Society Confronts the Young Driver Problem

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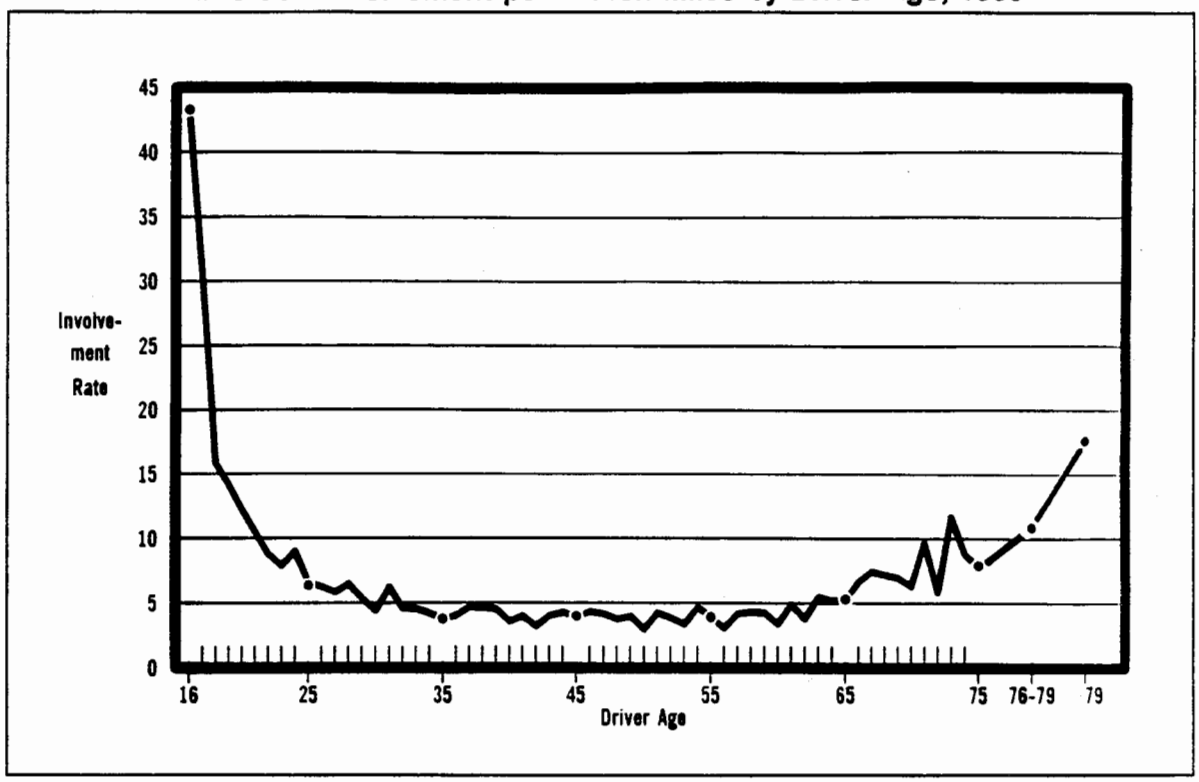
AGE AND CRASH RISK

Young drivers constitute a major problem in every motorized country in the world. Figure 1 illustrates this problem in the United States, using mileage data from the 1990 Nationwide Personal Transportation Survey and a 1990 national probability based sample of police-reported crashes of all levels of severity. Drivers ages 16-19 had the highest crash rate, 20.1 crashes per million miles driven, compared with a rate of 5.3 for all other ages combined. The rates are high for both male (20.9) and female (19.1) 16-19 year-olds. Among the 16-19 age group, 16-year-olds have by far the highest rate (43.2), followed by 17-year-olds (30.3).

Drivers 16-19 years old also have the highest crash rates of all age groups per license holder and per capita (Massie and Campbell, 1993). The per capita rate is most important from a public health standpoint in that it allows assessment of the extent of the motor vehicle crash problem in a particular group and can be used to compare the relative contribution of various groups of people to the overall crash problem. Motor vehicle injuries are the major health problem for 16-19 year-olds, accounting, in the United States, for more than 40 percent of *all* their deaths (Baker et al., 1992).

Figure 1
All Crash Involvement per Million Miles by Driver Age, 1990



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Youthful drivers stand in marked contrast to drivers of other ages as a high-crash-risk group, whether this is calculated on the basis of miles driven, number of license holders, or number of people of that age. Clearly, this indicates an important problem for societies to confront.

WHY YOUTHFUL DRIVERS ARE OVERINVOLVED

Immaturity and lack of driving experience are considered to be the main reasons for the high crash rates of youthful drivers. The immaturity associated with young age is manifested in risky driving practices: speeding, following too closely, rapid accelerations, and a variety of other aggressive maneuvers that heighten crash likelihood (Bergeron, 1991; Romanowicz and Gebers, 1990; Jonah, 1986). The crashes and violations of young drivers are much more likely to be speed related than is the case for drivers of other ages. Young drivers are more likely than older drivers to display risky driving behavior and, reflecting their inexperience, are less able to cope with hazardous situations. Their search and scan abilities are less well developed than those of more experienced drivers, and they are less able to detect imminent hazards and more likely to perceive hazardous situations as less dangerous than they really are (Matthews and Moran, 1986; Quimby and Watts, 1981; Groeger and Brown, 1989; Brown and Groeger, 1988). It is more difficult for inexperienced drivers to monitor the driving environment and take appropriate actions, yet youthful drivers are also more likely than older drivers to overestimate their capabilities and to downplay the likelihood that they will be in a crash (Finn and Bragg, 1986). Risk taking tendencies and inexperience on the road combined with overconfidence in their abilities produce a lethal combination that results in a high crash rate and a high fatality rate for youthful drivers. This is compounded by the fact that young people, at least in the United States tend to drive older and smaller cars that are less protective (Williams et al., 1987), and they obtain more of their exposure at high crash risk locations and times, for example, at night (Massie and Campbell, 1993; Janke, 1990).

Alcohol plays an important role in contributing to the overinvolvement in crashes of youthful drivers. Young drivers are inexperienced both at driving and at drinking, as well as at combining the two activities. Thus, although roadside surveys in the United States and Canada indicate that young people are less likely than adults to drive after drinking, their crash risks are substantially higher than those of older people when they do drink, especially at low and moderate blood alcohol concentrations (BACs) (Mayhew et al., 1986; Zador, 1991). In the United States in 1991, 44 percent of the 15-20 year-old fatally injured drivers had positive BACs and 32 percent had BACs $\geq$0.10 percent, even though every state has a legal minimum alcohol purchase age of 21 (Williams and Wells, 1993).

Alcohol is the major drug of concern in regard to youthful drivers, as is also the case for drivers of other ages. There is variation within and across countries in drug use, but drugs other than alcohol are found much less frequently among crash involved drivers of all ages, and they are typically found in combination with alcohol rather than by themselves (Compton, 1988).

THE CHALLENGE TO SOCIETY

The young driver problem is not new. It has been recognized as a serious problem for decades, and the reasons for the overinvolvement of youth in motor vehicle crashes are well understood. The question is how society responds to this problem. In a Canadian review in 1981 (Mayhew et al., 1981) reference was made to "the failure of existing efforts to effect meaningful reductions in the magnitude of the problem" and several questions were posed that "must be addressed as a matter of considerable urgency." Two of these questions were "Can we continue to justify, as a society, a continued commitment to a status quo posture, wherein a disproportionate number of young people annually lose their lives or suffer disabling injuries as a result of motor vehicle traffic crashes?" And "Are we prepared to undertake the level of commitment required to rectify this situation?" More than a decade later, those questions are equally pertinent.

The youthful driving problem is addressed through vehicle and highway design improvements and through seat belt use laws and other traffic laws applicable to drivers of all ages. However, policies addressed specifically to young people are key to dealing effectively with this problem. Society clearly has the means for dealing with youthful drivers through special policies. Young people are subject to a variety of legal restrictions because of their youthful age. Society as a whole judges the age at which people are considered mature enough to be granted adult status. This is the case in a variety of areas, including voting, military service, and financial obligations, such as signing contracts. In the case of driving, society decides at what ages the privilege of driving and full access to alcoholic beverages should be granted, in terms of protecting the youthful people involved and other members of society. And, because all youthful drivers start out as beginning drivers, they must go through the licensing process, which can be designed to ensure that people reach a certain level of competence before they are allowed to share the roads with others. How society handles young drivers not only has consequences for the young drivers themselves but for all other road users. Young drivers are more likely than other drivers to be judged responsible for causing crashes in which they are involved (Williams, and Karpf, 1984), and their driving results in injuries to road users of all ages.

SOCIETAL CHOICES

Society obviously has choices in how it deals with young drivers, and those choices involve tradeoffs between safety and mobility. Safety/mobility tradeoffs are, of course, endemic to motor vehicle use and are taken for granted. Societal debates generally occur only when there are attempts to extend the limits, for example, through policies that provide enhanced mobility but have negative safety consequences, such as allowing higher speed limits on major highways, or right-turn-on-red. In the case of youthful drivers, the most successful ways of reducing their crash likelihood and its consequences are to manipulate age requirements for driving and to control initial driving experience through laws and regulations. Setting higher age requirements for driving, and placing controls on the

circumstances in which young people can drive yield safety benefits but reduce and restrict their mobility. Societies differ in how they have handled this tradeoff.

DRIVING AGE

An obvious way to control the crash experience of young drivers is not to allow licensure during the early teenage years. Countries differ in where they set the minimum licensing age. Most European countries require that a person be 17 or 18 years of age before obtaining an automobile license. In the United States licensing is allowed earlier than in most other countries, and unlike the case in many European countries, licenses are inexpensive and licensing exams quite easy to pass. There is considerable variation in the United States, as each of the 50 states sets its own minimum licensing age. In most states the minimum age for regular licensure is 16; in a few states it is age 15, and several states allow special restricted licenses at age 14 or 15. New Jersey is the only state that prohibits regular licensure before age 17; this policy has resulted in a substantial reduction in 16- and 17-year-old crash involvement in that state compared with neighboring states that license at age 16 (Williams, Karpf, and Zador, 1984). Not licensing at age 16 virtually eliminates driver crash involvement among state residents in that age group, so the only question is whether the inexperience factor outweighs this benefit (i.e., New Jersey drivers licensed at age 17 are less experienced drivers than 17 year-olds first licensed at age 16). It does not. The crash reduction benefits of later licensure have also been reported in Australia (Drummond, 1986).

DRIVING EXPERIENCE

There is no substitute for on-the-road driving in increasing driving experience. However, laws and regulations can be used to control driving exposure by requiring that early driving experience be accumulated in lower risk settings. This can be accomplished through such techniques as lengthening the learners permit period, restricting who must accompany the learner, establishing night driving curfews, requiring parental involvement, and not allowing young, beginning drivers to transport other teenagers. The quantity of exposure is not necessarily restricted, but the quality is. Such regulations are intended to delay full unrestricted driving privileges until considerable lower risk experience has been accumulated; this process also helps to ensure that by the time of unrestricted licensure drivers will be older and perhaps more mature.

The process of controlling driving experience can best be accomplished through graduated licensing systems that impose restrictions on young or all beginning drivers that are gradually and systematically lifted (Mayhew and Simpson, 1990). Various model graduated licensing schemes have been proposed in the United States over the years. All states have learning periods prior to licensure in which supervised driving is allowed, and many states place some restrictions on initial license holders (usually referred to as "provisional" licenses). However, no model graduated licensing system of the type envisioned in the United States in the 1970s has ever been put in place (Teknekron, 1977;

Waller, 1970). New Zealand introduced a graduated licensing system in 1987 that has been associated with reductions in crashes in the age groups affected (Frith and Perkins, 1992). Victoria, Australia introduced a version of graduated licensing in 1990. Such a system will be put in place in 1994 in Ontario, Canada, and is under consideration in several other provinces.

Key provisions of New Zealand's graduated licensing system control progression toward full driving privileges. A learners permit can be obtained at age 15 or later after passing written and oral tests. Practice driving under supervision for at least six months is then required before attempting the driving test. Once the driving test has been passed, an 18-month restricted license is issued. Restricted periods are reduced if driver education courses are completed and lengthened if clean driving records are not maintained.

Specific restrictions of New Zealand's graduated licensing system include establishing a maximum BAC of 0.03 percent and establishing passenger limits. In New Zealand, no passengers may be transported by initial license holders unless there is a front-seat passenger who is older than 20 and has had an unrestricted license for more than two years. This restriction is intended to limit the extent to which teenage drivers transport their peers. It recognizes that many young passengers as well as young drivers are killed in motor vehicle crashes and that the majority of teenage passenger deaths occur in cars driven by teenage drivers (Williams, 1984).

A third provision of New Zealand's graduated licensing system involves prohibiting driving between 10:00 p.m. and 5:00 a.m. This restriction is designed to keep young beginners off the roads during the late-night high-risk hours, forcing them to gain more of their early driving experience during daylight hours when increased visibility makes driving less demanding.

Nighttime driving is associated with high-risk recreational activities, including alcohol use. Only a small portion of teenagers' driving in the United States—about 20 percent—takes place between 9:00 p.m. and 5:00 a.m., but almost half of teenagers' fatal crash involvement occurs during these high-risk hours (Massie and Campbell, 1993). Several states have nighttime curfews that restrict teenagers' late-night driving except when they are accompanied by a parent or when they are driving to or from work or school. These laws have been enormously successful. In New York, for example, non-essential driving is prohibited between 9:00 p.m. and 5:00 a.m. The result is a 62 percent reduction in crash involvement among 16 year-olds during curfew hours. In Pennsylvania, a night driving curfew extends from midnight to 5:00 a.m., and that has resulted in a 69 percent reduction in crashes involving 16-year-old drivers during curfew hours (Preusser, Williams, and Zador, 1984). These reductions are not offset by increases in injuries to 16-year-olds as nondrivers during curfew hours. Nor are they offset by increases in crashes at other times of the day.

SOCIAL REACTIONS TO RESTRICTIONS ON YOUNG PEOPLE

Night driving curfews and other restrictions on the driving of young people have not received much political support, at least in the United States. A few states have policies that reduce the

problem, but many states have licensing systems that encourage early licensure and basically allow full driving privileges once licensed. There seems to be little impetus in the United States for changing the status quo. From a public health perspective, licensing systems that result in older, more experienced drivers with unrestricted first licenses seem eminently sensible and humane, in that they protect both young, novice drivers and those with whom they share the roads. However, restrictive age-based policies are characterized by many as anti-teenager, draconian, and basically unfair to young people. There is little movement in the United States and many other countries to take action against teenagers as a group, denying them something they greatly desire. Most teenagers want to get licensed and to drive as early as possible, and they especially want to drive at night. Obtaining a license is an important milestone; it gives young people adult status and greatly increases their mobility and independence. Parents, who are obviously interested in the health of their children, have not been a force in promoting legislation restricting teenage driving, although they (and other adults) say they are in favor of restrictive policies (in a national telephone survey in the United States (Williams and Lund, 1986), 51 percent of the parents of 16-18 year-olds said they favored a licensing age of 17 or older; 73 percent wanted night driving curfews.) Many parents in practice want their children to become licensed early, so that they no longer have to chauffeur them, and many parents prefer their son or daughter to drive rather than to travel as a passenger with other teenage drivers.

PENALTY-BASED LICENSING SYSTEMS

Night driving curfews and other restrictive policies are generally applied to all people of a certain age. One argument often put forth is that it is unfair to penalize all people in an age category, that the approach should be to apply restrictions only to those who need them, and allow the "good" drivers—the vast majority of "responsible" teenagers—to have full driving privileges.

There is, to be sure, a subset within the young driver population that is most likely to display risky driving practices and be involved in crashes. Various studies, mostly of young male populations, have noted the interrelationship among certain personality traits (rebelliousness, risk taking, independence, defiance of authority), deviant driving practices (speeding, drinking and driving), and crashes and violations. Deviant driving and crash involvement have also been found to be related to a syndrome of problem behavior including marijuana use, heavy alcohol use, smoking, trouble with the law, and various other delinquent behavior (Cohen, 1955; Jessor, 1987; Sobel and Underhill, 1976; McClelland, Wanner and Vanneman, 1972; Pelz and Williams, 1975; Beirness, 1991).

This subgroup of drivers is of particular interest because of their elevated crash rate within a group that as a whole already has a very high crash rate. However, trying to single out young problem drivers on an individual basis before they get in trouble on the highways cannot be done adequately, and is additionally impractical and politically infeasible. It is likewise difficult to deal effectively with the problem by punishing young drivers after they have gotten into trouble on the highway. Probationary licensing systems, popular in North America, are oriented toward identification

and punishment of the problem driver. Probationary license holders are typically allowed full driving privileges, but during this trial period license actions (generally suspension) can be taken for fewer demerit points than would be the case for regularly licensed drivers. Probationary systems use the threat of punishment to encourage young people to drive with care, but as noted by Mayhew and Simpson (1990), "nothing about the system is designed to enhance skills or on-road experience." It is strictly a punishment-based system.

Probationary license systems may encourage some young people to drive more carefully, but they are not adequate for identifying individuals who will be in future crashes. Individuals identified for license actions under probationary systems may be "problem" drivers in the sense that they are more likely than other drivers to crash. However, most drivers with violations and crashes on their records do not have recorded crashes during prior or subsequent periods. This is true for teenagers as well as older drivers. One study found, for example that only 18 percent of drivers younger than 18 years old in fatal crashes had any convictions for moving violations prior to the fatal crash. Only 10 percent had been involved in a prior reported crash (Robertson, 1981).

DRIVER EDUCATION AND TRAINING

Most countries have relied on formal driver education or training courses not only to teach young people how to drive, but in the hope of making them better drivers—less likely to have crashes and violations than if they had learned to drive some other way. In the United States, licensing is allowed at a younger age in many states for those who have taken driver education. Those completing approved driver education courses are also granted other privileges. For example, New York State's 9:00 p.m.-5:00 a.m. night driving curfew applies to all 16-year-olds, and to 17 year-olds unless they have taken driver education. In New Zealand's graduated licensing system, restricted driving periods are shortened if driver education courses are completed.

The role of driver education in mitigating or exacerbating the high death and injury rate among youthful drivers has been the subject of considerable controversy. Completion of a driver education course is often associated with better crash and violation rates per licensed driver. Other studies have shown, however, that this is probably not the result of the course itself but occurs because students who choose to take such courses tend to have characteristics that are associated independently with fewer crashes (e.g., high intelligence). When analyses control for such factors, differences in crash rates between those with and without driver education are greatly reduced or eliminated (Conger, Miller, and Rainey, 1966; McGuire and Kersh, 1969). Moreover, studies in the United States and England have indicated that when the effect of high school driver education is examined for young people as a group rather than its effects per licensed driver, it increases the number of teenagers in motor vehicle crashes (Robertson and Zador, 1978; Shaoul, 1975). This increase in per capita crash involvement is a byproduct of increased licensure among teenage populations when driver education is readily available. If driver education has provided any additional crash avoidance skills, they have

been inadequate to compensate for the licensure effect. The notion that high school driver education in the United States has unintended negative effects because it encourages earlier licensure than would be the case in its absence was strengthened by the experience in the state of Connecticut in the late 1970s. When some communities in that state dropped high school driver education, licensure and crash rates decreased compared to these rates in other communities within the state that retained driver education (Robertson, 1980).

A large-scale, well-designed U.S. government study of high school driver education was undertaken in the early 1980s in an attempt to clarify the effects of driver education. The study included 16,000 students, randomly assigned to a control group, a 20-hour course, or an enhanced, state-of-the-art driver education program, developed by the National Highway Traffic Safety Administration over several years. The enhanced program included approximately 32 hours of classroom instruction, 16 hours of simulation instruction, 3 hours of instruction in evasive maneuvers, and 3-4 hours of behind-the-wheel on-road instruction.

Initially this program was reported to show a positive effect on crash involvement during the first six months of licensure (Stock et al., 1983). However, when the data from this study were re-analyzed, a net harmful effect and no evidence of a short-term positive effect were found (Lund, Williams, and Zador, 1986).

The results of this major study cannot be readily explained by criticizing the structure of the driver education courses. Students from the enhanced program performed better than those from the control group and the minimum-training group on the Southern California on-road performance test. However, this did not translate into fewer crashes, probably because attitudes and other factors are more important than driving skills in determining teenagers' crash involvement.

The bottom line is that reliance on driver education or training programs to reduce the crash involvement of young drivers is not well founded.

The high-risk subgroup of young people poses a particular challenge for driver education programs or any other teenager targeted educational programs, such as the alcohol and drug education programs that proliferate in U.S. high schools and safety messages on television. That is, this subgroup, that contributes most to the problem and whom one would therefore most like to influence, are among the least susceptible to behavior change through educational programs. The traits, values, and peer associations of this high-risk subgroup are such that changing their behavior via educational programs is a difficult task.

COMBATTING THE ALCOHOL PROBLEM

Young drivers and alcohol are a volatile mix. Society has choices here as well in terms of treating young people differently than older people. In the United States the legal minimum age for purchasing alcohol has shifted back and forth between 18 and 21 in the 1970s and 1980s. In the 1960s most states had a legal minimum drinking age of 21. When the United States Constitution was

amended in 1971 to reduce the voting age in Federal elections from 21 to 18, states also reduced the voting age and many bestowed various other so-called adult privileges on 18-year-olds, including the legal right to purchase alcohol. This resulted in an increase in alcohol-related motor vehicle deaths in the 18-20 year age group, and societal pressures were brought to bear that eventually resulted in all states adopting age 21 as the legal minimum alcohol purchasing age. This legislation was hotly debated, opponents frequently arguing that age 21 for purchasing alcohol was unfair since other legal rights and obligations, e.g., military service, existed at younger ages. As anticipated, raising the age to 21 was found to reduce alcohol-related crashes in the affected age groups (General Accounting Office, 1987). The reduction, however, was modest (10-15 percent) and, although important, obviously did not solve the problem of alcohol-impaired driving by teenagers.

Attempts to further reduce the problem of alcohol-impaired driving among youth have involved establishing very low legal BAC thresholds for young drivers—lower than those for older drivers. Early research from the states where the permissible blood alcohol threshold has been lowered, including states where zero is the legal limit, suggest that this policy reduces alcohol-related crashes (Hingson et al., 1991).

Other countries, such as New Zealand, have also adopted low BAC thresholds for youth, justified on the basis of their heightened susceptibility to crash involvement at low BACs. Many states in the United States have also adopted more stringent penalties for alcohol-related offenses for those under age 21 than for older people, and/or penalties that are applied for lesser offenses than in the case of adults. These include driving penalties for alcohol offenses even when the offense does not involve driving. The state of Oregon, for example, has a law applicable to 13-18 year-olds that mandates a one-year license suspension (or delay of one year in obtaining a license) for any alcohol or other drug-related violation, including those not involving motor vehicle use. Whether or not such policies work in reducing crashes has not been adequately studied.

MOTORCYCLE USE

Motorcycles are a particularly dangerous form of motor vehicle travel, having a death rate in the United States about 17 times that of passenger cars per mile of travel. Further, they are likely to appeal to the higher-risk subset of young males, particularly when motorcycles are used primarily for recreational purposes as in the United States. This is abetted by some motorcycle ads that emphasize speed and acceleration.

In many European countries, motorcycle licensure is allowed at age 16 (and moped use at 14 or 15) although passenger car licensure may be delayed until later. Typically, there are restrictions on engine capacities of the motorcycles young people are allowed to ride, but high crash rates for young moped and motorcycle drivers (higher than those of other age groups) result (European Conference of Ministries of Transport, 1987). One of the guiding principles put forth by the New Zealand Ministry

of Transport in developing a graduated licensing system was that, "It should not be made more attractive to attain a motorcycle license before or instead of a car license" (Frith and Perkins, 1992).

One can question in general the wisdom of allowing licensure for motorcycles earlier than for cars, because motorcycles are more difficult to operate, provide much less protection in a crash, and may appeal to higher risk males. As in the case of passenger vehicles, motorcycle education or training does not seem to confer an advantage in terms of reduced crash risk. When such programs have been evaluated scientifically in the United States, they have been found either to have no effect on subsequent crash involvement or, inexplicably, to increase it (Kelsey, Liddicrat, and Tatz, 1986; New York State Dept. of Motor Vehicles, 1988). This evidence, however, has not deterred states from, in many cases, requiring motorcycle training course completion as a condition of licensure.

LAW ENFORCEMENT

There are many laws related to motor vehicle use that apply to young people, including both those that cover drivers of all ages as well as those pertaining only to drivers of a certain youthful age. Laws by themselves are generally insufficient to produce the desired behavior. For effective deterrence, laws must be enforced sufficiently, and society has choices here as well. There are many instances in which enforcement of laws regarding teenagers is very lax. For example, even though every state in the United States has a legal minimum purchase age of 21, in many areas of the country it is ridiculously easy for teenagers to purchase alcohol. In the District of Columbia, for example, underage males without false identification and instructed not to lie about their age, were able to purchase beer in 97 out of 100 randomly chosen retail establishments (Preusser and Williams, 1992). Another example is that young drivers are arrested for driving while intoxicated at rates that are far below their incidence in alcohol-related crashes (Voas and Williams, 1981; Preusser, Ulmer, and Preusser, 1992). As a third example, night driving curfews are rarely enforced by the police. Rather, parents are the primary enforcers of curfew laws. Night driving curfews are an effective countermeasure nonetheless, but many drivers subject to curfews still drive at night and are in crashes. Were police to enforce curfew laws, their effectiveness would likely be greatly enhanced.

Police agencies do not operate in a vacuum; they enforce laws to the extent that there is community and political support for their enforcement. When laws that are on the books are not being enforced, this can be an indication that there is scant societal pressure or concern about their application.

PENALTIES

Effective deterrence involves not only enforcement of laws but appropriate penalties that are severe enough to be meaningful. In North America the trend has been to toughen the penalties for alcohol and general driving infractions for young people through probationary licensing programs or other licensing systems, and often these penalties are applied for lesser offenses than would be the case

for older drivers. Whether this has had beneficial effects is not clear. License suspension is indeed a meaningful penalty, and the police may be disinclined to apply it, because they think the penalty is too tough and/or they are sympathetic to young people. In some states the penalties are particularly severe and controversial, for example, the Oregon law that delays or suspends licenses for one year for alcohol-related offenses not related to driving. Attempting to deal with the young driver problem by trying to identify early and severely penalize wrong-doers is a traditional societal response; whether it is effective is a question that remains largely unanswered.

Some states, recognizing that license suspension is a strong and meaningful penalty for teenagers, have used this sanction to try to influence young people in other ways considered to be socially desirable. Several states do not allow licensure for young people who drop out of high school. This policy has been debated, and its effects on motor vehicle crashes, high school graduation rates, and other relevant outcomes have not been adequately determined. Nevertheless, at least nine states have adopted this law, and it has also been suggested that licenses should be withheld in other cases, for example from those who do not maintain adequate grades in school.

DOES SOCIETY ENCOURAGE RISKY DRIVING BY YOUNG PEOPLE?

Young drivers as a group are aggressive drivers. They speed, drive in risky ways, and sometimes combine these activities with alcohol use. Risk taking is rewarded in most cultures. Television and motion pictures, at least in the United States, often glorify risk taking, including the presentation of aggressive driving scenes, most notably car chases. Car chases are often presented in a humorous vein, with the injury potential of high speed and resulting crashes completely ignored. As Atkin (1988) has noted, "Each year, TV viewers see several thousand irregular driving acts and hundreds of instances where people are endangered, typically performed in an engaging manner by attractive characters who suffer minimal harm." Cars and motorcycles are often advertised emphasizing their speed and performance capabilities. Beer commercials typically are pitched to young males, associating beer consumption with manliness, risk, and excitement. Postman and colleagues (1987) concluded, after analyzing beer commercial broadcast on television, that "Beer commercials do promote an association between drinking and driving." In some countries there are voluntary codes regarding such advertising, but government regulation has rarely been applied. In these and other ways, society — subtly and not so subtly — encourages in youth the very behavior that contributes to the youthful crash problem. This is a factor that cannot be neglected in assessing how society is dealing with young drivers.

CONCLUSION

The injuries associated with youthful driving — injuries to the drivers themselves, their passengers, others they collide with — represent a major problem worldwide. This is not a new problem; it has been recognized and acknowledged as serious for decades. Society has choices in

dealing with the young driver problem, but obviously the choices made have not been adequate, at least in the view of public health and highway safety professionals. The choices that are effective in reducing the problem — higher licensing ages and restricting young, beginning drivers to lower-risk driving situations — involve tradeoffs, and society has to decide where to strike the balance between mobility for young people of a certain age, and safety concerns for them and other road users. What does being "fair" to young people mean in this context? This is a question each society has to confront.

Societies respond to the young driver problem in widely different ways, employing a variety of methods — some effective, some ineffective or even counterproductive — in reducing the problem (Williams, 1987). Some rely on driver education or heavy penalties for youthful offenders. Others have developed more sophisticated approaches, such as New Zealand's graduated licensing system. Some countries seemingly are accepting of their status quo; others, such as Canada, are actively considering new approaches to dealing with the problem. This is not a case where we are searching for the cure; we know what some of the solutions are, but they are not widely applied.

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