

Survey results link role of principal investigators to lab safety

April 22 2015, by Phil Hampton

Graduate students and postdoctoral fellows in academic research laboratories say that they witness and experience fewer accidents and injuries when the lab's lead faculty member or supervisor is actively engaged in safety programs, according to a UCLA study.

Compliance with requirements for wearing lab coats, eye protection and other personal protective equipment also correlates strongly with the active involvement of the principal investigator, according to the research.

"While not necessarily causal, the relationship between the principal investigator's involvement and incidence of injuries and accidents was very strong among the junior researchers who participated in the survey," said Imke Schroeder, a UCLA adjunct associate professor of microbiology, immunology and molecular genetics.

"The takeaway here is that it's not enough for regulators to come in and provide training; safety and compliance requires that [principal investigators](#) mentor their students and postdocs on safety and not only research," said Schroeder, the study's lead author and a research project manager for the University of California Center for Laboratory Safety. She added that in some cases a lab supervisor who actively monitors safety can have the same positive effect as a faculty member.

The research is published in the peer-reviewed *Journal of Chemical Health and Safety*.

Housed at UCLA, the Center for Laboratory Safety was established in 2011 with a mission to improve the practice of lab safety through scientific research and facilitate the translation of results into best practices.

Working with Nature Publishing Group and lab-safety software firm BioRAFT, the center helped design and disseminate a survey of scientists in academic, government and private-industry research labs worldwide.

For the study, researchers analyzed only the U.S. survey responses, from 991 academic lab workers, 133 government lab employees and 120 lab workers from private industry.

Among junior researchers in academic labs who said their principal investigators did not demonstrate active support for safety, 72 percent reported witnessing or experiencing three or more major injuries. In labs where the principal investigator actively checked on safe operations, that figure was 36 percent.

Among the other key findings:

- Academic, government and industry lab researchers assign a lower level of risk to their work than do their employers.
- Although most researchers reported that they had received training before they were allowed to perform experiments, about 25 percent said they were not trained on the use of very hazardous materials and procedures required for their experiments.
- Researchers in private-industry labs reported significantly greater compliance with requirements for lab coats and eye protection than did researchers from academic and government labs.
- In academic and government labs, researchers were more likely

to comply with regulations for personal protective equipment if they believed that they were working in a high-risk environment.

Schroeder's co-authors were Debbie Yan Qun Huang and Olivia Ellis, graduate students at the UCLA Fielding School of Public Health; James Gibson, executive director of environmental health and safety at USC; and Nancy Wayne, professor of physiology and associate vice chancellor for research at UCLA.

In recent years, UCLA has dramatically enhanced campus lab safety programs and worked to change the culture of [safety](#) including by increasing lab inspections, enhancing training, strengthening policies on the use of [personal protective equipment](#) and distributing [lab](#) coats and goggles to thousands of researchers.

More information: "Laboratory safety attitudes and practices: A comparison of academic, government, and industry researchers," *Journal of Chemical Health and Safety*, Available online 21 March 2015, ISSN 1871-5532, [dx.doi.org/10.1016/j.jchas.2015.03.001](https://doi.org/10.1016/j.jchas.2015.03.001)

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