

outwork

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Cannabis use linked to higher injury risk, but only among those who use before or at work

IWH study finds injury risk doubles among workers who use cannabis before or at work, and no increase among those who use outside work

People who use cannabis before or at work face a significantly greater risk of workplace injury—twice as high as the risk faced by people who don't use cannabis.

Among workers who report using cannabis but not specifically before or at work, on the other hand, there was no greater risk of work injury when compared to workers who don't use. That's according to findings from an Institute for Work & Health (IWH) study led by Associate Scientist Dr. Nancy Carnide, who shared results in an IWH Speaker Series webinar presentation in March 2022 (see: www.iwh.on.ca/events/speaker-series/2022-mar-08).

"When we looked at the group of workers who had used cannabis at work or before work over the past year, what we saw was a doubling of risk," says Carnide. "However, the risk of workplace injury for workers

who reported use in the past year, but not before or at work, was not appreciably different from that of people who didn't use cannabis."

These findings are the latest to come out of the ongoing study, funded through the Canadian Institutes of Health Research, which began a few months before the October 2018 legalization of non-medical cannabis in Canada.

Drawing on a series of surveys first conducted in June 2018 and once a year since then, Carnide's team has set out to understand whether patterns of cannabis consumption have changed in recent years—especially consumption during or just before work.

Given the longitudinal design of the study, the team saw a good opportunity to use the data from this study to also examine the implications of cannabis use on future risk of workplace injury.

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IWH updates

IWH team wins inclusive design competition for job accommodation and support tool

A team led by Institute for Work & Health (IWH) Senior Scientist **Dr. Monique Gignac** took top spot in a competition called Inclusive Design Challenge: Support at Work. The competition, the second of the MaRS Innovation Challenges series and co-sponsored by CIBC, is aimed at finding solutions that improve support at work for persons with disabilities. The ACED project team (short for Accommodating and Communicating about Episodic Disabilities) won the competition for its Job Demands and Accommodation Planning Tool (JDAPT). The tool is designed to help people think about the workplace supports they need when they live with a chronic health condition that can cause challenges. For more on the JDAPT tool, go to: <https://aced.iwh.on.ca>

IWH scientist receives University of Toronto's pain medicine teaching award

IWH Scientist **Dr. Andrea Furlan** has been named recipient of the 2022 Dr. Gil Faclier Award, given by the University of Toronto's Department of Anesthesiology and Pain Medicine. The award was established in 2018 to recognize an outstanding teacher in pain medicine. To learn more about Furlan's research interests, go to: www.iwh.on.ca/people/andrea-furlan

Special issue explores the benefits of inclusion of persons with disabilities

Innovative research from around the world on accessibility, inclusion and belonging is the focus of a special issue of *Equity, Diversity and Inclusion*, published in April 2022. With IWH's Senior Scientist **Dr. Emile Tompa** and Post-Doctoral Researcher **Dr. Dan Samosh** as guest editors, the issue features research in Canada and beyond, including Tompa's paper on estimating the benefits of a fully inclusive Canada. To read the issue, go to: www.emerald.com/insight/publication/issn/2040-7149/vol/41/iss/3

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What Research Can Do

How IWH findings, methods and expertise are making a difference

IWH input contributes to enhancement of WSIB's Health and Safety Index

In 2017, Ontario's Workplace Safety and Insurance Board (WSIB) launched the Health and Safety Index (HSI). It's designed to provide, in one number, an indicator of the health and safety of Ontario's workplaces—as a whole and for five sectors: manufacturing, construction, retail trade, health care and transportation.

The original index was based upon the performance of workplaces in five areas—prevention, empowerment, workplace culture, enforcement, and injuries. The data came from both administrative sources and from surveys of Ontario workers, carried out by the WSIB annually.

In 2019, as part of a commitment to review the index after three years, the WSIB conducted a review of the methods used to arrive at the index score. It made adjustments, including changes in the weighting of different indicators. These changes were incorporated in the calculation of the score for 2019. The 2019 province-wide score was 4.2 per cent lower than the score for 2018, indicating an abrupt decline in the health and safety of Ontario's workplaces.

The 2019 HSI score resulted in concerns among some stakeholders that the index did not accurately reflect the changing nature of workplaces in Ontario. The WSIB decided to revisit the methods behind the index. The Institute for Work & Health (IWH), through its then-president, Dr. Cameron Mustard, and its then-scientific co-director, Dr. Peter Smith (now president), participated in an advisory group established to guide the review process. The pair also provided advice directly to the WSIB on areas where the HSI could be improved. In October 2021, the HSI was revised, incorporating many of IWH's suggestions.

Some of the suggestions related to the enforcement component of the index. The HSI was treating increases in orders per inspection as an improvement in the health and safety of Ontario workplaces, seeing this as indication of appropriate allocation of resources and heightened enforcement. IWH pointed out that, arguably, the desired direction for this measure should be reversed, since a decline in orders per inspection is likely to be a positive sign that fewer workplaces have hazards that require remediation. The revised index

recognizes this change in desired direction.

In addition, IWH recommended that inspection orders be 'weighted' to emphasize more serious contraventions (such as those leading to orders to stop work) compared to minor issues (for example, failure to post the minutes of a joint health and safety committee meeting). The revised index also incorporates this advice.

Another measure in the enforcement component of the HSI is the number of proactive inspections per worker, with more inspections seen as a positive change. IWH noted that the measure could be heavily influenced by the number of inspectors available for enforcement activity. A better measure, to reflect compliance, would be the proportion of proactive inspections that do not result in an order. The revised index adopts this change.

IWH suggested that some questions from its OHS Vulnerability Measure might be useful to include in the surveys used to support the index. Five questions from the measure are now in the index.

Leading the development of the index and the revision process is Terrance D'souza, Executive Director, WSIB Advanced Analytics. D'souza is enthusiastic about IWH's contribution. "We drew upon the IWH's work on safety culture in the original index," he says. "We value the Institute's expertise in research methods and safety metrics."

Leading the discussion and promotion of the index among industry stakeholders is Rodney Cook, Vice President, WSIB Workplace Health and Safety Services and Prevention. "The opportunity to work with IWH and our other advisory group members on the redesign demonstrates the importance of integration and alignment when it comes to regulating workplace health and safety," says Cook. "IWH's input on this project has been particularly helpful. Its insights not only guided many of the enhancements, but also helped to make the index a stronger, more reliable indicator across the province."

This column is based on an IWH impact case study, published in May 2022, available at: www.iwh.on.ca/impact-case-studies.

How government funding can best support the employment of persons with disabilities

Project highlights key features of financial incentives to promote employment of persons with disabilities

What kind of government funding best encourages employers to hire and retain persons with disabilities? A research team at the Institute for Work & Health (IWH) recently explored this question.

The team concluded that, to ensure the sustainable employment of workers with disabilities, financial support needs to be:

- customizable—funding envelopes need to be flexible and allow service providers to offer supports that are both contextualized and comprehensive.
- contextualized—supports have to be tailored to the circumstances and the needs of the employer and the person with a disability.
- comprehensive—supports have to be provided throughout the journey to sustainable employment.

The team found a broad range of supports that were of value, and identified the different contexts in which they can be used effectively. These supports include: help with applications, job matching, customized employment, clothing and equipment, training, benefits counselling, job coaching, among others. The team also found access to transportation to get to and from work to be critical, and funding support to offset such costs necessary. These findings are shared in a policy brief completed in late 2021, now available on the IWH website.

“Workers with disabilities are as diverse as able-bodied workers, and the supports they need differ from situation to situation. So, too, do the needs of employers, which come from different sectors and face different circumstances,” says Dr. Emile Tompa, a senior scientist at IWH and a co-lead on the project.

For employment service agencies to provide supports that are customizable, contextualized and comprehensive, “their funding envelope from government needs to be flexible,” adds Emma Irvin, IWH director

of research operations and co-lead on the project. “Service agencies need to be able to offer critical services and supports that can be made available to employers and workers with disabilities as needed.”

The team’s research also touched on wage subsidies, a form of funding support that often generates polarized views. The report notes that some stakeholders see wage subsidies as helpful in that they let employers with limited resources try out new hires without concern for the potential financial hardship if things don’t work out. However, other stakeholders are concerned that wage subsidies only support short-term jobs while sending negative signals about the persons hired into them.

“Wage subsidies that are uniquely targeted to persons with disabilities can be problematic. They can directly or indirectly suggest that persons with disabilities are of lesser value or are more problematic hires than others,” says Dr. Rebecca Gewurtz, associate professor at McMaster University, adjunct scientist at IWH and the third co-lead on the study. “What’s more important is ensuring that persons with disabilities are supported to find jobs that are well matched to their skills and competencies, and that employers are supported to develop capacity to hire and accommodate diverse workers.”

If training subsidies are required, persons with disabilities and employers should be able, and encouraged, to access these through mainstream employment initiatives that are available to everyone, adds Tompa.

How the study was done

In this project, the team considered the term “financial incentives” to mean government-funded supports designed to encourage employers to hire and retain persons with disabilities. After reviewing the evidence to date on the effectiveness of different types of funded supports, the team

carried out interviews with 28 key informants—i.e. people with real-world knowledge of such supports. These included policy-makers and funders, employment service providers, workers with disabilities and employers. In the interviews, the team explored challenges and opportunities created by different forms of funded supports, including those that flow through employment service providers.

Workers with disabilities talked about the importance of supports in helping overcome the barriers they face when applying online for jobs or showcasing their skills and experiences at interviews. Some participants noted they were hired with the support of a service provider, which helped them with, for example, applying for a job, preparing for an interview, and getting training after being hired.

Other wrap-around supports that workers said were valuable include help with transportation challenges, clothing and equipment expenses, and counselling on benefits. (The latter addresses workers’ concerns about clawbacks to disability benefits associated with employment earnings.)

Some of the supports employers indicated as most valuable include human resource services such as pre-screening job candidates to ensure a good match to the position, job coaching for workers (i.e. helping workers address areas of concern), helping with workplace accommodations and other retention supports.

“Our findings highlight the need for funding to be flexible, so that service providers can meet the diverse needs of employers and workers,” says Tompa. “Employers may vary in how confident they are in hiring and accommodating workers with disabilities, and some have challenges unique to their situation. We think government-funded supports for persons with disabilities would be more helpful if they equip service providers with the flexibility and capacity to tailor their services to the unique needs of each job opportunity.” ■

Review synthesizes differences between men, women in injury risks and outcomes

IWH systematic review finds differences in the same occupations, likely due to differences in job tasks

If you're a man working in a janitorial job, you may be at higher risk than a female co-worker of getting hurt due to falling from a height or being struck by an object. If you're a woman in health care, you may be at greater risk than a male colleague of getting injured from doing repetitive tasks.

These are a few examples of the differences in injury/illness risks faced by men and

women in the same occupations, according to a new systematic review by an Institute for Work & Health (IWH) team led by IWH Associate Scientist Dr. Aviroop Biswas.

Sifting through published studies from 2009 to 2019 that met a standard of quality, the review found several occupations where injury/illness risks differ between men and women. The differences include:

- higher risks for men in janitorial work, forestry, emergency response and manufacturing; and
- higher risks for women in aluminium production and health care.

The review also found some differences in injury/illness risks for men and women based on exposures (i.e. hazards or work conditions) across occupations. These include:

- higher risks for men due to physical demands, noise, some forms of repetitive work and chemical and biological exposures;

SEX/GENDER DIFFERENCES WITHIN SAME OCCUPATIONS

The table below breaks down findings from the 11 studies in the review that examined sex and gender differences within the same occupations.

Type of exposure	Occupation	Higher risk in men only	Higher risk in women only	No difference (higher/lower risks in both)	Study	
Physical demands (5 studies)	Fire and emergency	injuries			Gray, 2017	
	Unskilled labour, semi-professional work, technical positions	sickness absence			Liebers, 2013	
	Janitors	falls from heights			Smith, 2017	
	Smelting workers			injuries		Taiwo, 2009
				injuries		Tessier-Sherman, 2014
Repetitive tasks (3 studies)	Health-care workers		MSIs		Alamgir, 2009	
	Sales and service			injuries	Fan, 2012	
	Admin and professional occupations, trades/transport/construction/natural resources, manufacturing/utilities	injuries			Sterud, 2014	
	Health care		injuries			
	First responders	injuries				
	Engineers, managers, professional services			low-back pain		
	Janitors					degenerative MSDs
			struck by injuries			MSDs
				falls from same levels		
Burnout (1 study)	Forestry	injuries			Aloha, 2014	
Work stress, traumatic conditions (2 studies)	Ambulance officers and paramedics	injuries			Gray, 2017	
	Fire and emergency workers			injuries		

- higher risks for women due to repetitive work tasks, some physical demands, cleaning agents, metalworking fluids and motor exhaust; and
- no differences between men and women in risks from psychosocial hazards, including bullying, job strain, low organizational support and work stress.

The findings above came from 33 studies, 11 studies of which looked at differences within occupations. A paper on the review has been accepted for publication by the *American Journal of Industrial Medicine* (doi:10.1002/ajim.23364).

The reasons for these differences are difficult to disentangle, says Biswas. Noting that most industries in countries like Canada are still predominantly segregated along sex or gender lines, Biswas says the differences in injury/illness risks are likely due to men and women doing different job tasks.

“Where sex or gender differences show up within occupations, we need to study whether biological differences may be at play, including differences in the interaction between biological differences and work environments,” he says. “But we also need to recognize that differences in observed health outcomes may also be due to men and women doing different types of tasks, even in the same occupations.”

Sex/gender differences in OHS

The findings point to a need for more research on differences in work injury risks due to sex and gender, says Biswas.

Sex differences refer to the biological and physiological attributes that shape differences between men and women and their health responses. “Due to differences in the average size and shape of men and women, tool design, working surface height and equipment dimensions may make very different demands on the bodies of men and women,” he explains. “Similarly, hormonal differences among men and women may mean their bodies have differing biological responses to chemical substances.”

Gender differences refer to the social constructs that differentiate men from women, or boys from girls, in their roles, behaviours, expressions and identities. Gender differences in the type of work people do can result in men being more exposed to harmful ultraviolet rays from outdoor work, or in women being at greater risk of contact dermatitis from jobs that involve wet work, such as cleaning and hairdressing.

“Beyond job content, there are gender differences in workplace culture,” adds Biswas. “Men are concentrated toward the top of the job hierarchy, which translates into more autonomy and control at work.” These work factors have been associated with a lowered risk for chronic disease and better self-rated health, he notes. “Women, on the other hand, are more often in jobs with less control and more stress at work.” They also shoulder more of the responsibilities outside of work, such as caregiving responsibilities, he adds.

“Despite these understandings, many occupational studies continue to ignore sex and gender. Or they use single sex samples and assume that findings can be generalized to both men and women,” says Biswas.

How the review was conducted

Using IWH’s systematic review methodology, the team engaged with stakeholders from the start of the project to solicit their input on the review questions and search strategies.

The researchers searched eight electronic databases for studies that examined occupational exposures or work-related injury or disability outcomes in a working population. To be included, studies had to either compare the occupational injury/illness risks between men and women or present separate results so that the review team could itself make the comparison.

The team included studies in any language, but limited the search window to 2009-2019. Studies that were randomized controlled trials, case-control studies or cohort studies were included. Cross-sectional (“moment in time”) studies were excluded because a

cause-effect relationship over time could not be inferred with this study design.

With 14,000 search results, the researchers decided to split the review into two separate parts. The first was a scoping review of studies on exposures, which focused only on the breadth of evidence, not on quality. It was published in November 2021, in the journal *Current Environmental Health Reports* (doi:10.1007/s40572-021-00330-8). The second part was the systematic review of studies on outcomes, including work-related injury, work-related disability, work-related illness and sickness absence. The team assessed study methods for quality and synthesized only those that were of medium to high quality.

Why sex/gender differences matter

Biswas acknowledges that most of the studies on psychosocial hazards—for example, low job control or high work stress—indicated no difference in outcomes for men and women (although no difference can mean both are at greater risk). However, he is more reluctant to draw any conclusions from the studies on physical hazards that indicated no sex/gender differences. “The absence of studies looking at an occupation doesn’t mean that there’s no risk,” he says. “It probably speaks more to the lack of emphasis on looking at sex/gender differences in certain occupations.”

Recognizing sex/gender differences is important because failure to do so can result in hazards and risks being overlooked. “Looking across occupations, we’ve long perceived men’s work as more hazardous. As a result, we run the risk of neglecting the less obvious hazards faced by women in the occupations in which they’re the majority,” says Biswas.

“Within same occupations, not seeing how the same job may pose different risks for men and women can mask the greater risk that one or the other may face. For example, in a male-centric occupation, we may not pick up the greater risks women face because of the low number of female workers who get hurt. That’s where research that puts a spotlight on these differences can be helpful,” he adds. ■

IWH's cannabis study finds nearly 60 per cent of workers who consume just before or at work use throughout the week

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Previous studies looking at this question have had mixed findings. But none of them has looked specifically at cannabis use at or before work, says Carnide. “Once we took timing of use into consideration, we saw clearly that it’s not cannabis use outside of work that poses a risk. It’s cannabis use in close proximity to work that’s linked to a higher risk of injuries,” she adds.

How the study was done

The study was conducted by recruiting workers mainly from a pre-existing panel, run by EKOS Research Associates, of 100,000 Canadians willing to participate in surveys from time to time. A small sample was also recruited via random dialing.

The first survey was completed in June 2018 by about 2,000 individuals who worked at least 15 hours a week in workplaces of five or more employees. The second survey, conducted in the summer of 2019, was completed by about 1,100 participants in the first sample plus another 3,000 newly recruited respondents. The third survey, conducted in the summer of 2020, likewise had about 4,000 respondents, including about 2,300 repeat participants.

To collect data on workplace injuries, the surveys asked whether respondents experienced an injury in the past year.

Overall, 33.2 per cent of participants said they had used cannabis within the past year. That’s slightly more than the percentage of participants who had never used cannabis (29.5 per cent) and less than those who had previously used cannabis but not within the past 12 months (37.2 per cent).

Of the participants who had used recently (within the year), the majority (41.3 per cent) used less than once

a month. However, the next largest group, representing 20.3 per cent of those who used recently, consumed cannabis nearly every day.

Looking more closely at the 33.2 per cent of workers who did use cannabis in the previous year, the vast majority never used it at or within two hours before work (27.3 per

cent of the overall sample). Only a very small percentage (5.9 per cent of the overall sample) reported workplace use.

Among this 5.9 per cent, 90.0 per cent said they used before work, 66.0 per cent used during work breaks, and 57.4 per cent used while working.

Of note was the frequency of use among workers who said they had used before or at work. Among this group, near daily use was

much more prevalent. Nearly 60 per cent of the respondents who had consumed before or at work said they used cannabis throughout the week, with 42.3 per cent reporting using five to seven days a week, and another 16.0 per cent saying they used three to four days a week.

“One takeaway is, generally speaking, the people who were using cannabis before or at the workplace were also the ones who were more likely to say they were using on a regular basis,” says Carnide.

Carnide acknowledges that a shortcoming of the study was its lack of information on the type and severity of injuries incurred. Another limitation was its inability to make the distinction between types of cannabis used—i.e. whether cannabis used had stronger tetrahydrocannabinol (THC) or cannabidiol (CBD) content, two key ingredients determining its psychoactive effect.

An advantage of the study, as stated earlier, was its ability to tease apart people who used cannabis but not at or before work,

from those who did use cannabis at or before work. Another important advantage of the study, was its ability show a link between exposure and outcome over time. “The longitudinal nature of the study allows us to ensure that cannabis use preceded the injury itself,” says Carnide. In contrast, many of the previous studies examining this question were cross-sectional, where exposure and outcome were assessed at the same time.

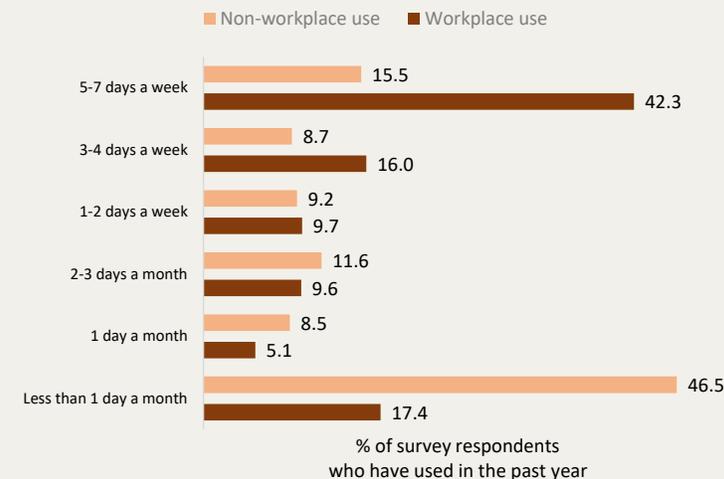
“In such studies, one cannot be sure whether the cannabis exposure preceded the injury or vice versa. This is an important limitation, because cannabis may be used by some people to manage symptoms of an injury,” Carnide adds. ■



Dr. Nancy Carnide

FREQUENCY OF CANNABIS USE, AT AND OUTSIDE WORK

The bar graph below shows the frequency of cannabis use in two groups: those who used cannabis in the past year but not at work, and those who used in the past year and at work. Of the non-workplace users, the largest share (46.5 per cent) used less than once a month. Of the at-work users, the largest share (42.3 per cent) used cannabis five to seven days a week.



Widely used survey lacks ability to tell apart 13 distinct psychosocial work factors

IWH and OHCOW study on the measurement properties of Guarding Minds @ Work finds it unable to isolate different psychosocial work dimensions

The psychosocial work environment, in broad terms, refers to the organizational and social conditions in which employees perform their work. Because these conditions can affect the mental and physical health of employees, employers are increasingly aware of the need to identify and manage these psychosocial conditions in their workplaces.

To do that, employers need tools—namely, surveys. Looking through these surveys, one typically finds questions on a wide range of dimensions that make up the psychosocial work environment: workload, psychological demands, job security and more.

When surveys measure such diverse dimensions, it's important that the survey score for any one dimension is truly a measure of that dimension and not of others, says Institute for Work & Health (IWH) President and Senior Scientist Dr. Peter Smith. "If this isn't the case, workplaces using the survey will not be able to rely on its results to pinpoint the dimensions of the psychosocial work environment that require attention—nor will they be able to determine whether efforts to improve a specific dimension are leading to measurable change."

In a recent study, Smith and John Oudyk, occupational hygienist at Occupational Health Clinics for Ontario Workers (OHCOW), examined one of the most well-known psychosocial work surveys in Canada—Guarding Minds @ Work (GM@W).

The team found it unable to discriminate among different dimensions. "The questions making up the scales that measure the 13 different dimensions don't map onto those dimensions as we expected," says Oudyk.

"The tool remains one of the most recognized measures of its kind in the Canadian employment landscape," adds Smith. "And

while it may give employers a general indication of whether their psychosocial work environment is healthy or unhealthy, if they wanted to use the tool to drill down on specific dimensions of the work environment, our findings show they will likely find it limiting."

The study was published in October 2021 in the journal *Quality & Quantity* (doi:10.1007/s11135-021-01269.6).

A tool to measure 13 dimensions

The GM@W survey, developed by a research team at Simon Fraser University, was launched in 2009. It is financially supported by Canada Life (formerly Great-West Life) through an organization called Workplace Strategies for Mental Health. The survey was updated in 2012, 2016 and 2020. The 2016 version includes 65 items designed to measure 13 dimensions of the work environment that have the potential to affect worker mental health.

These dimensions are: psychological support; organizational culture; clear leadership and expectations; civility and respect; psychological competencies and requirements; growth and development; recognition and reward; involvement and influence; workload management; engagement; balance; psychological protection; and protection of physical safety. The survey asks five questions within each of these 13 dimensions. (The 2020 update of the survey expands the number of questions to 73 items.)

This 13-factor framework was incorporated into the National Standard of Canada for Psychological Health and Safety in the Workplace, published in 2013 by the Mental Health Commission of Canada and the Canadian Standards Association (CSA). The standards and related implementation guide recommended using the GM@W survey, even though little information was available on its

psychometric properties. (The psychometric properties of a tool indicate its reliability, validity and responsiveness, including its ability to measure what it is designed to measure.)

The joint IWH and OHCOW study set out to help fill this gap. The study was one of the first to look at the psychometric properties of the GM@W survey, says Smith. It was conducted as part of research examining the psychometric properties of the GM@W survey and the Copenhagen Psychosocial Questionnaire (COPSOQ). The latter is used in StressAssess, another tool to measure the psychosocial work environment. It was developed by OHCOW and other stakeholders working under the name Mental Injury Tool Group, with Smith providing analytical support.

"When we go into a workplace and they're asking about our questionnaire, we usually get asked two questions. The first one is, 'Does your survey measure the CSA 13 factors?' and the second one is, 'Is our survey a validated survey?'" says Oudyk in explaining the motivation behind the study.

How the study was done

To conduct their study, Smith and Oudyk commissioned EKOS Research Associates to contact randomly selected Ontario workers from an existing panel of willing survey participants. Conducted in February and March 2020, the survey resulted in nearly 1,000 workers from various industries completing the GM@W questionnaire online.

Smith and Oudyk then analyzed the survey results, using standard research methods for assessing a tool's validity and reliability. For example, they examined correlations across the survey's items—both within the same dimension (i.e. correlation among the five items within each dimension) and across the 13 different dimensions.

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AT WORK

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High correlation across GM@W's 13 factors limits ability to measure each in isolation

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While it is expected that different dimensions of the psychosocial work environment will be related to each other, in theory, the five items that pertain to a given dimension should be much more highly correlated with each other than they are with items that pertain to other dimensions. However, for most of the survey's 65 items, Smith and Oudyk found the correlation among the items within the same dimension was similar to their correlation to items outside their dimension.

This limitation is important, Smith notes. A workplace could target a number of dimensions to improve its psychosocial environment and, by extension, worker mental health. But, due to resource constraints, an employer might choose to focus on particular dimensions at different times.

"For example, if a workplace sets out to improve civility and respect and uses the survey to measure progress on that front a year later, it's a challenge if the scores for civility and respect are all mixed up with the ones about workload management or recognition and reward. An employer wouldn't be able to get a clear signal of what's happening to civility and respect."

Why psychometric studies matter

Workers and workplaces are increasingly identifying the importance of the psychosocial work environment and its relationship to both job satisfaction and health. "The GM@W website and the National Standard of Canada for Psychological Health and Safety have been pivotal in raising the profile of the psychosocial work environment and in highlighting the importance of measuring and addressing the psychosocial work environment as part of a healthy workplace," says Smith.

"That said, we believe any measure should be independently assessed, on multiple occasions, to ensure its psychometric properties are valid and reliable, including its ability to distinguish between multiple dimensions within the psychosocial work environment," he continues. "When using a measure that specifies, defines and provides individual

items to assess 13 dimensions of the psychosocial work environment, a workplace will reasonably assume that these dimensions, while related, can be distinguished from each other. Based on our analyses, we don't believe this is currently the case when using the GM@W instrument. And it's important that workplaces and workers understand this."

Since this study was conducted, some of the 65 original questions have been changed or dropped, says Oudyk. "However, based on our team's analysis of the 45 items that were included in both the 2016 and 2020 versions—analysis that were not included



Dr. Peter Smith

in the paper—the same issues around the survey's inability to discriminate among dimensions remain," he says.

IWH shared its findings with the GM@W research team. In response, the team sent a

joint statement authored by Drs. Merv Gilbert and Dan Bilsker, directors of Vancouver Psychological Health + Safety Consulting Inc., and Dr. Martin Shain, principal of the Neighbour at Work Centre. The statement said the IWH/OHCOW study reflects a "misunderstanding of the nature and intent" of the 13 dimensions described in the survey and standard. "When they were developed, there was no expectation that the factors would be statistically distinct," the GM@W team wrote. "Rather, they were viewed as categories of psychosocial risk mitigation that impact the psychological well-being and safety of workers."

The full response from the GM@W team is available online (see: <https://d3mh72lln-frpe6.cloudfront.net/wp-content/uploads/2022/05/12224233/development-and-utility-of-guarding-minds-002.pdf>). The team noted, as well, that its analysis of the survey's psychometric properties is available upon request. ■