Accidents and Social Deviance*

EDWARD A. SUCHMAN

University of Pittsburgh

Based on the theory that one of the functions of social control is to protect the individual from potentially harmful acts and situations, it was hypothesized that the rejection of social constraints would result in a higher incidence of accidental injuries. This hypothesis was tested by analyzing the frequency of accidental injuries among representative samples of 1,067 high school and 495 college students in relation to a wide variety of measures of deviant behavior, attitudes, and self-image obtained through personal interviews and self-administered questionnaires. Statistically significant relationships were found between the frequency of accidental injuries and a wide range of social factors indicative of deviance.

ALTHOUGH accidents are a major cause of injury and death, research in this area has been relatively neglected by both the medical and the behavioral sciences (Haddon et al., 1964). Despite the fact that accidents are the leading cause of death among young people from 1 to 34 years of age, accounting for more than one-half of all deaths in the age group 15 to 24 years, we know very little about the causal factors related to accidents. To some extent this dearth of knowledge may be attributed to a fatalistic view of accidents as chance events beyond scientific understanding or control. Examination of accident statistics, however, clearly reveals that accidental injury and death are not distributed by chance among the subgroups of the population (Hacker and Suchman, 1963). This differential distribution of accident rates by social groupings strongly suggests the presence of role and status factors as etiological agents in the occurrence of accidents (Gordon, 1949).

The search for the causes of accidents has been concentrated on environmental factors for the most part, with control programs aimed largely at eliminating or safety-proofing physical hazards. While there is no doubt that this approach is essential to accident prevention, it has become increasingly evident that accidental injuries and death continue to occur regardless of such environmental controls. This fact has led to a growing interest in the role of social and psychological factors in accident causation and control (Suchman, 1965). For the most part, these studies have been limited to rather gross comparisons of differing accident rates according to demographic characteristics, personality traits, and attitudes and values. The findings have been quite varied, with some studies showing rather large differences and others failing to produce any significant findings (Goldstein, 1964). Enough studies have, however, found significant relationships between the frequency of accident occurrence and social and psychological factors to warrant a more sophisticated approach to these factors.

ACCIDENTS AS SOCIAL PATHOLOGY

Accidents as a social phenomenon may be classified as a form of social pathology. Viewing accidents as symptomatic of social and personal disorder, MacIver (1961:71) claims that "accidents have a significance beyond themselves. They are always symp-

* This analysis was conducted with Public Health Service support from the National Center for Urban and Industrial Health, Injury Control Program.

Dr. Suchman's paper was one of the rare manuscripts that the Editorial Board advised be accepted without revisions. The referees of the paper, however, made a number of suggestions to Dr. Suchman, and along with the letter of acceptance they were communicated to him. As was typical of Dr. Suchman, his response was that any paper could be improved, and he asked for an opportunity to take into account the suggestions. Unfortunately, his untimely death prevented his doing so. The *Journal* is privileged to publish the manuscript as originally submitted. Its Editor is responsible for reviewing the copy-editing and subsequent processing.

tomatic of disorder in a particular dynamic system . . . the occurrence of accidents . . . is an unerring signal that something or someone is not functioning properly." Porterfield (1960) has demonstrated that the accident rate is significantly associated with other indices of social pathology, such as suicide, homicide, and crime. He characterizes motor vehicles, which constitute the most important single agent of accidental injuries and death, as "deadly weapons" and sees them as a reflection of an underlying social pathology. To some extent accidents, like suicides and homicides, may represent "the socialization of aggression" (Gold, 1958). Haddon et al. (1964:446) suggests that accidents "are dysfunctional to the social system, interfering with its smooth operation."

Several studies have found that individuals from broken homes are more likely to be involved in accidents (see Krall, 1953), while Kurokawa (1967) found that children in families with higher cohesion and belief in tradition were less likely to have accidents than children in families not so well-integrated. Several writers have viewed the high rate of accidental injuries and death as a socially condoned form of public violence, characterized as "mayhem on our highways" (Rifkin, 1963). Every day the newspapers carry stories of accidental automobile crashes, shootings, drownings, stranglings, etc., and this form of violence has become so commonplace that its full import often goes unrecognized and unreported. The current increase in the frequency of death and injuries resulting from accidents has been regarded as a reflection of the violent age in which we live. Such violence is often interpreted to result from a breakdown in social controls. Foote (1961) attributes much of the current high rate of childhood accidents to the strong emphasis in American society on violence as depicted in mass media. He also raises the interesting question of how many childhood accidents are likely the result of "deliberate parental aggression."

Another approach to accidents as social pathology attempts to analyze such accidents as a form of deviant behavior. For example, as stated by Hacker and Suchman (1963:388), "Concepts from the sociology of deviance may also be usefully applied to accident research. To the extent that the community has institutionalized certain safe modes of behavior, departures from these may be viewed as aberrant behavior." Patterson also views accidents as a form of deviant behavior and hypothesizes that there is a threshold of conforming behavior beyond which an individual enters into accident-inducing situations. These thresholds are established by the social group in terms of accepted patterns of safe and unsafe behavior. "Repeated accidents may thus be a symptom of individual deviance from a group norm of safe behavior" (Patterson, 1950:68). To the extent that the group norm has been established to protect the individual from environmental dangers, this is probably true. As has been pointed out previously, however, group norms favoring violence and the taking of risks may actually expose the individual to greater accident hazards.

Undoubtedly, a large number of social controls do serve the function of protecting the individual from harm. For example, the many safety devices introduced into high-risk occupations, or the safety features of a children's playground, may be attempts to reduce the exposure of the individual to unplanned and dangerous events in his environment. Social controls may also serve to regulate hazardous consumer products, such as poisons and lethal weapons. Obviously, a great many social controls—traffic laws and safety regulations, for example—are aimed directly at reducing harmful antisocial behavior. To the extent that these social controls are violated by the individual, we may hypothesize that he places himself in a situation of additional risk of injury or death.

Several studies have shown that individuals who have frequent accidents are far more likely to have court records of law violations than individuals with fewer accidents (Siebrecht and Bennett, 1954; McFarland and Moseley, 1954). Figures from the National Safety Council show that about three out of four fatal automobile accidents involve violations of traffic laws. As Ross (1960–61) has pointed out, social controls do not operate very successfully in regard to traffic law violations. He classifies

violations of such laws as "folk crimes"—crimes that are ignored or even condoned.

A number of studies designed to measure a wide range of personality traits have compared individuals whose accident-frequency rate is high with those whose rate is low. While these studies show wide variations in personality factors related to the frequency of accidents, there does seem to be some agreement on the generally antisocial nature of the accident repeater. Schulzinger (1956) found that accidents were more likely to occur among aggressive individuals, especially among those who were "irresponsible-maladjusted." In a study of taxicab drivers, Tillman and Hobbs (1949) found that the accident repeaters were more likely to have records of disciplinary problems, of being fired from the job, and of "bootlegging" on the job. They also were more likely to have had past police and juvenile court records and to have been A.W.O.L. from the army. Tillman and Hobbs conclude that a driver is marked by the same tendency of aggressiveness, impulsiveness, and lack of thought for others, and the disrespect for authority that was noted in his personal life. A commonly accepted concept in the accident research field (McFarland, 1966:107) is that "a man works (or drives or plays) as he lives." A hostile, aggressive, impulsive individual placed in a situation that requires constant attention, self-control, consideration of others, and respect for laws and regulations—such as in the driving of an automobile—is more susceptible to having an accident. Bauer (1955), in an analysis of automobile accidents among young people, concludes that many tend to use automobiles to act out the tensions and latent aggressions underlying their rebellion against social controls. An analysis of automobile accidents by Conger et al. (1959) found the accident subject more likely than the nonaccident subject to display significantly poorer control of hostility, lower tension tolerance, higher dependency needs, greater preoccupation, and lack of awareness. He posits an "accident type" who tends to be rather unconventional in his opinions and values and sometimes in his overt behavior and who may at times be inclined to over determined 'acting out' behavior."

Other studies of youth, among whom automobile accidents are the largest cause of injury and death, have characterized the automobile as a symbol of freedom and escape from parental and social authority (McFarland and Moore, 1960). Mann (1958) found in a study of 100 "poorest" teenage drivers that two-thirds were disciplinary problems in school, three-fourths had poor relations with teachers, and four-fifths were doing schoolwork below their level of ability. He concluded that these problem drivers had "strong antisocial urges" and "active hostility toward social controls." Murray (1954) also comes to the conclusion that automobile accidents among youth are an expression of hostility, emotional conflict, and rebellion against authority. Accident repeaters differ significantly in regard to having been in trouble with the law and in characteristics such as wishing to leave home, wanting to do something harmful or shocking, associating with friends to whom parents object, and tending to be suspicious of and impatient with people (Rommel, 1959).

Finally, a large number of studies of childhood accidents indicate that children having frequent accidents also are more likely to be "problem children" and to show aggressive, impulsive behavior and emotional instability (Suchman and Scherzer, 1960). A comprehensive comparison by Manheimer and Mellinger (1966) of children who have had many accidents with those who have had few shows that children who have many accidents are more likely to be disciplinary problems, to display hostility to authority, to be aggressive toward their peers, and to lack self-control. Krall (1953) also found accident-repeating children to be more aggressive and less inhibited, and to come from more socially disordered backgrounds involving social instability. In a detailed psychoanalytical study of 68 children over a four-year period, Marcus et al. (1960) found that the mothers of the accident-repeating children viewed the child's behavior as generally deceptive or disobedient, while the mothers of the control children described the child's general conduct as helpful or compliant. Marcus et al. concluded that the accident-

repeating child in his *modus operandi* has great similarity to the delinquent child.

Granting the serious theoretical and methodological questions that could be raised about many of these personality and behavior studies of accident repeaters (Haddon et al., 1964), enough evidence seems available to support a tentative formulation of the accident problem as related to social deviance. Accidents are destructive and do not occur by chance. There is ample evidence to show that accidents are more likely to occur among certain subgroups of the population—males, young people, and Negroes—and among certain types of personalities—the hostile, the aggressive, and the impulsive. Such higher accident frequencies probably result from greater exposure to environmental hazards and from greater personal vulnerability.

In this study we propose to examine the question: To what extent does such greater exposure and vulnerability reflect social deviance? If we view accidents as a form of social behavior (Suchman, 1960–61), we may reasonably look for the social forces underlying such behavior. If we define deviant behavior as "behavior which violates institutionalized expectations—that is, expectations which are shared and recognized as legitimate within a social system" (Cohen, 1959:462), and if we accept the point of view that social controls are, for the most part, aimed at protecting the individual from environmental dangers and interpersonal aggression, then accidents, which represent a violation of social controls, may be hypothesized as more likely to occur under conditions of deviant, as contrasted with conforming, behavior. We do not propose to formulate a "sociology of accidents" to take its place alongside a "sociology of suicide" or a "sociology of drug addiction" as another area in the sociology of deviant behavior. Here we are in agreement with Cohen (1959:473), who argues for a generalized theory of deviant behavior and proposes "linkages among forms of deviant behavior." The problem, as he states it, is "to classify and elucidate the mechanisms by means of which one kind of deviant behavior generates others."

Our major hypothesis will be the relationship between deviance and the occurrence of accidents. Specifically, we propose to examine the frequency of accidental injuries among high school and college students in relation to various measures of their deviant or nonconventional behavior, attitudes, and self-image. Since deviant forms of behavior, attitudes, and self-image are more likely to be linked to exposure and response to risk situations than conforming forms, we hypothesize that the more the individual displays these deviant characteristics, the more likely he will be to sustain accidental injuries. In this sense, conformity represents "playing it safe," while deviance, as an expression of strain and rebellion, involves a greater degree of "taking chances." Furthermore, insofar as safety requires accepting one's social responsibilities and obeying institutionalized rules and regulations, accidents are more likely to occur among those individuals who refuse to live by these rules.

METHODS OF PROCEDURE

The data for this study were collected by means of self-administered questionnaires combined with personal interviews of a representative sample of 495 students attending the University of California at Santa Barbara during November, 1967, and self-administered questionnaires given to 1,067 students attending two high schools in the Pittsburgh metropolitan area during the spring of 1967. The sample of college students was selected by taking every twenty-fourth name at random from the registration list of the university. The completion rate was 81 per cent; the remaining 19 per cent were not reached, largely because the students could not be contacted during the week allotted to field work, rather than because of their refusal to be interviewed (less than 5%). A comparison of this sample with available demographic characteristics for the entire population shows no characteristic with a difference beyond what might be expected by chance. Since the high school sample included all students who were present, there exists only the relatively minor problem of absences during the day of administration.

The content of the questionnaires was not focused around accidents or deviant be-

havior. Questions relating to these subjects were embedded in a list of over 100 questions dealing with student problems in general; therefore, there is no reason to believe that the students might have been influenced in their responses by our desire to link accidents to deviance.

Accident frequency was determined by the following question: "Since this time last year, have you had any accidental injuries that either bothered you for at least seven days or interfered for that long with things you usually do?" While this question undoubtedly suffers from shortcomings related to recall and to differing perceptions of accidental injuries, it has in previous surveys differentiated successfully among subgroups of the population. By limiting the accidents to those resulting in injuries that interfered with normal functioning for at least one week, we increased the likelihood that the individual would remember the accident. Unquestionably, the frequency reported is not exact, but, as a relative indicator of more or fewer accidents, this question is probably sufficiently accurate.

In this study, we did not attempt to develop any rigorous conceptual and operational definition of deviance. The indices of deviance used represent measures of the extent to which the individual student conformed to the accepted norms of the larger society. The questions asked the student attempted to determine the various types of behavior, attitudes, and self-image that would enable us to classify him as more or less deviant and to relate such deviance to his record of accidental injuries. Specifically, the behavioral questions referred to such acts as participating in mass protests and "happenings," reading underground newspapers, cutting classes, cheating on examinations, getting into fights, and disobeying the teacher. The attitudes and values related to student power, approval of premarital sexual intercourse, and attitudes toward risk-taking and obedience to the law. The student's self-image was measured in terms of his self-characterization, such as "antiestablishment," "hippie," and "wild." We regarded such behavior, attitudes, and self-image as indicative of the student's conflict with and rejection of the social norms of the conventional society. Our major hypothesis was that the more the student subscribed to deviant behavior, attitudes, and self-image, the more frequently would he report having suffered accidental injuries.

FINDINGS

Frequency of Accidental Injuries. High school students are somewhat more likely to report having had an accident during the previous year than are college students (30.2% vs. 22.9% reporting at least one accident). The average rate of about 26.5 accidents per 100 students is quite similar to the rate of 29.1 reported by the National Health Survey for the age group 15 to 24 (National Safety Council, 1966).

The only demographic variable showing a significant relationship to frequency of accidental injuries is sex. Among the college students, twice as many males as females (11.2% vs. 5.1%) reported two or more injuries during the past year; among the high school students, males were somewhat more than twice as likely as females to report two or more injuries during the past year (16.0% vs. 6.4%).[1] This finding is also in accord with the National Health Survey, which found a ratio of two males to one female.

No statistically significant differences in accident rates are found for such variables as the family's financial status, the father's occupation and education, or the student's religion, age, residence, and grade in school. To some extent, this lack of differentiation according to demographic characteristics probably reflects the rather homogenous nature of the student population being studied. The absence of significant differences on this demographic level, however, underscores the importance of the wide range of significant differences to be reported for the behavioral, attitudinal, and self-image variables. It also makes it necessary to control any such differences found in regard to sex only.

Behavioral Patterns. Table 1 shows the relationship between deviant behavior pat-

[1] All differences presented in this report are statistically significant at or beyond the .05 probability level using the chi-square test of significance. We will not report individual chi-square values for the separate tables.

TABLE 1. BEHAVIORAL PATTERNS RELATED TO ACCIDENTAL INJURIES[a]

Behavioral Pattern	Per Cent Reporting 2 or More Accidental Injuries	N
College Students		
Have you ever participated in any form of mass protest?		
No	5.7	353
Once or twice	12.1	99
Several times	21.7	37
How often would you say you participate in what might be called "a happening"?		
Rarely	6.3	286
Occasionally	7.2	139
Frequently	20.7	53
How often do you read "underground" newspapers?		
Never	3.1	159
Once in a while	9.4	202
More than once in a while	11.6	129
How often have you cheated or needed crib notes on an exam in college?		
Seldom or never	6.8	410
Frequently or occasionally	19.8	81
How often do you cut classes?		
Less than once or twice a month	4.8	273
About once a week	8.3	93
More than once a week	20.3	69
High School Students		
How often have you gotten into a fight during the present school year?		
Never	9.1	647
Rarely	10.9	267
Occasionally	15.1	106
Often	28.5	21
Very often	30.6	26
How often have you disobeyed the teacher during the present school year?		
Never	8.3	384
Rarely	9.3	399
Occasionally	13.8	203
Often	18.2	44
Very often	32.4	37
How often has the teacher punished you for misbehaving during the present school year?		
Never	7.6	616
Rarely	13.4	291
Occasionally	18.6	118
Often	26.1	23
Very often	31.6	19
Do you drink alcoholic beverages?		
No	7.9	708
Yes, occasionally	14.3	315
Yes, regularly	36.4	44

[a] All differences are statistically significant at or beyond the .05 probability level. The total number of cases differs slightly, depending upon the frequency of "no answers."

terns and the frequency of accidental injuries observed among college and high school students. Among college students, the deviant behavior patterns relating significantly to the occurrences of accidents include participating in mass protests, attending "happening," reading "underground" newspapers, cheating on examinations, and cutting classes. Such deviant behavior patterns among high school students include

drinking alcoholic beverages, getting into fights, disobeying the teacher, and being punished for misbehaving.

In general, these differences are quite pronounced. Students displaying the most extreme deviant behavior are from three to five times more likely to have incurred accidental injuries in the past year than are students at the conforming end of the response scale. It should be remembered that we have defined these responses as deviant in terms of the norms of conventional adult society. Nevertheless, we note that, in terms of frequency of occurrence, these behaviors are also deviant among the students themselves, being subscribed to by only small minorities of the total student body.

There can be little question that, on a behavioral level, accidents are closely associated with various indices of behavioral deviation. Those students who depart from the approved norms of conforming behavior are much more likely to suffer accidental injuries. Probably such accidents result from a greater exposure to risk related to a departure from the "safe and sane," with

TABLE 2. ATTITUDES AND VALUES RELATED TO ACCIDENTAL INJURIES [a]

Attitudes and Values	Per Cent Reporting 2 or More Accidental Injuries	N
College Students		
Students should have a more active role in making decisions about student life.		
Disagree	0.0	45
Undecided	7.7	274
Agree	10.1	169
It's all right to get around the law if you don't actually break it.		
Disagree	5.6	268
Undecided	10.3	107
Agree	15.4	104
Do you approve or disapprove of students having premarital sexual intercourse?		
Disapprove	2.0	99
Undecided	8.2	146
Approve	11.3	240
If a woman is pregnant and she doesn't want to have a baby, she should be allowed to have an abortion.		
Disagree	1.3	149
Undecided	10.2	166
Agree	12.1	173
High School Students		
Having fun now is more important than worrying about the future.		
Strongly disagree	7.7	233
Disagree	10.3	505
Undecided	12.2	164
Agree	13.2	106
Strongly agree	22.0	59
I get a kick out of taking chances, even if it means getting hurt.		
Strongly disagree	6.2	305
Disagree	10.1	405
Undecided	12.9	171
Agree	15.7	134
Strongly agree	26.9	52
I get a thrill out of riding in a fast car.		
Strongly disagree	6.3	270
Disagree	11.8	306
Undecided	10.9	174
Agree	12.0	217
Strongly agree	21.0	100

[a] All differences are statistically significant at or beyond the .05 probability level.

a lower value placed by the deviant student on the anticipation of the possibly harmful consequences of his nonconformist acts.

Attitudes and Values. The deviant behavior patterns discussed above are matched by similarly deviant attitudes and values on the part of those students with a higher accidental injury rate (Table 2). For example, those college students who agree that "if a woman is pregnant and she doesn't want to have a baby, she should be allowed to have an abortion," are almost ten times as likely as those students who disagree to have had two or more accidental injuries in the past year (12.1% vs. 1.3%). Other attitudes or values showing similar differences include a favorable attitude toward having premarital sexual intercourse, lower respect for the law, and a stronger belief in "student power."

Among high school students, the attitudes investigated dealt largely with risk-taking. Those students who are most favorably disposed toward "taking chances" are about four times as likely to have had more than one accident in the past year as those who are most opposed (26.9% vs. 6.2%). Similarly, students who believe that "having fun" is more important than "worrying about the future" and who find it "thrilling" to ride in a fast car are also more likely to have suffered accidental injuries than those who do not have these attitudes.

Once again, our hypothesis about the relationship of "deviance" to accidents is borne out. The more the student holds attitudes and values in conflict with those of conventional society, the more likely he is to incur accidental injuries. This finding also supports the interpretation that accidental events reflect the attitudinal set of individuals.

Self-Image. The more the student's self-image is that of a deviant, the more likely he is to have suffered accidental injuries, while the more conformist he reports himself to be, the less likely he is to have had accidents. For example, college students who see themselves as "antiestablishment" or "hippie" are about three times as likely to report having had two or more accidental injuries during the past year. Similarly, students who see themselves as "well-behaved" or "moral" are only about one-fourth as likely to report such accidental injuries (Table 3).

Among high school students, the more the individual describes himself as being "wild," "daring," or "liking to show off," the more likely he is to report having had two or more accidents during the past year. In addition, the more "careless" he is, and the more easily he "loses his temper," the more likely he is to have been injured in an accident. These differences are in the order of a three- or four-fold increase in accident frequency for each characteristic. A self-portrait of deviance is thus seen to relate, along with behavioral patterns and attitudes, to a greater risk of accidental injuries.

Sex as a Control Variable. The only demographic variable found to be related to the frequency of accidental injury was sex. Since sex is also related to deviance—with a male much more likely than a female to display deviant behavior, attitudes, and self-image—it becomes necessary to test whether the observed correlation between these indices of deviance and frequency of accidental injuries might be due to sex. That is, if males are more deviant and have more accidents than do females, perhaps the relationship between deviance and accidents is solely a reflection of the common factor of sex.

Each of the observed relationships between the indices of deviance and frequency of accidental injuries was studied for males and females separately. Of the nine behavioral measures, this relationship was observed in all cases for the males and in eight out of nine of the measures for the females. In relation to deviant attitudes, significant differences were found for each of the eight measures in the case of males and for seven out of eight of them for females. Finally, in regard to self-image, males and females both continued to show significant relationships to the frequency of accidental injuries in all comparisons. Thus we conclude that the relationships between deviant behavior, attitudes, and self-image are independent of the sex of the respondent. It is worth noting, however, that these differences are somewhat more pronounced among the male students. In general, both deviance and sex appear to make an independent contribution to the occurrence of accidents.

TABLE 3. SELF-IMAGE RELATED TO ACCIDENTAL INJURIES [a]

Self-Image	Per Cent Reporting 2 or More Accidental Injuries	N
College Students		
How well would you say each of these words describes you?		
"Antiestablishment"		
Not well	4.7	295
A little	13.9	72
Fairly well	16.8	119
"Hippie"		
Not well	6.7	330
A little	7.7	104
Fairly well	20.4	49
"Well-behaved"		
Very well	4.2	96
Fairly well	6.3	316
Not well	16.5	73
"Moral"		
Very well	2.9	102
Fairly well	7.3	233
Not well	12.1	149
High School Students		
How well would you say each of these words describes you?		
"Wild"		
Not at all well	7.8	540
A little	12.8	320
Fairly well	14.1	78
Very well	28.8	59
"Daring"		
Not at all well	8.7	322
A little	10.2	461
Fairly well	11.0	145
Very well	27.5	91
"Like to show off"		
Not at all well	9.3	551
A little	11.2	367
Fairly well	19.5	36
Very well	28.9	38
"Often lose my temper"		
Not at all well	7.1	84
A little	11.5	435
Fairly well	15.0	283
Very well	26.6	254
"Careless"		
Not at all well	7.6	316
A little	12.0	610
Fairly well	18.8	69
Very well	27.3	33

[a] All differences are statistically significant at or beyond the .05 probability level.

In all cases, the highest accident frequency was found among males who displayed deviance, while the lowest frequency of accidents occurred among the females who were conformists. These differences are fairly pronounced, being in the order of a five- to ten-fold increase in risk of accidental injuries from the conforming females to the deviant males.

We may summarize the above findings by combining the responses of the students to the various behavioral, attitudinal, and self-image items to construct overall scores in these areas. A standardization procedure

also permits us to view these differences with the effect of sex controlled (Rosenberg, 1962). Table 4 presents such a summary table standardized by sex. It indicates that for both high school and college students, the higher the score on deviant behavior and attitudes and on deviant self-image, the greater the probability that the student will have suffered two or more accidental injuries in the previous year.

SUMMARY AND DISCUSSION

The data support the hypothesis that the more deviant an individual is, the more likely he is to have an accident. Such deviance represents a rejection of the "safe and sane" in favor of the nonconventional and increases the individual's risk of having an accidental injury.

We may explain this greater probability of accidents in terms of the increased exposure of the nonconforming individual to hazards in the environment and the greater vulnerability of the deviant individual to these dangers. His rejection of society means rejecting the many protective measures that society has developed to enhance its survival. The deviant chooses to expose himself to an unconventional environment lacking many of these built-in protections. Both where and how he lives are apt to be more dangerous.

Furthermore, the value system and role performance of the deviant predispose him to take extra risks and to scorn "playing it safe." Thus he not only lives in a less protected environment, but his predisposition makes him more susceptible or vulnerable to the increased hazards surrounding him. He takes added risks in an environment already full of hazards.

This theme could be developed in more detail, but much additional evidence is necessary before such detail would be justified. Specific studies need to be designed to test more rigorously the relationship of deviance to accidental injuries. Even on the basis of present evidence, however, increased injury control in this group of our population appears warranted. Among both high school and college students, where accidental injuries already produce more fatalities than all diseases combined, a greater effort needs to be made to reach the ever-increasing proportion of youth who are rejecting conventional beliefs and behavior.

This problem presents a dilemma. To the extent that accident prevention becomes identified with the "establishment" as representing the "safe and sane" adult world, it creates a barrier against reaching the world of youth. The need is to formulate among youth an injury control program that stresses such control as part of the creed of the new generation rather than as advice from the older generation (Suchman, 1968). As Cohen (1959:474) states, "Much that is deviant can be largely attributed to efforts, some of them nobly motivated, to control deviant behavior." Given the current generational conflict, this is difficult to do and may account for the rather poor showing of accident prevention programs among young people.

The answer is not easy to find, but unless we make an attempt, we may expect to see accidental injuries and death continue to

TABLE 4. DEVIANT BEHAVIOR, ATTITUDE, AND SELF-IMAGE SCORES RELATED TO ACCIDENTAL INJURIES [a]

	Per Cent Reporting 2 or More Accidental Injuries	
Scores	College Students	High School Students
Deviant Behavior and Attitudes		
Low	3.6 (138)	3.6 (335)
Medium	7.3 (246)	12.2 (575)
High	14.0 (107)	27.3 (110)
Deviant Self-Image		
Low	4.0 (148)	3.1 (290)
Medium	5.3 (228)	10.4 (595)
High	17.4 (115)	30.3 (135)

[a] Standardized on sex.

rise among young people, in keeping with their increasing deviance from the conventional world. The goal, perhaps, is not to change these rebellious students into inhibited, compulsive young men and women, but rather to increase their capacity for tolerating stress and to permit creativity with a great degree of self-control and awareness of the consequences of their actions upon themselves and others.

The basic problem of accident prevention and control among young people is quite similar to the general problem of prevention and control of deviance. Foote (1961:131) makes an analogy between accident behavior and delinquent behavior and points out that "any strategy for prevention offers more hope to the degree that it employs generalized social controls rather than resorting to individual therapy." Such social controls cannot hope to succeed, however, in an atmosphere of adult safety laws and regulations that are more commonly broken, as a form of "folk crime," than obeyed. Moreover, rigorous enforcement and punishment would not seem to be the answer, especially among these nonconforming young people whose behavior most needs safety regulation, but who, at the same time, are most likely to resist such official control.

Difficult as it may seem, one avenue, that holds some promise of success could come from the young people themselves. Conventional driver-training courses are not succeeding, and safety-proofing automobiles and highways can have only a limited impact on the overall rate of accidental injuries. Perhaps it is only as young people redefine their world for themselves—and as we give to them, and they accept, the responsibility for making it a world that they feel is worth living in—that they will establish norms of behavior that will help them to stay alive in it.

REFERENCES

Bauer, J.
1955 "The teen-age rebel and his weapon—the automobile." Traffic Safety 518 (November):10–13.

Cohen, A. K.
1959 "The study of social disorganization and deviant behavior." Pp. 461–484 in Robert K. Merton et al. (eds.), Sociology Today. New York: Basic Books.

Conger, J. J., et al.
1959 "Psychological and psychophysiological factors in motor vehicle accidents." Journal of the American Medical Association 169 (April 4): 1581–1587.

Foote, N.
1961 "Sociological factors in childhood accidents." Pp. 121–135 in Behavioral Approaches to Accident Research. New York: Association for the Aid of Crippled Children.

Gold, M.
1958 "Suicide, homicide and the socialization of aggression." American Journal of Sociology 43 (May):651–661.

Goldstein, L. G.
1964 "Human variables in traffic accidents; a digest of research." Traffic Safety Research Review 8 (March):26–31.

Gordon, J. E.
1949 "The epidemiology of accidents." American Journal of Public Health 39 (April):504–515.

Hacker, H., and E. Suchman.
1963 "A sociological approach to accident research." Social Problems 10 (Spring): 383–389.

Haddon, W., E. Suchman, and D. Klein.
1964 Accident Research: Methods and Approaches. New York: Harper.

Krall, V.
1953 "Personality characteristics of accident-repeating children." Journal of Abnormal and Social Psychology 48 (January):99–107.

Kurokawa, M.
1967 "Childhood accidents as a measure of social integration." The Canadian Review of Sociology and Anthropology 3 (No. 2):67–83.

MacIver, J.
1961 "Safety and human behavior." Pp. 59–76 in Behavioral Approaches to Accident Research. New York: Association for the Aid of Crippled Children.

McFarland, R. A., and A. L. Moseley.
1954 Highway Transport Safety. Boston: Harvard School of Public Health.

McFarland, Ross A.
1966 "Measurement of human factors in accident research." Pp. 102–111 in Proceedings of 3rd AMA Congress on Environmental Health Problems. Washington: American Medical Association.

McFarland, R. A., and R. C. Moore.
1960 Youth and the automobile. Washington: White House Conference on Children and Youth.

Manheimer, D., and G. D. Mellinger.
1966 Personality Characteristics of the Child Accident Repeater. Family Research Center, Sacramento: California Department of Health. Mimeo.

Mann, W. A.
1958 "Driver education and the teen-age

driver." Lansing: Michigan State University. Highway Traffic Center.

Marcus, I. M., et al.
1960 An Interdisciplinary Approach to Accident Patterns in Children. Society for Research in Child Development 25 (Serial No. 76).

Murray, J. M.
1954 "Emotional problems in relation to driving." Action Achievement Report, 8th Annual Massachusetts Governor's Highway Safety Conference, (May).

National Safety Council.
1966 Accident Facts. Chicago.

Patterson, T. T.
1950 "The theory of the social threshold." The Sociological Review (Great Britain) 42 (Section 3):53–68.

Porterfield, A. L.
1960 "Traffic fatalities, suicide, and homicide." American Sociological Review 25 (December):897–901.

Rifkin, A. H.
1963 "Violence in human behavior." Science 140:904–906.

Rommel, R. C.
1959 "Personality characteristics and attitudes of youthful accident repeating drivers." Traffic Safety Research Review (March): 13.

Rosenberg, M.
1962 "Test factor standardization as a method of interpretation." Social Forces 41 (October):53–61.

Ross, H. L.
1960–61 "Traffic law violation: A folk crime." Social Problems 8 (Winter): 231–241.

Schulzinger, M. S.
1956 The Accident Syndrome. Springfield, Ill.: Thomas.

Siebrecht, E. B., and R. C. Bennett.
1954 "Frequency and type of violation of Iowa motorist." Iowa Academy of Science Proceedings 61:423–427.

Suchman, E. A.
1960–61 "A conceptual analysis of the accident phenomenon." Social Problems 8 (Winter):241–253.
1965 "Cultural and social factors in accident occurrence and control." Journal of Occupational Medicine 7 (October):487–492.
1968 "The 'Hang-loose' Ethic and the Spirit of Drug Use." Journal of Health and Social Behavior 9 (June):146–155.

Suchman, E. A., and A. L. Scherzer.
1960 Current Research in Childhood Accidents. New York: Association for the Aid of Crippled Children.

Tillman, W. A., and G. E. Hobbs.
1949 "The accident-prone automobile driver." American Journal of Psychiatry 106 (November):321–332.

The Contributors

(*Continued from page 2*)

Jerry B. Michel is an associate professor of sociology at Texas Christian University, where he has taught since completing his Ph.D. at the University of Texas in 1964.

Ronald C. Dillehay received his Ph.D. in psychology from the University of California, Berkeley, and is associate professor of psychology and behavioral science at the University of Kentucky.

Harry W. Martin earned his Ph.D. in sociology at the University of North Carolina. He is currently a professor in the Department of Psychiatry at the University of Texas Medical School, San Antonio.

Rodney M. Coe is an associate professor of sociology at Washington University in Saint Louis and Director of their Medical Care Research Center. During 1969–70, he is a visiting professor of sociology at Facultad Latinoamericana de Ciencias Sociales (FLACSO), Santiago, Chile. Present research interests include an analysis of cross-national data on factors affecting the use of community health resources by low-income families and on the salience of preventive health care services in physicians' office practices.

Irwin Epstein is an assistant professor of social work at the University of Michigan, School of Social Work. He received his M.A. in 1963 from the Columbia University School of Social Work and his Ph.D. in sociology in 1969 from Columbia University. His major research interests are in the sociology of professions and more specifically in the sociology of social work.