

## YOUNG DRIVERS, ALCOHOL, AND RISKY DRIVING

A. James McKnight

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Article abstract

The extremely high crash risk of young drivers is a result of both inexperience and immaturity. The steep decline in accidents over the first two years of driving indicates the more powerful role of the former upon new drivers. Beyond that point, the MO appear to shore equally. While some small proportion of youth may invite risk through thrill seeking, the nature of accidents among youth suggests that the primary source of the problem is failure to perceive the degree of risk presented by the driving environment and their responses to it. Young drivers appear to be deficient in recognising hazardous highway conditions and traffic situations, and to underestimate the risk involved in excessive speed, passing other vehicles, following closely, distractions, not using safety restraints, and use of alcohol.

## YOUNG DRIVERS, ALCOHOL, AND RISKY DRIVING

by A. James McKnight

### RÉSUMÉ

Le risque particulièrement élevé de collision chez les jeunes conducteurs résulte à la fois de leur manque d'expérience et de leur immaturité. Le fort déclin dans le nombre d'accidents au-delà des deux premières années de conduite illustre la plus grande efficacité des anciens conducteurs sur les nouveaux conducteurs. Au-delà de ce seuil, les deux catégories semblent partager les risques d'une façon à peu près égale. Bien qu'une faible proportion de jeunes conducteurs peuvent engendrer des risques à travers la recherche de sensations, la nature des accidents chez les jeunes révèle que la première source du problème est le défaut de percevoir le degré de risque dans l'environnement de la conduite routière et celui d'y répondre de façon satisfaisante. Les jeunes conducteurs semblent souffrir de déficience lorsqu'il s'agit de reconnaître les conditions hasardeuses et la fluidité du trafic des grands axes routiers, tout autant qu'ils sous-estiment les risques associés à la vitesse excessive, au dépassement de véhicules, au fait de suivre de trop près le véhicule en amont, aux distractions de toute sorte, au défaut d'utiliser les dispositifs de sécurité et à la consommation d'alcool.

### ABSTRACT

*The extremely high crash risk of young drivers is a result of both inexperience and immaturity. The steep decline in accidents over the first two years of driving indicates the more powerful role of the former upon new drivers. Beyond that point, the two appear to share equally. While some small proportion of youth may invite risk through thrill seeking, the nature of accidents among youth suggests that the primary source of the problem is failure to perceive the degree of risk presented by the driving environment and their responses to it. Young drivers appear to be deficient in recognising hazardous highway conditions and traffic situations, and to underestimate the risk involved in excessive speed, passing other vehicles, following closely, distractions, not using safety restraints, and use of alcohol.*

#### The author:

James McKnight is from the National Public Services Research Institute, U.S.A.

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Young drivers are a far greater risk to themselves and others on the highway than are adults. Until they have jobs, and cars of their own, their contribution to the accident picture is moderated somewhat by the relatively low mileage they compile. Yet, on a per-mile basis, the accident rate is at its peak the moment the youthful driver takes to the road.

Two aspects of youthful driving could contribute to their high accident rate: their lack of maturity and their lack of experience. But how much of the problem is due to each? Over the entire age span, maturity and experience appear to share about equally in the declining accident rate McKnight and Robinson (1990). However, close to a two thirds drop in the rate over the first two years of driving (NHTSA 1996), a rate disproportional to the rate of maturation, suggests that lack of experience is the greater factor in the risks created by and faced by the youngest drivers.

## ■ RISKY PRACTICES OF YOUNG DRIVERS

If young drivers are overinvolved in accidents for their amount of driving it is presumable because they driver differently in some respects from their older counterparts. Aspects of driving in which differences have appeared include speed, passing, merging, lane changing, headways, distractions wearing safety belts, use of alcohol and drugs.

*Speed* — A study by Huston (1986), based on accident data provided by the California Highway Patrol on drivers at fault in accidents in 1983 found that speeding was a primary collision factor for youth in fatal automobile accidents and was a factor in 33% of nonfatal injury accidents. Evans (1991) analyzed fatal accident data by age and direction of impact, and found that young drivers were more likely than older drivers to die in roll-over crashes, a type of accident that is likely to involve high speed. Bergeron (1991), Jessor (1987), Jonah (1986), and Michiels and Schneider (1984) identified speed as a risky driving practice for youth. Barjonet and Gossiaux (1989) made use of interviews , accident data and in-depth accident investigation to identify behavioral circumstances underlying fatal road accidents. While speeding was identified as the major cause of accidents, the authors emphasized that speed in these instances was not related to thrill seeking or bravado. Clement and Jonah (1984) also report finding no association between number of crashes and sensation seeking. French,

West, Elander and Wilding (in press), as well as Parker, Manstead, Stradling, Reason, and Baxter (in press) reported finding young male drivers manifest fast and deviant driving styles. Perry (1986) found crashes and violations among high school students to be related to high scores on a measure of type A behavior and a questionnaire assessing driver impatience. Nevertheless, no direct relation to thrill seeking was founded.

*Passing, Merging, and Lane Changing* — Bergeron (1991) found that youth often do not allow enough time to merge into traffic, cross traffic lanes, and pass other vehicles. A survey by Jonah and Dawson (1987) found that young drivers were more likely than older drivers to report passing in intersections and changing lanes abruptly. Michiels and Schneider (1984) collected data on traffic offenses and found that an offense frequently committed by young drivers is reckless passing of vehicles.

*Headways* — Bergeron (1991), Evans and Wasielewski (1983), and Jonah (1986) found that youth are more likely than older drivers to follow too closely. Evans and Wasielewski (1983) collected data on headways and driver characteristics at freeway sites in Michigan and Ontario. Information on driver and vehicle characteristics were obtained from a photograph of each vehicle. Youth were found to leave shorter headways. Jonah and Dawson (1987) found that young drivers were more likely than older drivers to report tailgating other drivers.

*Distractions* — Farrow (1987) found that internal distractions and driving with peers were related to the accident involvement of youth. Frith and Perkins (1991) similarly found that driving with passengers increased the risk of accident involvement. Johnston (1986) found that absence of passengers or only one passenger is associated with a lower risk of automobile crashes.

*Hazard Perception* — Groeger and Brown (1989) and Brown and Groeger (1988) identified inexperience and lack of ability to identify hazards as problems for young drivers. They found that experienced subjects were able to identify risk situations sooner and respond more quickly than inexperienced drivers. Peck (1985) identified lack of skill and difficulties in judging hazards, both functions that improve with age, as contributors to accidents. Finn and Bragg (1986), measured perceived risk through interviews, still photograph ratings, videotape ratings and road tests and found that youth often failed to perceive risky situations. McKnight and McKnight (1992) found younger drivers less likely to respond to a set of simulated highway traffic hazards than were older drivers.

*Safety Belt Usage* — American Association of Motor Vehicle Administrators (1989), Beirness and Simpson (1989), and Bierness and Simpson (1988) identified failure to use safety belts as a risk factor. Jonah (1990) found that 20- to 24-year-olds had the lowest seat belt usage rate. The level of seat belt usage was even lower than that of the 16- to 19-year-old age group. Seat belt use was significantly correlated with records of accident and violation involvement.

*Use of Alcohol* — While young drivers are less often involved in alcohol related accidents than adult, analysis of accident likelihood by level of blood alcohol have consistently shown youth to be more the vulnerable to alcohol=s effects. Huston (1986), Farrow (1987), Barjonet (1989), and Frith and Perkins (1991) have studied the conditions underlying accidents of youth and found that alcohol or drug use was common. Peck (1985) regressed accident frequencies against 10 variables and found that drinking and driving was a significant factor in accidents. Fell (1982) also identified drinking and driving as a risk factor. Finally, Jonah (1990) found that young underestimated the number of drinks that would cause impairment more than did older drivers and believed that their chances of being charged with impaired driving were lower than did older drivers. The one bright note in this whole picture is the willingness of youth to intervene in the drinking and driving of others. The idea that “Friends Don’t Let Friends Drive Drunk” receives its greatest application among youth. Adults are extremely reluctant to intervene in the drinking of another adult ? “He’s old enough to take care of himself.” “I’m not his keeper.” Fortunately, youth are less inhibited than their elders when it comes to aggressively intervening.

*Drug Use* — Williams, Peat, Crouch, Wells and Finkle (1985) collected data on blood samples from young, fatally-injured male drivers and found that alcohol was associated with increased crash responsibility. Marijuana was detected in 37% and alcohol was detected in 63% of fatally-injured 15- to 19-year-old drivers. Marijuana was detected in 39% and alcohol in 67% of drivers 20 to 24 years old. Highson, Heeren, Mangione, Morelock and Mucatel (1982) gathered data using anonymous telephone surveys and found that teens who drove after using marijuana more than 6 times a month were 2.4 times more likely to have been involved in a traffic accident than those who didn’t use marijuana.

*Role of alcohol and Drugs* — There seems to be little doubt that youth who drink a lot or who use marijuana are indeed more likely to engage in risky behavior than those who do not. The question is whether the use of these substances contributes to risky

behavior or is simply a concomitant of it. Jessor's (1988) discussion of adolescent problem behavior stresses the interrelationship among various problem behaviors. He points out that "adolescent problem drinking is not an isolated behavior but, on the contrary, covaries positively with other problem behaviors and negatively with conventional behavior." He concludes that "risky driving behavior emerges from these analyses as an aspect of a larger adolescent lifestyle and has embedded in it the same set of personality, perceived environment, and behavior variables as other adolescent problems behaviors such as delinquency, problem drinking, and illicit drug use."

## ■ SOURCE OF RISK AMONG YOUTH

The high rate of accidents among youth has often been attributed to thrill seeking and deliberate risk taking. However, the weight of evidence indicates that the patently risky behavior of youth is attributable primarily to a failure to recognize risks. Dejoy (1992) administered questionnaire to drivers aged 18-24 and found that, "young males appear to possess an exaggerated sense of their own driving skill and this may lead them to underestimate the degree of risk associated with various dangerous driving acts." The low risk perception of young drivers has often been attributed to a sense of "invulnerability."

Matthews and Moran (1986) measured perceived risk and perceived driving ability in males, using a questionnaire and videotaped sequences. Young males gave lower ratings of accident risk than older males, felt that they were at less risk than peers, and overestimated their driving ability. Jonah and Dawson (1987) reported that young drivers rated themselves as less cautious than older drivers did, yet perceived less danger than older drivers in specific driving situations. A recent review of youth risks across a broad array of activities is presented by Fischhoff (1993). He cites a number of studies in which adolescents tended to see themselves as being more vulnerable to risk than their parents. He points out that "adolescents may not be intending to take more risks, but, instead, haven't figured out what is a risk and what isn't." Trankle, Gelau and Metker (1990) showed subjects slides of 100 traffic situations and asked them to assess each situation on a scale ranging from "minimum risk" to "high likelihood of accident" and found that young males rated situations as less risky than older males. Trankle

et al. proposed that young males may have a higher tolerance for risk, meaning they are more accepting of risk taking

Personality characteristics have long been associated with risky driving. Arnett (1990) found that thrill and adventure seeking, disinhibition, and boredom susceptibility are significantly related to drunk driving. Beirness and Simpson (1988) and Beirness and Simpson (1989) also found that accident involvement is related to thrill and adventure seeking, experience seeking, tolerance of deviant behavior, immaturity towards alcohol or liberal attitudes towards alcohol, smoking, getting fewer hours of sleep each night, drug use, excessive drinking, problems with parents, problems with police, problems with friends and problems with teachers. According to Farrow (1987) viewing driving as a social event is common in drivers who engage in risky driving. Jessor (1987) found risky driving was related to low value on achievement, tolerance for deviance and high frequency of deviant behavior. However, Mercer (1990) and Beirness and Simpson (1989) point out that differences in personality and driving characteristics of individuals within the same age and experience level far exceed differences across these levels. As Mercer points out, "there are more psychological and personality differences within an age group than between age groups, and personality has also been shown to predict collision involvement." In short, while personality characteristics play a role in unsafe driving, they are not responsible for the inordinately high rate of accidents among youth.

The weight of evidence indicates that risk among youthful drivers results less from thrill seeking, a sense of power or personality characteristics than it does from failure to fully appreciate the risks involved in speeding, unsafe passing, merging or lane changing, short headways, distractions, not wearing safety belts, and use of alcohol or drugs.

## □ References

- American Association of Motor Vehicle Administrators. (1989). *An improved driver entry system for young novice drivers*. U.S. Department of Transportation, NHTSA.
- Arnett, J. (1990). Drunk driving, sensation seeking, and egocentrism among adolescents. *Personality and Individual Differences*, 11(6), 541-546.
- Barjonet, P. and Gossiaux. Drinking and driving and the search for identity: An anthropological survey on young car drivers. *Proceedings of the 11th International Conference on Alcohol, Drugs and Traffic Safety*, Chicago, Illinois, October 24-27, 1989.

- Beirness, D.J. (1991). Predicting young driver crashes. *Paper presented at New to the Road Symposium*, Halifax, Nova Scotia, February 17-20, 1991.
- Beirness, D.J. and Simpson, H.M. (1989). Lifestyles and driving behaviors of youth. *Proceedings of the 11th International Conference on Alcohol, Drugs and Traffic Safety*, Chicago, Illinois, October 24-27, 1989.
- Beirness, D.J. and Simpson, H.M. (1988). Lifestyle correlates of risky driving and accident involvement among youth. *Alcohol, Drugs and Driving*, 4(3-4), 193-204.
- Bergeron, J. (1991). Behavioral, attitudinal and physiological characteristics of young drivers in simulated driving tasks as a function of past accidents and violations. *Paper presented at New to the Road Symposium*, Halifax, Nova Scotia, February 17-20, 1991.
- Bragg, B. and Finn, P. (1982). *Young driver risk-taking research: Technical report of experimental study*. Prepared for the National Highway Traffic Safety Administration. Springfield, Va: National Technical Information Service.
- Brown, I.D. and Groeger, J.A. (1988). Risk perception and decision taking during the transition between novice and experienced driver status. *Ergonomics*, 31(4), 585-597.
- Clement, R. and Jonah, B.B. (1984). Field dependence, sensation seeking and driving behaviour. *Personality and Individual Differences*, 5, 87-93.
- Dejoy, D. (1992). An examination of gender differences in traffic accident risk perception. *Accident Analysis and Prevention*, 24(3), 237-246.
- Donovan, J. (1991). Psychosocial development and proneness for risky driving. *Paper presented at New to the Road Symposium*, Halifax, Nova Scotia, February 17 -20, 1991.
- Elander, J., West, R. and French, D. Behavioral correlates of individual differences in road-traffic crash risk: an examination of methods and findings. *Psychological Bulletin*, 113(2), 279-294.
- Evans, L. (1991). Air bag effectiveness in preventing fatalities predicted according to type of crash, driver age, and blood alcohol concentration. *Accident Analysis and Prevention*, 23,531-541.
- Evans, L. (1987). Young driver involvement in severe car crashes. *Alcohol, Drugs and Driving*, 3(3-4), 63-71.
- Evans, L. and Wasieleski, P (1983). Risky driving related to driver and vehicle characteristics. *Accident Analysis and Prevention*, 15(2), 121-136.
- Farrow, J. (1987). Young driver risk taking: a description of dangerous driving situations among 16-19-year-old drivers. *The International Journal of the Addictions*, 22(12), 1255- 1267.
- Fell, J.C. (1982). *Alcohol involvement in traffic accidents: recent estimates from the national center for statistics and analysis*. Washington, DC: National Highway Traffic Safety Administration.
- Finn, P. and Bragg, B.W. (1986). Perception of the risk of an accident by young and older drivers. *Accident Analysis and Prevention*, 18(4), 289-298.
- Fischhoff. (1993). Sense of invulnerability doesn't drive teen risks. *APA Monitor*, 24(4). American Psychological Assn. April 1993, 15.



- French, D., West, R., Elander, J. and Wilding, J.M. (in press). Decision making style, driving style and self-reported involvement in road traffic accidents. *Ergonomics*.
- Frith, W. and Perkins, W. (1991). *The New Zealand graduated driver licensing system*. Land Transport Division: Ministry of Transport.
- Groeger, J.A. and Brown, I.D. (1989). Assessing one's own and others driving ability: influences of sex, age and experience. *Accident Analysis and Prevention*, 21(2), 155-168.
- Hingson, R., Heeren, T., Mangione, T., Morelock, S. and Mucatel, M. (1982). Teenage driving after using marijuana or drinking and traffic accident involvement. *Journal of Safety Research*, 13, 33-37.
- Huston, R. *Teen driver facts*. California Department of Motor Vehicles, Research and Development Office, January 1986.
- Jessor, R. (1987). Risky driving and adolescent problem behavior: an extension of problem-behavior theory. *Alcohol, Drugs and Driving*, 3(3-4), 1-12.
- Johnston, I. (1986). The integration and interdependence of countermeasures. *Presented at the International Symposium of Young Drivers' Alcohol and Drug Impairment*, Amsterdam, The Netherlands, September, 1986.
- Jonah, B. (1986). Accident risk and risk-taking among young drivers. *Accident Analysis and Prevention*, 18(4), 255-271.
- Jonah, B. (1990). Age differences in risky driving. *Health Education Research*, 5(2), 139-149.
- Jonah, B. and Dawson, N. (1987). Youth and risk: age differences in risky driving, risk perception and risk utility. *Alcohol Drugs and Driving*, 3(3-4), 13-29.
- Lerner, N., Williams, A. and Sedney, C. (1988). *Risk perception and highway driving (Final Report)*. COMSIS Corporation. Prepared for the U.S. Department of Transportation, Federal Highway Administration under Contract No. DTFH61-85-C-00143. 201p.
- Malfctti, J.L., Rose, P.R., DeKorp, N.A. and Basch, C.E. (1989). *Young driver attitude scale: the development and field-testing of an instrument to measure young driver risk-taking attitudes*. Washington, DC: AAA Foundation for Traffic Safety.
- Matthews, M. and Moran, A. (1986). Age differences in male drivers' perception of accident risk: the role of perceived driving ability. *Accident Analysis and Prevention*, 18(4), 299-313.
- Maycock, J., Lockwood, C.R., and Lester, J.F. (1991). *The accident liability of car drivers*. Report No. 315. Crowthorne, England: Transport and Road Research Laboratory.
- Mayhew, D.R., Donelson A.C., Beirness, D.J. and Simpson, H.M. (1986). Youth, alcohol and relative risk of crash involvement. *Accident Analysis and Prevention*, 18, 273-287.
- Mayhew, D.R. and Simpson, H.M. (1990). *New to the Road: Young Drivers and Novice Drivers: Similar Problems and Solutions?* Ottawa, Ontario: Traffic Injury Research Foundation of Canada. 180p.
- McKnight, A.J., Hyle, P. and Albrecht, L. (1983). *Youth License Control Demonstration Project*. National Highway Traffic Safety Administration.

- Report No. DOT-HS-7-01765. Springfield, Virginia: National Technical Information Service.
- McKnight, A.J. and McKnight, A.S. (1992). The effect of in-vehicle navigation information systems upon driver attention. *In Proceedings of the 36th Annual Conference of the Association for the Advancement of Automotive Medicine*. Portland, Oregon.
- McKnight, A. J. and Robinson, A.R. (1990). The involvement of age and experience in motorcycle accidents. *In Proceedings of the International Motorcycle Safety Conference; Vol. 1* Motorcycle Safety Foundation, pp. 1-13.
- Mercer, G.W. (1986). *Age vs driving experience as predictors of young driver's traffic accident involvement*. Vancouver, British Columbia: Ministry of the Attorney General.
- Mercer. (1990). Cited as personal communication in Mayhew and Simpson (1990). *New to the Road: Young Drivers and Novice Drivers: Similar Problems and Solutions?*
- Michiels, W. and Schneider, P. (1984). Traffic offenses: another approach to description and prediction. *Accident Analysis and Prevention*, 16(3), 223-238.
- O'Connor, P.J. (1986). *Report on graduated driver licensing and others road accident countermeasures focusing on young drivers*. Report Series 6/86. Canberra, Australia: Federal Office of Road Safety.
- Parker, P., Manstead, A.S.R., Stradling, S.G., Reason, J.T. and Baxter, J.S. (in press). Intention to commit driving violations: an application of the theory of planned behaviour. *Journal of Applied Psychology*.
- Peck, R. (1985). The roles of youth in traffic accidents: a review of past and current California Data. *Alcohol, Drugs and Driving*, 1(1-2), 45-68.
- Perneger, T. and Smith, G.S. (1991). A driver's role in fatal two-car crashes: a paired "case control" study. *American Journal of Epidemiology*, 134(10), 1138-1145.
- Perry, A.R. (1986). Type A behaviour pattern and motor-vehicle driver behaviour. *Perceptual and Motor Skills*, 63, 875-878.
- Preusser, D.F., Williams, A.F., Lund, A., and Zador, P.L. (1990). City curfew ordinances and teenage motor vehicle injury. *Alcohol Analysis Prevention*, 22(4), 391-397.
- Preusser, D.F., Williams, A.F., Zador, P.L. and Blomberg, R.D. (1984). The effect of curfew laws on motor vehicle crashes. *Law and Policy*, 6, 115-128.
- Summala, H. (1987). Young driver accidents: risk taking or failure of skills? *Alcohol, Drugs and Driving*, 3(3-4), 79-91.
- Trankle, U., Gelau, C. and Metker, T. (1990). Risk perception and age-specific accidents of young drivers. *Accident Analysis and Prevention*, 22(2), 119-125.
- White, W. (1988). *Just how unsafe are young drivers?* Road Traffic Safety Research Council, Road Traffic Safety Seminar, New Zealand.
- Williams, A.F. (1985). Nighttime driving and fatal crash involvement of teenagers. *Accident Analysis and Prevention*, 17(1), 1-5.

- Williams, A., Peat, M., Crouch, D., Wells, J. and Finkle, B. (1985). Drugs in fatally injured young male drivers. *Public Health Reports*, 100(1), 19-25.
- Williams, A., Preusser, D., Lund, A. and Rasmussen, S. (1987). Cars owned and driven by teenagers. *Transportation Quarterly*, 41(2), 177-188.