

Presentation Title	Place in Schedule
<p>Creating a Standard Work Organization Risk Assessment Tool for US Workers</p>	<p>Concurrent Session 4.4 <i>Day 3 – Thursday</i> <i>May 10th, 2018</i> <i>1:15 – 2:30</i></p>
Description of Presentation	Presenter Name(s) And Credentials
<p>The present symposium contains four presentations that address the need for 1) a standardized survey that U.S. companies can use to assess healthy and unhealthy aspects of work organization within their organizations; and, 2) tools that companies can use to address the identified unhealthy job design and work organization factors. The first presentation by Choi et al. is a review and comparison of standardized work organization assessment surveys from seven countries with regard to items and scales, key domains, categorizing of risk groups, and availability of online versions of the surveys. From this, suggestions are provided regarding development of a similar US instrument that would be derived from the NIOSH Quality of Worklife (QWL) survey. The second presentation by Dobson et al. will report on the development of a standardized web-based work organization assessment tool (the Healthy Workplace Survey or HWS) that can be used by U.S. employers to identify the most relevant job stressors and health-promoting work organization elements in their workplaces. The long-term goal of the HWS is the development of a national database of work organization factors and health outcomes that companies can use to benchmark against. The third presentation by Nigam will report on the development of a work organization assessment instrument that is tailored to the manufacturing sector and based on prior work attempting to develop a generic (cross-industry) work organization survey. This instrument will help manufacturing companies identify work organization risks from a comprehensive TWH perspective. The fourth presentation by Nobrega et al. will describe a research-based toolkit developed by The Center for the Promotion of Health in the New England Workplace that assists companies in implementing a participatory TWH program (i.e., the Healthy Workplace Participatory Program, or HWPP, Toolkit). Examples will be given of TWH interventions developed using the HWPP Toolkit.</p>	<p>Naomi Swanson, PhD <i>National Institute for Occupational Safety and Health</i></p>
	<p>BongKyoo Choi, ScD, MPH <i>Center for Occupational and Environmental Health, University of California, Irvine</i></p>
	<p>Marnie Dobson, PhD <i>Center for Occupational and Environmental Health, University of California, Irvine</i></p>
	<p>Jeannie A.S. Nigam, MS <i>National Institute for Occupational Safety and Health</i></p>
	<p>Suzanne Nobrega, MS <i>Center for Promotion of Health in the New England Workplace, University of Massachusetts Lowell and University of Connecticut</i></p>

1. International comparison of national work organizational risk assessment tools in seven countries

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Background: Although the NIOSH Quality of Working Life Survey (QWLS) has been used since 2002 in the US, it is not recognized as a national standard work organization risk assessment tool, so there is not an official tool in the US for this purpose,

which is essential in order to significantly increase the awareness of unhealthy work organization and at the same time, facilitate societal and worksite-based interventions for healthy work organizations. As a first step toward creating a short standard work risk

assessment for US workers, this study aims to characterize and compare several national standard work organization risk assessment questionnaires from the United Kingdom, Canada, South Korea, Spain, Mexico, Colombia, and Chile.

Methods: Utilizing an extensive literature review, we characterized and compared seven national work organizational risk

assessment tools with the following foci: (1) Numbers of items and scales; (2) Key domains (work stressors); (3) How to categorize the risk group(s); (4) Flexibility (e.g., long and short versions); and (5) Availability of on-line instrument. The Canadian national standard on Psychological health and safety in the workplace was included in this review because it suggests 13 important domains of work organization hazards to be assessed, although it is not a standard risk assessment tool.

Results: The number of items and scales in a work organization risk assessment tool varied across the seven countries: the

shortest one was the UK's Management Standard Questionnaire (7 scales and 35 items) and the longest was from Colombia (4 scales and 123 items). The most common domains in the instruments are as follows: job control, psychological job demands, coworker and immediate supervisor support at work and followed by quality of management and leadership, recognition and rewards, job insecurity, role conflict/clarity, bullying/harassment/discrimination, physical safety/violence, and work/family balance.

The most common way to characterize the risk group using the instruments is using national averages (in South Korea) or tertiles (in Spain) of each or total scale scores. Several countries have used a short version of their instruments for convenience or for a small company/organization: 15 scales and 30 items in Spain; 8 scales and 26 items in South Korea; 8 scales and 46 items in Mexico. Only the Spanish instrument (ISTAS21) is also available as an on-line program that automatically generates the scale scores and enables comparisons to national statistics. Conclusions: The NIOSH QWL questionnaire has great potential to be used as a standard work organization risk assessment tool for US workers. It includes all major work organization hazards identified in this study across seven countries. Also it can provide national benchmarks (averages or tertiles) for comparison on a regular basis. Despite the aforementioned merits, it should be further psychometrically validated (e.g., differential item function test) and also shortened (e.g., ≤ 35 items) to be used much more widely across the nation. Also, a social consensus is needed for the future standard instrument among the stakeholders in the US (government, management, unions, and professionals).

2. Creating and testing a work organization risk assessment tool using QWL survey data: the Healthy Workplace Survey (HWS)
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Currently, in the U.S., there is no standardized, national survey that can identify un/healthy workplaces. The closest instrument - the NIOSH Quality of Work Life survey was created to measure how work life and experience have changed among US individuals. It was incorporated into the General Social Survey in 2002 and data has been collected every four years. While the GSS is a nationally representative sample of the US population, the sample of approximately 1,500 (and only 1,249 in 2014) is too

small to reliably identify work stressor levels and health outcomes in occupations/industries or organizations. The QWL survey also includes too many scales and items (34 scales and 63 items on work organization) to be easily administered.

We present progress on the development of a work-organization assessment tool or “healthy workplace survey” (HWS). The HWS will be available online, to be implemented by employers in the private sector (small and large), public sector, worker organizations

(labor unions, cooperatives) and others invested in Total Worker Health and a healthy workplace. Organizations will encourage employees/members to complete the survey, anonymously and confidentially. Individuals will receive interactive stressor scores, information and resources while completing the survey. The end result for organizations will be a self-generating, aggregate report identifying the most relevant work stressors in their workplace, and health-promoting elements, including engagement, active work

(high demands and high control), and social support.

The HWS will consist of key, scientifically validated short-form, psychosocial stressor domains (e.g., job strain, effort-reward imbalance), and other scales and items known to be most strongly associated with chronic health outcomes (e.g., depression, CVD) in the scientific literature, as well as productivity outcomes (e.g. sickness absence, disability, presenteeism, engagement).

While most items and scales will be drawn from the QWL survey, additional items/scales will be included as needed to adequately characterize “healthy work.” All scales, including those from the QWL will be psychometrically tested and validated. Additionally,

a series of “sector-specific” modules will be developed that can be linked to through the generic HWS as applicable. These sector modules will use items and domains from existing surveys where possible.

A long-term goal is the development of a national database of work organization factors and health outcomes that can serve as a benchmark to which participating companies can compare themselves to either national averages or to industry-specific averages.

Our approach would accumulate data on the organizational and industry level in greater numbers, eventually allowing more valid comparisons and a more complete picture of the state of healthy work in the U.S.

We will report on progress on five specific aims: 1) identifying and choosing key work organization/stressor domains and items, 2) psychometric analysis of QWL items and scales to be included, 3) developing sector-specific modules, 4) evaluation and peerreview of final survey, 5) identify technology professionals/companies to collaborate with building the online survey platform.

3. Developing a Tool to Assess Work Organization Risks in Manufacturing

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Businesses are increasingly concerned with the relationship between employee health and productivity. Productivity costs relate to

many preventable or modifiable personal and work-related risks (Goetzl et al., 1998). Cost reduction can be achieved through promoting healthy lifestyles, reducing use of health services and high risk behaviors, and disease prevention. From an occupational and public health perspective, it is incumbent upon organizations to provide safe, healthful work that supports employee efforts to achieve desired levels of well-being (Schulte et al., 2015). Businesses now recognize that the work environment itself (work organization and stress in particular) can be the source of employee ill-health that leads to costly consequences for individuals and their employers (Sauter & Murphy, 2003).

The need for assessment tools has been expressed by business stakeholders (Finch & Phillips, 2005) yet there has been little transfer of knowledge into standardized tools that allow organizations to assess risks to inform intervention design. In fact, existing

assessments are often tailored for researchers, not practitioners, and do not provide guidance for modifying factors of work that are most relevant to safety, health, and productivity concerns.

A manufacturing partner has requested assistance identifying risks (emphasizing work-life and aging issues) that affect employee safety, health, well-being, and productivity, to inform future workplace changes. Manufacturing is an inherently dangerous occupation. Analyses of the NIOSH Quality of Worklife (QWL) data from 2002-2014 indicate that 30% of manufacturing workers “often to always” feel stress at work. Those workers report not being able to do their normal activities about 1.7 days per month compared to .6 days reported by those manufacturing employees who do not feel stress, which results in higher lost productivity

for stressed employees. This presentation will describe efforts to develop a work organization assessment tool for manufacturing. Efforts to develop a generic work organization survey (applicable to many industries) will be described. Items from the QWL were used as the foundation for that tool. The QWL was designed by experts through an iterative process to assess construct validity (i.e., that the items used measure the conceptual constructs they are intended to,) and criterion validity (i.e., that the items and scales predict outcomes as expected). Therefore, the probability of achieving high criterion and construct validity for the work organization assessment tool (and the manufacturing tool) is higher than if the items were randomly generated. Focus group testing helped pare down items and prioritize key work organization risks (e.g., family-friendly work settings, employee perceptions about work, support amongst co-workers and supervisors, productivity) however there is significant variation in salient constructs for different industries. Managers prefer customized tools; employees prefer short instruments. The need to focus on positive aspects of work emerged. These findings are being considered as we adapt and eventually validate that tool to assess work organization risks from a comprehensive Total Worker Health® perspective in manufacturing. We will describe this process, present findings from manufacturing manager interviews, and provide an overview of key constructs to be included in the survey.

4. Assessing work organization to develop TWH interventions: sharing our field experience

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The Center for the Promotion of Health in the New England Workplace (CPH-NEW) is a NIOSH Total Worker Health® (TWH)

Center for Excellence offering research and outreach programs for the New England region. A primary feature CPH-NEW TWH programs is a macroergonomic focus on the workplace as a complex sociotechnical system. Inasmuch as work organization is known to be a determinant of a broad range of worker health and safety outcomes (Punnett, 2009), TWH programs seek to make

work organization more conducive to safety, health, and well-being. CPH-NEW also emphasizes worker participation in the design of TWH interventions. These two CPH-NEW programmatic foci align with two of the five TWH “defining elements” outlined by NIOSH (2016, Fundamentals of Total Worker Health® Approaches); “Design work to eliminate or reduce safety and health hazards and promote well-being,” and “Promote and support worker engagement throughout program design and implementation.”

CPH-NEW developed a research-based toolkit for implementing a participatory, TWH program called The Healthy Workplace Participatory Program (HWPP) Toolkit (Nobrega, 2017; Robertson, 2013). The goal of developing the HWPP Toolkit was to translate TWH principles into tools that practitioners could use to implement a participatory TWH program. The instruments in the Toolkit are unique in that they set the stage for implementing a Total Worker Health program that combines participatory ergonomics together with broader preventive health and safety activities (Henning, 2009). During program start-up, data collection instruments in the Toolkit assess a broad range of health, safety, and well-being topics from the perspectives of front-line workers as well as middle- and upper-level managers. CPH-NEW has determined that engaging front-line workers with this information is an essential step in the identification of root causes of organizational factors affecting workers’ health, safety, and well-being in an organization. Interventions can then be designed that appropriately address work organization and individual health behavior risks in one integrated approach.

The HWPP toolkit (www.uml.edu/cphnewtoolkit) offers several instruments along with user guides to assess work organization prior to engaging in intervention design efforts. An organizational readiness survey helps organizational leaders assess current organizational capacity, culture, and context before implementing a participatory TWH program (Robertson, 2017). An All-Employee Survey (AES) is used to gather perspectives of employees on important health concerns and work environment

features (physical and psychosocial) related to health (Warren and Dugan, 2011). A health and work environment focus group (FG) tool provides a structured means to discuss health and safety issues, factors on and off the job that impact health, and other aspects of culture and communication related to TWH program implementation. Results of the AES and the FG data collection are also used to prioritize problems and issues for intervention planning.

We will describe the process of using these assessment instruments in employer organizations, and give specific examples of TWH interventions developed as a result of following this participatory intervention design process.