SAFETY AND HEALTH.
Remote versus On-Site Challenges during a Pandemic.

EXECUTIVE SUMMARY

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Safety and Health:

Remote versus On-site challenges during a pandemic.

Executive Summary.

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The goal of this project was to examine how the workplace policies and practices used to protect workers during the COVID-19 pandemic (isolating workers from risk by encouraging them to work from home and introducing protective measures for workers remaining at work) impacted the workers' health and ability to work both safely and effectively. The research was a three-phase mixed methods study to identify "best practice" recommendations for use in practice, planning, and policymaking. The objective was to provide new knowledge and the ability to raise awareness on the health, productivity and safety consequences associated with working during these unprecedented times in order to generate action through the development of practice recommendations. The three phases included Phase I (three online surveys administered over a period of a year), Phase II (qualitative interviews for more in-depth examination of experiences), and Phase III (Delphi Study with expert panel to examine best practice statements for final recommendations).

Phase I results highlight the need for certain occupational health and safety initiatives during a pandemic, but some had more positive effects on employees' attitudes and physical and mental health than others. Many of the results from the model analyses were predictable from the literature, such that the results were similar to pre-pandemic research results. However, several factors were unique to the pandemic that had statistically significant relationships with commitment, engagement, quality of work and general health. Some had small effects, but others had a large effect in terms of the number of attitudes, health factors and key outcomes.

Two attitudinal factors, specific to the pandemic, are relevant and important for any future pandemics: return-to-worksite self-efficacy (RTWS-SE), and vulnerability to personal protective equipment (PPE) failures. RTWS-SE had significant indirect effects on commitment and engagement through its positive relationship on perceptions of job characteristics, trust of management, and its negative relationship with job insecurity. Whereas, vulnerability to PPE

failures was deemed to be a "sledgehammer effect," such that it had significant relationships with the most attitudinal, health and outcome variables. It had significant indirect effects on engagement, general health, and quality of work, and direct effects on 13 other factors. Specifically, it had a positive relationship with the following health outcomes (i.e., higher vulnerability scores were associated with increased levels of): burnout and stress, cognitive stress, depressive symptoms, ear/nose/throat health issues, headaches and fatigue, and musculoskeletal issues. It was also positively associated with perceptions of emotional demands, workload demands, work pace, and work-family conflict, and negatively associated with perceptions of job characteristics, quality of leadership, and perceptions of social support and community.

Given vulnerability to PPE failures had such a broad range of relationships, it is critical organizations understand what may be related to the formation of this perception. The following organizational practices may help reduce the feelings of vulnerability: PPE use, e-signatures and no-touch sensors, occupancy limits and social distancing, and the use of physical barriers.

With regard to organizational intervention practices, there were two that were related to a lot of attitudes and outcomes: the use of e-signatures and no-touch sensors, and HVAC and air quality. The use of e-signatures and no-touch sensors not only helped with vulnerability, but also were positively associated with commitment and general health outcomes. Interestingly, the rate of workplace interpersonal mistreatment was also positively associated with e-signatures / no-touch sensors. HVAC and air quality practices did not directly relate to any key outcomes but were positively related to a host of perceptions and attitudinal outcomes: job characteristics, work pace, emotional demands, job satisfaction, justice, possibilities for development, and trust of management.

Organizational policies were relevant to employee outcomes during the pandemic. Again, some had small effects, but there were two that were deemed "sledgehammer effects." Timeliness of policies had a small effect on outcomes as it only had an indirect effect on engagement. Contact

tracing policies had indirect effects on general health and quality of work; whereas, policies regarding the prevention of transmission of COVID-19 were directly related to commitment and indirectly related to engagement. Thus, these two types of policies complement each other on the effects for the employee outcomes and one cannot substitute the other. In addition, contract tracing was more relevant for employees in rural/remote areas, and less so for those in urban settings.

However, policy comprehensiveness and policy transparency, each, had indirect effects on all four key outcomes.   Given timeliness had a small effect on only one outcome, it appears to be more important that organizations are comprehensive and transparent in their policies more so than very timely. However, it would be inappropriate to say that late policies would not do harm.

Vaccination status was associated with improved general health, lower depressive symptoms and lower burnout and stress. Vaccination status also was positively related to perceptions of social support and community, better job characteristics, and perceptions of development possibilities, but it was also positively related to emotional demands and work-family conflict.

Distraction due to dependent care (elder-care and child-care) was positively related to depressive symptoms, burnout, and stress, and had indirect effects on general health (negatively). While the media and some research have focused on how women were burdened more with dependent care workload during the pandemic (e.g., Yildrim & Eslen-Ziva, 2020), the research also shows men experienced an increase in dependent-care and house-care duties (and more work-family conflict) (e.g., Del Boca, et al., 2020; Biroli, et al. 2021). Our results show that the relationship between distraction by dependent care and the health outcomes was not gender based. Anyone tasked with dependent care and felt distracted by it (regardless of gender) had these effects.

However, an interesting gender-based result indicated that remote work helped reduce work-family conflict for females, but increased it for males. In addition, remote work helped reduce

emotional demands on female workers, and males had no relationship between remote work and emotional demands.

Phase II (interview) results supported the findings from the Phase I. In particular, participants highlighted the importance of feeling safe while working during the pandemic and the fairness of the decisions implemented by the organization. Frustrations regarding fast, unilateral decisions of returning to the worksite or frustrations over insufficient training, resources (ergonomic chair/set-up), or too much or too little to do during lockdowns were associated with dissatisfaction or increase of stress. However, the lockdowns were associated with a reduction of fear for personal safety. To that end, remote work helped protect employee mental and physical health (in general). A key theme that arose from the interviews was the idea that a one-size-fits-all approach is not the best approach to work arrangements. For example, remote work during lockdowns was appropriate for most, but some might be in dangerous home situations so onsite may be safer for some individuals. Given organizations are responsible for occupational health and safety for all employee worksites, and in Canada domestic violence within the workspace is included in that consideration, organizations may need to provide accommodations to ensure workplace safety.

Interviewees noted the tension between what the organization could logistically do (financially and operationally) and what was being asked of the organization in response to the pandemic. Earnest efforts to protect the employees and do the right thing was appreciated. To that end, comprehensive and transparent policies helped with this assessment.

Finally, working while sick was discussed by participants. Most noted they were sick less often (or not at all) during lockdowns, and if/when they caught COVID-19, it "wasn't so bad" as they were well vaccinated by that time. The pressure to work while sick shifted with remote work, because they were able to work from home and tend to physical discomfort more easily; however, this created sources of stress for some participants, particularly when management engaged in

surveillance tactics to micromanage their productivity and/or workload, as this created a perception that workers needed to be working 'all the time' and not take the time needed to recover when feeling unwell. This was particularly relevant for those with less sick leave protection, as public health guidelines around quarantine procedures changed in the later phases of the pandemic.

Phase III (Delphi Study) results further substantiate the results from the first two studies. The following recommendations were supported as important by the panel experts.

Considerations for day-to-day operations. It is important to:

1. Ensure full transparency of organizational policies to all employees.
2. Have timely organizational policies.
3. Have comprehensive organizational policies to cover all aspects of the pandemic. to address changes in the pandemic.
4. Have organizational policies regarding how to reduce risk of transmission in place.
5. Reduce employees' concerns about vulnerability for exposures in the workplace,
   * to help employees feel safe.
   * to reduce uncertainty as much as possible by providing employees with access to valid and accurate information on the pandemic itself, and risks associated with it.
6. Adjust employee responsibilities to ensure workloads do not increase (or decrease) significantly in response to pandemic requirements.
7. Provide access to counselling and make stress management tools available to employees and managers.
8. Promote social connection amongst coworkers.
9. Promote social connection between employees and their managers.
10. Actively promote not working while sick <u>and</u> ensure that adequate sick leave time is available to support this policy.

Considerations for protecting human rights. It is important to:

1. Consider family considerations (e.g., children, elder care) when establishing safety initiatives and employee needs.
2. Ensure work arrangements can accommodate individualized needs as much as possible.
3. Consider employee gender for safety initiatives and employee needs in specific circumstances (e.g., exposure during pregnancy; adequate fit of PPE) while respecting contracts, collective agreements, and other relevant legislations.

Not important. It is likely not important to:

1. Require work arrangements that are the same for everyone.

2. Increase surveillance of employees when they work remotely.

Industry and/or context specific. The following recommendations may be specific to the industry or other contexts:

1. Have contact tracing processes in place and working well.
2. Offer remote work to protect worker health, safety, and productivity.
   - However, when remote work is provided, it is important to:
     - Provide training and assistance in developing new skills when transitioning employees to remote work; and
     - Help employees feel ready to return to onsite work.
3. To provide workers with pandemic-specific PPE measures.
   - However, if PPE is provided, it is important to:
     - Ensure provided PPE is proper quality and fit.
     - Provide training on appropriate PPE usage.
4. Consider the industry for other context-specific safety initiatives and employee needs in policy planning.

In terms of recommendations for the implementation of organizational practices to protect worker health, safety, and productivity, the following recommendations are noted.

Important. It is important to incorporate the following to protect worker health and safety:

1. Increase sanitization (hand-washing stations).
2. Increase ventilation (open windows).

Not important or feasible. It is likely not important or always feasible to incorporate the following to protect worker health and safety:

1. Improve indoor air quality through comprehensive HVAC systems.
2. Implement mandatory PPE.
3. Provide no-touch sensors in workspaces.

Industry or context-specific. It may be industry and/or context specific as to whether the following are important to protect worker health and safety:

1. Introduce physical barriers between workers.
2. Use virtual meetings.
3. Practice social distancing / limited occupancy, including the use of staggered shifts to reduce worker density.
4. Offer remote work arrangements to employees.

- However, if remote work <u>is</u> offered, it is important to provide ergonomic equipment to workers when working from home.

The results of our study provide empirical evidence regarding the impacts of working conditions on worker health, safety and productivity. In addition, the results of our study further substantiate gender differences in the implications of workplace safety initiatives.