

# FEATURE ARTICLES



## DANGEROUS YOUNG DRIVERS

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**EDITOR'S NOTE:** This article is reprinted with permission in its entirety from RESEARCH, a publication of the University of Michigan's Highway Safety Research Institute. The authors are conducting a series of studies for HSRI on the attitudes and behavior of young drivers.

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Among drivers in high-risk groups, one—the young male driver—is easily identifiable and fairly accessible for research. Young males between 15 and 25 years of age have a death rate from motor vehicle accidents that far exceeds that of any other age group. Statistics for 1963, for example (see Figure 1), show a dramatic peak in motor vehicle accident deaths for young males between the ages of 15 and 25 years, contrasted with the relatively slight elevation for females in this age group. The curve declines sharply after 25, and stays flat until about age 65. These statistics include pedestrian deaths, but among the younger victims 95 percent were drivers or automobile passengers for the age group over 65 years, about two in three were driving or riding—the rest were pedestrian victims.

These data, and similar results for nonfatal accidents involving young automobile drivers, suggest some set of factors operating within this age group to predispose its members—or some significant subgroup of them—to accident involvement. The fact that motor vehicle accidents and death rates drop after a peak at about age 20 and do not begin to rise again until well past middle age supports the notion that factors associated with age—perhaps driving experience and self-confidence, or general maturity, physical condition, motivational orientation, and developing and stabilizing life styles—affect driving behavior and accident rates.

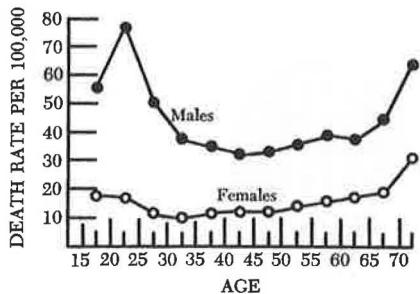


Figure 1. Death rates due to motor vehicle accidents in the U.S., 1963.

If such factors exist, and if they can be identified, they may suggest means of influencing the young driver more effectively than our present method, which is to penalize them (or his parents) with higher insurance rates and wait-in anxiety and jeopardy—for him to live through these dangerous years. If we can understand why fatalities peak under age 25 and thereafter decline, it is possible that we could deliberately accelerate the processes responsible for the decline. Further, if research on the young driver yields some remedies, these may prove applicable to other high-risk driver groups as well.

Pilot Study

The first of a series of studies to identify characteristics associated with accidents of young drivers was a pilot study<sup>1</sup> carried out during the summer of 1966. This study was designed to provide factual data to test our initial speculation that the young driver's characteristic assets—sharp senses, keen reflexes, automotive knowledge, and recent driver training—are outweighed by his characteristic liabilities—inexperience, bravado, chance-taking, experimentation with alcohol, lack of judgment, and vulnerability to peer group pressure toward irresponsible behavior. The sample consisted of 288 unmarried, male, licensed drivers aged 16 to 24 years (average age was 21). They were randomly selected for interview at nine drive-in restaurants and similar locations in the two main cities in Washtenaw County, Michigan, an area that includes two universities.

The interviews, lasting about 30 minutes each, covered a variety of topics: driving experience, financial responsibility, risky driving practices, frustrations in daily life, drinking, anger in traffic situations, awareness of danger, and demographic information, in addition to self-reports on accidents and tickets for moving violations. A question about suicidal thoughts was included because psychiatric studies of male drivers responsible for fatal accidents<sup>2</sup> have revealed some suicidal tendencies among these drivers.

The pilot study results, summarized, present a picture of a young driver gradually changing from an initially inexperienced, emotionally impulsive, but cautious and self-conscious beginner with many but minor traffic accidents, to a self-confident, financially independent, heavier drinking, and more dangerous young adult with fewer accidents having more serious consequences. Among the respondents, those who were categorized as either accident-prone or violation-prone scored high on impulse-expression in their driving behavior. They also tended to own their own cars, to be working rather than in school, and to be limited in education to high school or less.

<sup>1</sup>S. H. Schuman, D. C. Pelz, N. J. Ehrlich, and M. L. Selzer, "Young Male Drivers: Impulse Expression, Accidents, and Violations." *Journal of the American Medical Association*, 1967 (July 19), 200, 1026-1030.

<sup>2</sup>M. L. Selzer and W. Weiss, "Alcoholism and Traffic Fatalities: Study in Futility." *Journal of Psychiatry*, 1966 (January), 122, 762-767.

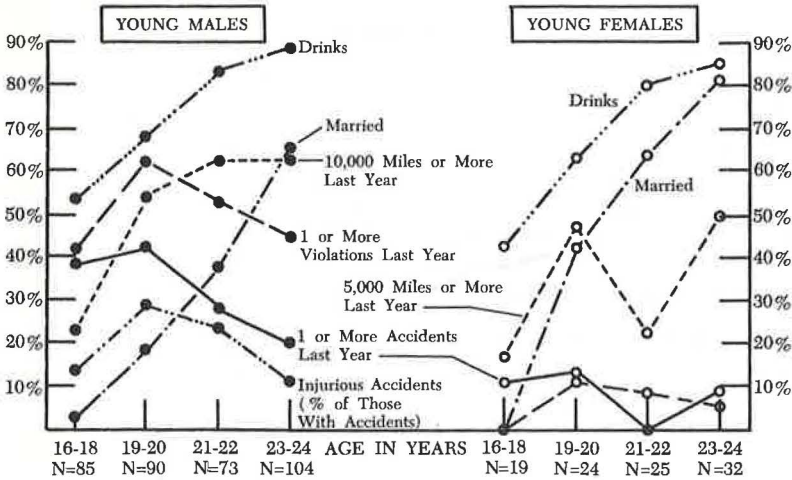


Figure 2. Infractions and other facts, in relation to age.

Representative Sample Within the County

The pilot study was followed by a lengthier survey of 452 respondents who were a random cross-section of licensed drivers throughout the county, supplemented with random samples of accident and violation lists to insure sufficient numbers of dangerous drivers for statistical comparison.

After the youngsters had been driving a couple of years, particularly between the ages of 19 and 22 years, more of the accidents were found to produce injury (Figure 2). Apparently, these individuals were driving more recklessly, more carelessly. As they approached adulthood they had fewer accidents, but when they did occur they were serious. The question is "why?"

Figure 2 shows other characteristics that rose with age, such as the proportion of marriages. Even under 17, half of the young drivers said they had drunk alcoholic beverages in the past year; this curve rose quite steadily, as might be expected. At 16-18 years, about one-quarter said they had driven 10,000 miles or more in the past year. This figure rose abruptly, leveling off between 21-24 years. For young women, similar changes were occurring.

Clearly, major changes were taking place during this period in their lives. Could these changes—or resulting frustrations or irritations—in turn cause dangerous driving? What other factors are associated with accidents and violations?

Categories of Drivers

As shown in Table I, we divided our sample into four categories. In the first were safe drivers who had no accidents or violations for the past two years. We found it useful to subcategorize them into the young safe drivers (aged 16-18), and older safe drivers (aged 19-24), because we suspected that some young drivers appeared safe simply because they hadn't yet driven enough to incur an accident or violation. We found (see figures below) that there were indeed some differences between those under 18 who were safe up to age 18, and those who were safe even though they were in the dangerous years from 19 up.

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Table I. Categories of Infractions (Young Males)

	Number
SAFE: No accidents or violations for past two years	
Young (16-18 years) . . . . .	33
Older (19-24 years) . . . . .	55
REFORMED: No accidents or violations in past one year, but did have one or more in the previous year . . . . .	51
UNSAFE: Either one accident or one violation (not both) in past year . . . . .	78
DANGEROUS: Two or more infractions in past year	
Violations only . . . . .	56
Accidents and violations, or two or more accidents . . . . .	79
	352

Next was a category called "reformed," made up of individuals who had no accidents or violations in the past year, but who did have one or more in the preceding year. They were not free of infractions, but their recent driving record was a distinct improvement over their earlier one.

In the unsafe category we put those who had either one accident or one violation, but not both, in the past year. These were not repeaters; they made an occasional driving error, but the degree of infraction was mild, and it seemed worthwhile to distinguish between them and a fourth category which we called dangerous, involving two or more infractions—in other words, a pattern of repetition. These we subdivided into those with violations only, who apparently drove recklessly or carelessly but nevertheless kept control of their vehicles, and those with both violations and accidents in the past year.

We checked each individual's response against the driver's license files in Lansing. A few respondents had reported to us an accident or violation which was not in the Lansing files, and of course we also found some instances of accidents or violations recorded in Lansing but not reported to us by the respon-

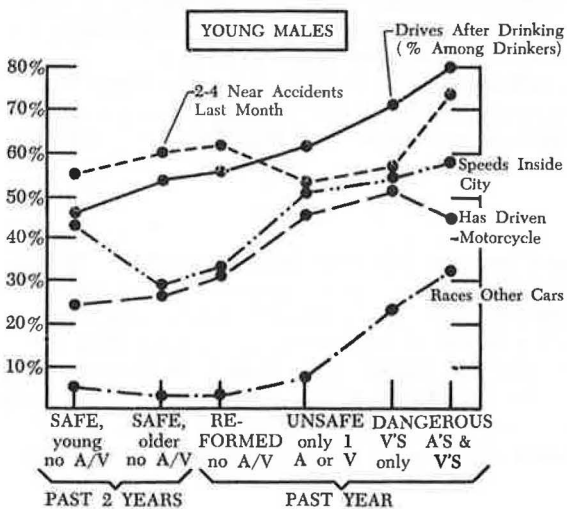


Figure 3. Behavior with cars, as related to infractions.

dent, perhaps through honest oversight. Our general impression was that these people were being quite frank with us. Concerning accidents within the past year, for example, the two sources coincided in 90 percent of the cases.

### Behavior With Cars

The various infraction categories are shown along the bottom of Figure 3. The chart plots the percentage (within each category) of responses indicating various kinds of behavior with cars. The data were obtained from questionnaires in which interviewers asked how often in the past month they had done such things as racing other cars. In the safe and reformed categories, only one in 20 admitted to having done this. However, in the dangerous categories one-quarter said they had raced.

In response to the question, "Do you drive, or have you ever driven a motorcycle?" less than one-third of the safe and reformed drivers replied in the affirmative, whereas from 40 to 50 percent of the unsafe and dangerous drivers reported motorcycle driving. Motor vehicles of any kind seemed to appeal to drivers who had infractions.

In response to a question about drinking, three-quarters of the dangerous drivers who drank reported they had driven after drinking, compared to fewer than half of the young safe drivers. (Of course, since the legal drinking age in Michigan is 21, the younger drivers were less likely to drink; but even among those who did, fewer were likely to drive afterwards.)

Asked about speeding inside the city, many of the young safe drivers said they had driven 15 miles per hour or more over the speed limit inside the city without having an accident. (Those who continue to speed inside the city probably don't end up in the safe older category, but rather in the unsafe group.) Both the unsafe and the dangerous drivers indulged in this kind of behavior.

We also asked about near accidents: "How many times in the past month has a pedestrian suddenly stepped into your path?" or, "How often has a car suddenly turned into the roadway in front of you?" etc. (In order to encourage responses, the question was phrased so as to minimize implications of fault.) The hypothesis was that the more dangerous drivers might be cutting corners too close, taking chances, and therefore encountering near-misses with greater frequency than average. Interestingly, however, the safe or reformed drivers also tended to report near-misses. It may be that they are more alert and sensitive to near-misses, or more skilled in dealing with them when they occur, or both. Similarly, the unsafe drivers may not be aware of as many near-misses because of a general lack of attention that leads to accidents and violations.

### Interest in Cars

A number of questions were asked under the general heading of involvement in cars (see Figure 4). For example, we asked about the amount of time spent in cars doing various things: (a) driving to a specific destination (that is, using the car for transportation); (b) driving for pleasure; (c) spending time (but not driving) in or around cars for pleasure. Figure 4 combines the latter two categories, either driving or riding for pleasure. Only one in five of the safe, reformed, and unsafe drivers said they spent 10 hours a week in cars for fun, whereas twice as many dangerous drivers did so. The latter were distinctly more involved in cars; cars constituted a major interest in their lives.

When asked about car ownership, the dangerous drivers were as likely to drive their own cars as reformed or older safe drivers (data not shown). We found nothing to support the notion that if a young person buys his own car he becomes a safer driver.

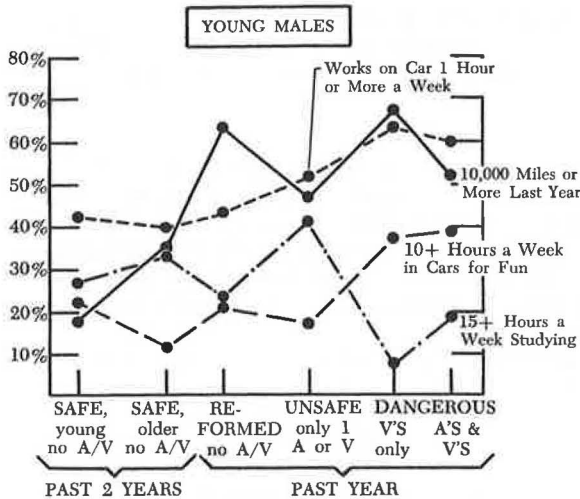


Figure 4. Involvement in cars, as related to infractions.

Figure 4 also indicates the reported mileage of the various categories. The young safe drivers hadn't driven much—they probably didn't have much opportunity. The older safer drivers tended to have driven more, but not excessively. The unsafe drivers were in the middle, and the violation-prone group put on the most mileage each year.

Interestingly, the reformed drivers logged almost as many miles as some of the dangerous drivers, but with distinctly better performance—suggesting again that they have undergone some change that separates them from the dangerous. Perhaps the reformed driver reflects safe attitudes combined with the necessary experience in terms of sheer mileage to have mastered the art of driving.

Obviously the more one drives the more one is exposed to the possibility of an infraction. But some of the high-mileage drivers have acquired their experience safely. The question is how? We would like to find out what experiences or attitudes are common to the reformed drivers who exhibit safer driving records in spite of their high mileage, and what makes the unsafe drivers mildly dangerous in spite of their relatively low mileage. Since in the latter case it is clearly not a question of simple exposure, some other factors must operate.

On a question about time spent working on cars (for example, repairing or cleaning them), we found that as infractions rose the proportion who were entranced with the physical maintenance of their cars also rose. One might have thought the dangerous driver would be careless or sloppy about his car. Quite the opposite. He likes his car. It is probably his own. He pampers it—and he drives it hard. From our data it does not seem likely that his accidents or violations can be attributed to neglect of his vehicle.

We asked, "How much time do you spend a week studying?" The responses varied, of course, depending on whether the respondent was in school. However, it is interesting to note that the unsafe drivers said they studied more than those in any other group. It is difficult to attribute their one accident or violation simply to being on the road a lot—to increased exposure. Perhaps pressures on them were greater—pressure to get better grades, for example, as might be suggested by Figures 5 and 6.

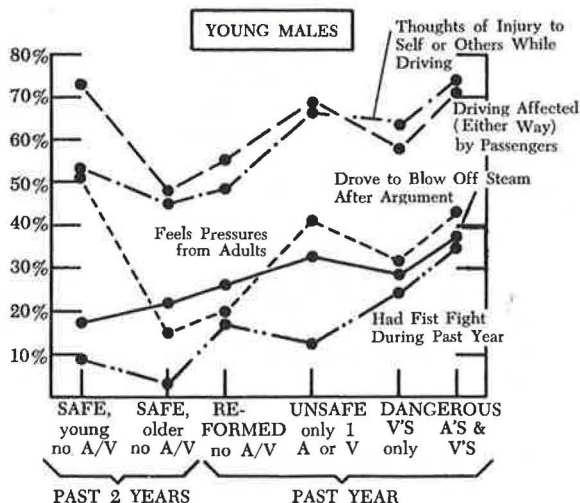


Figure 5. Emotions and social pressures, as related to infractions.

Social Pressures

Figure 5 deals with several measures of emotion or social pressure. For example, when asked, "Did you have a fist fight last year?" about 15 percent reported a fight in which they hit somebody. The safe older drivers were remarkably free from this kind of overt aggression. The reformed drivers were somewhat more likely to have fought, but it was the dangerous drivers who reported the most physical aggression in the past year.

We asked, "How often in the last month have you driven to blow off steam, following an argument with a girl friend or wife or a relative?" The proportion giving positive responses tended to rise steadily with increasing infractions. Dangerous drivers apparently were using the vehicle as a kind of emotional outlet for conflicts with other people.

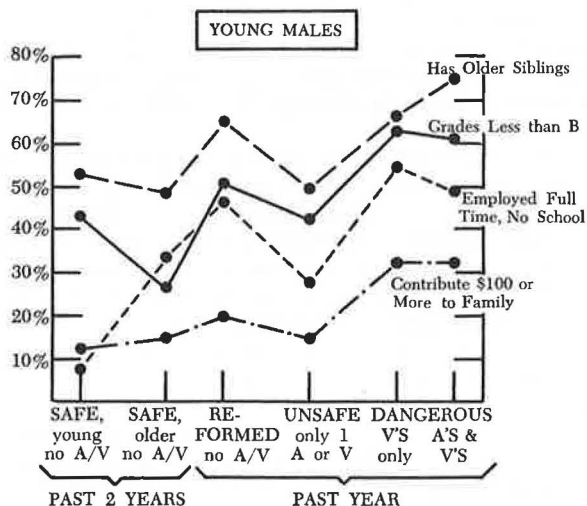


Figure 6. Life situation, as related to infractions.

We considered thoughts of injury to one's self or others while driving. This question arose from the hypothesis that people drive carelessly because they don't know what will happen to them if they have an accident, and the way to improve driving is to scare them. The question was, are scared drivers safe drivers? The answer that emerged was no, not statistically. Safe or reformed drivers did not often think about the possibility of injuries to themselves or to someone else. Unsafe drivers were considerably more aware of this possibility; they were nervous or anxious. The accident-and-violation repeaters were even more aware of possible injury.

Can one induce safer driving by showing gory pictures of accident victims? The data do not encourage this approach. Dangerous drivers seem already aware of their danger; rubbing it in is not likely to improve matters.

We also asked a hypothetical question: "If you were driving to an evening movie and you were late, and you found yourself behind a slow truck on a hill, would you pass the truck or not?" Then we asked: "Suppose you had a girl friend along, would you be more likely to pass or less likely, or would you drive the same way under those conditions?" A similar question was asked about friends or parents in the car.

Shown in Figure 5 is whether they thought their driving would be affected by passengers, i. e., made more cautious or more reckless. The safe older drivers were less likely to say that their driving would be affected, either way, by other people. They appeared more self-determining, tending to make their own decisions. The unsafe drivers were quite likely to feel social pressure, to be either more reckless or more cautious. The same was true for the dangerous drivers.

Along the same vein we asked, "To what extent do you feel that older people are trying to tell you what to do? All the time, half the time, not very often?" Note that safe older and reformed drivers did not feel pressures from older people. Young safe drivers did because they're young. Unsafe drivers also felt these pressures. One gets the feeling that they are caught in conflict. They are not aggressive, and they don't drive a great deal, but they are involved in some social turmoil. They also study a lot, which may cause part of the pressure they feel.

### Life Situation

Generally speaking, the dangerous drivers were more likely to be employed and less likely to be in school (see Figure 6). They were also more likely to contribute money to the family. Perhaps the family was depending upon them for support—not the pattern one would expect of a college-bound youth, whose parents ordinarily continue their obligation to support him for a substantial period.

We had thought initially that responsibility, such as getting a job, would go with safe driving. The result was the opposite. Whatever goes with getting a job goes also with dangerous driving. The conditions in the home situation perhaps tend to press toward both of these outcomes. The fact has emerged in several studies that the more dangerous young driver is not oriented toward an office or professional career, but rather toward a manual job. Such a person is more likely at this stage of his life to have an accident or a violation.

This observation may have important implications for driver education programs. Ordinarily we presently offer only one approach to driver training for all students. Perhaps diversified driver education training should be developed and offered for differing vocational orientations. The college-bound youngster seemed from our data to be a safer person than the youngster who was not college-bound; the high school dropout, in particular, was even more dangerous.



What other implications for driver education might also be inferred from these facts?

Concerning employment, we also noted that those employed full-time tended to be reformed drivers, as well as older. The safe young drivers were not employed—they were too young, most of them still in school. The unsafe drivers were also not necessarily employed. They were studying. But the dangerous drivers were more likely to be holding a job. Might employment require that they drive to work and therefore have more opportunities for accidents? We are not sure; with the additional cases planned for our next study, it will be possible to hold constant the effects of mileage as such.

Grades will have a lot to do with whether one goes on for further study—a college education and a professional job—or whether one sticks with vocational education and a manual job. Again, the dangerous drivers were more likely to have low grades; unsafe drivers were less likely, and the safe older drivers least likely to have poor grades.

Dangerous drivers were more likely to have older brothers or sisters, although the reason is not clear. Perhaps in larger families they must compete for attention, and driving is one way of getting noticed. Perhaps a younger boy wishes to emulate an older brother by dating and driving a car, and when he finally gets behind a wheel, he drives harder and takes more chances to show that he's just as much a man as his older brother.

### Age and Behavior With Cars

Now the question is, can anything be done about these factors? Let us examine how they might vary with age (Figure 7). Focusing on the male, we see that among the four age categories, it was the 19-20 year old youngsters who were spending time (10 or more hours a week) in their cars for fun. Cars were very important to them, but this interest dropped sharply at 21-22. Racing other cars was reported by youngsters under 21. Speeding again was characteristic of the 19-20 year olds, and then declined.

Driving after drinking was low for the 16-year olds, but rose sharply at 19-20 years and stayed high. Perhaps it is one's first attempts to drive after drinking that are more dangerous.

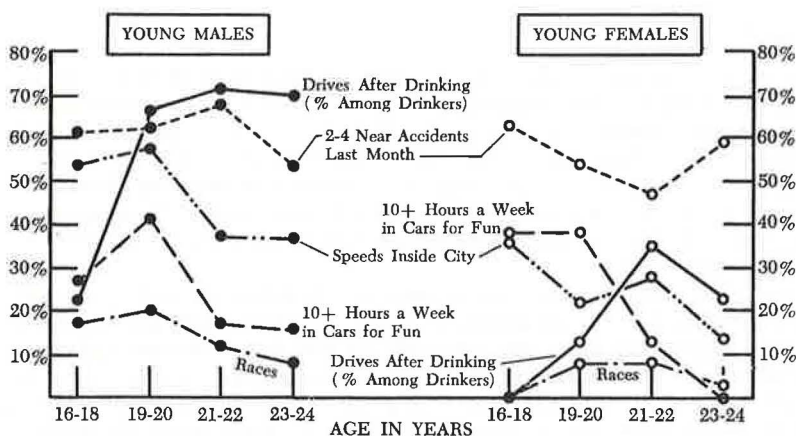


Figure 7. Behavior with cars, in relation to age.

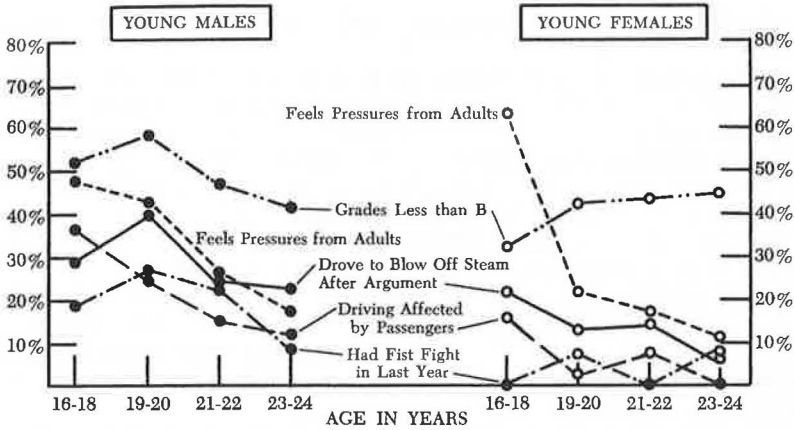


Figure 8. Emotions and social pressure, by age.

The chart shows the same variables for women, although with fewer cases (N = 100) the data are less reliable. With some irregularities, risky car behavior declined with age.

Figure 8 presents some of the motivational factors. Reports of having had a fist fight during the preceding year and of driving to blow off steam after an argument both peaked at 19 or 20. We suspect that it is at this age—just before 21, when the individual is almost an adult—that some of his social relationships become more tense. He is escaping the authority of parents or high school teachers, only to encounter the authority of job supervisors or college teachers. This is the dating period also. Perhaps the 19-year-old has had an argument with his girl friend, and he drives to blow off steam.

Pressures from adults were highest for the youngest drivers, and declined quite steadily. Driving was most affected by passengers among the youngest individuals; with increasing age, they became more self-sufficient, less prone to "gang effects."

For the women in our sample, such pressures were somewhat lower than for men, and generally declined with age.

### Implications for Driver Training

These data raise many questions. If new drivers have special needs that are different from those of more experienced drivers, how can we meet these special needs? In what ways do motivations influence young people's driving, particularly those motivations that arise chiefly from their youth? How can driver educators recognize and utilize these motivations to improve driver training? How much should driver education be oriented toward developing driving skills, and how much toward developing motivations and attitudes? And which should come first?

We might speculate about whether some aspects of driver education should start much earlier than age 16, or extend beyond. At what stage are students most receptive to examining their own motivations and their own ways of reacting to road situations? What kinds of risky situations are they more likely to get into than older people? What part can the rest of the community—including parents—play in driver education? How can they be involved more constructively or perhaps "uninvolved" in terms of emotional pressures? These are just a few of the questions that the data raise.

### Summary and Discussion

A cross-section sample of licensed drivers aged 16-24 in the surrounding county revealed that dangerous young drivers (with repeated accidents or violations or both), compared with safe drivers (who had reached the age of 19 or up with two years free of infractions) were more involved in cars, drove more miles during the year, were more aware of social pressures and tensions, more likely to use driving as an outlet for such tensions, more likely to come from a working-class home, and less successful in school.

While the youngest drivers had the most accidents, it was not until the "dangerous years" from 19 to 22 that their accidents became severe (involving personal injury), and traffic tickets increased. Social pressures and involvement with cars were highest at 19-20 years. These results suggest that tensions surrounding the onset of adulthood were spilling over into driving behavior.

Aside from the considerable literature on high school and college students, little is known from solid research about the ten-year span during which the young American moves from adolescent to adult. Available data suggest that upheavals are occurring at this stage. The young person is struggling to become an adult, but is not yet granted that privilege by society. He must endure a long and indefinite probation during which he is faced with capricious social demands, and at the same time is continually testing his physical and intellectual potential.

Within this context, feelings of resentment against adult authority are likely to be high. In his eagerness to establish himself as a self-controlling individual, he rejects the experience of his elders, preferring to test reality for himself. In the classroom this attitude can yield creative results, but in a high-speed automobile the outcome may be fatal. Perhaps one reason why young people who are succeeding in high school or college are likely to drive more responsibly is that they have an intellectual outlet for experimentation.

As adults, we need to apply our creative imagination to improving this ten-year period of learning how to drive. Can we provide self-controlled outlets for the youngster's need to establish himself? If so, then perhaps we can reduce the casualties of the dangerous years.