

## THE ROLE OF ONLINE FORUMS IN AN OCCUPATIONAL SAFETY AND HEALTH TRAINING FOR YOUNG WORKERS

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Young workers represent a unique and valuable aspect of the workforce. However, limited work experience and developmental factors predispose young workers to a higher risk of occupational injuries than their older counterparts (Parish et al., 2015; Frone 1998). Although traditional occupational safety training focuses on the identification of hazards (e.g., chemical exposures, physically demanding work), it does not always address aspects of the work environment or organization that also impact health and safety (e.g., long hours/fatigue, reluctance to speak-up, low decision making authority). There is a need for training addressing these factors (Rohlman, 2016; Teixeira et al., 2004; Westaby and Lowe, 2005). With the increasingly high use of social media and online crowd sourcing platforms, particularly in younger populations, opportunities have emerged to more easily engage potential users in the development and dissemination of occupational safety and health messages (Elliot et al., 2015; Hieftje et al., 2013). Promoting U through Safety and Health (PUSH) expands traditional safety training developed for youth to address work organization and environmental hazards. This presentation describes the process of using online forums in the development, evaluation, and dissemination of the training. Tumblr, a social media/blogging site, was used to review and rate online activities on likeability and learnability. Workers, ages 15-25, from a cityrun parks and recreation department completed online activities (e.g. watched videos, completed a quiz) addressing health, safety, and communication topics. These results informed the development of the PUSH training. A randomized-control trial (RCT) was used to evaluate the online PUSH training in a cohort of seasonal young workers from the parks and recreation department. Participants randomly received either PUSH or a control training addressing positive thinking. Knowledge, attitudes and behaviors were assessed at baseline, immediately following the training and again eight to ten weeks later. Based on feedback from the RCT, PUSH was revised and updated. Videos and training content were pilot tested among young workers using Amazon Mechanical Turk (M. Turk). A screener survey identified participants between 18 and 25 years living in the United States, who completed a survey evaluating knowledge and then rated eleven videos addressing health and safety at work on likability, clarity of message, and appropriateness. The revised training was then evaluated in a second M. Turk cohort and a new cohort of seasonal park and recreation workers. Results from the Tumblr activities were used to identify topics and activities for the training. An average of 36 young workers (18 years, 65% female, 87% white) completed each activity. Although no differences were found in perceived learning across the activities, differences in likability were found ( $P < 0.01$ ). This information was used to select activities and topics for the PUSH training. The RCT evaluating the PUSH training in seasonal parks and recreation workers ( $N = 178$ ) found changes in knowledge among those that completed the PUSH training ( $p < 0.001$ , effect size (Cohen's  $d$ ) 0.4) compared to controls immediately following the training. This difference was maintained at the delayed post-test, although the knowledge scores decreased. Fifty-nine percent of participants indicated they really enjoyed the training and 67% reported changing one or more behaviors as the result of the training. Responses from M. Turk participants ( $N = 36$ ) identified health and safety knowledge gaps and ( $N = 16$ ) participants identified videos that contained a clear message and were most interesting to young workers. Preliminary analysis of the revised PUSH training demonstrated a 30% increase in knowledge from pre- to post-test in both seasonal young workers and M. Turk participants.

Online programs have been successful in improving understanding and altering behaviors of adults and adolescents. Although widely used to promote health behaviors, there is limited information on training addressing workplace hazards, particularly among young workers. Furthermore, these programs do not address work organizational or environmental factors that can also impact health and safety. Social media

forums and online crowd sourcing tools provide a cost effective and efficient method for developing and prioritizing messages, and provide resources for dissemination to target audiences. While PUSH initially demonstrated durable changes in knowledge among seasonal workers, researchers sought to improve the training by utilizing M. Turk to engage a more geographically and demographically diverse audience. Online forums such as Tumblr and M. Turk were effective tools in the development and evaluation of the PUSH training. Additionally, for this young population, social media creates an opportunity for dissemination because it has potential to engage a more diverse audience, especially when it is also paired with the traditional dissemination website <http://www.ohsu.edu/xd/research/centersinstitutes/oregon-institute-occupational-health-sciences/oregon-healthy-workforce-center/toolkit-kiosk/index.cfm>.

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**SATURDAY, JUNE 10** (continued)**L3** The SHIFT Randomized Controlled Trial: Long-Term Weight Loss Maintenance Among Drivers Following an Effective Intervention

- Layla Mansfield, MS, Oregon Health & Science University, Portland, OR; Ryan Olson, PhD; Brad Wipfli, PhD; Layla Mansfield, MS; Ginger C. Hanson, PhD; Todd Bodner, PhD; Kent Anger, PhD; Diane Elliot, MD; Nancy Perrin, PhD; Kelsey Parker, PhD; Sharon Thompson, MS

**L4** Preventing Injury of Nurses and Nurse Aides in Long-Term Care Settings: A Treatment-Outcome Study

- William H. O'Brien, PhD, Bowling Green State University, OH; Kristin A. Horan, MA; Mary T. Moeller, BA; Sonia R. Singh, MA; Clare L. Barratt, PhD; Steve M. Jex, PhD; Russell A. Matthews, PhD

**L5** Stress Management for Nurses

- Michelle H. O'Grady, DNP, University of Michigan, Ann Arbor, MI

**L6** Multilevel Effects of a Management Training Intervention on Employee Well-Being: Evidence for Social Comparison

- Jennifer P. Barbour, PhD, Griffith University, Brisbane, NSW, Australia; Graham L. Bradley, PhD

**Training in Occupational Safety and Health****M1** The Effect of Work-Family Conflict on Employee Innovation Behavior: The Mediating Role of Job Insecurity and the Moderating Role of Locus of Control

- Dr. Yixin Hu, Shandong Normal University, Jinan, Shandong, China; Dr. Dawei Wang and Xiaowen Li, Masters

9:30–10:45 a.m.

**Concurrent Sessions****Effectiveness of Total Worker Health® Interventions and Dissemination Strategies of the Oregon Healthy Workforce (Symposium)***Marquette I/II*

**Chair:** W. Kent Anger, PhD, Oregon Health & Science University, Portland, OR

**Paper 1** Safety and Health Improvement Program (SHIP)

- Leslie B. Hammer, PhD, Oregon Health & Science University, Portland, OR; Donald M. Truxillo, PhD; Amy C. Pytlovany, MS

**Paper 2** The COMPASS Total Worker Health® Program for Home Care Workers: Impact and Dissemination

- Ryan Olson, PhD, Oregon Health & Science University, Portland, OR; Kelsey N. Parker, PhD; Jennifer M. Hess, PhD; Sharon V. Thompson, MS; Kristy L. Rhoten, BA; Miguel Marino, PhD

**Paper 3** The Role of Online Forums in an Occupational Safety and Health Training for Young Workers

- Diane S. Rohlman, PhD, University of Iowa, Iowa City, IA; Megan Parish, MPH; Diane L. Elliott, MD; Ginger Hanson, PhD

**Discussant:** W. Kent Anger, PhD, Oregon Health & Science University, Portland, OR

**Approaches to Stress Prevention (Paper Panel Session)***Marquette III/IV*

**Chair:** Alec Munc, PhD, Workforce Analytics, Johnson & Johnson

**Paper 1** Linking Management by Objectives and Work Stress

- Paul L. Stepanovich, PhD, Southern Connecticut State University, New Haven, CT

**Paper 2** Good Leadership—Does One Size Fit All? Introducing a New Leadership Approach to Stress Prevention

- Janne Skakon, PhD, University of Copenhagen, Denmark; Tanja Kirkegaard, PhD

**Understanding the Needs of the Aging Workforce (Paper Panel Session)***Marquette V/VI*

**Chair:** James Grosch, PhD, NIOSH, Cincinnati, OH

**Paper 1** The Aging U.S. Workforce: Implications for Lost Productivity From Mental Health Disability Leaves

- Brian Gifford, PhD, Integrated Benefits Institute, San Francisco, CA; Betty Zong, BA

**Paper 2** Job Strain Is Associated With Poor Cognitive Functioning in Mid-Life

- Richard A. Burns, PhD, The Australian National University, Canberra, ACT, Australia; Kaarin Anstey, PhD; Peter Butterworth, PhD

**Paper 3** Factors Conducive to Prolong Working Life

- Per H. Jensen, PhD, Aalborg University, Denmark

**Psychological Connections to Work Stressors Are Ruining Your Sleep (Symposium)***Marquette VII/VIII*

**Chair:** YoungAh Park, PhD, University of Illinois at Urbana-Champaign, Champaign, IL

**Paper 1** Longitudinal Relations Between Job Demands, Perseverative Cognition and Sleep Quality

- Michelle Van Laethem, PhD, University of Amsterdam, The Netherlands; Debby Beckers, PhD; Sabine Geurts, PhD; Johanna Garefelt, MA; Linda Magnusson Hanson, PhD; Constanze Leineweber, PhD