PERSONALITY CHARACTERISTICS OF THE ACCIDENT INVOLVED EMPLOYEE

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**ABSTRACT:** The research relating personality traits to industrial and traffic accidents is reviewed. The research from the past 15 years is integrated with the multitude of studies preceding this period. All of the research is interpreted in terms of the "differential accident liability" concept, rather than the discredited "accident proneness" theory. The need to control for the confounding effects of age, experience, sex, and accident risk is discussed. It is concluded that the personality traits of extroversion, locus of control, impulsivity, aggression, social maladjustment, and some aspects of neurosis are related to the occurrence of accidents. Finally, the need to develop causal models of the personality-accident process and to identify causal influences through time series designs is proposed.

A major concern of every industrial business in the world is the avoidance of accidents. Employee accidents threaten the integrity of a company by the personal injuries, lost production time, costly lawsuits, disability payments, damaged equipment, and wasted materials that often result. According to the National Safety Council, one million productive-person hours are lost each year due to work-related accidents. In addition, yearly accident costs are estimated to be 31.4 billion dollars in lost wages, medical and insurance expenses, and property damage (National Safety Council, 1983). During 1984, 3740 employees were killed in work-related accidents in the United States, while almost two million workers were injured in industrial accidents (Cotter, 1986).

Many companies have dealt with this problem by creating strong safety departments that have much influence in determining how the work should be carried out. In recognizing that 90% of all accidents can be attributed to human error (McKenna, 1983), a typical concern of a safety department is to design the work so that the possibility of error is held to a minimum. Related to this function is the training of personnel in proper procedures and safety regulations (Denton, 1982).

While these efforts are commendable and have certainly had a positive impact on the accident problem, there is another approach to reducing human error that is often neglected. That method is the "per-
sonnel selection" approach. This strategy seeks to identify those worker characteristics that differentiate between employees involved in accidents and those not involved in accidents. If personal differences are discovered that are associated with accident occurrences, then future job applicants with those traits may not be hired, or will be placed in low-risk positions (Landy & Trumbo, 1980). These "personal differences" may be physical (weight, height, strength, agility), background (education, marital status, home adjustment), perceptual (visual and auditory acuity), or personality characteristics (introverted vs. extroverted, calm vs. nervous, optimistic vs. depressed, passive vs. aggressive, careful vs. impulsive, etc.). This article will focus on the personality traits that have been associated with accident occurrences over 65 years of research.

HISTORICAL PERSPECTIVE

The personnel selection method of understanding the individual's personal contribution to the accident process evolved from the decades long debate over the concept of "accident proneness." The first researcher to use this term, Vernon (1918), proposed that workers involved in accidents have an "accident prone personality," and that is why they have accidents. Although this idea was eventually recognized to be a useless tautology and heuristic dead-end in that it tells nothing about how these workers differ from workers without accidents, the basic notion recurs throughout the accident literature even to the present day (i.e., Pannain, Corera, Starace, & D'Alessio, 1983; Wellman, 1982; Wilson, 1980).

The following are two of the better known definitions of accident proneness, the first being the original formal statement of the concept, while the second is a more recent formulation. "Accident proneness is a personal idiosyncrasy of relative permanence predisposing the individual to a higher rate of accidents" (Farmer & Chambers, 1926, p. 3). "Accident proneness implies that even when exposed to the same conditions some people are more likely to have accidents than others, or that people differ fundamentally in their innate propensity for accidents" (Shaw & Sichel, 1971, p. 14).

What are the critical requirements of the concept of accident proneness? This is difficult to specify, for, as Cameron (1975) emphasizes, there are many strikingly different versions of the theory. What most of the versions have in common are as follows:

1. Accident proneness is a personality trait or syndrome. Most proponents regard it as a unitary trait.