GUARDING MINDS AT WORK VALIDATION STUDY

Heather Stuart PhD, FRSC, C.M.

QUEEN'S UNIVERSITY

June 2020

Guarding Minds at Work Validation Study

Heather Stuart, PhD, FRSC, C.M.
Queen's University

Background

This report was commissioned by Workplace Strategies for Mental Health to (a) map the GM@W survey items to the recently released ISO 45003 international standard (International Organization for Standardization, 2021), and (b) assess their validity.

In the first phase of the project, the 73 items from the GM@W were critically reviewed to ensure that questions were clear and understandable. Double-barrelled questions that contained two or more potentially competing ideas were identified and revised. As an example, item 73 on the original survey read: "I have control over how my tasks and responsibilities are prioritized". Because employees may not have control over their responsibilities, this was reworded to "I have control over how my tasks are prioritized". Some questions also contained concepts that could be open to interpretation, so these were clarified. As an example, item 6 from the original survey read, "My employer has programs or policies to prevent worker burnout". This was revised to read, "My employer has programs to prevent worker burnout (e.g., constant stress leading to exhaustion)". Twenty-seven questions (36%) were revised. All revisions were the product of iterative discussions with workplace experts from Workplace Strategies for Mental Health. Next, each question was mapped onto one of the workplace dimensions from the recently released international standard. In several cases, no question mapped on to a dimension so new questions were created. This increased the workplace domains represented from thirteen to twenty. To be consistent with other surveys used by Workplace Strategies for Mental Health, the response scale was changed from a 4-point agreement scale to a 4-point frequency scale (Always, Frequently, Rarely, Never).

Approach to Validation

In an effort to provide validation data of the original survey, Smith and Oudyk (Smith & Oudyk, 2021) assessed the psychometric qualities of the GM@W questionnaire using a classical approach to scale development. This approach assumed that questions would represent each of the 13 dimensions in the Canadian Standard distinctly and uniquely, with no overlap. Items would be expected to be highly correlated within each dimension, but not correlated with items in other dimensions. Based on a sample of 900 people employed in workplaces with 5 or more employees, they found that the 13 dimensions were not distinct or mutually exclusive. They identified this as a problem with the survey and questioned its validity and utility.

In a letter of rebuttal, Gilbert, Bilsker, and Shain (Gilbert, Bilsker, & Shain, n.d.) indicated that, when the 13 dimensions were developed, there was no expectation that they would be statistically distinct. It was assumed that they would overlap to some degree, given that risk and risk mitigation strategies used by organizations are often intertwined. The dimensions (and items within each dimension) describe common workplace structures or practices that could be modified or implemented by

employers to create a psychologically healthy workplace. This suggests an alternative theoretical and measurement model.

The approach used by Smith and Oudyk assumes that the survey items are the effects of a psychologically healthy workplace. The culture exists and the items are reflections of it (or caused by it). As a result, items are expected to correlate strongly with each other within each dimension (not across dimensions) and discriminate between dimensions. Because items within a 'scale' are highly correlated, little information may be lost if one item is omitted or the scale shortened. Scale developers often create short versions of their scale that work as well (sometimes better) than the original.

A different approach is to assume that the GM@W survey is an index where the structures and practices measured by the presence of each questionnaire item can be understood as creating (not reflecting) the culture of an organization. In this situation, items need not be correlated, though many may be for the reasons Gilbert Bilsker and Shain outlined above, and dimensions do not need to be distinct and mutually exclusive. Each individual item is needed to capture the full breadth of the construct being measured. When creating a scale, the goal is always to eliminate items so that the scale is as short as possible. When creating an index, the goal is to include as many items as needed to capture the breadth of the phenomenon under study. Each separate indicator is considered to be informative in its own right, so scores are not summated.

Combining the items into themes (or dimensions) helps organizational leaders gauge the extent to which structures and practices have been improved. If we consider that GM@W survey better fits a measurement model for an index, conventional statistical procedures such as those assessing internal consistency and factor structure used by Smith and Oudyk are unlikely to result in good fitting models or provide evidence of validity. (See (Diamantopoulos & Siguaw, 2006; Diamantopoulos & Winklhofer, 2001) for a detailed discussion of scales vs indices.) The validation approached used to assess the revised GM@W survey was appropriate for an index and allowed for correlations between items and dimensions. This is described in more detail below.

Validation Survey

The revised survey was given to a sample of 1,000 working Canadians obtained through Leger polling firm. Participants were chosen to be representative of the Canadian population on the basis of age, gender, and geographic location. Ethics clearance was provided by Queen's University and Affiliated Teaching Hospitals Research Ethics Board. The anonymous data were cleaned and provided for analysis.

A multi-indicator multi causal model was developed to test the validity of items in each of the 20 domains using the structural equation builder in Stata Version 17. These models are used to confirm the influence of observed variables on an unobserved, latent construct. In this analysis, the latent construct was defined as a psychologically safe workplace culture and the observed variables were the survey items. One model was tested for each of the 20 domains. When a domain contained more than three items, the three strongest were retained. This shortened the survey and ensured that each domain carried the same weight.

Two omnibus questions were chosen to reflect aspects of a psychologically safe workplace culture. These variables were (a) People at my workplace understand the importance of protecting employee

psychological safety and (b) My work does not threaten my psychological health. The models were structured to examine the strength of the association between (a) the survey items and the latent variable and (b) the latent variable and the two cultural questions.

Figure 2 illustrates the structure of the models. This example refers to the 'Roles and Expectations' domain. The three items in this domain were: In my job I know what I am expected to do (Expectations), I am informed about important changes at work in a timely manner (Informed), and I am informed of important changes that may impact how my work is done (Informed re Changes). The latent variable (Culture) is impacted by each of these variables (arrows go from the variable to Culture). In turn, Culture effects the two psychological safety variables--People at my workplace understand the importance of protecting employee psychological safety (Protect PSafety) and My work does not threaten my psychological health (No Threat to PSafety). The curved arrows denote correlated error terms. The standardized coefficients measuring the strength of the associations appear beside the arrows. Though not shown here, all of the associations in this model were strongly statistically significant giving evidence supporting both item and domain validity.

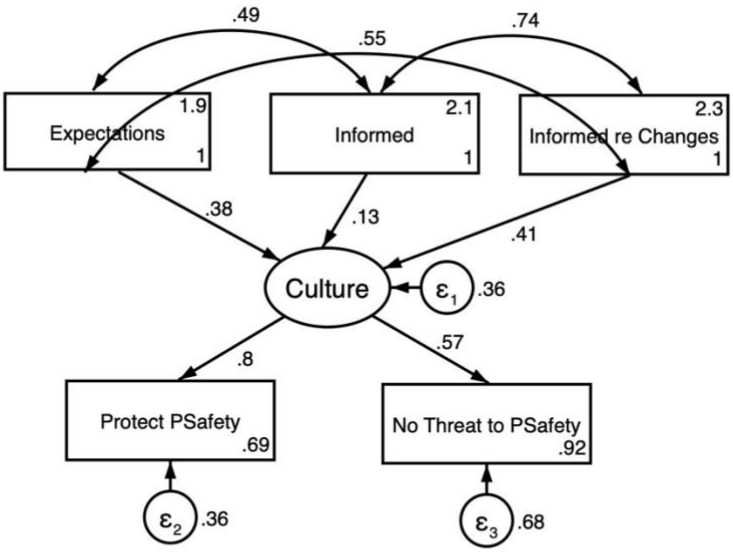


Figure 2: Example of Model Used to Validate Items in Each Domain

Results

Table 2 summarizes the final model results with the exact wording of the survey items. The first column shows the standardized coefficients and p-values for the relationship between the three strongest domain variables and the latent construct. The second column shows the standardized coefficients and p-values for the relationship between the latent construct and the two cultural variables. Standardized coefficients compare the strength of the association of each individual variable; the higher the value, the stronger the association. As shown in the table, all of the items were statistically significant as would be expected if they formed a valid index.

Table 2: Key Model Results

Domain	Std. Coef. (p-value) (<.05)	Std. Coef. For Effect Variables (p-value) *
Roles and Expectations		
• In my job I know what I am expected to do.	.38 (<.001)	.80 (<.001)
• I am informed about important changes at work in a timely manner.	.13 (.005)	.57 (<.001)
• I am informed of important changes that may impact how my work is done.	.41 (<.001)	
Job Control or Autonomy		
• I have some control over how I organize my work.	.11 (.03)	.80 (<.001)
• I am encouraged to participate in decisions that impact my work.	.51 (<.001)	.51 (<.001)
• I have control over how my tasks are prioritized.	.19 (<.001)	
Job Demands		
• I am able to do my job in a way that aligns with my values.	.19 (<.001)	.89 (<.001)
• In my job, I do not feel burned out.	.33 (<.001)	1.7 (<.001)
• My work does not threaten my psychological health. *	--	
Leadership		
• My suggestions are considered at work	.38 (<.001)	.79 (<.001)
• People in my organization are held accountable for their actions	.24 (<.001)	.50 (<.001)
• Organizational values are demonstrated at all levels	.36 (<.001)	
Organizational Change Management		
• The reasons behind organizational changes are explained.	.28 (<.001)	.76 (<.001)
	.19 (.001)	.56 (<.001)

• I am told about the impact of organization change on my job. • I have a say in how I will manage organizational changfes that affect me.	.30 (<.001)	
Remote and Isolated Work • My personal life is not disrupted by my work. • My employer provides me with the tools I need to work remotely. • I do not feel isolated because of the nature of my work.	.47 (<.001) .16 (<.001) .31 (<.001)	.58 (<.001) .71 (<.001)
Workload and Work Pace • My employer encourages me to take my entitled breaks. • The amount of work I am expected to do is reasonable for my position. • I can talk to my supervisor about the amount of work I have to do.	.21 (<.001) .64 (<.001) .12 (.008)	.75 (<.001) .56 (<.001)
Working Hours and Schedule • I have sufficient time to complete my work. • Deadlines are reasonable. • I am willing to give extra effort at work if needed.	.31 (<.001) .34 (<.001) >31 (<.001)	.76 (<.001) .56 (<.001)
Job Security and Precarious Work • In my work, it is safe to speak up. • Staff turnover at work is reasonable for our sector. • My job is secure.	.57 (<.001) .25 (<.001) .18 (<.001)	.79 (<.001) .50 (<.001)
Interpersonal Relationships • My workplace effectively handles conflict among employees. • My workplace has effective ways of addressing inappropriate behaviour by the people we serve. • Difficult situations at work are addressed effectively.	.34 (<.001) .22 (<.001) .34 (<.001)	.80 (<.001) .92 (<.001)
Organizational/Workgroup Culture • Management appointments consider the “people skills” necessary for specific positions. • I feel I am part of a community at work. • People in my workplace understand the importance of protecting employee psychological safety. *	.43 (<.001) .50 (<.001) --	.84 (<.001) .48 (<.001)
Recognition and Reward • I am paid fairly for the work I do. • Our organization celebrates our shared accomplishments. • I am recognized for good performance.	.45 (<.001) .35 (<.001) .18 (<.001)	.81 (<.001) .50 (<.001)
Career Development • I have the opportunity to take on new challenges. • My employer values employees’ ongoing personal development. • I am provided with the necessary training to perform my job well.	.38 (<.001) .42 (<.001) .22 (<.001)	.80 (<.001) .50 (<.001)
Support • People with mental health issues are supported to do their jobs effectively. • I feel supported in my workplace when I am dealing with personal issues. • My employer helps employees cope with workplace stress.	.29 (<.001) .27 (<.001) .44 (<.001)	.81 (<.001) .49 (<.001)
Supervision		

• My supervisor is open to my ideas for taking on new opportunities in the workplace. • My supervisor supports my personal growth. • My supervisor supports me to do my job successfully.	.44 (<.001) .30 (<.001) .26 (<.001)	.80 (<.001) .50 (<.001)
Civility and Respect • People treat each other with respect in my workplace. • Employees and management trust one another. • People from all backgrounds are treated fairly in my workplace	.25 (<.001) .44 (<.001) .27 (<.001)	.79 (<.001) .49 (<.001)
Work/Life Balance • I am able to reasonably balance the demands of work and personal life. • My employer promotes work-life balance. • I can talk to my supervisor when I am having trouble maintaining work-life balance.	.12 (.001) .54 (<.001) .34 (<.001)	.79 (<.001) .48 (<.001)
Harm (previously Violence) • My employer makes efforts to prevent harm to employees from discrimination. • My employer makes efforts to prevent harm to employees from bullying. • In my workplace, I am not being treated unfairly because I have a mental illness.	.33 (<.001) .30 (<.001) .16 (<.001)	.75 (<.001) .56 (<.001)
Bullying/Harassment • In my workplace, I am not being bullied. • In my workplace, I am not being harassed (verbally, physically, or sexually). • In my workplace, I am not experiencing discrimination	.23 (<.001) .30 (<.001) .61 (<.001	.55 (<.001) .76 (<.001)
Work Environments, Equipment, and Hazardous Tasks • When physical risks are identified, my employer responds effectively. • When psychological risks are identified, my employer responds effectively. • I have what I need to do my job well.	.09 (0.03) .16 (<.001) .45 (<.001)	.76 (<.001) .59 (<.001)
Notes: Effect variables are indicated in the table with an *.		

Conclusion

This analysis approached validation of the GM@W survey items from the perspective of an index, meaning that their presence in a workplace would create a psychologically safe culture. Statistical analysis supported the validity of the survey items and the domains. The result is a redesigned survey and a new resource for employers that is aligned with both ISO45003 and the Canadian standard z1003.

References

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organizational measure development: A comparison and empirical illustration. *British Journal of Management*, *17*(4), 263–282. https://doi.org/10.1111/j.1467-8551.2006.00500.x

Diamantopoulos, A., & Winklhofer, H. M. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, *38*(2), 269–277. https://doi.org/10.1509/jmkr.38.2.269.18845

Gilbert, M., Bilsker, D., & Shain, M. (n.d.). *Development and utility of the Guarding Minds @ Work Employee Survey Development and utility of the Guarding Minds @ Work Employee Survey*.

International Organization for Standardization. (2021). *Occupational Health and Safety Management -- Psychological Health and Safety at Work--Guidelines for Managing Psychosocial Risks* (1st Editio). Vernier, Geneva: International Organization for Standardization.

Lai, K., & Green, S. B. (2016). The Problem with Having Two Watches: Assessment of Fit When RMSEA and CFI Disagree. *Multivariate Behavioral Research*, *51*(2–3), 220–239. https://doi.org/10.1080/00273171.2015.1134306

Smith, P. M., & Oudyk, J. (2021). Assessing the psychometric properties of the Guarding Minds @ Work questionnaire recommended in the Canadian Standard for Psychological Health and Safety in the Workplace. *Quality and Quantity*, (0123456789). https://doi.org/10.1007/s11135-021-01269-6

Standards Council of Canada. (2013). *Psychological Health and Safety in the Workplace*. Ottawa, Ontario. https://doi.org/10.12968/denn.2015.11.7.373