

# Alpha Foundation Planning Meeting

## Human Interface: Training and Culture

Dave DeJoy

Workplace Health Group

College of Public Health

University of Georgia

# Key Knowledge Gaps

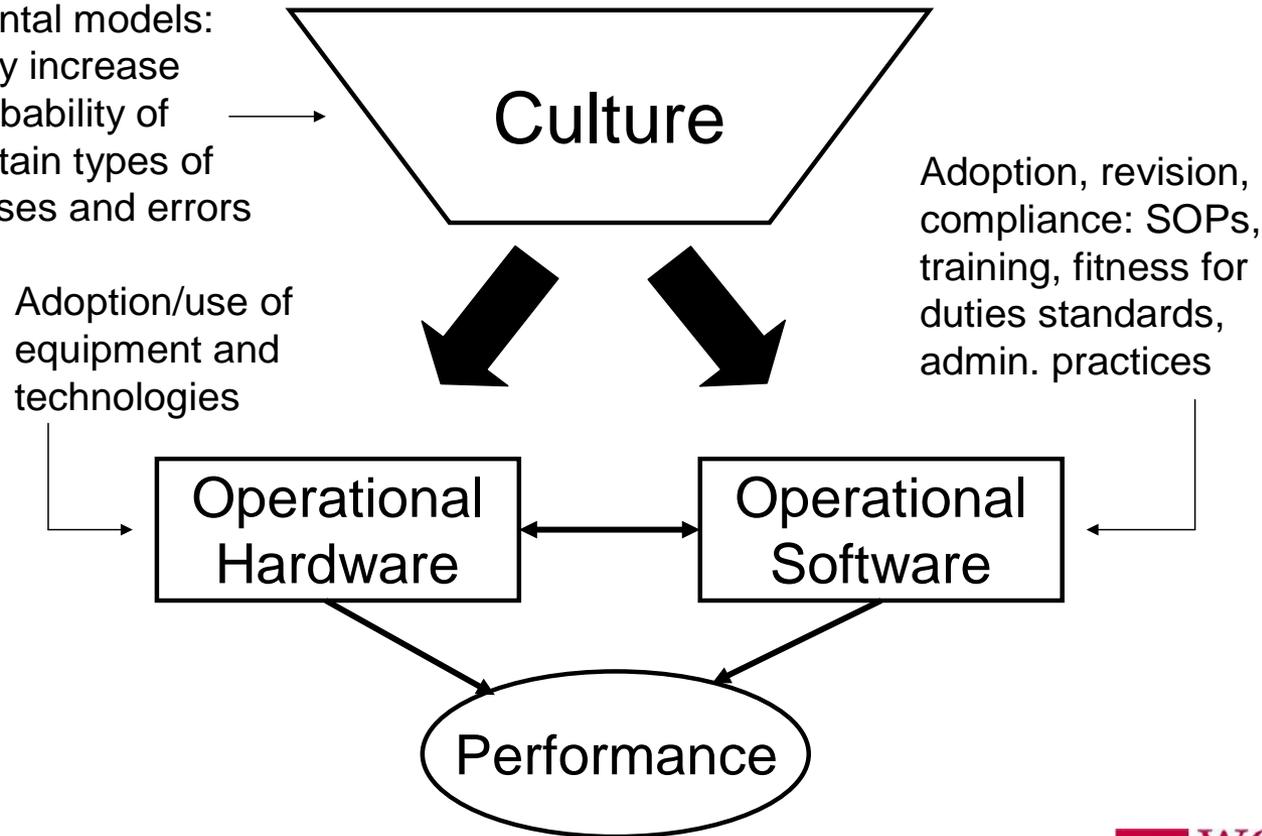
- ❖ The characteristics of an optimal safety culture in mining and how to create and maintain it
- ❖ Systematic analysis and evaluation of safety management systems and practices in mining

# Safety Culture

- **Definition:** The shared norms, values, and assumptions pertinent to safety that exist within an organization and serve to shape relevant attitudes and behaviors
- Investigations of disasters and major accidents typically identify safety culture as a major contributing factor or basic cause
- Safety culture forms the organizational context in which all safety-related actions take place
- **Very heart of safety culture** is the relative importance of safety compared to other organizational priorities such as production and costs

# General Model of Safety Culture Influences on Safety Performance

Helps shape expectations; mental models: may increase probability of certain types of biases and errors



Adoption/use of equipment and technologies

# Safety Culture

- Rapidly expanding literature on safety culture-climate but very little specific to mining
  - What does this literature have to offer the mining community
  - How should it help shape new research specific to mining
- Need research linking culture to safety-related outcomes but not just injury; also behaviors, work practices, expectations, reporting, communications, safety citizenship (i.e., leading & lagging indicators)
- Studies needed that feature multi-level analyses; longitudinal outcome data; assessment of culture/climate level, strength, consistency

# Safety Culture

- How to maximize safety culture in a compliance oriented industry
- Connection of leadership to safety culture and safety performance (transformational leadership, etc.)
- Not only the safety culture of mining organizations but also the safety culture of mining and miners (risk complacency/acceptance; trust, etc.)
- What can be learned from existing research on high reliability organizations and other high hazard work settings (e.g., off-shore oil/gas)

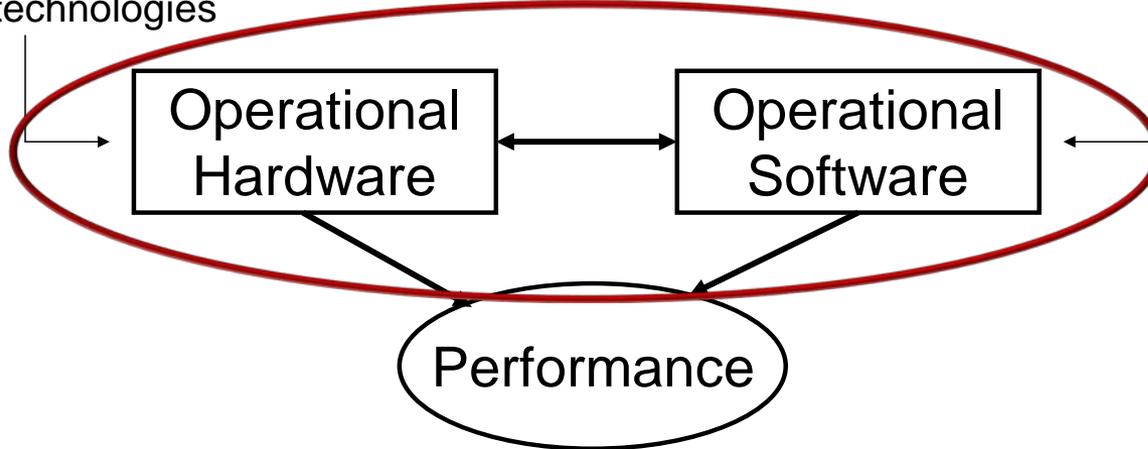
# Safety Systems and Practices

Helps shape expectations; mental models: may increase probability of certain types of biases and errors



Adoption, revision, compliance: SOPs, training, fitness for duties standards, admin. practices

Adoption/use of equipment and technologies



# Safety Systems and Practices

- Quite limited scientific data on the effectiveness of safety-related systems and practices in mining
- What are the core characteristics of an effective safety management system in mining and how do we know it
- Mining has heavy investment in training
  - To what extent is it designed according to acknowledged best practices and evaluated in terms of actual effectiveness (training to competency/behavioral capability)
  - When is training best solution to a problem (needs assessment)
  - Potential value of specialized training for leaders
- Growing support for use of participatory/high involvement strategies in safety programming – applications to mining needed

# Final Thoughts

Rapid progress in both these areas requires:

- Effective industry – researcher partnerships
- An expanded critical mass of researchers

Thank you

[dmdejoy@uga.edu](mailto:dmdejoy@uga.edu)