

A PROJECT TO EVALUATE THE ROLE POSITIVE AND NEGATIVE EMOTION PLAYS IN PROMOTING
HEARING CONSERVATION BEHAVIORS AMONG COAL MINERS

K. Witte, Ph.D., C. Vaught, Ph.D., M. Stephenson, Ph.D.

Presenter: Charles Vaught

The goal of this project, which is in the data collection phase, is to study the role of positive emotion in health communications, specifically in encouraging the adoption of hearing protection behaviors among coal miners. Coal miners are a population of particular interest for the present study. Twenty-five percent of the nation's miners continue to work in an environment where time-weighted average noise levels exceed 90 dBA. Although these noise levels are subject to regulation by the Mine Safety and Health Administration, enforcement of hearing protector use by underground miners is difficult to achieve. In addition to the enforcement issue, many miners do not appreciate that removing hearing protection for 15 minutes of an 8-hour work shift can cut protection effectiveness in half. By age 64, 80% of coal miners will have moderate to profound hearing loss, compared to only 20% of those non-occupationally exposed to noise. It is therefore apparent that among occupational groups, coal miners are at particularly high risk of losing their hearing.

Some studies suggest that positive emotion increases awareness and recognition of topics but has little, if any, impact on producing behavioral outcomes. Yet, many practicing health communicators have a stated preference that when possible, they would like to avoid inducing negative emotion and promote positive emotion instead. The present study design uses a tested theoretical framework (the Extended Parallel Process Model) to compare the effectiveness of positive vs. negative emotional arousal in encouraging hearing conservation behaviors among coal miners. The EPPM identifies both when and why fear-arousing risk messages work (promote

self-protective behaviors), as well as when and why they fail to work (promote maladaptive responses like denial, reactance, or defensive avoidance).

We are testing, with direct mail products sent to miners' homes, the question of whether positive emotion motivates action regarding hearing loss just as well as negative emotion, and more specifically whether positive emotion works as well as negative emotion to underscore the need for hearing tests. Products will be varied to produce high and low levels of either positive or negative emotion and we are examining the effect of both types of emotional arousal on health behaviors. Generally, our research objectives are to determine the effect of positive versus negative emotion in creating the following:

- Increased attention to the information in the materials.
- Increased comprehension of risk.
- Increased comprehension of recommended response.
- Positive or negative emotion (manipulation check).
- Retention of message.
- Attitudes toward recommended health behaviors.
- Intentions to engage in recommended health behaviors.
- Self-reported health behaviors (hearing tests, wearing hearing protection devices).
- Fear control responses (defensive avoidance, denial, reactance).

As this is one of the first studies of its kind on inducing positive emotion in an experimental intervention, extensive pilot-testing and message validation has been undertaken to ensure that each message varies only on the dimensions of emotion, and assess whether both positive and negative emotions vary in ways other than in intensity.

- Health and Safety - The Hidden Aspects of Call Centers. *Sunita Kaistha, MPhil, PhD, India*
- Post Traumatic Stress and the Work Place: Experiences of the 2001 Foot and Mouth Disease Epidemic. *Ian Convery, RN, BSc (Hons), MSc, United Kingdom.* Coauthors: *Maggie Mort, PhD; Josephine Baxter, Cathy Bailey, PhD*
- A Risk-Communication Revolution: Process Versus Event. *Marilyn Null, BA, USA*
- Variations in Industry Compliance with the OSHA Bloodborne Pathogens (BBPs) Standard in the US. *Guang Xiang Chen, MD, MS, USA.* Coauthor: *E. Lynn Jenkins, MA*

Training Issues in the Mining Industry

Pratt 'B' Room

Lower Lobby Level

Moderator: *Gabriela Moreno, MD, Chile*

- Learning from the Master: Effective Training for Miners. *Elaine Cullen, BA, MBA, CMSP, USA*
- Biologically Effective UV B Doses in Miners at High Altitude in Northern Chile, SA. *Gabriela Moreno, MD, Chile.* Coauthor: *Sergio Cabrera, PhD*
- Toolbox Training for Sand and Gravel Miners. *Lani Boldt, MS, CMSP, USA.* Coauthor: *Floyd Varley*
- Evaluating the Role of Positive and Negative Emotion in Promoting Hearing Conservation Behaviors Among Coal Miners. *M. Stephenson, PhD; USA.* Coauthors: *Charles Vaught, PhD, CMSP; K. Witte, PhD,*
- A Training Strategy that Involves All Employees in Workplace Communication/Risk Management. *Launa Mallett, PhD, USA.* Coauthors: *Michael J. Brnich, Jr., CMSP; Charles Vaught, PhD, CMSP*

Curriculum Development in Occupational Health and Information Effect

Calhoun Room

Cabana Level, South

Moderator: *Raphael Masschelein, MD, PhD, Belgium*

- Curricula Development for Agricultural Occupational Health: The Kentucky Experience. *Robert McKnight, MPH, ScD, USA*
- Towards a Harmonised Training Program for Occupational Health Physicians in Europe: The Ambitions and Limitations of EASOM. *Raphael Masschelein, MD, PhD, Belgium*
- Core Curriculum for an Occupational Medicine Specialization Course. *Jose Miguel Ramos, MD, Mexico.* Coauthor: *Silvia Ramirez, MD*
- Training Information of Different Complexities. *Natalia Bobko, PhD, Ukraine*

October 28-30, 2002 • Baltimore, Maryland, USA

**Best Practices
in Occupational
Safety and Health,
Education,
Training, and
Communication:
Ideas That
Sizzle**

**6th International Conference
Scientific Committee on Education and Training in
Occupational Health, ICOH
in cooperation with
The International Communication Network, ICOH**



NIOSH