The Role of Time in Research
Mike Ford (University of Alabama)

Positive Psychology
Gloria Gonzalez-Morales (University of Guelph)

Safety
Emily Huang (Drexel University)

Chronic Health Conditions
Alyssa McGonagle (University of North Caroline Charlotte)

Independence Ballroom A

Total Worker Health: Rationale and Application

PAPER SESSION

Safety and Health Innovation in Preschools (SHIP)

Charlotte Farewell (University of Colorado Denver)

Working in early childhood education (ECE) is a stressful profession. The inherent challenges of the profession and the work conditions within ECE settings effect providers' psychological, emotional and physical health and well-being. Challenges of the early childcare workforce include: low pay (the average yearly salary for an early educator is $21,000 (Linnan et al., 2017); poor working conditions, including long hours, high job demands (especially among directors and administration), and low job control (with teachers and classroom workers reporting the lowest levels of job control) (Linnan et al., 2017). Additionally, early childcare providers are at increased risk of infectious disease; increased risk of injury and falls due to lifting and moving children regularly; and increased risk of encountering environmental hazards (Shuai, Yue, Li, Liu, & Wang, 2014). Despite the importance of the health and well-being of those responsible for providing safe, stable, and nurturing environments for children, it is often overlooked. These studies highlight the need to foster innovative strategies to improve the safety, health and well-being of the early childcare workforce.

Total Worker Health (TWH) is an emerging field that promotes a holistic approach to worker health, safety, and well-being by protecting and advancing health and productivity (NIOSH Total Worker Health Program, 2012). While traditional occupational health focuses on workers' safety, TWH emphasizes the importance of making integrated systems-level improvements to address job-related factors that contribute to poor health outcomes and the overall well-being of the workforce (Chan, Mclellan, Moore, Nagler, & Sorensen, 2017).

The objective of the Safety and Health Innovation in Preschools (SHIP) pilot study is to improve TWH among the early childcare workforce in six Head Start childcare centers in Denver, Colorado (October 2018-August 2019). The primary strategy is to implement (and study) the use of a evidence-based strategic planning process to make policy, system and environmental (PSE) changes related to improving the health, well-being and safety of ECE providers in 6 Head Start centers. Activities associated with the strategic planning process include the creation of a center-based wellness team (a multi-disciplinary team that might include the center director, teachers, administrators and/or parents). In a six-meeting process, the wellness team will assess strengths and needs related to health and wellness best practices, identify and prioritize PSE changes related to TWH that they can make at their center, and plan for implementation and sustainability of the TWH changes selected.

The evaluation of the SHIP project includes both a process and outcomes evaluation (to understand the quality of implementation to inform scalability, as well as the achieved benefits to participants). The targeted outcome of the SHIP pilot grant activities will be the number of evidence-based center-level PSE changes aimed at increasing TWH in these six ECE settings. Data collection and analyses using mixed-methods are currently in process. A brief survey will be administered to directors at each center after completion of the planning process and 3-months after the PSE process to assess implementation and sustainability of PSE changes. A pre-/post- Quality of Worklife Survey is also being administered to all ECE providers (n=105). Data will be exported in SPSS version 25 for analyses. Univariate and bivariate analyses will be run to explore the number of PSE changes implemented and sustained after completion of the strategic planning process. Paired sample t-tests will be utilized to analyze differences in the pre- and post- Quality of Worklife Survey responses. Finally, focus groups with each wellness team will inform barriers and facilitators related to adaptation of the planning process to promote TWH. Qualitative data from the focus groups will be coded and analyzed using NVIVO software (NVIVO, 2018).

The SHIP project represents an innovative approach to improving TWH of the early childcare workforce. The model is based on six key characteristics that lead to healthier and safer employees, as well as improved operating outcomes. These include, 1) leadership commitment, 2) participation from stakeholders at all levels within a childcare center, 3) policies and practices focused on improving working conditions, 4) comprehensive and collaborative strategies, 5) Adherence, and 6) data-driven change (Chan et al., 2017; Deborah McLellan, Elizabeth Harden, Pia Markkanen, & Sorensen, 2012). Organizations that have used this integrated system-levels approach to improving workforce well-being have found advancements related to safety, health, and productivity in the workplace (Shaw, Robertson, McLellan, Verma, & Pransky, 2006; Shaw, Robertson, Pransky, & McLellan, 2003). The SHIP project may improve working conditions for the early childcare workforce as well as recruitment and retention of early educators.

Validation of the Workplace Integrated Safety and Health (WISH) Assessment

María Andrée López Gómez (Harvard University School of Public Health)

Problem. The Workplace Integrated Safety and Health (WISH) Assessment was designed to measure the extent to which workplaces implement integrated system approaches to protect and promote worker health, safety and well-being. Integrated system approaches are central to the Total Worker Health® (TWH) program implemented by the National Institute of Occupational Health and Safety (NIOSH). The program is defined as "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". The WISH Assessment responds to the need of measuring TWH concepts and it builds upon a previous measure called the Indicators of Integration that was created to measure the level of integration of protection and promotion of worker health. The WISH Assessment

places a stronger focus on the central role of working conditions and expands the assessment of best practices by including a broader definition of protecting and promoting worker safety, health and well-being than the Indicators. It is designed to be completed at the organizational level by employer representatives who are knowledgeable on policies, programs and practices related to worker health, safety and well-being and consists of six constructs: 1) Leadership Commitment, 2) Participation, 3) Policies, programs and practices that foster supportive working conditions, 4) Comprehensive and collaborative strategies, 5) Adherence and 6) Data-driven change.

The objective of this study is to validate the WISH assessment metric properties in the nursing home industry as part of a NIOSH funded study to assess TWH® implementation in nursing homes, an industry that disproportionately employs groups identified as at-risk for occupational health disparities, 49% of the workforce is composed of underrepresented minorities and 70% are low-wage workers.

Methods. The WISH assessment was sent to nurse directors of a random sample of nursing homes in Ohio and California and a sample of nursing homes in Massachusetts affiliated with the Massachusetts Senior Care Foundation. Previous evidence showed that nurse directors are the best choice for responding to an organizational tool as they provided richer information, than managers or executives, about policies, programs and practices and on workers and patients in nursing homes. Surveys were sent via email in November and December 2018. A mailed version of the survey for non-respondents is currently in progress. Data collection will finalize in February 2019. We expect that 350 surveys will be completed across the three states. Results from cognitive interviews will be presented to show construct validity. Exploratory factor analysis will be conducted to assess the dimensionality of the WISH assessment. Descriptive statistics and calculations of the Cronbach's alpha will be performed to assess the distribution of responses and internal consistency of the tool. Items from the Indicators of Integration and The Workplace Health in America Survey were included in the survey and will be used to evaluate the convergent validity of the tool.

Preliminary Results. The initial attempts by email showed a response rate of 18%. Paper mailing follow-ups are currently in progress. We are also in the process of expanding the original sample to a full census of nursing homes in each state to gain a more accurate representation of nursing homes.

Practical implications. The WISH assessment represents a mean to measure integrated approaches that align with the TWH® initiative by NIOSH. It has the potential of informing priority-setting and decision-making for researchers, policy-makers and employers and understanding relationships between working conditions and worker safety and health outcomes. Later validation with occupational injury rates and patient care outcomes will clarify the value of worker health in terms of patient care. Furthermore, this paper will provide evidence of TWH® implementation in an industry group that predominately includes low wage workers.

The NIOSH Total Worker Health® Hierarchy of Controls: Applications of the Model

CDR Heidi Hudson (NIOSH)

The Total Worker Health® (TWH) concept explores opportunities to both protect workers and advance their health and well-being by improving the conditions of their work, primarily through workplace policies, programs, and practices. A TWH approach prioritizes a hazard-free work environment for all workers. It applies a prevention approach that is consistent with traditional occupational safety and health prevention principles of the Hierarchy of Controls.

Eliminating or reducing recognized hazards in the workplace first, including those related to the organization of work itself, is the most effective means of prevention and thus is foundational to all TWH approaches. Although some hazards can be eliminated from the work environment, others (such as shift work) are more difficult to change. These must be managed through various engineering, administrative, or (as the very last resort) individual-level changes. Workplace programs that adopt a TWH approach emphasize elimination or control of workplace hazards and other contributors to poor safety, health, and well-being. This emphasis on addressing environmental determinants of health is a crucial concept for TWH programs.

The Hierarchy of Controls Applied to NIOSH Total Worker Health is a conceptual model for prioritizing efforts to advance worker safety, health and well-being and of relevance to employers and other professionals interested in implementing workplace safety and health programs aligned with TWH approaches (Lee, et al., 2017). This applied model is based on the traditional Hierarchy of Controls (NIOSH, 2016), well-known to occupational safety and health professionals. The Hierarchy of Controls Applied to NIOSH Total Worker Health expands the traditional hierarchy from occupational safety and health to include controls and strategies that more broadly advance worker well-being. The Hierarchy of Controls Applied to NIOSH Total Worker Health is not meant to replace the traditional Hierarchy of Controls, but rather is a companion to this important occupational safety and health model. The Hierarchy of Controls Applied to NIOSH Total Worker Health serves to illustrate how TWH approaches emphasize organizational-level interventions to protect workers' safety, health, and well-being. As in the traditional hierarchy, the controls and strategies are presented in descending order of anticipated effectiveness and protectiveness.

- Begin by eliminating workplace conditions that cause or contribute to worker illness and injury, or otherwise negatively impact well-being. This includes factors related to supervision throughout the management chain.
- Second, replace unsafe, unhealthy working conditions or practices with safer, health-enhancing policies, programs, and management practices that improve the culture of safety and health in the workplace.
- Next, redesign the work environment, where needed, for safety, health and well-being. Remove impediments to well-being, enhance employer-sponsored benefits, and provide flexible work schedules.
- Then, provide safety and health education and resources to enhance individual knowledge for all workers.
- Lastly, encourage personal change for improvements to health, safety and well-being. Assist workers with individual risks and challenges; provide support for healthier choice-making.

The goals of this presentation are to familiarize researchers and practitioners with the NIOSH TWH Hierarchy of Controls model and provide examples (e.g. tobacco control, sedentary work, fatigue and work-related stress) of how researchers and practitioners can apply policies, programs, and practices that incorporate each of the controls. The presenters will briefly discuss potential obstacles to program implementation as well as cautions to consider when implementing TWH approaches in an organization. Additionally, the presenters will discuss key resources that address application of the TWH Hierarchy of Controls model to assist with intervention planning and implementation efforts.

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