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VWA Health & Safety Week



Workplace Health
& Safety Research

Developing a Practical Tool to Measure OHS Leading Indicators

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ISCRR

Institute for Safety, Compensation
and Recovery Research



WE ACKNOWLEDGE THE KEY STAKEHOLDERS IN THE RESEARCH

- Monash University
- Victorian Workcover Authority
- ISCRR
- Safe Work Australia
- safesearch Executive GM Safety Forum members
- Employers
- Unions
- Employees
- Institute for Work and Health, Canada



What keeps your workplace healthy and safe?

What are the important 'leading indicators' of OHS in your workplace?

Could you use a simple, practical tool to measure the 'leading indicators' of OHS?



OUR RESEARCH AIM

Is there an existing tool to **measure OHS leading indicators** that is:

- Simple
- Practical
- Reliable & valid
- Suitable for Australian workplaces



RESEARCH STAGES SO FAR

- 1. Literature Review**
2. Interviews with stakeholders
3. Pilot survey: 1440 Victorian workplaces compared with claims
4. Survey of Worksafe Week Melbourne 2013 attendees
- 5. Workplace surveys in Australian organisations**
6. Surveys with members in two Victorian unions



WHAT ARE OHS LEADING (or LEAD) INDICATORS?

- Measures of the **positive steps** that organisations and individuals take to prevent an OHS incident
- **Characteristics of workplaces** that precede OHS outcomes
- Measures of the '**safety potential**' of a workplace
- **Resources** that are available in the workplace and that **impact OHS performance**

WHAT ARE OHS LEADING INDICATORS?: BROAD AREAS

OHS systems
(policies,
procedures,
practices)

Management
commitment and
leadership

Prioritisation of
OHS

Workplace OHS
inspections and
audits

Risk management

OHS
empowerment &
employee
involvement in
decision making

Consultation and
communication
about OHS

OHS training,
information, tools
and resources

OHS
accountability

Positive feedback
and recognition
for OHS



LEADING INDICATORS CAN BE FOUND AT SEVERAL LEVELS:

Organisation: Are audits conducted regularly and corrective action taken where applicable?

Workplace or workgroup: Does my supervisor 'lead' on OHS?

Individual: Do I behave safely? Do I participate in OHS activities?



WHAT ARE THE CHALLENGES IN MEASURING OHS LEADING INDICATORS?

- How should we measure LIs?
 - e.g., Who should measure or report?
 - Measure workplace policies and practices through self-assessment or external audit?
- How specific should LIs be for an industry or a workplace context?
- Which other workplace factors and OHS outcomes should be associated with LIs?
- How could we use LIs to improve prevention?



IS THERE AN EXISTING TOOL TO MEASURE OHS LEADING INDICATORS?

Literature review to identify measures of leading indicators of OHS has been completed.

— **Key outcomes:**

The “**Organizational Performance Metric**” (OPM), developed at Institute for Work and Health, Ontario Canada, is a simple and practical tool to measure leading indicators.

With some adaptations, the OPM could be suitable for Australian workplaces.

ORGANIZATION PERFORMANCE METRIC – OPM (ADAPTED)

When answering the questions, if your organisation has many locations, please base your answers on the site you work from most frequently.

For each statement below, select the response that represents your view:

- 1 strongly disagree
- 2 disagree
- 3 neither agree nor disagree
- 4 agree
- 5 strongly agree

ITEM	YOUR RESPONSE
1. Formal OHS audits* at regular intervals are a normal part of our workplace	
2. Everyone at this workplace values ongoing OHS improvement in this workplace	
3. This workplace considers safety at least as important as production and quality in the way the work is done	
4. Workers and supervisors have the information they need to work safely	

ORGANIZATION PERFORMANCE METRIC - OPM (ADAPTED)

When answering the questions, if your organisation has many locations, please base your answers on the site you work from most frequently.

For each statement below, select the response that represents your view:

- 1 strongly disagree
- 2 disagree
- 3 neither agree nor disagree
- 4 agree
- 5 strongly agree

ITEM	YOUR RESPONSE
5. Workers are always involved in decisions affecting their health and safety	
6. Those in charge of safety have the authority to make the changes they have identified as necessary	
7. Those who act safely receive positive recognition	
8. Everyone has the tools and/or equipment they need to complete their work safely	
9. Everyone has the authority to take charge of safety e.g., stop work if they consider conditions are unsafe	



WORKPLACE SURVEYS 2013-2014

National workplace-based research, working with industry and employees to directly address what's needed for the real world application of OHS lead indicators.

- ▶ Surveys are based on the OPM.
- ▶ Surveys include other measures of safety climate, OHS-related attitudes and behaviours, self-reported OHS outcomes
- ▶ Responses to be compared against workplace-level OHS outcomes (eg injury rates) and performance measures



WORKPLACE SURVEYS 2013-14

Characteristic	Outcome	
Workplaces	Recruited 65 workplaces from six organisations	
Response rate	10,362 individuals targeted, 3,605 responded (35% RR); Male 61%	
Employee level	Managers 5% Supervisors 19% Employees 76%	
Location of respondents	Victoria 56% Western Australia 19% Northern Territory 1%	New South Wales 13% Queensland 9% South Australia 1%
Industry	Arts & Recreation 26% Construction 19% Transport Postal & Warehousing 17% Electricity, Gas, Water, & Waste 2%	Healthcare 25% Mining 11%

ASSESSING LEAD INDICATORS: OPM SCORES

- The OPM is a valid and reliable measure of OHS leading indicators and the OPM could be used as an initial ‘flag’ of OHS.
- Possible scores on OPM range from 8 to 40.
- The average score on the OPM:
 $M = 29.0$ ($SD = 5.8$)
- Scores on the OPM for workplaces ranged from:
 21.1 ($SD = 8.1$) to
 34.0 ($SD = 4.6$)



ASSESSING LEAD INDICATORS: OPM SCORES

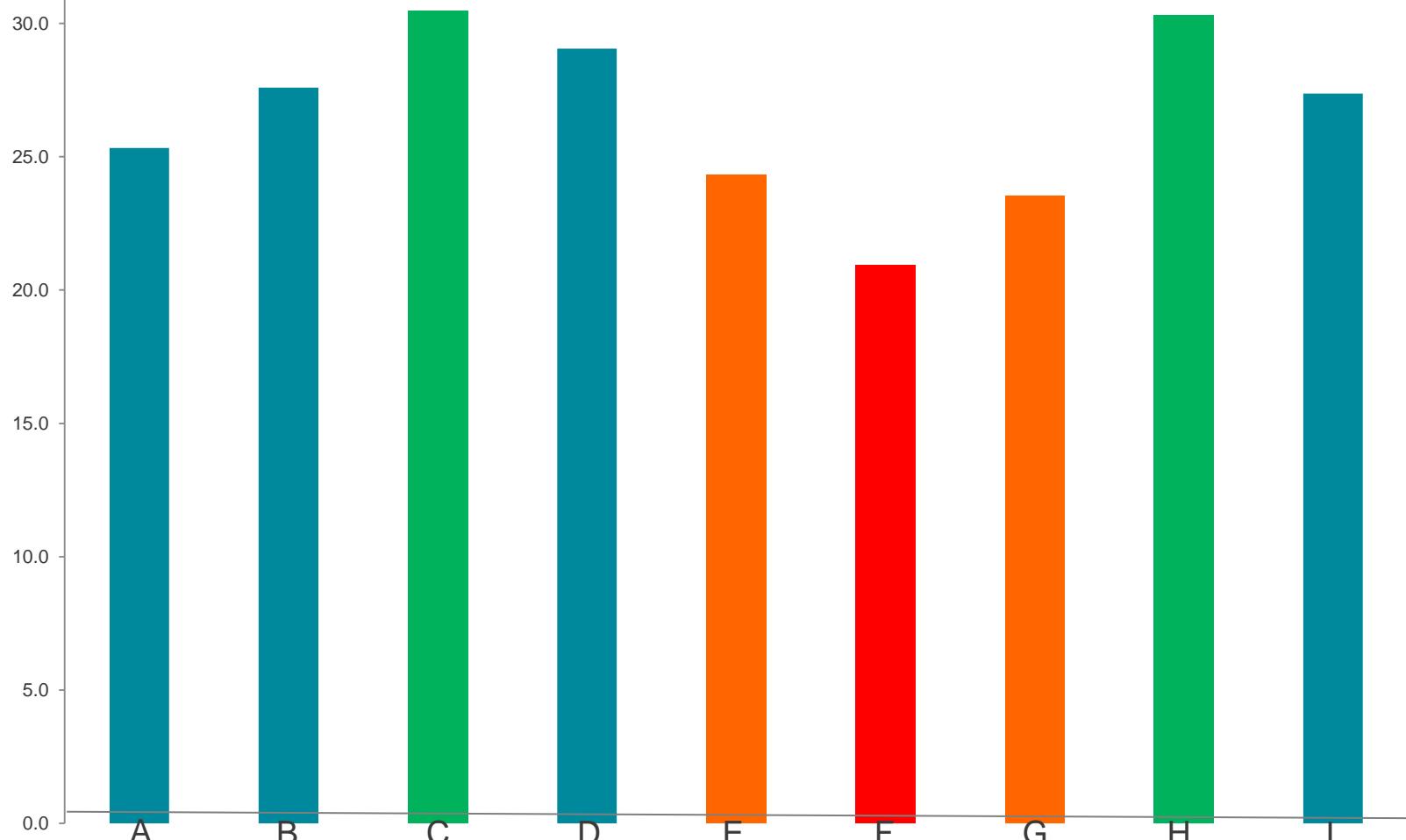
Organisation B can be split into B1 and B2

- This difference in OPM scores (between B1 and B2) was statistically significant.



HOW COULD THIS BE USED IN A COMPANY?

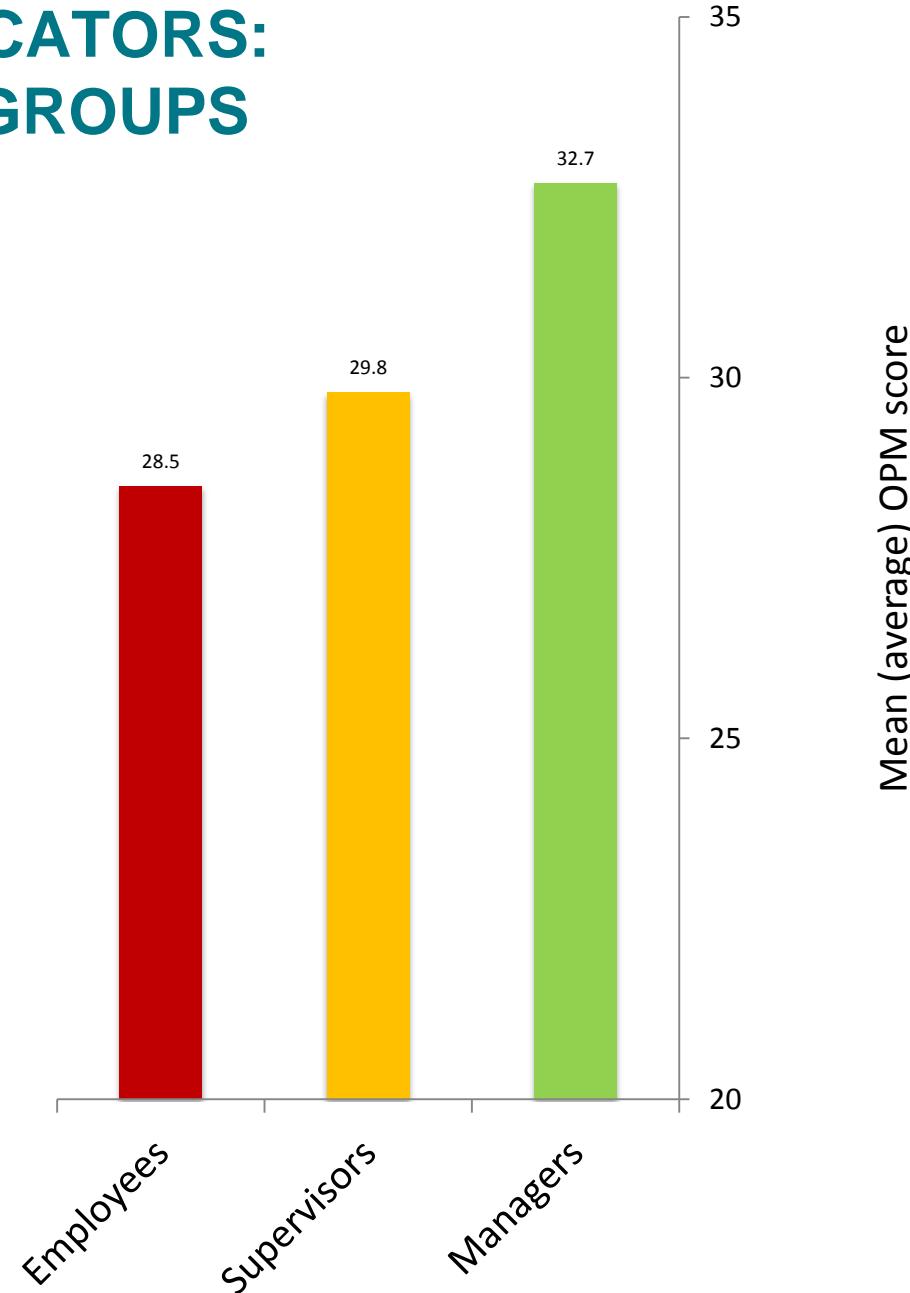
Comparing OHS leading indicators (OPM mean scores) across workplaces (A to I) in one company



EXAMINING LEADING INDICATORS: DIFFERENCES BETWEEN GROUPS

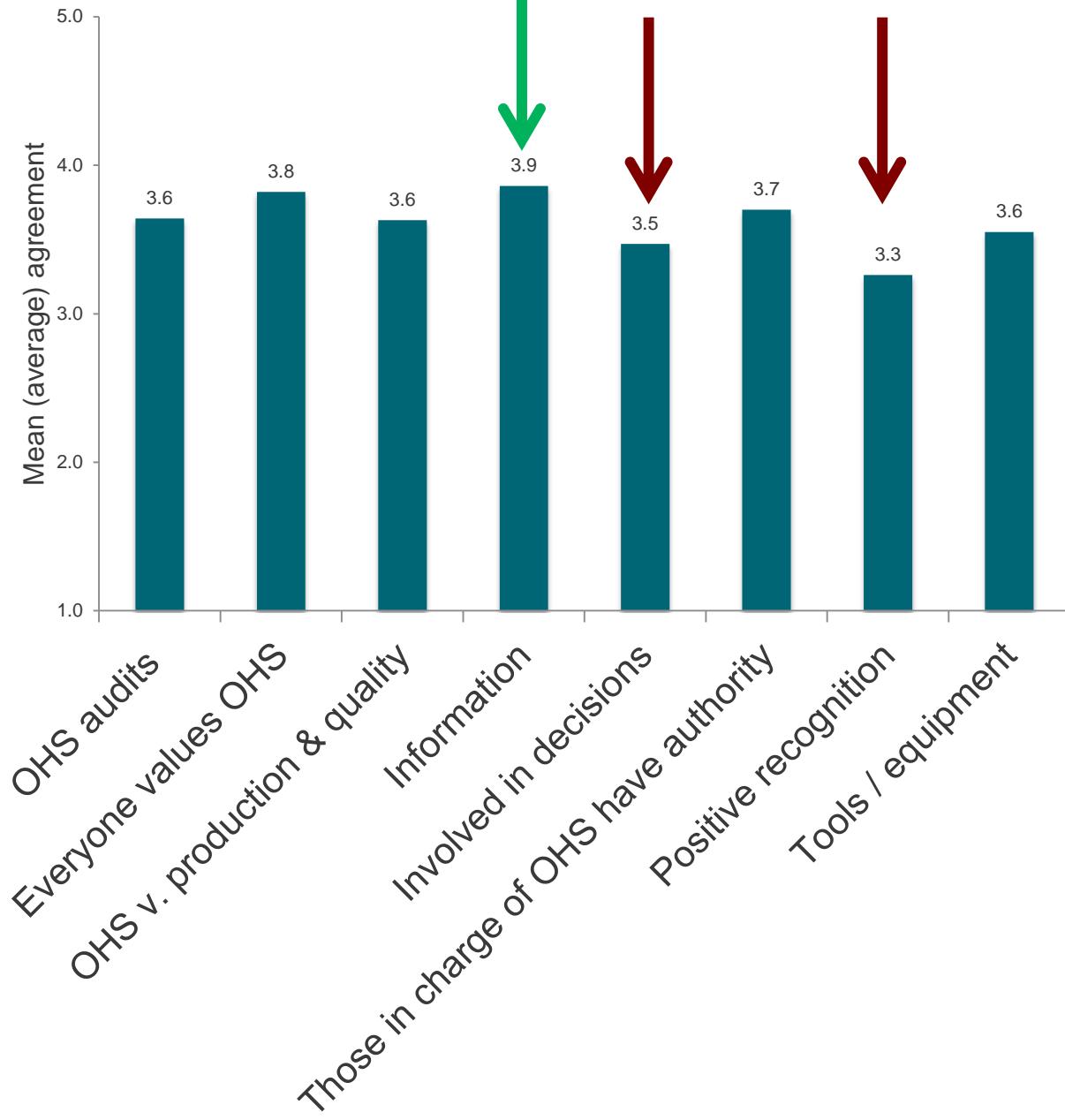
OPM scores differed according to the level within the organisation.

- Managers score their workplaces higher on the OPM compared to both supervisors and employees
- Supervisors score their workplaces higher on the OPM compared to employees
- All employee groups have significantly different scores from each other group



EXAMINING EACH LEADING INDICATOR

- N=3,605
- The item rated highest by respondents was:
Workers and supervisors have the information they need to work safely.
- The items that received the lowest ratings from respondents were:
Those who act safely receive positive recognition
Employees are always involved in decisions affecting their health and safety.





LEADING INDICATORS: EMPLOYEE ATTITUDES AND BEHAVIOUR

- **Higher scores on the OPM are positively associated with employees' safety behaviours and perceptions of safety:**
 - Safety motivation
 - Safety participation
 - Safety compliance
 - Employee safety control
- **Employees who rate their workplaces higher on the OPM:**
 - Are more **motivated** to behave safely
 - Are more **compliant** in safety behaviours (compliance, participation)
 - Feel they have more **control** over their own safety



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LEADING INDICATORS: SUPERVISORS' OHS LEADERSHIP

- Higher scores on the OPM are positively associated with supervisors' self-rating of OHS leadership



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LEADING INDICATORS AND SELF-REPORTED OHS INCIDENTS

- Higher scores on leading indicators are **negatively associated** with the number of OHS incidents:
 - Incidents (not reported) ($r = -.13$, $n = 3,505$, $p < .001$)
 - Near misses ($r = -.11$, $n = 3,490$, $p < .001$)
- Employees who perceive their workplaces to have stronger leading indicators tend to be involved in **fewer OHS incidents**.
- **No significant relationship to reported incidents.**
 - ($r = -.02$, $n = 3,477$, $p = .173$)



LEADING INDICATORS AND WORKPLACE PERFORMANCE (REPORTED BY MANAGERS)

- Higher scores on leading indicators are **positively associated** with managers' perceptions of workplace performance.
- Managers who perceive their workplaces to have stronger leading indicators also tended to report higher levels of **workplace performance**.
 $(r = .39, n= 149, p < .001)$



HOW MIGHT THIS BE USEFUL IN YOUR WORKPLACE?

- Assess leading indicators in your workplace
- Organisational strategies to improve leading indicators, for example:
 - Raise awareness of OHS leading indicators
 - A ‘safety leadership’ development program
 - OHS audits and corrective actions where applicable
 - Management commitment to OHS
 - Could you identify a strategy your organisation could implement to prevent OHS incidents from occurring?



NEXT STEPS...

Research is nearing completion:

- Collecting OHS lag indicators at workplace level
- To complete analyses of data for all organisations and workplaces
- To fine-tune the 'tool-kit' and protocol for practical use in workplaces

...by April 2015





WHAT ARE THE OUTCOMES?

A tool to **measure OHS leading indicators** that is:

- Simple
- Practical
- Reliable & valid
- Suitable for Australian workplaces
- Able to be combined with other metrics in your workplace
- A 'pulse-check' of the OHS leading indicators in your workplace



WHAT ARE THE OUTCOMES?

Besides a validated practical OHS lead indicators tool, benefits of this work include:

- Researchers working 'on the ground' with organisations in relationships that support research.
- Mutually beneficial partnerships.
- Awareness raising of OHS Lead Indicators to improve understanding and utilisation.



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**Thank you for listening!
Any questions?**



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