



# 8

## *SOCIAL AND CULTURAL FACTORS*

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SOCIAL FACTORS RELATED TO ACCIDENTS may be studied on the societal or on the individual level. From the societal point of view, broad social forces influence the ways in which the community or group views and deals with the hazards in its environment. Research on this level is concerned with such phenomena as the social and cultural forces which favor accident occurrence; the priorities given to the control of firearms, vehicular traffic, and poisons; the economic forces which resist the adoption of recognized safety measures, such as railroad air brakes and automobile safety belts; and the political pressures for and against safety legislation.<sup>1,2</sup> Although they are to some extent removed from the direct causation of accidents, such factors are clearly significant.

From this broad point of view, accidents may be studied as a manifestation of social pathology. They are dysfunctional to the social system, interfering with its smooth operation, and they reflect and create social problems that involve most if not all of society's institutions—industry, school, home, and government. They also mirror a society's technology and the ways in which it has been integrated with its environment. For these reasons, one emphasis of behavioral research on accidents is their study as social phenomena, in much the same way that suicide, crime, and various diseases are studied in relation to the characteristics of social groups which favor their occurrence. The research worker using this approach attempts to determine the cultural and social values that influence the occurrence of accidents, the role that accidents play in social disorganization, and the institutional forces that positively or negatively influence their prevention or control.

From the individual point of view, the social scientist is interested in those social factors that affect the individual's behavior in relation to environmental hazards. Since almost all individual actions have social components, social factors may greatly influence not only the occurrence of accidents but also their type and severity. Individuals belong to groups, and group pressures may substantially determine whether individual behavior results in accidents to the individual or to others. The emphasis on vehicular speed and appearance rather than on crashworthiness (see Chap. 9) is an example of a group value. Social drinking patterns are largely group controlled. The individual who takes unnecessary risks may be trying to impress his fellow group members and, in fact, risk-taking may become a recognized and accepted group norm.

In addition to belonging to groups, all individuals occupy certain statuses and perform according to prescribed roles. All of these may impinge upon individual attitudes and behavior in regard to accidents. How well the mother and father perform their protective role in relation to their children may have a great effect upon the accident rates of their children, as the work of Read *et al.*<sup>3</sup> and others has demonstrated. Certain occupational statuses subject individuals to unusually high risks in the performance of their work. The individual's roles and statuses define who he is and what is expected of him; to the extent that safe behavior can be made an appropriate and acceptable part of his role performance and commitment to his status position, he will tend to incorporate it in his everyday routine.

Although much research has been done on the influence of social factors on a wide range of individual behavior—voting, for example, or purchasing habits—few studies have been done on accidents. Since accidents are usually not predictable and therefore not observable in systematic fashion, such studies may have to go back one

step and examine the more readily observable behavior that precedes the accident. Thus one might study such accident-generating acts as driving when drunk, speeding, jaywalking, and leaving a baby unattended.

There is an almost complete lack of significant studies which bring to bear on accident phenomena the full force of social theory and method. The few examples reproduced below are quite elementary and are offered to illustrate what might be done rather than as good examples of what has been done. We begin with Foote's thoughtful and highly original analysis of the potential of community, institutional, and interpersonal factors in both accident causation and prevention. As Foote points out, many institutional forces in society today indirectly promote the occurrence of accidents.

Foote's general analysis of social factors in accidents is followed by a detailed formulation of a theory of "the social threshold" in accident causation. Viewing accidents as a form of deviant behavior, Paterson hypothesizes that there is a threshold of conforming behavior beyond which an individual ventures into accident-inducing situations.

Bringing together a number of studies, McFarland and Moore appraise the many social factors related to automobile accidents involving young people. Especial significance is given to the role of the automobile in the life of the young person; it obviously serves many functions besides transportation, and many of these increase its potential for causing accidents. In the next article, Case and Stewart review the literature on driver attitudes but find that current tests are inadequate to measure the full range of driver attitudes and the effect of these attitudes on accidents (see Orleans and Ross, Chap. 5). Backett and Johnston's study deals with social factors, such as family background, in relation to childhood pedestrian accidents. Accidents outside the home are found to be related to the characteristics of the home, thereby suggesting that social factors may carry over into situations beyond their immediate environment.

On a completely different level of analysis, a sociologist, Porterfield, dealing with suicide, homicide, and crime, shows that these evidences of social disorganization are statistically associated with the occurrence of accidents. At the same general level of analysis, Ross raises the possibility that attitudes toward traffic laws are a dysfunctional element in traffic safety.

Finally, we examine behavioral factors in relation to accidents in which alcohol plays a role. Although several studies have firmly established the importance of the pharmacologic effects of alcohol in the initiation of accidents, only a few have begun to unravel the pertinent behavioral correlates of its use. Increasingly, however, attention is being directed to factors of this type. The problem of the drinking driver, for example, includes such behavioral components as: (1) cultural patterns in recreation, business, courtship, and entertainment; (2) public attitudes; (3) economic and political forces that favor drinking;<sup>1,2</sup> and (4) the emotional needs of the individual that favor his use of the drug.\* Further, since the chronic alcoholic is now known to

\* Authorities have long regarded beverage alcohol (ethyl alcohol, ethanol) as a drug and do describe it thus in the scientific literature. A committee of the WHO has stated that it has properties "intermediate between the addiction-producing and habit-forming drugs."<sup>4</sup> Although not all problems associated with its use can be described in relation to its pharmacologic properties, it is important to remember that lacking these properties it would not be employed.

be disproportionately represented in drinking-driving accidents (see below), the behavioral factors of this common disease are also important in relation to accidents.

Although there have not been many pertinent investigations, the reports by Barmack and Payne document well the importance of the accident-involved drinking driver's social background. Their findings and our general knowledge of the significance of alcohol in accidents make it clear that the successful control of the drinking driver will require far greater knowledge than we now have of the behavioral factors associated with its use.

### SOCIOLOGICAL FACTORS IN CHILDHOOD ACCIDENTS

—*Nelson N. Foote, Ph.D.*

Beginning with a simple description of the distribution of fatal accidents among children, Foote presents a sophisticated discussion of institutional, interpersonal, and individual factors that favor their occurrence and prevention. He states that "from the standpoint of accident prevention, the elimination of hazards through institutional action must realistically always remain the primary grand strategy." He also points out that "wherever well-recognized and widespread hazards in the physical environment remain year after year, it takes very low-powered research and little of it to discern that powerful institutional interests support their continued existence," and adds that "the appropriate question in such cases is: Who benefits from the maintenance of the hazard?" Such questions are well known to sophisticated workers concerned with accident research and prevention but are rarely, if ever, stated publicly. They point, nevertheless, to many opportunities for research of particular interest to behavioral scientists.

On the interpersonal level, Foote brilliantly discusses the role of parents in the injuries their children sustain and points out that many "accidents" are in reality the results of deliberate aggression.† This emphasizes the point that there has as yet been no adequate study of the relationships—undoubtedly numerous—between inadvertent injuries and those deliberately initiated. Forensic pathologists and some accident research workers, particularly those who study accidents rather than such secondary sources as accident reports, are quite familiar both with homicides and suicides classified as accidents and—though they are probably more rare—the reverse.<sup>2</sup> In addition, it is likely that individual accidents may be in part both inadvertent and deliberate, as Selzer's exploration of suicidal tendencies among alcoholics and others involved in motor vehicle accidents suggests.<sup>5</sup>

In regard to individual factors, Foote urges that social variables be considered before personality factors and the notion of accident proneness are employed as explanations of accidents. (We have already noted, in Chaps. 5 and 7, the limited usefulness of the latter emphasis.) Foote also proposes an analogy between accident

† Although long recognized on the basis of individual clinical cases, the occurrence and characteristics of such injuries are beginning to receive increased attention from the medical profession.<sup>6</sup>

behavior and delinquent behavior and points out that it is likely that "any strategy for prevention offers more hope to the degree that it employs generalized social controls rather than resorting to individual therapy of variable efficacy." Although he is probably correct in this view, this is one of the many points with respect to accident prevention that need careful consideration and thorough study.

Foote concludes with an outline for an interesting laboratory test of risk-taking among children, involving the observation of the behavior of children under a series of real-life situations of risk, such as crossing a road, hammering a nail, and climbing a tree.† Especially if the results were shown to correlate with accident distributions among the same children, such a test might be used to identify those who exhibit potentially dangerous patterns of risk-taking. Granted that there are difficult problems of standardization, control, and interpretation, experimental approaches of this general type might do much to provide needed information that is not being produced by most current accident research.

SUCHMAN AND SCHERZER's *Current Research in Childhood Accidents* cites the following data from the National Office of Vital Statistics, showing frequencies of the main types of accidental death by broad age groups during 1956:

TYPE	AGE	
	Under 5	5 to 14
All types	8,173	6,316
Motor vehicle	1,770	2,640
Falls	427	188
Fire burns	1,158	667
Drowning	748	1,327
Railroad	76	148
Firearms	79	429
Poison gases	53	33
Poison except gas	394	32
(All other— by subtraction	3,468	852)

Because of the special care taken with mortality statistics, these are probably among the most reliable data obtainable from official records of any kind. And because accidental deaths are even more rare events than accidents, data drawn from the complete national universe deserve thorough analysis. It is not clear how thorough such analysis has been.

For example, the table above exhibits several suggestive relationships. If the

5-to-14-year column is calculated as a series of percentages of the under-5 column and ranked in ascending order, an interesting sequence results:

	Percent
Poison except gas	8
(All other	25)
Falls	44
Fire burns	58
Poison gases	62
(All types	77)
Motor vehicle	149
Drowning	177
Railroad	195
Firearms	543

Three speculative hypotheses emerge from this ordering: First, the number and variety of hazards in the physical environment of the adult are much greater than in the segregated physical environments designed for the child. Secondly, those accidental deaths that represent failures in parental protection from the dangers in the physical environment diminish as the child learns to care for himself. Finally, those accidental deaths that represent risk-taking with known dangers in his physical environment increase as the child's range of exploration increases.

The extreme concentration of accidental deaths in the first year of life, and the very

[Reprinted from *Behavioral Approaches to Accident Research*, Association for the Aid of Crippled Children, New York, 1961, pp. 121-135.]

† See Chap. 3 for a study of responses to a "visual cliff" and Chap. 10 for a study of behavior in relation to entrapment in refrigerators. Other examples, with adult subjects, have chiefly involved driving in relation to drinking (see Chap. 3 and reference 7).

high accidental death rate during the second year, underline the degree to which such mortality is a function of dependency on parents and other guardians. For each type of death, it should be possible to draw from existing statistical data its characteristic curve of frequency by years of age. Ideally, this would break down the first year into months. Such a refinement of incidence figures, including finer categorization of the agents of death, and time series comparison, should yield further clues as to the dynamics of parental care and child development in relation to the dangers of the physical environment.

A further examination of the table above discloses that the most prevalent types of accidental death arise from highly familiar hazards: collisions, from moving vehicles; drownings, from water; burns, from fire or heat; asphyxiation, from gas; shootings, from guns. Just as conceptually it is clarifying to separate the accident as an event from the injury which may or may not result, it is helpful in conceiving future research to isolate the hazards of the physical environment from both accident and injury. A child who falls from a high place may be crushed, drowned, burned or suffocated, depending on where he falls. The height is one hazard; what lies at the bottom may be another, and both can potentially be dealt with, as in the use of landings to interrupt long flights of stairs.

#### INSTITUTIONAL FACTORS

Any sociological approach to childhood accidents should take extensive account of the kinds and distribution of hazards in the physical environments of children. Especially in the United States, these physical environments are rarely natural, and even those that are natural tend to be deliberately selected, segregated, and assigned for use by children. Most are artificial, although it would be a mistake to suppose that most have been designed for the safety of children.

From the standpoint of accident prevention, the elimination of hazards through institutional action must realistically always

remain the primary grand strategy. Educating parents to provide hazard-free environments and protection will always remain quite secondary, though perhaps more effective than training children themselves to avoid risk. The Underwriters' Laboratories, for example, keep childhood deaths by electrocution at such a minimum that most parents hardly regard electric cords, receptacles, and sockets as hazards at all.

From the institutional point of view, time series analysis of types of accidental death should disclose many readily understood trends in incidence based on historical increases and decreases in the incidence of specific hazards. The decline of gas lighting and the redesign of valves on gas ranges have probably diminished the frequency of asphyxiation despite increased numbers of homes using gas. The rapid increase in backyard swimming pools, however, appears to be multiplying child drownings in suburban neighborhoods faster than institutional protections can be erected.

Perhaps the most intriguing hazard for sociological research implied by the foregoing list is firearms. In the 5-to-14-year-old category, shootings rank fourth after automobile accidents, drownings, and fires as causes of death. Some children no doubt shoot themselves, and some are shot by their parents or other adults, but it seems likely that most children are shot by other children. If that is true, the problem of defining the nature of an accident is very much complicated thereby. Legally, of course, juvenile criminals are not held responsible for their actions as adults are, but, from a psychological point of view, pointing a gun at another child and pulling the trigger is very different from being struck by lightning while swimming in the rain. To whom has the accident happened in this case? Here accident and injury are indeed separate entities to consider. Apart from the interpersonal aspects, which will be dealt with later, the most interesting institutional aspect of firearms as a hazard is the possibility that in this case the community fosters shootings.