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16. Abstract (Limit: 200 words) This testimony concerned the views of NIOSH regarding the proposed rule on occupant protection for motor vehicles. Questions have been raised concerning a study of occupant safety in forklift trucks. The training program discussed in the specific article was developed for lift truck operators in warehouses and was not an extension of existing programs used in the facilities that were cited in the studies. The specific details of the training for forklift operators would have to be modified for other types of vehicles. The study evaluated the performance of three groups of lift truck operations: a training only group, a training plus feedback group, and a control group. The largest decrease in incorrect behaviors, 23%, was obtained in the training plus feedback group, followed by 18% in the training only group and 6% in referent groups. There has been some evidence that safety practices learned on the job can transfer to off the job settings. NIOSH was unable to produce any studies dealing with accident causality tied to drug and alcohol use. One study was noted which dealt with air bags, used in combination with seat belts, offering optimal safety protection.

17. Document Analysis a. Descriptors

b. Identifiers/Open-Ended Terms NIOSH-Publication, NIOSH-Author, NIOSH-Testimony, Accident-prevention, Safety-engineering, Drivers, Bus-drivers, Truck-drivers, Automotive-industry, Safety-practices, Protective-measures

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NIOSH Comments to DOL

POSTHEARING COMMENTS OF THE
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ON
THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S
NOTICE OF PROPOSED RULEMAKING ON
OCCUPANT PROTECTION IN MOTOR VEHICLES

29 CFR Parts 1910, 1915, 1917, 1918, 1926, and 1928
Docket S-776-G

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Centers for Disease Control
National Institute for Occupational Safety and Health

April 8, 1991

The following comments are in response to questions or requests for information that were directed to staff of the National Institute for Occupational Safety and Health (NIOSH) at the Occupational Safety and Health Administration (OSHA) hearing on January 8, 1991, for the proposed rule on occupant protection for motor vehicles.

1. OSHA staff asked three questions relating to a study by Cohen and Jensen (1984).

   A. "Was the forklift truck training program (cited on page 5 of the NIOSH testimony) a model training program that was only established for the course of the study or was it an ongoing training program?" (page 74 of the transcript).

   The model training program cited in this article was developed for lift truck operators in warehouses. The training program was not an extension of existing programs used in the facilities that were cited in the studies.

   B. "Is there anything unique about other vehicles that would make the forklift truck training program unadaptable to those other vehicles as a training method or training program?" (page 75 of the transcript).

   The specific details of the training for forklift operators would need to be modified for other types of vehicles. However, the general approach and methods used in the forklift training program would be effective for training programs addressing other vehicles. The Goldstein model that was cited in our testimony (Goldstein 1975), describes on pages 127 to 128, training programs that should be applicable to other vehicle operators.

   C. "How long was the peer-modeling and daily feedback performed before the final assessment was made that the training program's desired behaviors were retained after maintenance activities had ceased? Also, has there been an update of that study to indicate that there is still a general high compliance with the desired behavior there? Finally, how much time was devoted to the peer-modeling and daily feedback before the measurement was taken?" (page 76 of the transcript).

   The Cohen and Jensen study (1984) evaluated the performance of 3 groups of lift truck operators (12 operators per group): 1) a training-only group, 2) a training-plus-feedback group, and 3) a control group that received no training and no feedback until after an observation period. Following the initial training, all 3 groups showed a decrease in the mean error rate of incorrect behaviors (i.e., showed improved performance). Group 1 showed the largest decrease (23%) in incorrect behaviors, followed by the training-only (18%) and control (6%) groups. Statistical analyses of the data indicated that the decreases for

training-only and training-plus-feedback groups each differed significantly ($p < .05$) from the control group but did not differ significantly from one another. The peer-modeling was a confounding variable and not a controlled experimental variable.

Three months elapsed between the cessation of feedback and the measurement of retention. After the three-month period, the authors found that performance had not reverted to pre-training levels.

NIOSH has not conducted or sponsored any follow-up studies on training related to motor vehicles. Furthermore, NIOSH has not returned to this facility to determine whether the learned behaviors have been retained.

2. "Does NIOSH know of any studies of other training for other off-work site behaviors where training has been successful and could they present that to the docket?" (page 85 of the transcript).

There is some evidence that safety practices learned on the job can transfer to "off-the-job" settings. Rodnick (1982) reports that an employer-based health hazard appraisal and counseling program significantly reduced employee blood pressure, cholesterol level, and cigarette smoking while increasing exercise, breast self-examination (among women), and seat belt usage (among men) one year later. These findings were not supported by Rogers et al. (1988), who report that while a stimulus-control program successfully increased seat belt use among government workers operating both state-owned and privately-owned vehicles during working hours, there was a negligible increase in seat belt usage during off-duty hours.

3. "Is NIOSH aware of any more carefully-designed studies that attempt to show the accident causality with drug and alcohol use?" (page 89 of the transcript).

NIOSH is not aware of any such studies.

4. "Is NIOSH aware of any studies that indicate that air bags, in combination with seat belts, offer optimal safety protection?"

NIOSH searched the literature and found one relevant report:

Fitzpatrick M (1986). Computer study to determine the combined performance of air bags and belt restraint systems. Springfield, VA: National Technical Information Service, contract no. DTNH-86-P-07157.

NIOSH did not evaluate this report because we have no expertise in this area. However, for additional information, contact Ralph Hitchcock (202-366-4862).

5. "In the cases of buses for transporting workers, is NIOSH suggesting that OSHA should issue a rule requiring seat belts for all passengers in the bus?" (page 92 of the transcript).

Yes, OSHA should require seat belt use for all passengers in buses for occupational use. In previous comments to OSHA rulemaking for the logging industry (NIOSH 1989), NIOSH recommended that "...personnel vehicles have a seat belt for each passenger, and that the number of passengers permitted in the vehicle be limited to the number of seat belts available in the vehicle. Furthermore, OSHA should require all occupants of the vehicle wear the seat belt." NIOSH continues to support this recommendation for all general industry and construction vehicles.

6. "All participants in the hearing should transmit their CV's to OSHA" (page 96 of the transcript).

Attachment 1 consists of the résumés or curriculum vitae's (CV's) for the four NIOSH participants at the OSHA hearing on occupant protection (January 8, 1991).

Enclosures and/or attachments that are not included are available free of charge from the NIOSH Docket Office (513/533-8450).

REFERENCES

Cohen HH and Jensen RC (1984). Measuring the effectiveness of an industrial lift truck safety training program. J Saf Res 15(3):125-135. Submitted with NIOSH comments dated December 14, 1990.

Goldstein IL (1975). Training. Margolies BL and Kroes W, eds. In: The Human Side of Accident Prevention. Springfield, IL: Charles C. Thomas, pp. 92-113. Submitted to OSHA docket February 8, 1991.

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Rodnick JE (1982). Health behavior changes associated with health hazard appraisal counseling in an occupational setting. Prev Med 11:583-594.

Rogers RW et al. (1988). Promoting safety belt use among state employees: the effects of prompting and a stimulus-control intervention. J Appl Behav Anal 21(3):263-269.

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