

# Intervention Research on Working Conditions and Mental Health: Persistent Challenges, New Directions and Opportunities to Integrate Research Agendas



COMMENTARY

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## ABSTRACT

*This commentary provides a summary of the four preceding research papers. Three of the four papers, those by Gilbert-Ouimet et al., Marchand and Durand, and Veitch, provide direction for future workplace psychosocial intervention studies, while the remaining paper, by Lippel, offers insight into how existing occupational health and safety and workers' compensation legislation offers few motivations for employers to promote and protect the mental health of their employees. In addition to fleshing out the directions and insight offered by these papers, this commentary flags the challenges that persist in this area of intervention research. To conclude, the authors offer a summary of directions for future research, including opportunities to integrate research agendas.*

THIS ISSUE OF *Healthcare Papers* contains four articles from the 2009 Canadian Congress for Research on Mental Health and Addiction (Gilbert-Ouimet et al. 2011; Lippel 2011; Marchand and Durand 2011; Veitch 2011). Two of the papers, those by Marchand and Durand and by Gilbert-Ouimet et al., describe interventions focused on changing the psychosocial work environment to reduce the burden of mental health problems; another, by Veitch, overviews the relationship between the physical work environment and mental health; while a fourth, by Lippel, offers us a broad perspective on the regulations currently in place in Canadian provinces to protect the mental health of workers and the ways that law and policy can have the unintended consequences of increasing the illness and disability associated with mental health problems. The objective of this commentary is to summarize and tie together these research papers. In doing so, this commentary highlights the importance of research examining the relationship between working conditions and mental health problems, describes persistent challenges that need to be overcome in this research field and provides direction for future research in this area.

From both organizational and public policy perspectives, evidence that negative changes in working conditions are associated with a subsequent increased risk in mental health problems (or that positive changes in the work environment are associated with a decreased risk of mental health problems) is important if the potential mental health effects, and their associated costs, are to be incorporated into decisions that will impact the work environment (Kuper and Marmot 2003; Macleod and Davey Smith 2003). In addition, intervention research focused on work environments (both physical and psychosocial) is particularly important as these interventions have the potential to have much

larger impacts on mental health than those interventions that seek to change individuals' perceptions of, or reactions to, stress, or those that focus on the effective treatment of mental problems after they arise (LaMontagne et al. 2007a; Vézina et al. 2004).

Seven years ago, in this journal, Vézina and colleagues (2004) called for more rigorous research focusing on identifying the dimensions of the psychosocial work environment that should (and could) be changed, the best ways to bring about these changes and common barriers encountered when implementing changes within workplaces. In the paper from Gilbert-Ouimet et al. (2011), Vézina's group has answered this call and, in doing so, provided valuable direction for those researchers brave enough to undertake intervention research. Through their rigorously documented development, implementation and evaluation of an intervention focused on reducing psychosocial work stress, we can see concrete examples of the types of changes that were undertaken within different workgroups and whether they resulted in transformations in the psychosocial work environment and, ultimately, the health of workers (Gilbert-Ouimet et al. 2011).

This level of detail should be the standard for reporting among intervention studies since it can be used to understand why an intervention was, or was not, found to be effective. An intervention may fail because it is truly ineffective, because it was not implemented correctly or because the evaluation of the intervention was flawed (Issel 2009; Kristensen 2005). Few studies in the peer-reviewed literature in this area provide the detail necessary to distinguish between these three sources of intervention failure (Bambra et al. 2007; Egan et al. 2007). Similarly, when effects are found, this detail provides us with the information on what changes (if any) in the work environment brought about this mental health benefit.

The paper by Marchand and Durand (2011) also advances this field of intervention research by integrating bio-physiological measures into the evaluation of workplace psychosocial interventions. As noted by Marchand and Durand and previously discussed by LaMontagne and colleagues (2007a, 2007b), the process between psychosocial work stress and enduring mental health outcomes (e.g., chronic depression) is mediated through distress and short-term bio-physiological responses; we would possibly also add a pathway through changes in health behaviours. The advantage of integrating these bio-physiological measures is that they allow for early detection of the important changes in human physiology – in response to changes in the psychosocial work environment – that can in turn lead to disorders such as depression and burnout in the longer term. These measures can be used in conjunction with sensitive self-reported mental health measures for the early detection of important mental health changes that may not be captured by measures that focus on more debilitating mental health conditions (Marchand and Durand 2011). Further, if these measures are proven to be feasible, reliable and valid, they will allow research in this area to be conducted among smaller samples.

Despite the advances noted above, three important challenges persist in this area of intervention research. First, both the paper by Marchand and Durand (2011) and that by Gilbert-Ouimet and colleagues (2011) highlight challenges with the use of current measures of the psychosocial work environment in intervention research. Specifically, the two dominant models in this field – the demand-control model (Karasek and Theorell 1990) and the effort-reward imbalance model (Siegrist 1996) – provide limited guidance into how the important dimensions in these models might be changed. There is also a dearth of

evidence as to whether these two models can in fact detect a change in the work environment when it occurs (Smith and Beaton 2008, 2009).

A second challenge is identifying the appropriate time lag between the implementation of an intervention and the assessment of the subsequent (mental) health impact (de Lange et al. 2003). Frese and Zapf (1988) have discussed the importance of examining the effects of an independent variable on an outcome over multiple time points (rather than just two time periods). Research examining the effect of work conditions on mental health has demonstrated that different time lags can result in various study findings (de Lange et al. 2004; Dormann and Zapf 2002; Ibrahim et al. 2009). The relationship between a change in the work environment and the onset of a mental condition may take many forms, including an immediate impact; a lagged effect – where the impact is gradual and cumulative in its effects over a number of years; or a sleeper effect – where the impact is not seen until many years after the change has taken place (Frese and Zapf 1988). Fully exploring the impact of workplace changes on mental health problems therefore requires the assessment of mental health at multiple follow-up time points after changes in the work environment have taken place.

*The relationship between a change in the work environment and the onset of a mental condition may take many forms.*

A final challenge in this area of intervention research is to better understand the relationship between the stress produced by work and that produced by other social stressors such as marriage, finances, neigh-

bourhood and community (Marchand et al. 2005; Marchand and Blanc 2010). The bio-psychosocial model, and ongoing research by Marchand and Durand's group, is leading the way in addressing this final challenge (Marchand and Durand 2011).

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Moving from the psychosocial to the physical environment, the paper by Veitch (2011) provides compelling evidence related to how the physical work environment (e.g., personal space, social and spatial density, level of distraction and exposure to natural light) might be related to mental health outcomes. As pointed out by Veitch, there is a scarcity of research that has focused on linking changes in the physical work environment to mental health outcomes. However, there are compelling advantages to pursuing this research area with the same vigour as that observed in the pursuit of psychosocial work environment research. First, unlike changes to the psychosocial work environment, changes to the physical environment can be clearly implemented, measured and monitored. In addition, it is possible to imagine specific prescriptive and standard recommendations (“benchmarks”) for the physical work environment (e.g., space per employee, seating location). Finding similar benchmarks for the psychosocial work environment presents an ongoing challenge.

For these reasons, echoing Veitch, we recommend that further research be undertaken to determine if and how changes in the physical work environment influence both changes in the psychosocial work environment and employee mental health. When conducting this research, it will be important to consider the challenges we have outlined above, such as appropriate time lags and the need for responsive measures of mental health conditions.

The final paper, from Lippel (2011), outlines some of the current policy challenges related to employer motivation in relation to mental health conditions. Specifically, even if we know *what* factors in the workplace to change (psychosocial or physical) and *how* to change these factors, there are few legislative motivations in Canada related to the prevention of mental health conditions at work. Seven years ago, in this journal, Neufeldt (2004) described the need for different workplace parties to develop a shared vision of how mental health problems attributable to work might be prevented. The paper by Lippel highlights the fact that current occupational health and safety and workers' compensation policies in Canada provide no motivation for employers to engage in this process. Conversely, for many employers in Canada, the prevention of most physical injuries and diseases is motivated, in part, by the workers' compensation programs, which tie injury performance to the administration of premium payment surcharges and rebates of “financial consequence” (Kralj 1994; Tompa et al. 2007). However, as pointed out by Lippel, outside of post-traumatic stress disorders, most mental health conditions are not covered by workers' compensation mandates; and even when they exist, gaining access to compensation for these conditions is challenging (Lippel 2011; Lippel and Sikka 2010). The exclusion of mental health conditions by many workers' compensation agencies in Canada is detri-

mental to Canadian workers in multiple ways. First, Canadian workers are not protected from workplace environments that can lead to mental health problems in the same way that they are protected from environments that lead to physical injury and illness. Second, the exclusion of these conditions under occupational health and safety and compensation legislation, in turn, increases the skepticism about whether or not the etiology of these conditions includes a specific work-related component. Finally, awareness of the economic cost to society of mental health problems attributable to workplace factors remains partially hidden, outside of the absenteeism costs for employers for both work and non-work related conditions. Until the effects of mental health are tied to workplaces (via legislation and enforcement), mental health conditions and the working conditions that determine them will continue to receive relatively scant public and policy attention in Canada.

We offer the following set of recommendations to help enable the continued development of the research agenda focused on understanding the relationships between working conditions and mental health. Similar to recommendations given seven years ago (Vézina et al. 2004), we need more high-quality intervention research on working conditions and mental health. We specifically need interventions that provide information on what factors workers want changed, what factors employers want to change, which of these factors can actually be changed and how these changes can occur. The papers here by Marchand and Durand (2011) and Gilbert-Ouimet et al. (2011), and their associated research agendas, currently lead the way in Canada in this regard. There needs to be integration between work on the physical and the psychosocial work environments. The paper from Veitch (2011) describes specific physical

workplace dimensions that may be associated with the mental health of workers. Integration of these areas of the physical work environment into the overall work and mental health research agenda, which has for the most part focused on the psychosocial work environment, is required. Finally, the work-relatedness of mental health problems needs to be integrated as part of a progressive policy agenda. Tying workplace policies and practices to employee mental health, similar to what is done for physical conditions, offers hope to the many Canadian workers, and their families, who are currently impacted by these conditions.

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# Advancing Research on Mental Health in the Workplace



COMMENTARY

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## ABSTRACT

*A complex topic like workplace mental health requires multidisciplinary, multi-sectoral, mixed methods research and effective knowledge translation of research findings. In this commentary, two of the 13 institutes that comprise the Canadian Institutes of Health Research – the institute of Gender and Health and the Institute of Population and Public Health – discuss strategies for advancing research on mental health and the workplace. With a focus on each Institute's mandate, the commentary argues that there is a need to advance our understanding of how biological, social, cultural and environmental determinants of workplace mental health are influenced by sex and gender, and of how population health intervention research can generate evidence that will strengthen the impact of workplace interventions to reduce mental illness.*

THE SOCIAL AND physical conditions under which people work have been demonstrated in several studies to have a direct impact on disease, injury, disability and health-related outcomes in workers. Of increasing interest

is the relationship between mental health and conditions at work and the related economic, social, legal and health-related consequences. In their review of the literature, Dewa and colleagues (2010) noted, mental health

problems are estimated to cost society from C\$51 billion in Canada to US\$83.1 billion in the United States on an annual basis with about 35% of these costs being associated with work disruptions (Dewa et al. 2010). In 2009, Shain and Nassar noted that Canadian employers have “an emerging, enforceable, legal duty to provide a psychologically safe workplace that parallels and complements the duty to provide a physically safe workplace” (2009: 6). Canadian researchers are contributing to a growing knowledge base about the influence of workplace design on employees’ mental health; the application of bio-psycho-social models to understand how individual-level characteristics such as gender and physical health status interact with stressors in the work environment to exacerbate mental health problems; and how regulatory and policy strategies can reduce workers’ exposure to psychosocial hazards.

*Employers have “an emerging, enforceable, legal duty to provide a psychologically safe workplace.”*

Our intent is not to summarize in any comprehensive manner key insights from this research. However, our review of the four papers in this supplement leads us to conclude that a complex topic such as workplace mental health requires a multi-stakeholder response involving representation from research, policy and practice. The authors outline research initiatives that engage multiple disciplines and sectors and surface the economic, legal, social, ethical and health implications of workplace mental health. Their findings call for mixed methods research, research that encourages the study of policy and program interventions to prevent mental illness, to improve support

for people with mental illness in the workplace or to effectively use regulatory strategies to foster mentally healthy workplaces.

The Canadian Institutes of Health Research (CIHR) is Canada’s major health research funding agency. It is dedicated to the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian healthcare system. In its latest *Health Research Roadmap*, CIHR has explicitly identified as one of its strategic health research priorities, research that contributes to a reduction in the burden of mental illness (CIHR 2009b). Two of the 13 institutes, the Institute of Population and Public Health (IPPH) and the Institute of Gender and Health (IGH), highlight relevant research priorities in their respective strategic plans that address (1) how population health intervention research can generate evidence that will strengthen the impact of workplace interventions to reduce mental illness and (2) the need to advance our understanding of the biological, social, cultural and environmental determinants of workplace mental health and how they are influenced by sex and gender.


The mission of IPPH is to improve the health of populations and promote health equity in Canada and globally by supporting research and encouraging its application to policies, programs and practices in public health and other sectors. The institute’s current research priorities provide a platform for addressing workplace mental health research questions. The four priorities include pathways to health equity, population health interventions, implementation systems for population health interventions in public health and other sectors and theoretical and methodological innovations (IPPH 2009). A particular focus for IPPH is to increase the quality, quantity and use of population health

intervention research. Population health interventions are complex and dynamic and include policy, program and resource distribution approaches in many contexts such as workplaces. They are intended to shift the risk of entire populations or communities by focusing on the social, cultural and environmental determinants that influence the distribution of risk and illness in a society.

Population health intervention research can include an examination of the differential impacts of policies such as occupational health and safety legislation or office redesign accommodations on the mental health of workers, or the development and application of novel measures and theories to strengthen workplace intervention research study designs. Research on understanding the pathways to health equity might answer the question of how micro-environments (e.g., individual workplaces) and macro-environments (e.g., labour markets) intersect to produce health inequities for shift workers. Other examples of pertinent questions might include the following: How are interventions effectively scaled up to improve access to successful mental health workplace policies that prevent violence and harassment of vulnerable workers? How do intersectoral mechanisms (e.g., governance structures that involve labour, employers and employees) enhance the implementation and sustainability of workplace interventions? What are the ethical implications of delivering interventions in the workplace to prevent mental illness? These and other questions are examples of how workplace mental health issues intersect with the strategic priorities of IPPH.

The mission of IGH is to foster research excellence regarding the influence of gender and sex on the health of women and men throughout life, and to apply these research findings to identify and address pressing health challenges. “Work and health: research into action” is one of six strategic

research directions identified in the institute’s 2009–2012 strategic plan (IGH 2009). Work – both paid and unpaid – is influenced both by socially constructed gender identities, roles and relations and by sex-linked biology (e.g., body shape, size and composition). The jobs women and men do, how they are compensated for them and how their working conditions affect their health are all shaped by sex and gender. So too is workplace mental health and illness. There is a considerable body of evidence to show how gender and sex affect mental health. Take stress, for example: IGH-funded research has shown that men and women respond to and cope differently with stress, and that these differences are linked both to biology and to social expectation and structures (Andrews et al., 2008; Dedovic et al., 2009).



*Gender and sex are often treated as confounders rather than as lenses through which to gain unique and important insights.*

The findings related to stress underscore the need to take sex and gender into account when designing research, policies and interventions aimed at promoting workplace mental health. Yet the majority of research on occupational health fails to do so (Gochfeld 2007; Messing et al. 2003). Gender and sex are often treated as confounders rather than as lenses through which to gain unique and important insights into workplace mental health. Accounting for sex and gender makes for better science and enables the tailoring of policies and interventions according to the unique needs of men and women. Consider Dewa et al.’s (2010) finding that women experienced higher rates of mental and behavioural disorder-

ders than did men; at 67 days, these disorders had the longest disability episodes of those studied. Might an intervention tailored for women enable them to return to health (and to work) more quickly? Are the lower rates of these disorders among men a result of social or biological differences in men's mental health, or an artefact of gender differences in how we diagnose mental and behavioural disorders? This is but one example of why gender and sex matter to workplace mental health.

IGH and IPPH are both committed to advancing research on workplace mental health through their respective strategic priorities. The institutes are further committed to fostering knowledge translation – “a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge” (CIHR 2009a) – of relevant research findings. The research showcased here are but a few examples of how research has the potential to make a difference in the lives of workers through facilitating evidence-informed decision-making by workplaces and other policy actors with a stake in workplace mental health.

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