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EPID
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Northwestern Ontario Workplace & Worker Health Study

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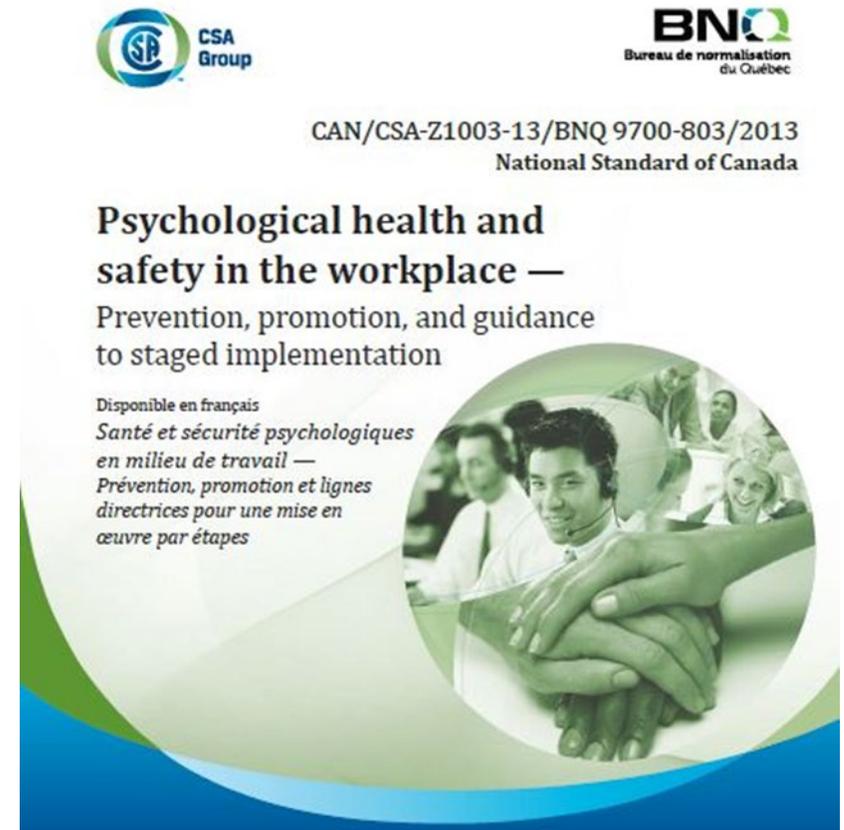
Mental health burden in NWO

- Workplace mental health in NWO
 - Anecdotally, OHS issue for some time
 - 62% of employers rate employee mental health as Fair or Poor
 - What is the annual prevalence and incidence in NWO?



The Standard

- Canadian National Standard
 - 34% of employers are not at all familiar with it
 - Only 8% have a plan developed, rest don't have a plan in place
 - Standard, Implementation guide, online toolkit to support implementation



13 Factors in the Standard



Tool ineffective

Quality & Quantity (2022) 56:3111–3133
<https://doi.org/10.1007/s11135-021-01269-6>



Assessing the psychometric properties of the Guarding Minds @ Work questionnaire recommended in the Canadian Standard for Psychological Health and Safety in the Workplace

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Abstract

Objectives This study examines the item and dimension distribution and factorial reliability and validity of the GM@W questionnaire for assessing the 13 dimensions of the work environment outlined in The Canadian National Standard for Psychological Health and Safety in the Workplace (The Standard). **Methods** An internet survey of 1,006 Ontario workers was conducted between February 10th and March 5th, 2020. Respondents had to be employed in a workplace with five or more employees. The survey included the 65 items from the GM@W questionnaire, and questions to assess sociodemographic characteristics and employment arrangements. Analyses examined the distribution of scores for items and for overall dimensions. A confirmatory factor analysis (CFA) examined the relationship between the 13 proposed dimensions and each of the 65 questions, using only respondents with complete information (N = 900). **Results** Low levels of missing responses were observed, although 14 of the 65 items had potential ceiling effects. CFA analyses demonstrated poor fit for the conceptual model linking the 13 dimensions of The Standard to the 65-items. High correlations between dimensions were also noted. The GM@W questionnaire displayed poor discriminant in measuring the specific dimensions proposed in The Standard. **Conclusions** Our results suggest the GM@W survey is unable to isolate the proposed dimensions of the psychosocial work environment as outlined in The Standard. These limitations are important, as workplaces using the GM@W survey will not be able to identify dimensions of the work environment which require attention or assess changes in particular dimensions over time.

- Smith & Oudyk
 - 14 items with ceiling effects
 - Poor CFA model fit for the conceptual model linking the 13 factors to the 65 items
 - High correlations between dimensions
 - Poor discrimination in measuring the factors
 - Using GW@Work will not be able to identify dimensions of the work environment that require attention

Research Evidence

- National Standard based primarily on cross-sectional evidence
- Longitudinal evidence is generally from secondary data analysis
 - Considerable risk of bias:
 - Uncontrolled confounding
 - Participant selection
 - Exposure and outcome measurement
 - Missing data
- High-quality evidence is needed

Objectives of NOWWHS

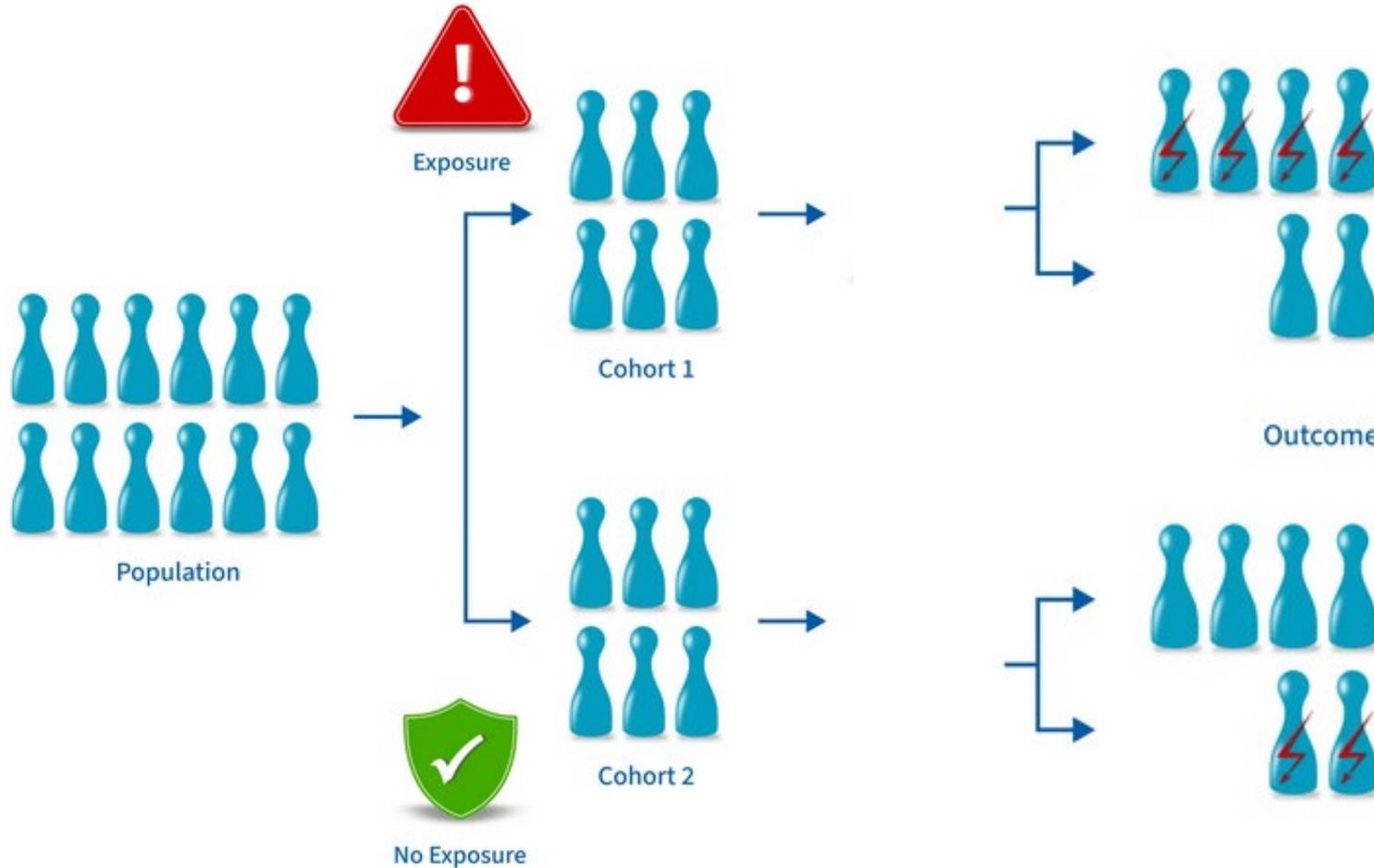
1. Determine the prevalence and incidence of mental wellbeing and mental disorders in Northwestern Ontario workplaces
2. Determine the workplace and worker risk factors associated with mental wellbeing and mental disorders in Northwestern Ontario workplaces
 - This includes validated measures for the 13 factors in the Standard
3. Develop a prospective cohort for surveillance, prognostic factor identification, and intervention assessment in Northwestern Ontario workplaces (**Community Research Tool**)

Northwestern Ontario

- When we say NWO, we are referencing from Manitouwadge (E) to the Manitoba border (W), and from the US border (S) to Hudson Bay (N)



Prospective Cohort Study



Example: Framingham Heart and Health Study
1950s Prospective cohort study of 5,200 residents

Design



Recruitment

- Open invitation for workers and workplaces at www.workinghealth.ca



The screenshot shows a recruitment page with a background image of diverse people in a meeting. At the top, a white button says "TAKE THE SURVEY". Below this, the page is split into two columns: "WORKERS" and "EMPLOYERS".

WORKERS
Old, new, injured, part-time, full-time, and everything in between - we are looking to hear from all workers in Northwestern Ontario. If your workplace is not participating, individual workers can still elect to take the survey. Click the button below to start the survey; you will be brought to a consent form before you begin.

EMPLOYERS
Whether you are a small business owner or the CEO of a large corporation, we want to help you better understand the mental health of your organization. If you are a leader within your workplace, sign up today and the EPID@Work team will contact you with next steps to deliver the NOWWHS to your workers.

At the bottom of each column are buttons: "TAKE THE SURVEY NOW" and "SIGN UP FOR LATER" for workers; "SIGN UP YOUR WORKPLACE" for employers. Below the buttons are links to read information letters: "Click here to read the worker information letter." and "Click here to read the workplace information letter."

- Workplaces by invitation through random selection

Data collection goals

- Baseline: N=300 workers from each of 20 industrial sectors
 - Total N = 6,000
- Follow-up: every 6 months
 - Top up sample each wave with 50 additional workers from each sector
- Dashboard: show real-time data collection on website
- Website workinghealth.ca: highlight findings from the study

Eligibility

- **Workplaces:** any workplace located in Northwestern Ontario with at least 1 employee
- **Workers:** working in Northwestern Ontario in the past year; aged 14 or older; workers who wanted to work in the past year but were unable due to a workplace injury or health event
- Self-employed workers are eligible to participate in the worker survey

20 Industrial Sectors (NAICS)

1. Agriculture, forestry, fishing and hunting
2. Mining, quarrying, oil and gas extraction
3. Utilities
4. Construction
5. Manufacturing
6. Wholesale trade
7. Retail trade
8. Transportation and warehousing
9. Information and cultural industries
10. Finance and insurance
11. Real estate, rental and leasing
12. Professional, scientific and technical services
- ~~13. Management of companies and enterprises~~
14. Administrative and support, waste management and remediation services
15. Educational services
16. Health care and social assistance
17. Arts, entertainment and recreation
18. Accommodation and food services
19. Other services (except public administration)
20. Public administration

What information are we collecting?

1. Workplace demographics
 - Employment status, Job(s), work schedule, work time, exposure to hazards, pay, job intention,...
2. Mental & Physical health
 - MH diagnoses, mental well-being, anxiety, burn-out, depression, activity limitations, health problems...
3. Workplace factors
 - Organizational culture, support, leadership, civility & respect, demands, growth & development, recognition & reward, involvement & influences...
4. Personal factors
 - Perceived stress, coping, social support, substance use, sleep, sedentary behaviour, job and life satisfaction...
5. Personal demographics
 - DOB, sex, education, marital status, ethnicity, ...

Additional information groups

- Injured workers
- Nursing – Ainsley Miller (PhD)
- Paramedics
- Mining
- Supervisors
- Working from home – Kara Polson (PhD)
- Older workers
- Indigenous workers – Jazanne Bunting (MSc)
- Immigrant workers – Umme Kabir (PhD)

Preliminary findings

- Descriptive examination of N=695 participants
 - Prevalence of mental health outcomes by participation type (workplace vs. online)
 - Bivariable associations between workplace factors and mental wellbeing

Participant Characteristics

- **Industrial sector**
 - 36% Health care and social assistance, 9.6% Educational services, 7.9% Other services (except public administration), 7.6% Professional, scientific, and technical services
- **Sex:** 66% female, 33% male, 1% missing or prefer not to answer
- **Mean age:** 40.2 (sd: 12.2); range 17-76
 - 34% 25-35 yrs old, 25% 36-46, 19% 47-57
- **Education:** 69% college or university graduate
- **Marital status:** 45% married, 26% never married, 18% common-law
- **Job location:** 63% Thunder Bay, 27% Small city/town, 4% rural, 4% on reserve

Prevalence of Mental health outcomes

Participation Source	Depression (%)	Anxiety (%)	PTSD (%)	Low Mental Wellbeing (%)
Workplace	26.4 (22.2, 31.2)	31.7 (27.1, 36.6)	13.8 (10.6, 17.8)	15.2 (11.8, 19.2)
Online	48.3 (43.0, 53.7)	50.6 (45.2, 56.0)	28.5 (23.9, 33.6)	25.3 (20.9, 30.3)

Workplace factors & mental wellbeing

Workplace factor	N	Low Mental Wellbeing (mean (SD))	High Mental Wellbeing (Mean (SD))	Difference Mean (Low) – Mean (High)	P-value
Organizational culture	651	78.2 (17.9)	85.7 (15.5)	-7.5 (-10.6, -4.4)	0.000
Leadership	612	21.5 (8.6)	25.9 (7.1)	-4.4 (-5.9, -2.9)	0.000
Incivility	657	8.2 (3.3)	6.7 (2.7)	1.5 (1.0, 2.0)	0.000
Engagement	659	4.7 (1.0)	5.6 (0.9)	-0.9 (-1.1, -0.7)	0.000
Growth and Development	659	4.1 (1.4)	4.9 (1.2)	-0.8 (-1.0, -0.5)	0.000

Only stigma was not significantly associated with mental wellbeing (p=0.923)

Workplace factors & mental wellbeing

Workplace Factor	Response Options	Low Mental Wellbeing	High Mental Wellbeing	Odds ratio	95% Confidence Interval
Expectations (clear from supervisor)	Never	16	14	1.0	-
	Rarely	29	50	2.0	0.8, 4.6
	Occasionally	25	142	6.5	2.8, 14.9
	Frequently	30	148	5.6	2.5, 12.8
	Very frequently/always	28	154	6.3	2.8, 14.3
Role conflict (free from conflicting demands)	Always	4	62	13.5	4.3, 42.0
	Often	21	140	5.8	2.9, 11.6
	Sometimes	37	202	4.8	2.5, 8.9
	Rarely	42	94	1.9	1.0, 3.7
	Never	27	31	1.0	-

Workplace factors & mental wellbeing

Workplace Factor	Response Options	Low Mental Wellbeing	High Mental Wellbeing	Odds ratio	95% Confidence Interval
Experienced violence	No	114	475	1.0	-
	Yes	17	52	0.7	0.4, 1.3
Experienced bullying	No	72	373	1.0	-
	Yes	59	153	0.5	0.3, 0.7
Sexual Harassment	No	120	509	-	-
	Yes	11	19	0.4	0.2, 0.9
Discrimination	No	64	400	-	-
	Yes	66	122	0.3	0.2, 0.4

Experiencing violence was the only categorical variable that did not reach statistical significance (p=0.30)

Limitations

- Cross-sectional baseline data
- Preliminary analysis on fairly small numbers
 - Primarily from two or three sectors
- No control for any confounding factors
- Stay Tuned!

NOW is the time

- NWO has high rates of workplace injury, disease, and mental health disorders
- NWO has diversity of workplaces, worker populations, and a dedicated Research Institute
- Evidence for workplace factors related to mental health is mostly cross-sectional and varies in quality
- Provide a platform for fairly rapid evaluation of planned and unplanned interventions

It takes a village...

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Ontario 

Ultimate goal



Questions?

