

# **Evaluation of Pre-Apprenticeship and Retention Services in the Construction Trades in Oregon**

## **Executive Summary**

Maura Kelly and Lindsey Wilkinson  
Department of Sociology  
Portland State University

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Portland State  
UNIVERSITY

### **REPORT AUTHORS**

Maura Kelly holds the position of Associate Professor of Sociology at Portland State University. She has a PhD in Sociology from the University of Connecticut. Dr. Kelly's research interests focus on gender, sexualities, race/ethnicity, and work and occupations. For more information about Dr. Kelly, including access to reports on her prior research projects on the highway construction workforce, see [www.pdx.edu/sociology/maura-kelly](http://www.pdx.edu/sociology/maura-kelly).

Lindsey Wilkinson is an Associate Professor of Sociology at Portland State University. He earned a PhD in Sociology from the University of Texas, Austin. Dr. Wilkinson's research interests include educational stratification, gender and sexuality, race/ethnicity, and transition to adulthood.

### **PROJECT FUNDERS**

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## EXECUTIVE SUMMARY

In order to assess the impact of pre-apprenticeship programs on the career trajectories of women and people of color in Portland, Oregon, PSU researchers designed a longitudinal study of individuals attending pre-apprenticeship programs at two sites: Oregon Tradeswomen, Inc. (OTI) and Constructing Hope (CH). The study assessed participants' perceptions of the trades before and after completion of the program as well as objective outcomes such as completion of pre-apprenticeship and entrance into a registered apprenticeship.

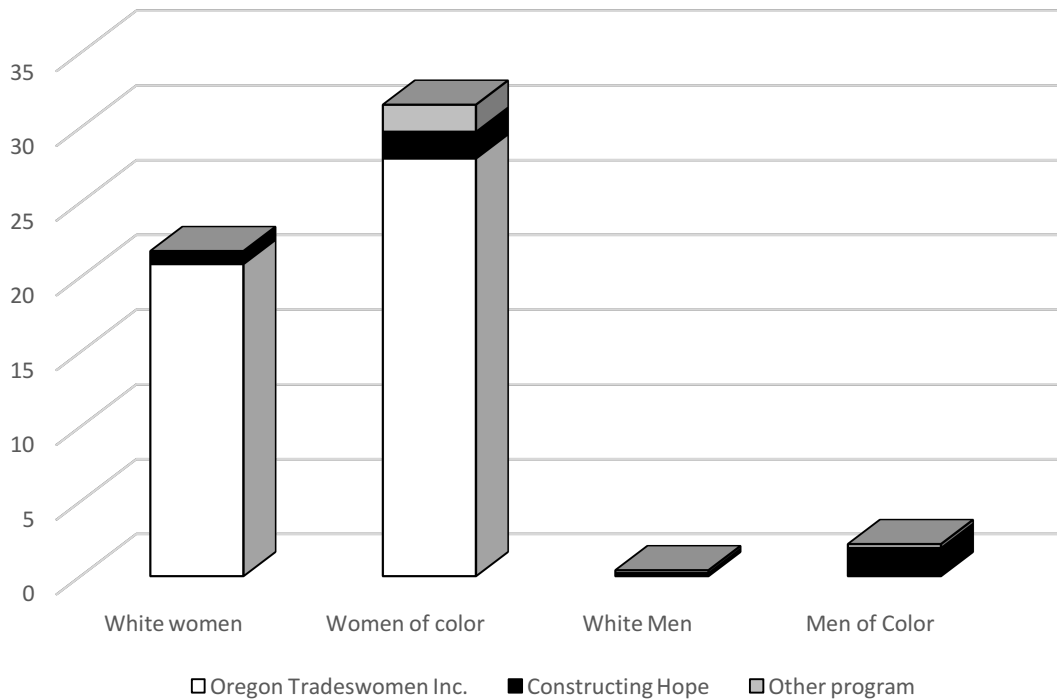
This evaluation focused on four classes of pre-apprenticeship students at Oregon Tradeswomen, Inc (OTI) and Constructing Hope (CH), including two classes at each site. Wave I of the study was administered on the first day of the pre-apprenticeship class, Wave II was administered at the end of the pre-apprenticeship class, and Wave III was administered one year after the completion of the pre-apprenticeship class to determine whether or not participants pursued a career in the trades after their pre-apprenticeship program. Survey data was supplemented with data collected through BOLI's Oregon Apprenticeship System (OAS) that tracks all registered apprentices in the state of Oregon. A total of 94 individuals were enrolled in the four classes; 77 individuals completed one of the four classes; 76 individuals completed both Wave I and Wave II surveys; 15 individuals completed Wave I, II, and III.

The following are the key findings from this report:

*Pre-apprenticeship program enrollment, completion, and placement in apprenticeship are all increasing:* An increasing proportion of those completing pre-apprenticeships through OTI and CH are entering apprenticeships. Pre-apprenticeship graduates are making up an increasingly larger percentage of current apprentices.

*Pre-apprenticeships play a significant role in recruiting marginalized workers, particularly women, into apprenticeships:* Among white women apprentices active in 2014-15, 21.7% completed a pre-apprenticeship. Similarly, among women of color who were active apprentices in 2014-2015, 31.5% completed a pre-apprenticeship (Figure 1).

Figure 1. Percentage of 14-15 Active Apprentices Completing a Pre-Apprenticeship, by Gender and Race/Ethnicity



Source: BOLI Oregon Apprenticeship System (OAS) Data

*Socio-demographic characteristics of participants:* The two pre-apprenticeship programs studied here, OTI and CH, primarily serve women and people of color. In our study period, OTI students were 100% female and 17% racial/ethnic minority (the two cohorts in our study period had an atypically small number of women of color). CH students were 11% female and 54% racial/ethnic minority. Pre-apprentices serve students who have other disadvantages: In our study period, 77% of CH participants had a criminal record; 64% of CH participants and 37% of OTI participants received public assistance; and 28% of CH participants reported not having access to permanent housing.

*Pre-apprenticeship program completion rates:* The completion rate for OTI students in our study was 87%; the completion rate for CH students in our study was 76%. Among OTI participants, those who were partnered, had children in the household, or were disadvantaged in terms of educational attainment, public assistance, or criminal history, were less likely to complete; among CH participants, those who were female, not partnered, and disadvantaged in terms of educational attainment, public assistance, criminal background, and housing, were less likely to complete

*Impact of pre-apprenticeship program on entry into apprenticeship or construction workforce:* Of those completing a pre-apprenticeship through OTI during our study period, 20% had entered an apprenticeship by Wave III; of CH graduates, 27% had entered an apprenticeship by Wave III; of OTI graduates completing all three waves of the study, 83% were in a construction job at Wave

III; among CH graduates completing all three waves of the study, 100% were in a construction job by Wave III.

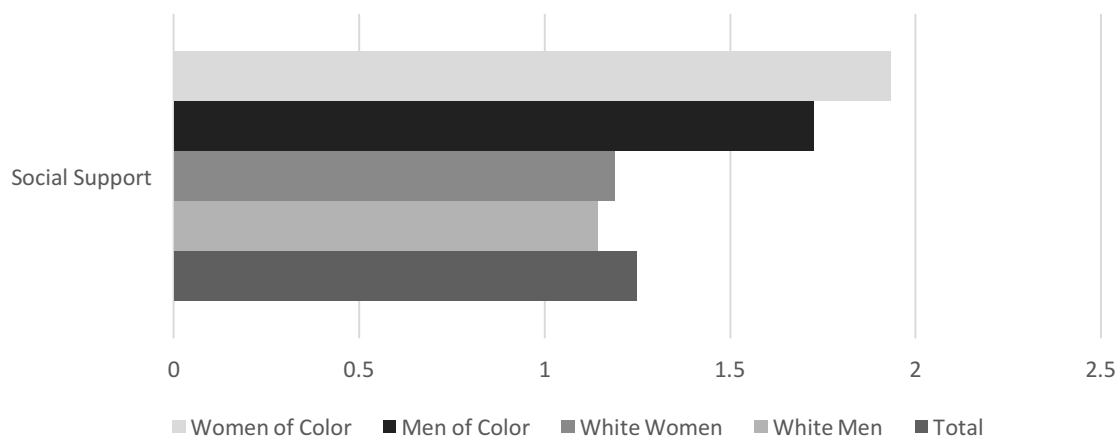
*“My program really prepared us to mentally understand and take in working in a male-dominated field. It also gave me the confidence I needed to trust that I can do construction despite my gender.” (OTI Student)*

*“[Through Constructing Hope, I received] the hands-on training to get a better job and to have a brighter future” (CH Student)*

Among those completing a pre-apprenticeship program through OTI, those in a registered apprenticeship by Wave III were more likely than those not in an apprenticeship to be non-Hispanic white, partnered, to have children in their household, and to be disadvantaged in terms of educational attainment, public assistance, criminal history, and employment. This suggests that disadvantaged women with families may see apprenticeships as an opportunity that other women completing pre-apprenticeships do not. Those completing a pre-apprenticeship through CH and in an apprenticeship by Wave III were also more disadvantaged than their peers not in an apprenticeship. This has important implications for the challenges apprentices entering via pre-apprenticeships may face.

*Receiving ongoing support during apprenticeship promoted retention of apprentices:* Findings from the OAS database demonstrate that receiving non-financial support (from pre-apprenticeships and other organizations) had a positive impact on retention to completion (Figure 2). In our Wave III survey, five participants had entered in apprenticeship and all five noted they had ongoing support from their pre-apprenticeship.

Figure 2. Change in Log Odds of Completing an Apprenticeship when Receiving ODOT-BOLI Supportive Services, by Race and Gender (2005-2015 Cohorts of Apprentices in Eligible Trades, OAS Data)



Source: Wilkinson and Kelly 2016

*Students' plans for working in the trades in the future:* Between Wave I and Wave II, students in both programs became slightly more optimistic about their likelihood of working in the trades in the future. Among OTI students, greater optimism towards working in the trades in the future at Wave I was negatively associated with completing the pre-apprenticeship, although this association was positive among CH students. CH students completing their pre-apprenticeship had more optimistic plans for working in the trades relative to those who did not complete their pre-apprenticeship. Among OTI and CH students completing the pre-apprenticeship, plans for working in the trades at Waves I and II were positively associated with entering an apprenticeship.

*Students' perceived strengths in skills:* Between Wave I and Wave II, students in both programs reported higher perceptions of their skill level on items related to tools and skills needed for the construction trades, knowledge about working on construction job sites, and knowledge about trades careers. In an open-ended question at Wave II, students identified the most important things they learned in their pre-apprenticeship program; responses included tools and skills needed for the construction trades, "soft skills" (e.g. confidence, communication, attitude), knowledge about working on construction job sites, and knowledge about trades careers. In an open-ended question asked at Wave II, students suggested that pre-apprenticeship programs include more hands-on training and practice with specific skills.

Among OTI students, there was not a positive association between perceived strengths at Wave I and completing the pre-apprenticeship: OTI students who completed the pre-apprenticeship reported lower perceptions of skill level than those not completing the pre-apprenticeship. This finding was similar among CH students, yet differences in Wave I perceived skill level were much smaller among CH students completing and not completing a pre-apprenticeship. Among OTI and CH students completing the pre-apprenticeship, perceived strengths at Waves I and II were positively associated with entering an apprenticeship.

*Students' attitudes towards working in the trades:* Between Wave I and Wave II, students in both programs reported more positive attitudes on items about working in the trades (e.g. "In the construction trades, I will have a career, not just a job."). In open-ended questions at Wave I, students reported both financial and non-financial reasons for pursuing a career in the trades.

Among OTI students, positive attitudes towards working in the trades at Wave I were not, however, associated with completion of the pre-apprenticeship program. Among CH students, this association was positive, as CH students who completed the pre-apprenticeship had more positive attitudes towards working in the trades compared to those who did not complete the pre-apprenticeship. Among OTI and CH students completing the pre-apprenticeship, attitudes towards working in the trades at Waves I and II were positively associated with entering an apprenticeship.

*Students' perceived challenges of working in the trades:* In an open-ended question at Wave I, students reported their perceptions of the challenges of working in the construction trades; the most common responses related to a hostile workplace, physical ability and skill level, and other issues

related to the job (e.g. safety, long hours, being out of work). Between Wave I and Wave II, students in both programs became more aware of the challenges of working in the trades (e.g. being out of work, financial challenges).

Among OTI and CH students, perceived challenges at Wave I were positively associated with completion of the pre-apprenticeship. Students who completed the pre-apprenticeship reported a greater perception of challenges working in the trades than those who did not complete. Among OTI students who completed the pre-apprenticeship, those who entered an apprenticeship reported fewer perceived challenges at Waves I and II, relative to those not entering an apprenticeship. Among CH students completing the pre-apprenticeship, however, those entering an apprenticeship reported more perceived challenges in Waves I and II relative to those not entering an apprenticeship.

The report concludes with recommendations to BOLI/ODOT for building on the success of pre-apprenticeships and retention services to continue to promote a more diverse workforce in the highway trades. These recommendations include:

- Support Pre-Apprenticeship Programs to Increase Recruitment of a Diverse Construction Workforce
- Support Retention Services Provided by Pre-Apprenticeship Programs to Increase Retention of a Diverse Construction Workforce
- Use Funding from The Oregon Construction Workforce Development Program to Address Other Issues Impacting Recruitment and Retention