and manufacturing. Several studies suggest that sectoral training programs do help jobseekers and workers improve their educational, employment, and earnings outcomes (J-Pal Evidence Review, 2022; Katz et al., 2022; Peck et al., 2021). A 2021 meta-analysis of career pathways evaluations (Peck et al., 2021), a specific type of sectoral training program, explored which features of these programs might be contributing to positive outcomes. The meta-analysis also examined the extent to which population composition (i.e., the characteristics of individuals in the program) influenced program effectiveness. In this brief, we further explore the characteristics of the participants in previously studied sectoral training programs to better understand who has had the opportunity to benefit from these potentially impactful programs.

The PROPEL Center at AIR conducted a descriptive systematic review. We investigated:

- **Who participates in sectoral training programs.** Sectoral training programs offer a promising way to improve worker outcomes. We examined who has had the opportunity to benefit from these programs to help identify groups that may need more outreach in the future.
- **What types of information about program participants are commonly reported in evaluations.** Program providers often want to understand whether a training program was delivered to populations similar to those they serve. Though many evaluations report on participants' demographic characteristics, information on other participant characteristics may be missing. We examined what information was consistently reported across evaluations in order to understand what additional information may need to be collected in future research.
- **For which groups do evaluations report program impacts.** When reviewing evidence, policymakers are often interested in understanding whether a program impacted individuals whose needs are very similar to the needs of the individuals they serve. Many evaluations do not report impact estimates for specific groups of program participants. This may limit policymakers' ability to

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determine whether an intervention that is effective for some groups will also be effective for the individuals they serve.

To generate our findings, we reviewed 37 studies of sectoral training programs. We collected

HOW DID WE IDENTIFY STUDIES?

We identified evaluations of sectoral training programs that were potentially eligible for our review by

- searching for evaluations of promising sectoral training programs identified by workforce development experts,
- including the [Pathways for Advancing Careers and Education \(PACE\) evaluations](#),
- including programs studied via the U.S. Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCT) grant program, and
- screening all references of studies included in the review and including those that were relevant.

We screened the resulting candidate reports for eligibility, ensuring they met the scope and methodological requirements of our project. Eligible studies met the following criteria:

- used experimental or quasi-experimental methods,
- examined employment and earning outcomes, and
- were free of observable confounds and therefore could credibly provide information on program efficacy.

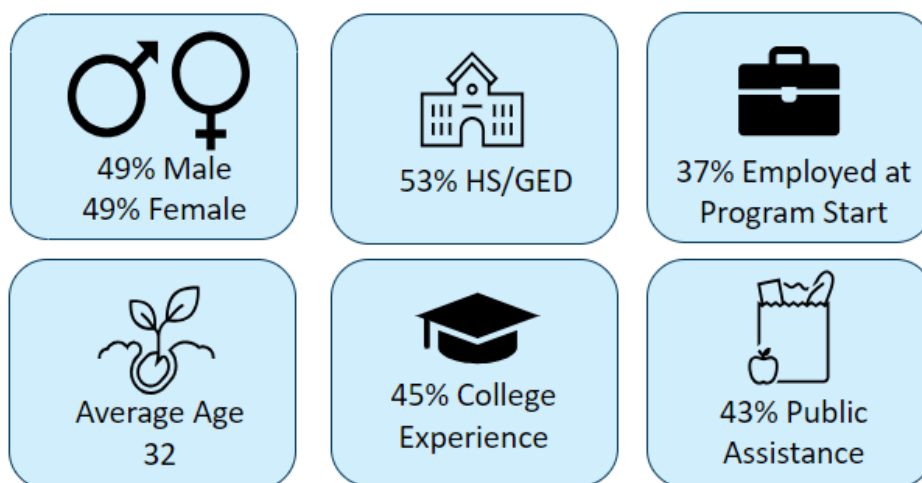
We screened 241 potentially eligible reports, of which 37 met our eligibility requirements. The Appendix has the full list of the studies included in the review.

information on participant characteristics and whether population-specific impact estimates were reported for each evaluation.¹ Our findings, described below, are descriptive. They do not pertain to all participants in the full range of sectoral training programs but provide suggestive evidence based on the enrollees in programs studied by the included evaluations.

To understand who participated in the sectoral training programs included in this review, we first calculated the average representation of various groups among study samples based on available information. Not all studies provided all demographic information summarized in this review (see the Finding 2 section for more information) Figure 1 provides a snapshot of the key demographics of interest.

¹ We did not code the effect sizes or the findings of evaluations, only which findings were reported for specific groups.

Figure 1. Baseline Characteristics of Sectoral Training Program Participants



Note. Given our focus on potential access to programs, these numbers summarize the characteristics of participants in both the treatment and control conditions of studies. Participant characteristics were not reported by all studies: 26 studies reported sex, 29 studies reported HS/GED attainment, 26 studies reported baseline employment status, 23 studies reported average age, 26 studies reported college experience, and 24 studies reported eligibility for public assistance.

Finding 1: Sectoral training programs recruited racially diverse samples with economic needs.

Study samples generally had equal distributions of male and female participants.

The average sample had a relatively equal distribution of participants based on their sex (49% male and 49% female), but several individual samples had large gender imbalances. As described in our *Do Program Offerings Vary by Participant Traits?* brief, gender imbalances may be related to the focus of occupation-specific programs. Occupational segregation by gender is a well-noted phenomenon in the United States.

Programs studies served participants of all ages, but the average sample age was less than the average age of workers in the U.S. labor force.

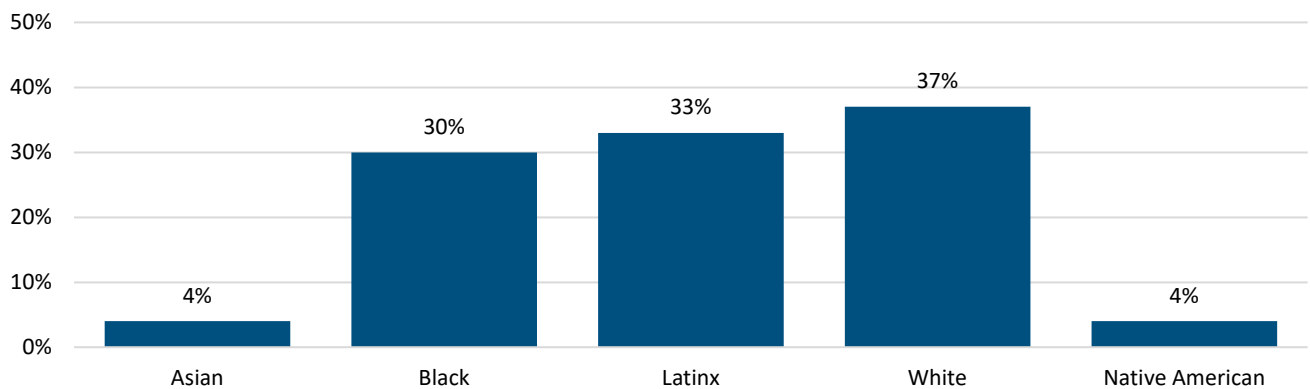
Programs served a broad age range of participants. The average age of participants in the samples ranged from 26 to 42 years old ($SD = 3.97$), and the average age across all programs was 32 years old. Overall, participants were younger than workers in the U.S. labor force, as the latter averaged 42.1 during this time² (Bureau of Labor Statistics, 2023). Among the 37 studies, only two had a study sample with an average age over 40.

² We compare the average age of study sample participants with the average for the U.S. labor force in 2012 because 33 of the 37 included studies began within 5 years of 2012.

Study participant samples were racially diverse.

Across evaluations, the average program included a mix of participants. On average, 30% of study participants identified as Black and 33% identified as Latinx (see Figure 2 for more information on racial categories). Additionally, on average 22% identified as Hispanic. Previously, racial and ethnic minorities have been underrepresented in educational pathways such as postsecondary education and apprenticeship training (Cronen et al., 2018; Johnson et al., 2019). It is encouraging that the sectoral training programs studied in this review have effectively recruited members of these underrepresented groups. (See *Where are Sectoral Training Programs Offered?*, for a discussion of the race and ethnicity of participants in these studies compared to local and national populations.)

Figure 2. Average Racial Demographics of the Study Samples



Note. The racial demographics of participants were reported at different rates: 13 studies reported percent Asian; 35 studies reported percent Black; 17 studies reported percent Latinx; 33 studies reported percent White; and 10 studies reported percent Native American.

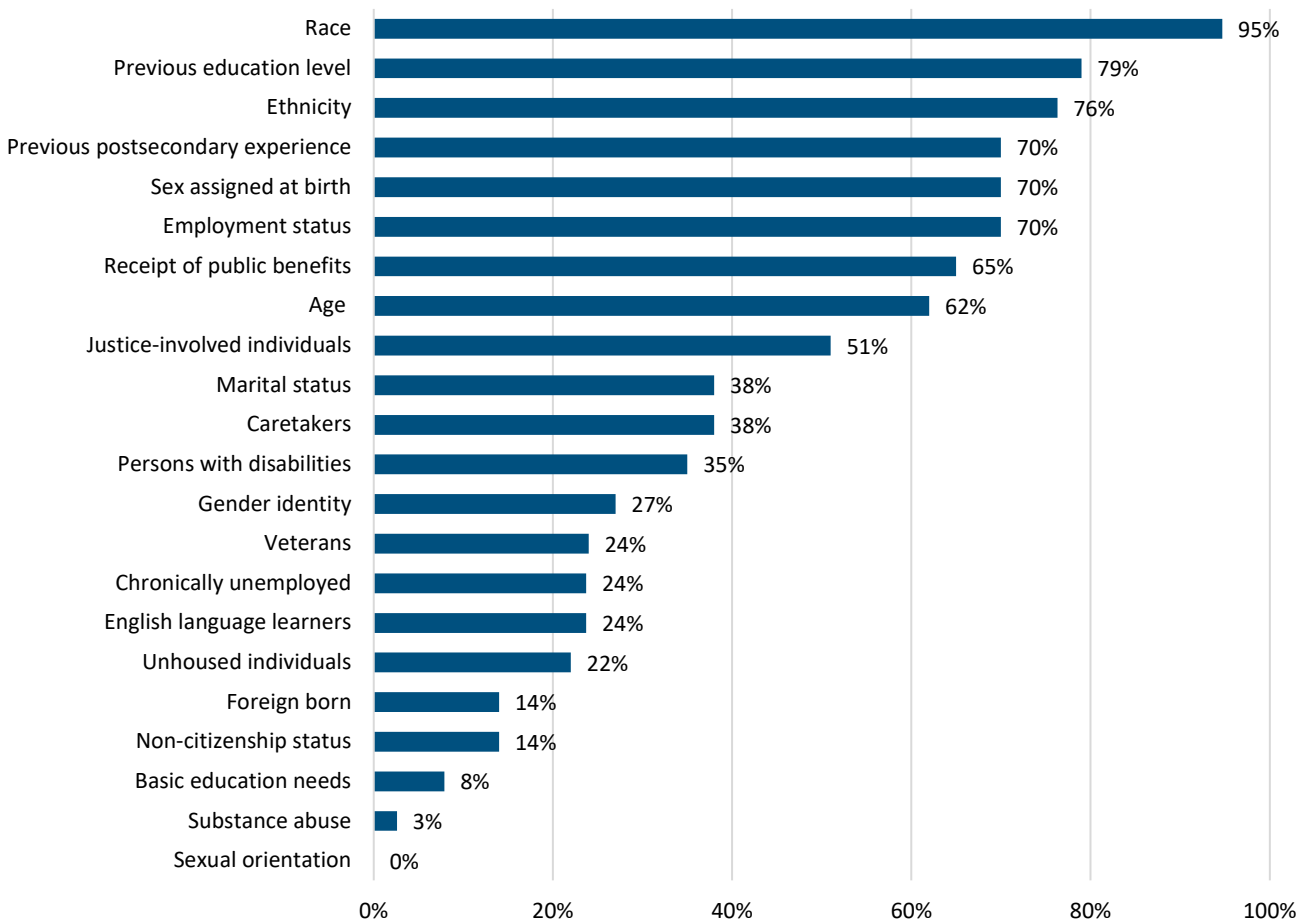
Sectoral training programs recruited individuals who were economically disadvantaged at the time they were enrolled in the study.

Studies included in this review consistently reported baseline characteristics related to workforce participation and outcomes, such as employment status, receipt of or eligibility for public assistance, and education level. The average study sample had a majority of participants who were not employed at program entry (63%) and a substantial portion who were receiving public assistance (43%); in addition, the average income of participants was just \$13,752. Study samples, on average, had a majority of individuals whose highest degree was a high school diploma or GED (53%) and a large minority who had at least some postsecondary experience (45%). It is not surprising that these programs were largely serving participants without college degrees. Thirteen (35%) of the studies were funded by TAACCCT grants aimed at strengthening the role of community colleges in supporting the American workforce, and 79% of programs in our review partnered with community colleges in some way, suggesting that they are serving populations that would benefit from additional postsecondary experience.

Finding 2: Some participant characteristics are rarely reported.

Collecting and reporting participant characteristics is critical to understanding who has had the opportunity to benefit from sectoral training programs. This information may also help us understand what kinds of participants have not yet participated in these programs and may benefit from additional outreach. To understand what is known about participants from the selected studies, we coded whether or not a variety of participant characteristics were reported in study reports. This analysis shows that some characteristics are reported much more consistently than others. This may be partially attributable to the reporting metrics used by various grant programs and funding agencies, as some programs and agencies may require more or specific details about participants.

Figure 3. Percentage of Studies Reporting Specific Baseline Characteristics



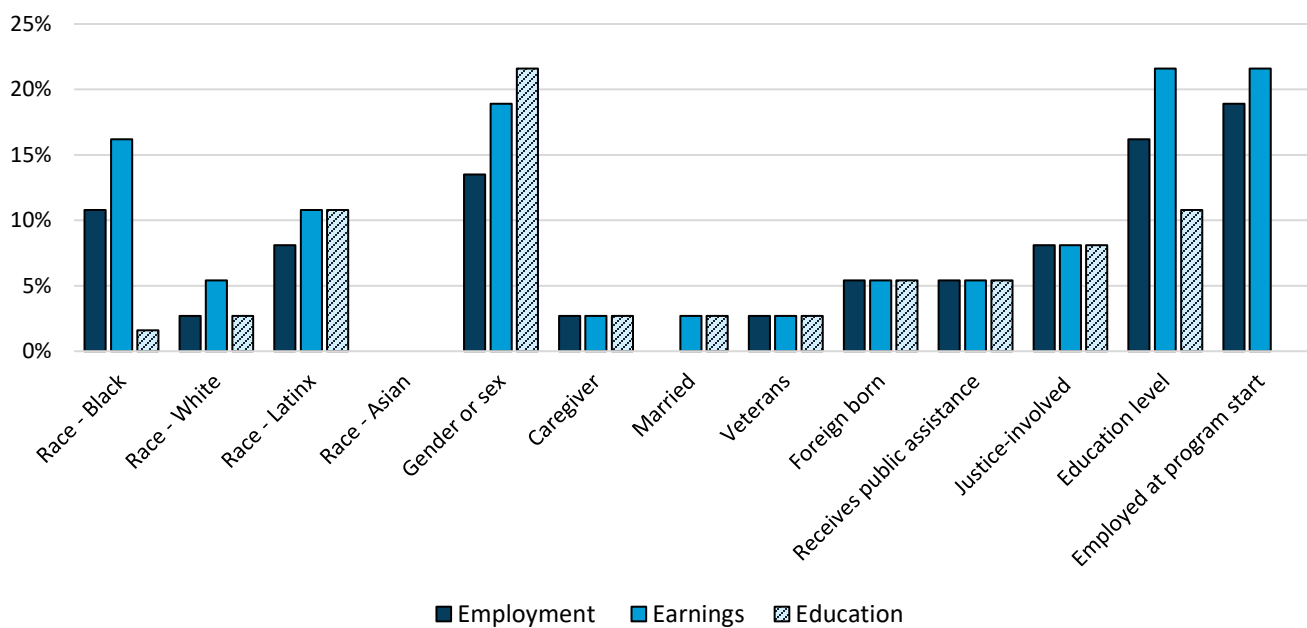
Of the over 20 participant characteristics we recorded, the most frequently reported were race (95%), previous education level (79%), and ethnicity (76%). Though nearly all studies gave some information on racial composition, most (68%) reported on four or fewer distinct categories. The most reported racial categories were Black (95%) and White (89%), and the least reported were multi-racial (24%) and Native American (27%). There were several demographic variables that study authors rarely, if ever, reported. Of note, sexual orientation (0%), substance abuse history (3%), and basic education needs

(8%) were reported in less than 10% of studies. Without consistent provision of this information across programs, policymakers and other key partners cannot know if sectoral training programs have served the groups that potentially have the most to gain from their services.

Finding 3: Many studies only report impact estimates for the total sample. Studies that do disaggregate results are mostly likely to do so by gender, employment status, and education level.

Population-level impact estimates help program providers and policymakers understand whether specific programs work for specific populations. To support the assessment of program effectiveness for specific populations, evaluations must provide results for specific participant groups, not just the aggregate sample. We examined the frequency with which evaluations provided population-level impact estimates, coding whether results were reported for specific groups. Figure 4 depicts which outcomes were reported for specific groups in the studies included in this review.

Figure 4. Percentage of Studies Reporting Outcomes for Specific Groups



Overall, we see relatively little reporting on outcomes for specific groups of interest. When outcomes were provided for specific groups, they were most often provided for

- gender or sex-based groups (22%),
- groups defined by baseline education level (22%), and
- groups defined by baseline employment status (22%).

Study authors reported minimal information on veterans (3%) and on justice-involved individuals (8%), both groups that experience challenges in the labor market. Detailed information about program effectiveness for specific groups would help policymakers identify the best programs for helping populations of interest re-enter the workforce.

Limitations and Constraints on Generalizability

The goal of this work was to examine equity of access to a set of sectoral training programs. In this and the other two briefs, we attempt to answer questions about equity by descriptively summarizing features of the samples, settings, and programs of the 37 evaluations in our review. As this work is entirely descriptive and largely exploratory, the patterns that emerged should not be generalized to other evaluations, settings, or samples in this field of research. While we do offer some recommendations based on what we observed, we understand that other researchers, program providers, and stakeholders may already have made advances on these fronts. Still, we encourage researchers to consider the questions raised in these briefs when designing and utilizing evaluations of sectoral training programs. Finally, we emphasize that this work does not examine the effectiveness of these programs. To learn more about program effectiveness, see Peck et al. (2021), which quantitatively synthesized many of the programs included in this review.

Summary and Recommendations for Future Work

The studies included in this descriptive systematic review successfully recruited individuals from groups that could benefit from sectoral training programs. That is, the average study sample had a majority of participants who were unemployed at baseline and a substantial portion who were receiving public assistance. However, there is a great deal about the participants that is unreported by these studies but crucial for understanding which programs work for whom. Critically, the studies do not consistently provide results for specific groups of interest. The most commonly reported findings for specific groups were for gender- or sex-based groups and for groups defined by baseline education level or employment status. This level of reporting leaves us in the dark about whether these programs work for veterans, the justice-involved, or those who have experienced homelessness, for example.

While ultimately we want to know what types of individuals benefit from these programs, we need to start by understanding more about who is participating. The Equitable Data Working Group (2022), created by executive order by President Biden (Exec. Order No. 13985, 2021), called for programs to collect data that can be analyzed by race, ethnicity, gender, disability, income, veteran status, age, and other key demographic variables. Collecting this information and using it to conduct equity assessments could help remove barriers to equitable access to government programs. Sectoral training

programs show promising outcomes. More detailed reporting of sectoral training evaluations would increase the impact of this field of study. To that end, we recommend that evaluators do the following:

1. Collect and report detailed baseline demographic information for key participant groups and go beyond the standard variables of age, gender, and race/ethnicity.
2. Educate funders and other stakeholders on the importance of collecting demographic data and the implications of not having that information available.
3. Report on program effectiveness for specific participant groups, and, where sample sizes allow, go beyond racial categories.
4. Share disaggregated data from evaluations so that researchers can examine and synthesize findings for specific groups of interest and/or synthesize results for specific groups across evaluations.

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