

Understanding accountability and its links to individual health and safety in the Australian mining industry.

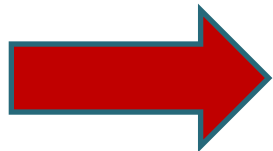
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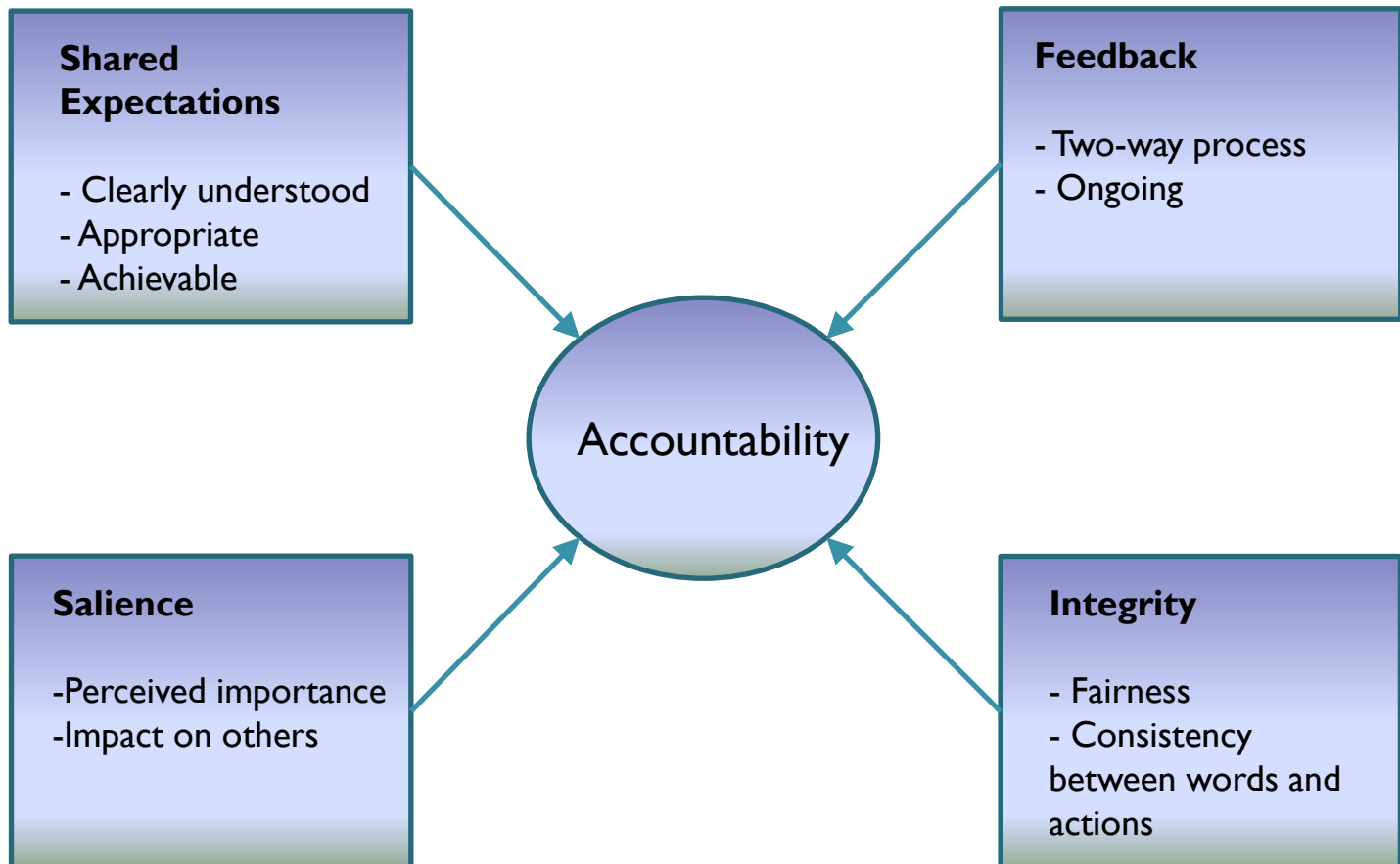
Background to the research

- Accountability is critical to organisational functioning & culture:
 - All social systems rely on shared expectations + rewards/punishments in order to function.
- Accountability is critical to safety:
 - We implicitly know this.
 - Incident reports frequently cite failure to follow procedures as a contributing factor.
- **BUT** there is almost no research on accountability in a health and safety context.



Need to quantify & benchmark

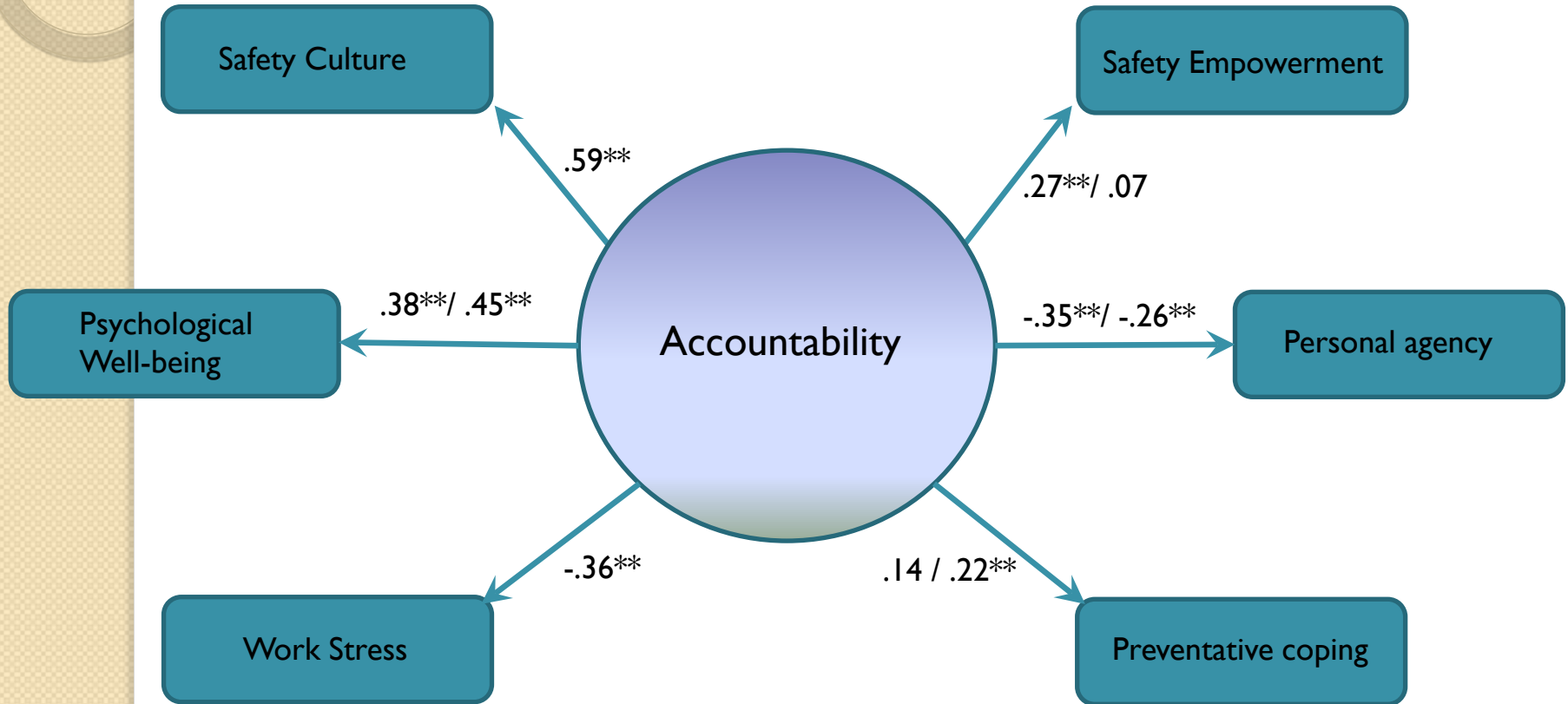
Model of Accountability



Three Survey Studies

- Study 1: ~ 2,500 mining employees, multiple mine sites, all organisational levels.
- Study 2: Queensland open-cut. 152 employees.
- Study 3: NSW underground. 166 employees.
- Measures:
 - Accountability
 - Safety culture (Smith, Garret & Calvert, 2006)
 - Work stress
 - Personal agency e.g. “If I’m safe at work its because I make sure of it” (Strahan, 2003)
 - Safety empowerment e.g. “I can’t do anything to change procedures at my place of work” (Strahan, 2003)
 - Preventative coping with fatigue (Strahan, 2003)
 - Psychological wellbeing (depression) (Radloff, 1977)

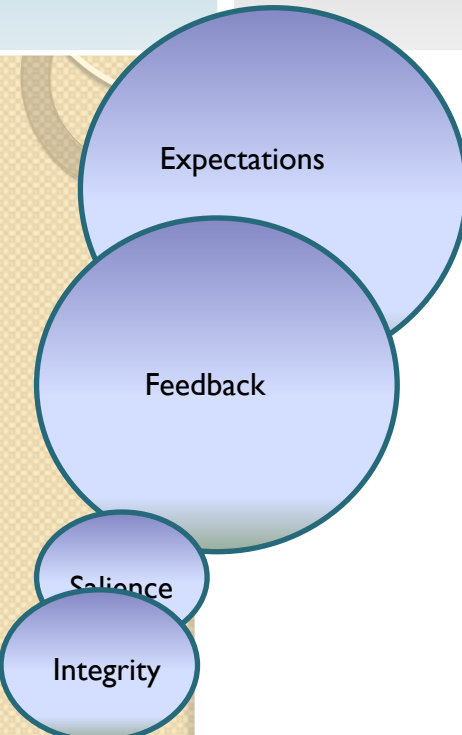
Results



** Significant $p < .01$. Values represent correlations.

Results

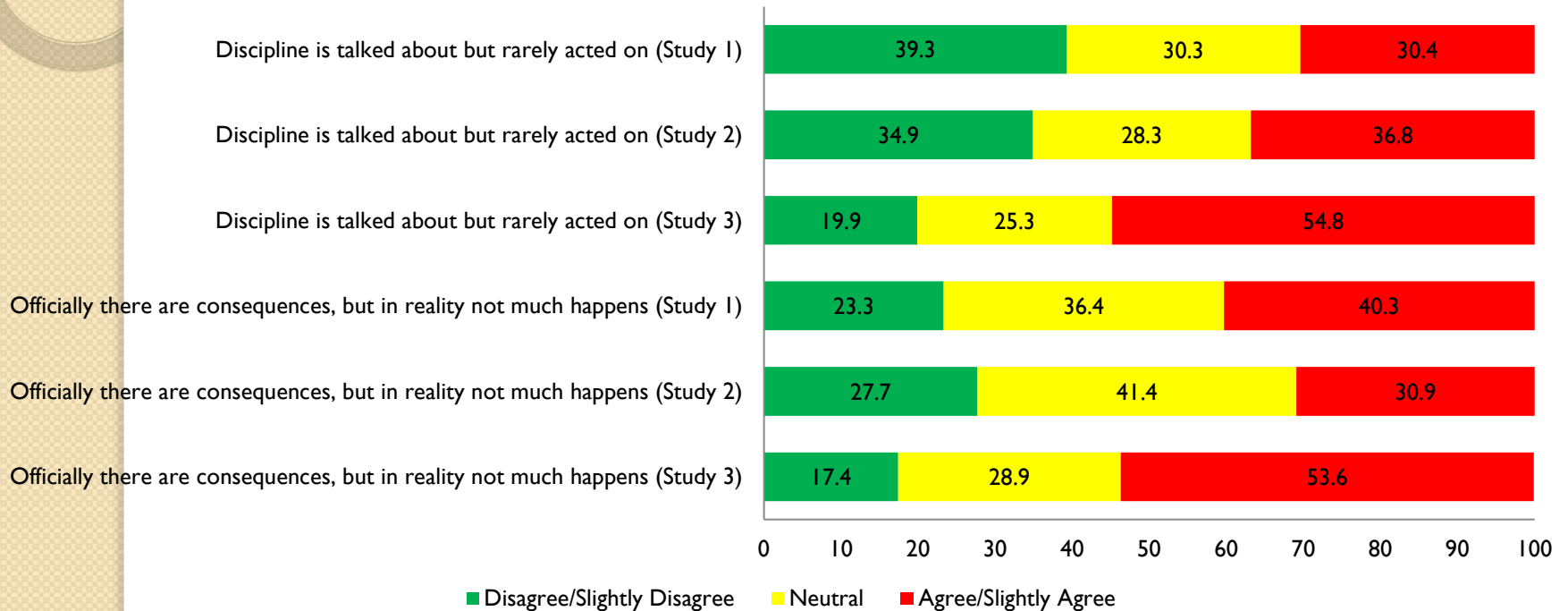
Because accountability is multi-dimensional we were able to rank each component in terms of its relationships with health and safety variables.

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1. **Expectations - clear, appropriate and achievable.**
 2. Feedback - performance based, consistent.
 3. Integrity – words match actions.
 4. Salience – work is seen as important.

| Accountability Components | Safety Culture | Work Stress | Personal Agency | Safety Empowerment | Preventative Coping | Psychological Well-being |
|---------------------------|----------------|-------------|-----------------|--------------------|---------------------|--------------------------|
| Expectations | .53** | -.43** | .21**/ .16* | .28**/ .34** | .16 / .17* | -.35** / -.23** |
| Feedback | .52** | -.26** | .19* / .02 | .26**/ .33** | .14 / .18* | -.24** / -.15 |
| Integrity | .23** | -.11** | .05 / .04 | .24**/ .19* | .04 / .03 | -.06 / -.13 |
| Salience | .24** | -.14** | .19* / .03 | .10 / .29** | -.02 / .09 | -.12 / -.13 |

Note. * p < .05, ** p < .01. Safety culture and work stress correlations are from Study 1. Remaining results are from Study 2/Study3.

Results



What might these results mean for individual behaviour and safety performance?

Conclusions

- Accountability is an integral part of organisational culture that is linked to individual health and safety.

Future

- Measure/Benchmark/Monitor.
- Perceptions of accountability within groups/crews → safety performance.
- Enhancing accountability within organisations.

Thankyou

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References

- Smtih, P., Garrett, C., & Calvert, D. (2006). *A five factor measure of safety culture*. Paper presented at the Queensland Mining, Health and Safety Conference, Townsville.
- Strahan, Brad (2003). *The role of personal agency in effective fatigue management*. Queensland Mining Industry Health & Safety Conference, Townsville, August.