



NORTHWEST CENTER FOR OCCUPATIONAL HEALTH AND SAFETY
DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES
University of Washington School of Public Health



Serving:

Alaska, Idaho, Oregon and Washington

With:

- Research-based graduate education
- Continuing education for health & safety practitioners
- Consultation for professionals and businesses



Funded since 1977

Multidisciplinary center dedicated to training
for prevention

PhD and MS programs UW SPH, SoM, SoN

CE and Outreach to Region



Academic Training Programs

	PhD	Master's
Exposure Sciences/Industrial Hygiene	X	MS
Occupational Health Nursing	X	MPH
Occupational Health Services Research	X	
Occupational Medicine		MPH
Occupational Health at the Human-Animal Interface		MPH
Construction Management Occupational Safety & Health		MS

<https://vimeo.com/websedge/review/143891628/a5c3a277c6>

Professional Training Opportunities Program (PTOP)

- **Goals:**
 - Stimulate and support learning experiences related to worker health and safety
 - Engage students and non-profit staff
 - Include individuals , disciplines and organizations without traditional OHS focus
- **Mechanism**
 - Small Grants (Maximum \$10 k)
 - Most will be smaller
 - Support travel, expenses, analyses, materials production
 - Support travel to NOHC for reporting and networking
- **Steering Committee Members:**
 - Washington, N. Seixas
 - Idaho, D. Stephenson
 - Oregon, L. Kincl
 - Alaska, A. Grant

PTOP Guidelines

> Eligibility

- Graduate/Undergraduate/Associate's degree-seeking students
- Staff at worker center, labor or non-profit organization

> Field

- Traditional OH&S or Allied Fields: Human development, kinesiology, engineering, social work, toxicology, environmental studies, human physiology, chemistry, labor studies, nursing
- Project must be occupational health and safety-focused

> Projects

- Research Project, Internship, Field Activity, Program

> Supervision

- Applicants should identify faculty or site advisor in their grant proposal

Northwest Occupational Health Conference: Forum for PTOP

- *First Year:*
 - 22 Applications
 - 6 Funded
 - Great proposals
 - Mostly academic research
 - Reports expected at NOHC in October
- *This year:*
 - Announcement in Autumn, 2017
 - Emphasize more community based and experiential projects (research still acceptable)

FOR MORE INFORMATION...

<http://deohs.washington.edu/nwcohs>

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UNIVERSITY *of* WASHINGTON

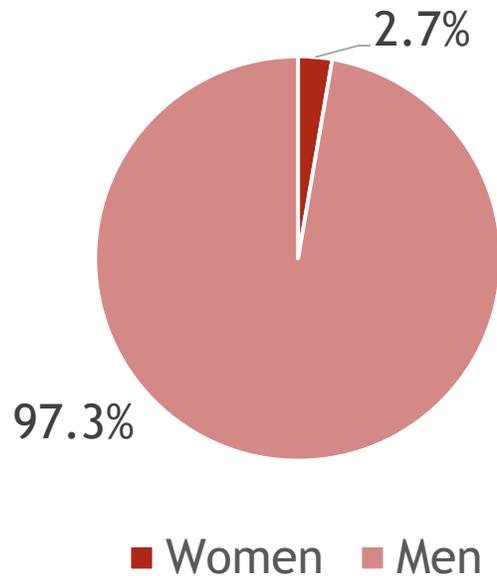
Gender, Health & Safety in the Construction Trades

An Overview of the University of Washington's
Safety and Health Empowerment for Women in Trades Study

Noah Seixas, PhD

Women in the Construction Trades

Skilled Building Trades
Workers in USA



"We're outnumbered. It's hard to break negative behaviors/habits when exposure is limited and/or imbalanced."

Journeywoman sheet metal worker

*Source: Bureau of Labor Statistics, 2015

So Why Are There So Few Tradeswomen?



Washington State Department of Transportation photo

Masculinity of the Trades



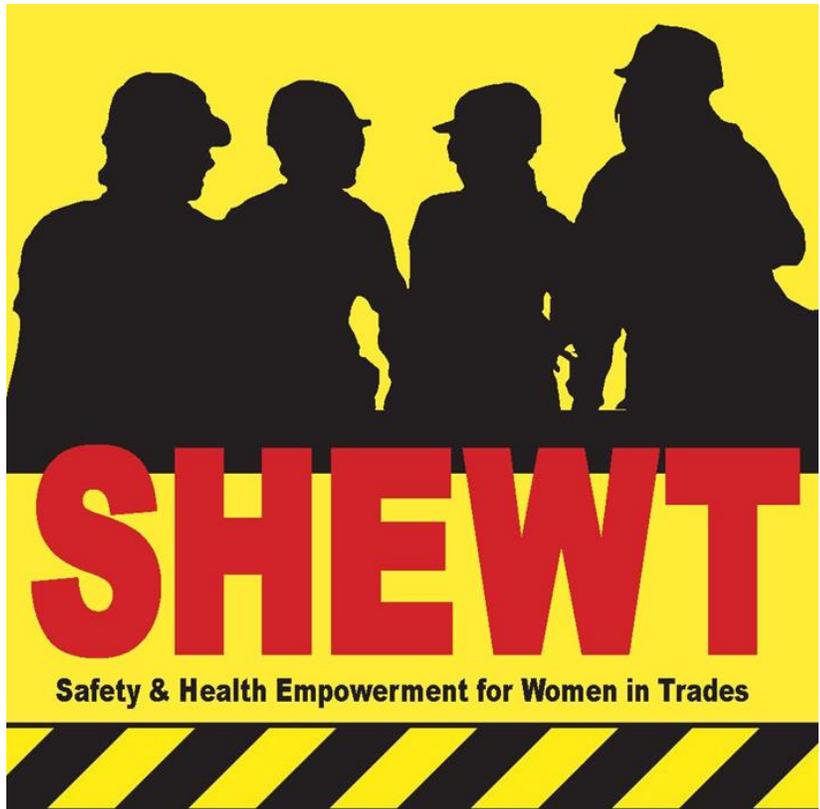
- ▶ Construction trades are seen as “masculine” because the majority group of men have set rules and social norms surrounding the entry process based on their identity as “men”
- ▶ Culture is defined by its attitude towards women
 - ▶ Seen as “other”
- ▶ Group dynamics in the trades are based on strict gender roles that influence the experiences of social capital

Barriers for Women

- ▶ Dangerous work environment
- ▶ Lack of personal protective equipment (PPE) for women
- ▶ Lack of available/sanitary facilities
- ▶ Sexual harassment
- ▶ Gender discrimination

* Goldenhar & Sweeney, 1996; Goldenhar et al., 1998; LeBreton & Lovey, 1992; Moir et al., 2011; Onyebeke et al., 2016; OSHA, 1999

Safety and Health Empowerment for Women in Trades (SHEWT) Study



Collaboration between:

- University of Washington
Department of Environmental
and Occupational Health Sciences
- Washington Women in Trades
- Labor Education and Research
Centers at South Seattle College
and University of Oregon
- King County Pre-Apprenticeship
Construction Education

Study Methods

▶ Phase I: Mixed-method research

- Investigate tradeswomen's workplace health and safety risks
- Four focus groups with 19 tradeswomen and 6 tradesmen
- Survey with 291 construction workers (198 women and 93 men)

▶ Phase II: Mentoring program

- Train journey-level women and men to support female apprentices as they navigate hazards in workplace safety and culture

*“The heartbreak about onsite job accidents is someone who’s new to the trade that was **withheld the training and information** from the journey-level workers around them. And while this happens to a lot of new people it **specifically and oftentimes uniquely happens to women and minorities** in the trades. They are not told all the safety concerns of their trade, or how to do something safely, but left out to fend for themselves because **there is a group of people who don’t think they should be there.**”*

Retired journeywoman electrician

Focus Groups Themes

19 tradeswomen

6 tradesmen

Held in Seattle,
Spokane, and
Vancouver WA in
spring 2015

Groups discussed
physical and stress-
related risks

- ▶ Health and Injury Risks
 - ▶ Dangerous work environment
 - ▶ Inadequate bathrooms
 - ▶ Chronic injuries
- ▶ Social/Stress Risks
 - ▶ Coworker acceptance of risk
 - ▶ Hazing
 - ▶ Job insecurity
 - ▶ Management prioritizing production over safety
 - ▶ No paid sick leave
 - ▶ Macho culture
- ▶ Women-specific Risks
 - ▶ Inadequate PPE
 - ▶ Physical limitations
 - ▶ Sexual harassment
 - ▶ Gender discrimination and unequal training
 - ▶ Overcompensation due to constantly proving self
 - ▶ Tokenism
 - ▶ Poor work-life balance
 - ▶ Fear of layoff for reporting safety concerns
 - ▶ Lack of support

Questionnaire

CONSTRUCTS MEASURED			
Occupational exposures	Job demands/control	Work organization	General health
PPE	Overcompensation	Work/life balance	Injury
Discrimination	Harassment	Safety climate	Perceived stress
Tokenism	Isolation	Social support	

- ▶ Recruited using contacts from community partners in unions, apprenticeship programs, contractors, and trade associations
- ▶ Data collection
 - ▶ 291 surveys completed by workers throughout WA State
 - ▶ Mix of online, paper, and phone interviews
- ▶ Analysis
 - ▶ Descriptive statistics, logistic regression to test associations

Main Findings

“I have been doing this a long time. It has gotten better but so much of the stress is covert, hard to pin down. The harassment never really stops; you learn to ignore it...Men don't want us there so it is a constant, unstated hostile environment.”

Journeywoman electrician

	Women (n=198)	Men (n=93)
	%	%
Self-Rated Health		
Poor	6	7
At Least 1 Injury in Past Year*		
Yes	31	12
Perceived Stress*		
High	31	18

*Women and men are significantly different at $p < 0.05$

Regressions for “Stress” and “Injury”

OR = 1 for no association;

OR <1 is protective, OR > 1 is higher risk

Variable (reference category)	Injury in last year OR	Stress OR
Trade (Laborer)		
Carpenter	0.76	0.47
Electrician	1.93	1.35
Pipe Trades	1.10	1.05
Sheet Metal	2.91	0.26
Other	1.35	0.78
Level (Journey)		
Apprentice	1.61	0.89
Age (≤ 30)		
31-40	1.67	0.61
41-50	1.56	0.47
>50	1.02	0.33*
Gender (women)		
Men	0.36**	0.38**

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Regression ORs for psychosocial risks

(controlled for factors in previous slide)

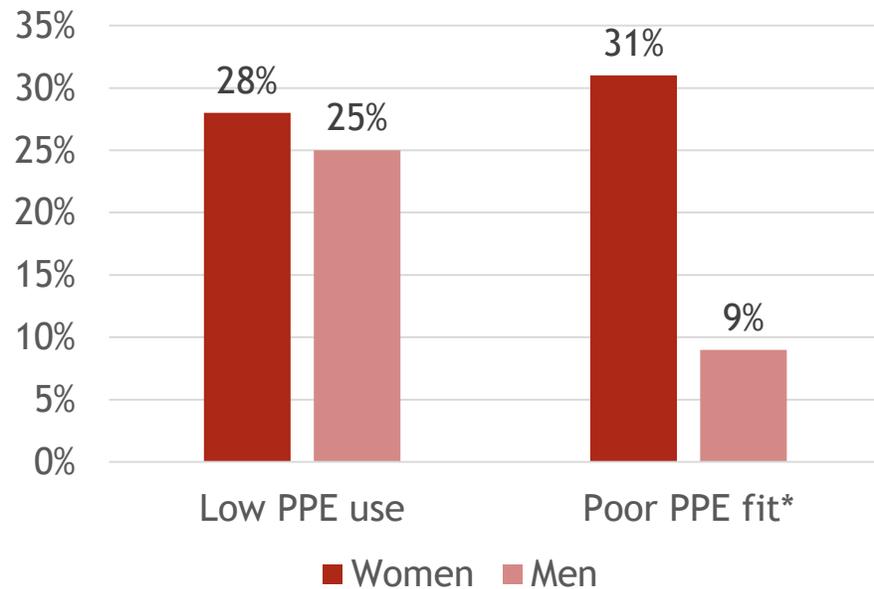
Variable (reference category)	Injury in last year OR	Stress OR
Demand/Control (low D, high C)		
High D, Low C	2.66 *	2.25
Low D, Low C	2.34 *	1.87
High D, High C	1.00	3.09**
Overcompensation (low)		
High	3.57 ***	1.78
Work/Life Balance (good)		
Bad	1.39	6.13***
Age Discrimination (no)		
Yes	1.67	5.68***
Gender Discrimination (no)		
Yes	2.46 **	2.22*
Bullying (no)		
Yes	2.21 *	2.00*
Safety Climate (low)		
High	0.50 *	0.44*
Social Support (low)		
High	1.56	0.31**
Debt/Job Loss/ Homelessness (no)		
Yes	2.26 *	3.89***

*p<0.05 **p<0.01 ***p<0.001

Main Findings

- ▶ Women compared to men had higher levels of:
 - ▶ Injury in past year
 - ▶ Stress
- ▶ Being injured in past year was associated with:
 - ▶ Overcompensation
 - ▶ Gender discrimination
- ▶ Reporting high stress was associated with:
 - ▶ Age discrimination
 - ▶ Poor work/life balance
 - ▶ Financial hardship
- ▶ Lower stress was associated with
 - ▶ Higher safety climate
 - ▶ Higher support from coworkers and supervisor

Main Findings: PPE



*Women and men are significantly different at $p < 0.05$
Women (n=198), men (n=93)

Of women who did not feel comfortable asking for better PPE, more than half listed **“fear of being labeled complainer by coworkers”** or **“fear of layoff”** as the primary reason

How Do We Address These Risks?

"It would be ideal to have a mentoring program for women as an apprentice in the particular trade she is in to help understand the construction industry or to have seminar/curriculum for women in all trades to speak and share how to become successful and overcome certain issues and have resources and referrals available to them."

Journeywoman ironworker

SHEWT Mentorship Program

- ▶ Pilot program to prevent workplace injuries by empowering women apprentices to address worksite stressors
 - ▶ Should also begin affecting the gendered culture, increase recruitment and retention
- ▶ Train 15 journeywomen and journeymen to serve as mentors for ~45 female apprentices
 - ▶ Carpenters, Electricians, Ironworkers, Laborers, Pipe Trades
 - ▶ Mentors learn how to support mentees as they navigate construction culture and help them advocate for their health and safety needs
- ▶ Six-Month Pilot Mentorship
 - ▶ Periodic check-ins
 - ▶ Program evaluation

SHEWT Mentorship Program

- ▶ Mentors recruited and trained (last week)
- ▶ Mentees recruitment (currently)
- ▶ Matching
- ▶ 6 month pilot mentorship
- ▶ Evaluation

- ▶ If there is evidence of success,
 - ▶ How should we make the program sustainable?

Acknowledgements

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- ▶ Funding and support for this project has been provided by the State of Washington Department of Labor and Industries, Safety & Health Investment Projects
- ▶ To learn more about this project, please visit:
<http://deohs.washington.edu/shewt>
- ▶ Or contact me: nseixas@uw.edu