

INDIVIDUAL ATTITUDES TOWARDS SAFETY: AN EXPLORATION



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BIOGRAPHY



- ✘ Steven Coleman earned a B.S. in Engineering Science from Regents College, M.S. in Energy Management from New York Institute of Technology, a M.S. in Project Management from George Washington University, and Doctorate of Management in Organization Leadership (All But Dissertation) from the University of Phoenix. He is a certified energy manager, certified hazardous materials manager, certified safety professional and project management professional.
- ✘ Mr. Coleman has held several technical, engineering and leadership positions at Brookhaven National Laboratory (BNL) after serving six years in the United States Navy as a Nuclear Reactor Operator. Over the past 19 years, he was a Reactor Operator at the BNL high Flux Beam Reactor; Facilities Operations and Support Project Engineer and Operations Manager for BNL's Waste Management Division. Prior to his current role as the Manger of the Radiological Control Division, Mr. Coleman served as BNL's Integrated Safety Management Program Manager.

PRESENTATION OVERVIEW

- ✘ Background of Safety Attitude Research
- ✘ Purpose behind the Research
- ✘ Research Questions
- ✘ Sample Population
- ✘ Survey Instrument & Methodology
- ✘ Findings/Conclusions/Recommendations
- ✘ Questions and Answers

BACKGROUND OF SAFETY ATTITUDE RESEARCH

- ✘ In November 2007 – Office of Environment, Safety & Health Evaluations found:
“BNL Managers and Supervisors have not always ensured that established safety controls are implemented by workers...”
- ✘ In 2009 – Liberty Mutual Research Institute for Safety reported *“U.S. workplace injuries, illnesses and accidents direct costs topped \$48.6 billion.”*

PURPOSE BEHIND THE RESEARCH

- ✘ Determine the relationship between nontechnical and technical employee attitudes towards safety based on age, gender and education.



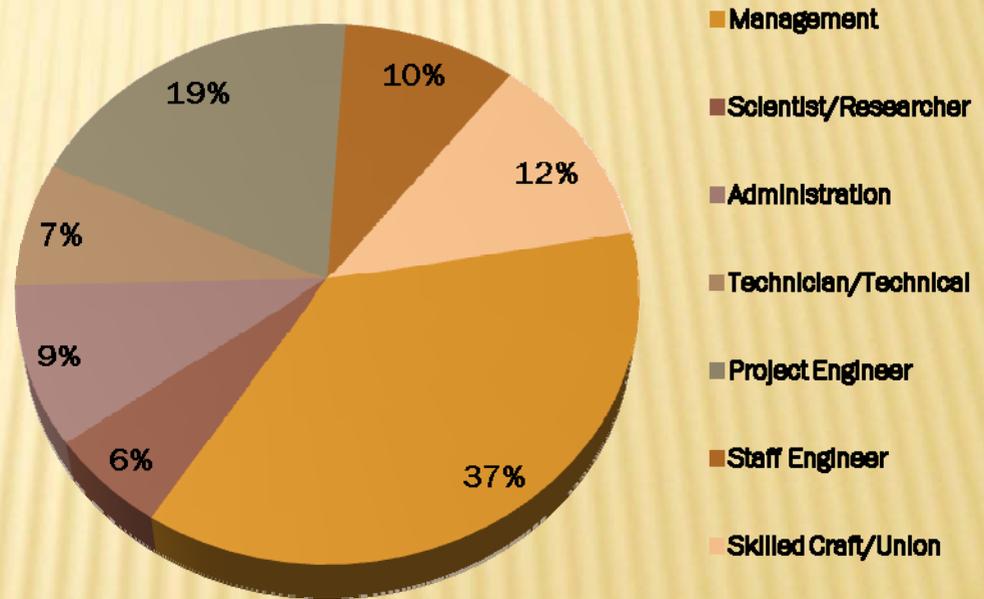
RESEARCH QUESTIONS

1. What is the relationship between technical and nontechnical employee age and attitudes towards safety?
2. What is the relationship between technical and nontechnical employee educational background and attitudes towards safety?
3. What is the relationship between technical and nontechnical employee gender and attitudes towards safety?
4. What correlations exist between technical and nontechnical employee attitudes towards safety?

SAMPLE POPULATION

- ✘ Employee Safety Inventory (ESI) developed by Vangent, Incorporated was administered to 500 Brookhaven National Laboratory (BNL) employees (250 nontechnical/250 Technical)

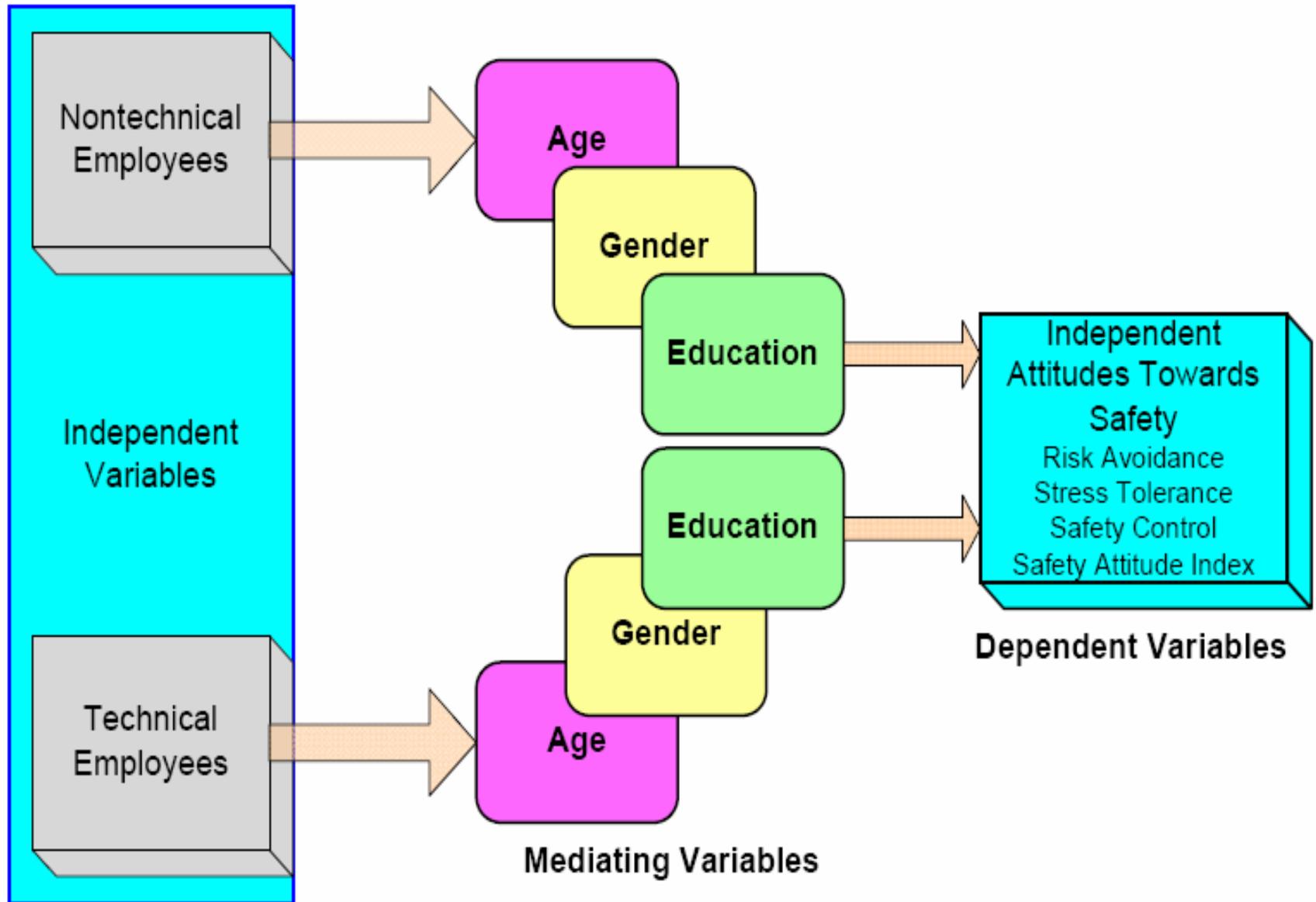
Employment Category % by Job Titles



SURVEY INSTRUMENT & METHODOLOGY

- ✘ ESI survey instrument – Validity and Reliability
- ✘ Measurement Dimensions
 - + Risk Avoidance
 - + Safety Control
 - + Stress Tolerance
 - + Safety Attitude Index
- ✘ Quantitative Correlational Analyses

Employment Category

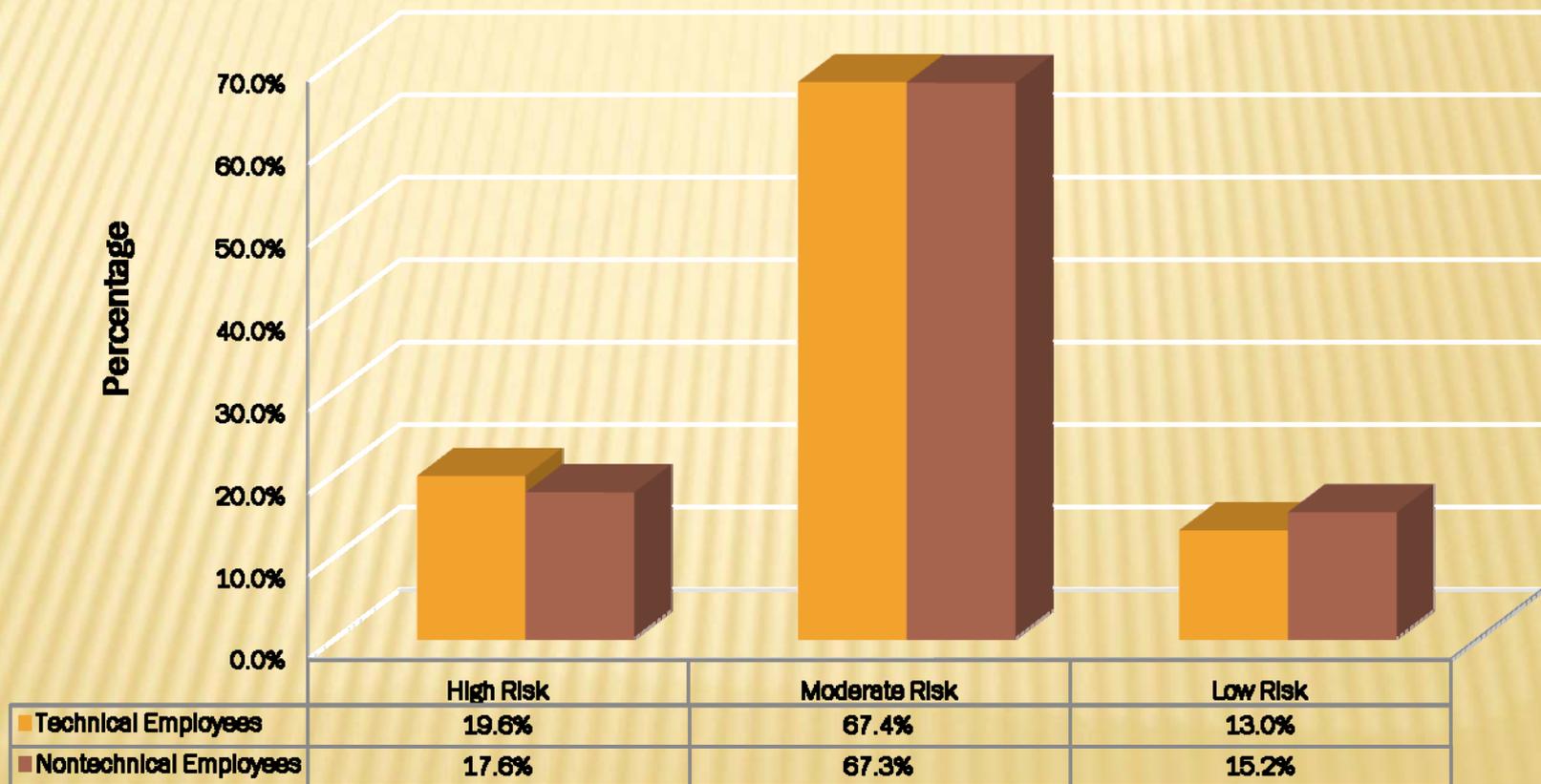


FINDINGS/CONCLUSIONS

- ✘ No significant differences between nontechnical and technical employee attitudes towards safety based on age, education or gender was found.
- ✘ Three Significant Findings Noted:
 1. **AGE** - 25-34 years age group for both technical and nontechnical employees were more likely to engage in dangerous, thrill seeking and high risk behaviors than the other age groups
 2. **STRESS** - Technical employee scores revealed that they are more able to cope with stress than nontechnical employees
 3. **RISK** - More than 85% of both Technical and Nontechnical employees reported “Moderate to High Risk” Attitudes Towards Safety.

FINDINGS/CONCLUSIONS

Comparison of Safety Attitude Categories



RECOMMENDATIONS FOR LEADERSHIP



RECOMMENDATIONS FOR LEADERSHIP

- ✘ Leaders must take a proactive approach:
 - + Organizational leaders should seek leaders that not only have leadership/technical skills but who also have “safety attitudes” that infuse and shape the organizations culture.
 - + Employ strategies that identify safety attitudes prior to hiring/placing/promoting employees to leadership positions – “Assess Safety Attitudes as a prerequisite”

STUDY LIMITATIONS

- ✘ BNL employees on site for 3 or more years.
Time and resource constraints limited the study to one DOE National Laboratory.
- ✘ Assessed attitudes rather than actual safety practices employed.
- ✘ Employment categories grouped into Nontechnical and Technical employees

SUGGESTIONS FOR FUTURE RESEARCH

- ✘ Consider examining how individual safety attitudes correlate with safety performance (e.g., injury, illness, accidents...)
- ✘ Consider populations from other research and development/DOE National Laboratories to further test individual attitudes towards safety
- ✘ Consider exploring how leadership and management behaviors relate to employee affective commitment

REFERENCES

Brookhaven National Laboratory (2007, November). DOE HS-64 Evaluation of Environment, Safety and Health Programs at BNL.

Kouzes, J. & Posner, B. (2007). *The Leadership Challenge*. San Francisco, CA. John Wiley and Sons

Laundry, G., Panaccio, A. & Vandenberghe, C. (2010). Dimensionality and consequence of employee commitment to supervisors: a two-study examination. *The Journal of Psychology*, 144(3), 285-312.

Liberty Mutual Research Institute for Safety (2009). 2008 *Workplace Safety Index*. Retrieved June 16, 2009 from the Liberty Mutual Research web site <http://www.libertymutualgroup.com>

QUESTIONS AND ANSWERS

“Titles are granted, but it’s your behavior that wins you respect... Exemplary leaders know that if they want to gain commitment and achieve the highest standards, they must be models of behavior they expect of others. Leaders model the way” (Kouzes & Posner, 2007, p. 15).