Meet the Carolina Center for Healthy Work Design and Worker Well-Being
Our Goal

To generate new knowledge and improve worker health, safety and well-being in North Carolina, the southeast region, and the nation. We have a special focus on essential workers and the impact of working conditions on health outcomes.
The NIOSH Centers of Excellence in Total Worker Health
Definition of Total Worker Health®

Policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker well-being.

- NIOSH
How We Conceptualize Our Work
from Harvard Center for Work, Health & Wellbeing

Social/Political/Economic Environment

Employment & Labor Patterns

Enterprise
- Policies, Programs, & Practices

Conditions of work
- Physical, Organization, Psychosocial, Job Design

Worker
- Characteristics
  - Demographics
  - Training/Skill
  - Union status

Safety, Health and Wellbeing
- Injury & Illness
- Wellbeing, mental health
- Health & Safety Behaviors
- Family/community

Enterprise Outcomes
Our Research

• Rural and Urban Clinician Well-being and Targeted Improvement Interventions during COVID-19 (Meltzer-Brody, Baernholdt, Mazur)

• Total Worker Health® Approach to Reduce Falls and Advance Fall Protection in Firefighters (Ryan)
Pilot Projects

• Supervisor Support and Psychosocial Safety in the Workplace: A Feasibility Study with Socioeconomically Disadvantaged Mothers (Salomon)

• Integrating NIOSH TWH Elements into a Conceptual Model for Opioid Misuse among Workers in Industries with High Risks for Injury and Opioid Dispensing (Weaver)

• Job Stress and Construction Workers: Gender Differences (Chen)

Announcing our new RFA this week!
Connect with the Carolina Center!

• Go to https://healthywork.unc.edu/contact-us to be added to our listserv

• Follow us on socials for updates and resources: @thecarolinacenter
Challenges in Studying New Hire-Supervisor Interactions: Lessons Learned in the NC Works 4 Health Study

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Professor
UNC-CH School of Nursing

Gregory Raymond
NC Works4Health
Recruitment Coordinator

May 14, 2024
Shawn Kneipp is the study Principal Investigator. Her research has focused on the intersections of employment/unemployment, chronic health conditions, and socioeconomic disadvantage.

Greg Raymond has a background in providing employment services to job seekers and employers through state-level career centers. He is currently the recruitment coordinator for NC Works4Health, and has redesigned the employer recruitment strategies for the team.
Presentation Overview

- **NC Works 4 Health** Study Background, Aims
- **Supervising 4 Success (S4S)** Employer-Level Intervention Foundation, Development
- Pre- vs. Post-COVID Employer Engagement
- Employer Recruitment Strategy & Study Design Changes
- Current Status & S4S Preliminary Findings
- Recommendations for Future Research, Practice
Learning Objectives

1. Learn about the NC Works4Health Supervising 4 Success program, which trains supervisors to create a supportive environment for new workers.

2. Compare strategies for recruiting employers into research trials.

3. Describe challenges to cluster randomization in studies that test support programs for unemployed people starting new jobs.
Research Team

Dr. Shawn Kneipp – Principal Investigator
Dr. Laura Linnan – Co-Investigator
Dr. Deb Tate – Co-Investigator
Dr. Michael Kosorok – Co-I / Statistician
Dr. Nisha Gottfredson – Co-I / Statistician
Drs. Will Cox & Patricia Devine – UW-Madison
Dr. Joe Himle – University of Michigan

Grant Berry – Project Manager
Crystal Cao - Assistant Project Manager

Robert Gilmore – DSS Partner/Employer Support
Gregory Raymond - Recruitment Coordinator
Elizabeth Fraser – Lifestyle Coach

Student Team Members
Chata Chovatiya (SOB)
Anna Matthews** (SON)
Randi Mcarthur** (SON)
Shilpa Shrestha** (SON)
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Sonja Richard (UNC-G SON)

Shelly Skeen - Recruitment/Data Collection
Jennifer Lesniak - Data Collection
Karen Vellacott-Ford - Data Collection
Community Partners

- Departments of Social Services
- NC Works Career Centers / Workforce Boards
- NC Department of Commerce
- County Health Departments
- Other Community-Based Organizations
Overall Study
Goal & Aims

To adapt (Phase I) and test (Phase II) the effectiveness of a multilevel intervention to reduce chronic disease risks in socioeconomically disadvantaged (SD), unemployed populations that can be readily adopted by both agencies serving this population and employers.
Background & Significance:

Unemployment Episodes & Chronic Disease Risk

- Unemployment episode = ↑ chronic disease risk through stress\(^1\) and less healthy coping\(^2\) and health behavior pathways
- Less healthy behavior changes persist up to 5 years post-job loss.\(^3\)
- Results in accelerated weight gain of 15-20 lbs.\(^4\)
- Job loss ↑:
  - the odds of developing new chronic disease by 43%\(^5\)
  - stroke-specific mortality by nearly 4 (OR=3.54)\(^6\)
  - risk of death by 73-77%.\(^7\)
- ↑ in socioeconomically disadvantaged (SD) populations, such as those using Department of Social Services-Employment and related program services (DSS-E).

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\(^1\)Daly & Delaney (2013); Montgomery, Cook, Bartley, & Wadsworth (1999); McKee-Ryan, Song, Wanberg, & Kinicki (2005).
\(^2\)Mantler, Matejicek, Matheson & Anisman (2005).
\(^3\)Wadsworth, Montgomery, & Bartley (1999).
\(^4\)Morris, Cook, & Shaper (1999).
\(^5\)Strully (2009).
\(^6\)Sposato, Ioli, Povedano, Esnaola, & Saposnik (2011).
\(^7\)Roelfs, Shor, Davidson, & Schwartz (2011).
Vulnerability, Bias, & Supervisor Support

- Discrimination, stressors in employment environments ↑ psychological distress & chronic disease risk.¹

- SD, unemployed adults = ↑ reliance on economic & job training programs that facilitate job placement.²

- ‘Welfare bias’ & auxiliary biases intertwine, shape job performance expectancies,³ which drive actual performance.⁴

- Supervisor support ↓ employee stress⁵, likely facilitates job retention and ↓ recurrent unemployment episodes for SD workers.

Study Framework, with Intervention Pathway Effects & Employee-Employer Design Challenges

Key Events

Core Contributing Factors

Supervisor Implicit Bias

Supervisor-Employee Supportive Interactions

Perceived Workplace Support

Situational Stress

Coping Style

Health Behaviors

Outcomes

Risks for Multiple Chronic Disease Conditions
- Psychological Distress
- Weight Gain
- Blood pressure

Health-Related Employment Functioning

Employment Duration

Intervention effects on select pathway at the individual (*) and employer (**) level. Dashed line pathways (---) are relevant to overall problem, but not examined within scope of proposed study aims. ▲ Primary study outcomes; ▼ secondary study outcomes.
Phase I: Employer-Level Intervention Development

“Break the Bias Habit” Training

Developed by University of Wisconsin-Madison social psychologists Patricia G. Devine, PhD and William Cox, PhD

Intervention Components

5 Bias-Reducing Strategies

- Strategy 1: Stereotype Replacement
- Strategy 2: Individuation
- Strategy 3: Perspective-Taking
- Strategy 4: Situational Explanations for Behavior
- Strategy 5: Increasing Opportunities for Contact

+ 10, 5-minute Check-Ins w/ scripted interaction prompts
Supervising for Success Program Schedule

This program includes 5 training modules that you will complete online, as well as scheduled time to check-in with newly hired employees who are participating in the NC Works 4 Health Study.

The program schedule is as follows:

**Complete Modules 1-4**
- Complete within 3 days of getting link by email
- It takes ~1.5 - 2 hours to finish all 4 modules.

**Complete Module 5**
- Complete within 3 days after having first scheduled check-in with new hire.
- This takes ~15 minutes.

**First Scheduled Check-In with New Hire**
- Meet with New Hire within 3 days of completing Modules 1-4.
- This takes ~10 minutes.

**Regularly-Scheduled Check-Ins with New Hire**
- Scheduled meetings continue for 8 weeks (you will receive a schedule for planning these)
- Each takes ~10 minutes.

### Employer Focus Group Findings

- Highly desirable, particularly small businesses.
- ‘Unintentional bias’ was accepted phenomenon.
- Interactive component and self-assessments throughout viewed positively.
- Recommended increasing number of recommended check-ins promptly after hiring.
Characters with Relatable Situations & Stories

- Bias between supervisor & new hire characters takes many forms (age, race, gender, social/economic status and roles).
- Opportunities to assess interactions, rate them, and view more constructive communication, where applicable.

MEET OUR SUPERVISORS

Reggie is a supervisor for O'Reilly's Heating and Air. Let's listen to him introduce himself and his experience as a supervisor/manager thus far.

"Hi, I'm Reggie. I was hired four years ago into an entry-level position at O'Reilly's Heating and Air. After two years, my supervisor was being promoted and asked if I was interested in his position. I liked the idea of having more decision-making power and making extra money, but I quickly realized how stressful supervising could be. Dealing with employees was hard! I wasn't prepared to handle all the issues that employees brought to my attention, and I didn't always respond well. I was ignoring some employees that I considered more difficult to deal with, and I got upset with employees that frequently brought issues to my attention. I lost two employees who told others I was the reason they left. That was hard to hear. In the first few months, I even thought about quitting."
Employer Specialist unable to contact 18+ employers who hired study participants to discuss enrollment; contacted & enrolled 2

- 10 Employers Participated
- Desire for intervention available to all employers = study design change*
- High cost, no or low evidence DEI
- Bypass CEO

Adaptive biased coin randomization (2 group: IG, CG) to Stepped wedge randomization (1 group)*
- Randomized to 0, 3, 6 month intervention receipt
- Supervisor anonymity/consent

- 75 employers expressed interest; 35 on webpage
- 28 enrolled
- 90 supervisors within employers completed
- 2 direct supervisors of IL participants

RCT Begins

+1 Employer Level Aim, Study Redesign

- Focus on all employers in study counties
- LinkedIn, NC Works Career Center employer networks in 8 study counties (in person, email listservs), Chambers of Commerce

Employers Enrolling; Supervisor-New Hire Challenges Remain

Chambers of Commerce pilot: Paid service for distribution of study info in 1 county; 2 in-person events; now w/ some data.

Revised Supervisor & Employer Engagement Strategies
Revised Strategies for Employer Engagement

- **Social Networking Platforms**
  - LinkedIn (Navigator)
  - ZoomInfo
  - Apollo
  - LeadIQ Inc.

- **Highly Networked Agencies**
  - NC Works Career Centers
  - Depts of Social Services
  - NC Dept of Commerce (+)
  - Chambers of Commerce (+)
LinkedIn Navigator & Employer Outreach: Highlights

Features / Advantages

- Sending InMail directly
- Unlimited profile searches
- Connections: Shared interests, your network
LinkedIn Navigator: Highlights

- Recommended leads & tracking features
- Advanced filtering
- Job change alerts for over 630 million users
LinkedIn Navigator & Employer Outreach: Highlights

Features / Advantages

- Links to NCW4H / S4S website designed for employers
- Tracks views of S4S / Employer website
Preliminary Supervisor Findings
Employer & Supervisor Engagement: Overall

- # Employers Registered for More Study Info: 56
- # Employers Enrolled, Randomized (0,3,6m)*: 31
- # Employers Received S4S Access: 26
- # Employers Received S4S for Distribution: 13
- # Employers Awaiting S4S Distribution**: 5
- # Supervisors Accepting Invite to Get S4S Unique Link/Access: 275
- # Employers w/ 1+ Supervisor Initiating S4S Training: 96
- # Supervisor S4S Completers***: 32

*Stepped wedge randomization (SWR) - see Sperger, Linnan, Kosorok & Kneipp (in press). Multilevel stepped wedge designs (MLI-SWDs).

Prevention Science, Invited manuscript submission from the NIH Office of Disease Prevention for the special issue "Design and analytic Methods to Evaluate Multilevel Interventions to Reduce Health Disparities."

**Due to SWD for receipt either immediately, at 3 months, or 6 months.

***Based on completion of self-assessment questions at end of training.
Supervisor Participation

All Supervisors within Employer, by Employer Type

n = 96

- Govt
- Manufacturing/Prod Sales
- Service
- CBO/Non-profit
- FastFood Enterprise
- Tech/Tech Product Sales
Pre-S4S Intervention Self-Assessment

All Supervisors within Employer

n = 64
Pre-S4S Intervention Self-Assessment

All Supervisors within Employer

Percent S4S Completers, by Positive or Negative Change on Select Skills (n=32)
Thank you!

The content from this presentation is from the Carolina Center for Healthy Work Design and Worker Well-being, one of 10 Centers of Excellence for Total Worker Health® funded by the National Institute for Occupational Safety and Health (NIOSH).

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