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Introduction to the Special Issue of New Methods in Work and Organizational Health Psychology

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With its applied focus on employee and organizational well-being, work and organizational health psychology (WOHP) has progressively been established as a discipline (e.g., Tetrick & Quick, 2011). The field of WOHP has shifted over the decades, from one that is mainly focused on averting sickness and injuries to one that promotes human flourishing and organizational well-being (Peiro & Tetrick, 2011). WOHP scholars contribute to the field of psychology by examining ways to understand, protect and promote the safety, health and overall well-being of workers, and consequently, bringing about positive outcomes for the organizations. WOHP scholars are uniquely positioned at the intersection of theory and practice. The community's passion and enthusiasm regarding various issues on employee well-being and organizational functioning have sparked numerous efforts at literature reviews and meta-analytic works published in top journals (e.g., Allen, Golden, & Shockley, in press; Hershcovis et al., 2007; Ng & Feldman, 2012; Nohe, Meier, Sonntag, & Michel, 2015; Yang, Caughlin, Gazica, Truxillo, & Spector, 2014). These works have developed several frameworks for guiding research on WOHP and this special issue does not intend to repeat the suggestions made by previous works.

Instead, we seek to highlight how developments in research designs and measurement, and innovations in statistical techniques can help the research and practice community to address WOHP questions important for promoting employee flourishing and organizational functioning. Adding to and going beyond the recent effort (Sinclair, Wang, & Tetrick, 2013), in this special issue we intend to address some of the most critical methodological issues that are not yet well-understood, such as the role of time, how to balance internal and external validities, the role of technology, and inductive approaches.

Collectively, the eight articles included in this special issue examine some of the important methodological issues that affect the future progress and developments of WOHP research. Two papers review methods on research design (Ilies, Aw & Lim; O'Shea, O'Connell, & Gallagher), three advance methods in data collection including measurement (Eatough, Shockley, & Yu; McGonagle, Huang, & Walsh; Sonnentag & Pundt), and three describe important data analytical methods (Ilies et al.; Liu, Mo, Song, & Wang; Wang, Hernandez, Newman, He, & Bian). The last paper by Spector and Pindek discusses the common research methodologies used in WOHP and provided some ideas and directions for future developments.

Specifically, O'Shea, O'Connell, and Gallagher focus on the applications of randomized controlled trial (RCT) designs for addressing WOHP research questions. The authors review and evaluate the applications of controlled trial and RCT designs in the WOHP literature between 1996 and 2014 (33 studies in total), and propose a set of guidelines for reporting and evaluating WOHP interventions that mirrors and goes beyond the CONSORT statement – the internationally-recognized gold standard for reporting RCT interventions. This study offers a comprehensive and critical review of the strengths and weaknesses in applying RCTs on WOHP topics in the past 18 years since the CONSORT statement was first developed. Looking ahead, this set of guidelines will be also valuable for WOHP scholars to design rigorous RCT interventions, and further the development of the field through gathering data that that can speak directly to the causal inferences afforded by such intervention studies.

Ilies, Aw and Lim examine how ecological momentary assessment (EMA) or experience sampling method (ESM) can be best utilized to address research questions in WOHP. Specifically, the authors draw allostatic load model as a framework to organize the EMA research efforts in the prior WOHP literature. They make pointed efforts to elaborate on the

unique advantages of EMA applications in addressing the primary (momentary fluctuations), secondary (mid-term changes), and tertiary (long-term changes) allostatic processes underlying employees' stress and health. Further, they provide an overview of different designs in EMA applications, data analytical processes in EMA studies, and methodological tools that can be used to design EMA research and/or analyze EMA data. Finally, the authors discuss the opportunities and challenges in EMA research on WOHP topics.

Sonnentag and Pundt develop and validate a new measure of organizational health behavior climate specific to the domains of healthy eating and physical exercise. Specifically, using three separate studies they found that employees' perceptions of organizational values and expectations, practices, and communications about healthy eating and physical exercise can be unique to individuals' experiences and also be shared among employees within the same organization. Notably, empirical evidence from their research also indicates that employees' individual perceptions of such climate are significantly related to their actual health behavior (intake of fruits and vegetables) and health indicator (BMI). This line of work offers new insights to the multi-level and domain-specific nature of occupational-health-related organizational climate (e.g., Yang et al., 2014) and affords promising opportunities for WOHP research and interventions focused on healthy eating and physical exercise.

McGonagle, Huang, and Walsh examine how insufficient effort survey responding (IER) may bias relationships between WOHP constructs in the forms of bivariate correlations and multiple regression coefficients. Specifically, the authors demonstrate that the bivariate correlations between WOHP constructs are inflated by including the responses from IER respondents, while the regression coefficients corresponding to constructs/predictors *not* contaminated by IER tend to be under-estimated in multiple regression models where some

predictors and the outcome are contaminated by IER. Their work challenge the assumption that IER will always lead to under-estimation of the effect sizes and therefore, effect sizes estimated from datasets that contain IER respondents should be viewed as "conservative." Given the high prevalence of survey designs in WOHP research, the IER issue deserves due attention from WOHP researchers. The authors call for establishing a standard practice for handing IER issues, including discouraging IER from occurring in survey studies through proactive survey designs and implementations, and screening for IER prior to data analysis.

Eatough, Shockley, and Yu review conventional and newer ambulatory health data collection methods, in application to experience sampling research. The authors focus their review on WOHP research of behavioral, physical, and physiological health (e.g., exercise, sleep disruption, and blood pressure, respectively). They first review objective ambulatory health measurement methods and tools by pointing out the methodological and practical advantages and disadvantages in assessing an array of objective health indicators including blood pressure, heart rate, sleep, skin conductance, endocrine and immune system functioning, and personal fitness and physical activity. They then review the methods and tools to conduct subjective ambulatory health measurement, including conventional methods of paper-and-pencil surveys and telephone interview, as well as newer methods of using online survey hosts and mobile devices and applications. Finally, the authors discuss the opportunities and challenges to applying multi-source measurements, particularly in terms of utilizing two or more objective measures or a combination of objective and subjective measurement tools. This paper provides a comprehensive overview of ambulatory health measurement methods, and offers valuable insights on how to work with constraints in measurement quality (reliability and validity) to

design rigorous WOHP research focused on assessing employees' transient occupational health experiences.

Wang, Hernandez, Newman, He, and Bian offer a nice illustration of employing inductive approaches (i.e., qualitative text analysis and big data method) to study a WOHP phenomenon, namely work recovery effect of weekends. Specifically the authors apply Pennebaker's linguistic inquiry word count (LIWC) approach to analyze 2,102,176,189 Tweets by US users at Twitter.com, across 18 months. They derive and validate a word count dictionary focused on stress, and applied it along with the built-in LIWC to the LIWC analysis. Afterwards, they run dynamic factor analysis and identify two factors underlying the coded words, namely a negative emotion/stress/somatic factor, and a positive emotion/food/friends/home/family/leisure factor. The subsequent weekly trend analyses indicate a "Friday dip" pattern among Tweets on work stress and negative emotion, a "mid-week dip" pattern (Tuesday through Thursday) and a small "weekend peak" pattern (Friday through Sunday) among positive emotion Tweets, which partially support the effort-recovery theory. They contend that the inductive approaches illustrated in this study can be applied in future WOHP research of various scopes, such as health and well-being at individual and collective levels (e.g., city or region or country) or safety issues that require tracking and monitoring (e.g., in the workplace or during workers' commute).

Liu, Mo, Song, and Wang provide an overview and tutorial of three longitudinal modeling techniques that are useful in studying WOHP topics, namely cross-lagged model, latent growth model, and latent change score model. The authors first review the methodological underpinning of the three techniques and their applications in prior WOHP research. They then provide a step-by-step tutorial to demonstrate the usage of these techniques in analyzing a simulated dataset. Through comparing the results from utilizing the three different analytical

techniques, the authors offer important insights on the utilities of these techniques in addressing different WOHP research questions. Going beyond the prior literature that described these three techniques, this paper can serve as a great guide for WOHP researchers to choosing an appropriate longitudinal research design, and analyzing and interpreting their data accurately.

Lastly, Spector and Pindek summarize the current applications of methodologies in WOHP research and discussed future directions in advancing and applying WOHP methods. Specifically, the authors review the methodologies (research design, sampling, and statistics) employed in papers published in two leading WOHP journals (Journal of Occupational Health Psychology, Work & Stress) between 2010 and 2014 and in the articles on WOHP published in the Journal of Applied Psychology in 2014. Their review indicates that a variety of research design, sampling methods, and statistical methods are currently employed in the WOHP field, yet there is much room for methodological advancement. Building upon the issues identified in the review, the authors proceed to suggest five directions for future methodological development and application in WHOP research, including employing more inductive approaches, more rigorous approaches to study WOHP processes (time-contingent or not), more qualitative approaches, more complex research designs that allow stronger causal inference, and more multi-level modeling statistical techniques.

In summary, the present special issue systematically documents the most recent advancements in WOHP methods including research design, data collection and data analysis. It addresses the important needs of the WOHP field by responding to some of the most recent challenges to the field, through enhancing understandings of the role of technology and that of time, providing research design tools to study more complex WOHP issues, and offering insights on how WOHP scholars can conduct multi-disciplinary research in more rigorous ways.

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