

# Three Incidents of Industrial Mass Psychogenic Illness

## A Preliminary Report

Michael J. Smith, Ph.D.; Michael J. Colligan, Ph.D.; and Joseph J. Hurrell, Jr.

This article describes the preliminary findings of three recent investigations of industrial mass psychogenic illness conducted by psychologists of the Behavioral and Motivational Factors Branch (BMF Branch) of the National Institute for Occupational Safety and Health (NIOSH) using a research protocol described in the following article. The purpose of the present report is to provide information regarding the characteristics and nature of mass psychogenic illness and to indicate certain similarities in the incidents investigated to date. A more detailed discussion of this phenomenon will be presented at a later time as additional data are collected from future cases.

### Case 1

**Background.** — The incident occurred in an electronics assembly plant employing approximately 500 people. The primary product of the plant is electric switches assembled from parts supplied by another plant.

**Narrative.** — On each of three separate occasions within a two week period approximately 30 cases of illness were reported by employees in the plant. Affected workers complained of a strange or peculiar odor and evidenced nonspecific subjective symptoms such as headaches, dizziness, lightheadedness, weakness, sleepiness, and nausea. The symptoms appeared to be transient, being most pronounced in the work environment and dissipating following rest at home. Over 95% of the affected workers were female.

**Findings.** — Biomedical examinations of the affected workers revealed no obvious pathologies. Similarly, environmental sampling of the workplace failed to identify the presence of any known toxicant in sufficient quantity to produce the observed symptoms. Employee interviews and questionnaire survey responses of a random sample of affected and nonaffected workers indicated differences along a number of sociodemographic and behavioral dimensions. Compared to the nonaffected workers,

those affected (1) tended to have less education; (2) tended to have fewer members of the household employed; (3) expressed a higher level of job-related stress as a result of the production pace and perceived lack of supervisory support; (4) reported that they were more frequently bothered by poor lighting and temperature variations in the workplace; (5) reported taking more sick days during an average month; and, (6) tended to score higher on the hysteria and depression scales of the MMPI.

### Case 2

**Background.** — This incident occurred in an aluminum furniture assembly plant in a rural midwestern town. The plant employs 357 people and is exclusively engaged in assembly operations. No manufacturing is performed in the plant nor are any chemicals used in the assembly process.

**Narrative.** — The first incident of illness involved 29 workers (all women) who complained of headaches, bad tastes in their mouth, dry mouths, dizziness, and lightheadedness which they attributed to a strange odor. Some of the workers also reported seeing a "blue mist" over one section of the plant which they felt may have contributed to their illness. Air samples taken on a nine point grid covering the plant showed no detectable carbon monoxide and no toxic levels of chemical or other agents.

Upon resuming operations a few days later, workers from scattered areas through the plant filtered into the first aid room with symptoms identical to those expressed earlier. By the close of the workday, five males and 22 females (eight of whom had been affected in the previous outbreak) were treated in the first aid room.

**Findings.** — Repeated environmental sampling conducted throughout the course of the outbreaks failed to detect any toxicants in the plant. Medical examinations of a sample of the affecteds revealed no abnormalities in chest x-rays, hematology, serology, urinalysis, electrocardiogram, or blood gases. Results of employee interviews and a questionnaire survey administered to a sample of affected and nonaffected workers indicated that, compared to nonaffected workers, those affected (1) were more dependent upon their jobs for total family income; (2) were more

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stressed as a result of the perceived work pace, task repetition and job insecurity associated with their work; (3) reported poorer general health and were more often bothered by colds, nervousness or tension, faintness, and feelings of fatigue or exhaustion; (4) were more often bothered by noise and temperature variations in the work environment; (5) perceived less staff support, more pressure to produce and less clarity about their job responsibilities; and, (6) scored higher on the hysteria scale of the MMPI.

### Case 3

**Background.** — The incident occurred in a frozen fish packing plant in the midwest. The plant employed approximately 168 workers on the first shift (116 females and 52 males).

**Narrative.** — Thirty-three females and two males became ill approximately one hour after beginning work in the morning. Chief complaints were headaches, difficulty breathing, general weakness and dizziness. Although unable to specify a probable cause, many of the affected workers had been involved in an incident of carbon monoxide exposure in the plant two years earlier. While admitting that the experienced symptoms were quite different on the two occasions, many of the workers nonetheless felt that the recent incident was a reoccurrence of carbon monoxide inhalation.

**Findings.** — Biomedical testing of the affected workers and environmental sampling of the workplace failed to identify any toxicant capable of producing the observed symptoms. A continuous carbon monoxide monitor operating in the plant at the time of the incident indicated that CO levels were well below the recommended threshold limit value. Survey and interview data indicated that, compared to a random sample of nonaffected workers, the affected workers (1) had more children at home; (2) had a lower personal income and worked less overtime; (3) were more dissatisfied with overtime pay; (4) were more dissatisfied with the amount of recognition they received from their supervisors and felt less able to influence their supervisors' decisions; (5) were

more often affected by job layoffs; (6) would be more likely to quit their jobs if they didn't need the income; (7) perceived that the members of their work groups did not get along very well together; (8) reported their general health to be poorer; (9) more often felt tired at work and after work; (10) were more often bothered by noise and irritating odors; (11) actually witnessed more workers become ill; (12) perceived less peer cohesion and staff support within the environment; (13) perceived less personal freedom in the performance of their job; (14) perceived more production pressure; and, (15) scored higher on the extraversion dimension of the Eysenck scale.

### Summary

The nature of three separate occurrences of mass psychogenic illness in industry is illustrated. The intent is to show the similarities in the nature of the outbreaks and the symptomatology of the affected workers in three widely diverse industrial situations. A preliminary examination of this information indicates that in general it appears that mass psychogenic illness affects primarily women, engaged in a predominantly female work force, who are experiencing physical and psychological job stress and concomitant physical strain. The specific symptoms may vary across incidents, and from individual to individual within a site, but typically consist of subjective somatic complaints, such as headaches, nausea, and chills. The actual outbreak of illness is usually triggered by a physical stimulus, for example, an odor, which is perceived by one or more workers and which is believed to be the source of the discomfort. Comparisons of the survey responses of affected and unaffected workers indicates that, within a worksite, affected workers report experiencing more discomfort from physical (work pace, poor lighting, noise) and psychological (role ambiguity, lack of social support, boredom) stressors. It appears as though peer and supervisory relations are of particular importance as potential precipitators of mass psychogenic illness.

## Young Executive Values

The greatest difference between the class of '68 and their predecessors is in the attitude towards management. They expect, indeed they demand, high competence from the boss and genuinely professional management from him. They expect that the organization that employs them actually plans and then carries out its plan. They expect it to have a systematic process for making decisions. They expect it to have a rational personnel policy, which includes, for instance, regular and thorough performance reviews.

They expect, in other words, that management be rational and that managers — and, above all, their own bosses in top management — be professional. They are very critical indeed of the management they see, sometimes hypercritical. Not having much experience themselves, they do not perhaps adequately value experience. They value, perhaps overvalue, system and method and plan.

— From "Report on the Class of '68" by Peter F. Drucker, in *The Wall Street Journal*, February 3, 1978.