PostScript

RESEARCH LETTER

Very young drivers in fatal vehicle crashes involving police chases

Motor vehicle crashes associated with high speed police pursuits have received recent attention in both the public health literature and the lay press.^{1–4} Each year in the US there are approximately 350 fatalities attributable to police pursuits.⁵ In 2003, 7000 high speed chases occurred in California alone, resulting in 51 deaths.⁶ Data are more difficult to obtain for countries other than the US, but a recent report by the Police Federation of England and Wales suggested that pursuit related deaths in Britain tripled between 1997 and 2003.⁷ Though funded by the US Department of Justice, a 1996 publication by the International Association of Chiefs of Police attempted to establish an international model pursuit policy, suggesting that the importance of this problem is widely recognized.⁸

Drivers under 16 years of age are involved in over 200 US fatal crashes yearly.^{9–11} However, no previous study has addressed the involvement of very young, typically unlicensed, drivers in fatal police pursuits. The purpose of this paper is to explore the role of such very young drivers in fatal crashes related to police chases.

Methods and materials

This study is based on the US Fatality Analysis Reporting System (FARS).⁵ FARS is a database of all US fatal motor vehicle crashes occurring on public roads that has been maintained by the National Highway Traffic Safety Administration since 1975. For each crash in which at least one fatality occurs, FARS data are collected from official state sources on all involved people, vehicles, and crash circumstances using standardized reporting forms. For this study, all 1999–2003 FARS cases were selected in which at least one driver was age 15 or less and police pursuit was listed as a contributing factor. Details of each crash were assessed including driver's sex, number of vehicles and passengers involved, vehicle type, age of all decedents, state and county of crash, crash related factors (three factors), drivers' licensure, road type and condition, time of accident, and the role of alcohol or drugs. A crash was judged to be related to a police chase if one of the three crash related factors fields contained the entry "police pursuit involved". All counties in which crashes occurred were classified for rurality according to the Department of Agriculture (USDA) rural-urban continuum codes (RUCC).⁸ Analysis employed Microsoft Access 2002 and SPSS for Windows version 12.0.1. All data were obtained from fully public sources, and for this reason ethics committee review was not sought.

Results

Over the five year period, there were 49 fatal pursuit related crashes in which the driver was 15 years of age or younger. Drivers' ages

ranged from 9–15 years, with 14 and 15 year olds representing nearly 90% (n=44) of these crashes. The remaining five drivers were 9, 11, 12, 13, and 13 years of age. Seventy nine percent (n=39) of drivers were male, and the majority of vehicles involved (76%; n=37) were passenger cars. Alcohol or drug use contributed to three crashes (6%), though this may be an underestimate because of problems with alcohol and drug data in FARS.⁵ Seatbelt non-use contributed to fatality in 76% (n=37) of crashes. Airbags were absent or non-functional in 26 crashes (53%). None of the young drivers involved was validly licensed or driving with a learner's permit at the time of the crash. Female drivers are overrepresented in this sample when compared with FARS reported crashes involving drivers age 18 years and older (Fisher's exact *t* test, *p*=0.0066).

These crashes resulted in 69 deaths: 28 drivers age 15 years and younger, 24 other passengers 18 years of age and younger, three adult passengers riding in the fleeing vehicle, and 14 "bystander" drivers, passengers, or pedestrians. Four states (California, Michigan, Florida, and Texas) accounted for nearly half of all crashes (n=22), a rate disproportionate to their 28% share of the under 18 population. Forty four (90%) of these crashes occurred in metropolitan areas. This is in sharp contrast to the overall pattern of crashes involving young drivers; these are twice as likely to occur in rural as in metro or metro-adjacent counties.^{10, 11}

Discussion

This report is highly dependent on the accuracy and completeness of FARS data on "crash related factors" for which 16 response categories are provided, including "unknown" and "police pursuit involved". In the 2003 FARS dataset of all crashes, only 5% have an entry in any of the three crash related factors fields. It is possible that some of these crashes may have had unrecorded factors, including police chases, contribute to their fatal outcomes. We were unable to cross check FARS entries against actual police reports, and are unaware of published independent assessments of FARS crash related factor reporting accuracy.

With this important limitation in mind, we have shown that very young, unlicensed drivers are involved in approximately 3% of all fatal crashes involving police pursuit. These crashes tend to occur in metropolitan areas of relatively populous states and are most common in California where police pursuit has become a political and media concern. Although the majority of drivers are boys, girls are significantly overrepresented compared with pursuit related fatal crashes involving older drivers. As few of the drivers pursued were guilty of a violent offence,¹² it is difficult to defend the risk involved in the pursuit of untrained and inexperienced drivers. Although we are confident that police pursuits occur outside of the US, we were unable to find crash epidemiology data for other countries. However, young driver "joy riding" has been reported in Europe, often involving high speed operation of stolen vehicles.^{13, 14} Joy riding might be expected to

result in police pursuit when this intervention is permitted by police authorities. Limited or judicious authorization of police chases involving fleeing drivers might be expected to reduce deaths attributable to very young, unlicensed driving.

A Plessinger, L Frisch

Department of Community Health Sciences,
Northeastern Ohio Universities College of Medicine,
Rootstown, OH, USA

Correspondence to: Dr L Frisch, Northeastern Ohio
Universities College of Medicine, PO Box 95,
Rootstown, OH 44272, USA; lfrisch@neoucom.edu

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LETTERS

Robertson's review of *Traffic Safety* by Leonard Evans

L S Robertson's review of my 2004 book *Traffic Safety*¹ in the August issue of the

journal² is quite aberrant compared with eight other reviews found at <http://www.scienceservingociety.com>.

Another reviewer wrote "Evans' work covers in remarkable detail the full range of important topics ... but his chapter *The Dramatic Failure of U.S. Safety Policy* is the showstopper".³ This "showstopper" shows that while Canadian fatalities declined by 50%, US fatalities declined by 16%. I attribute this to a US narrow focus on vehicle factors supported by a giant litigation industry devoted to its own interests, not to safety.

As one who supported and profited from that industry, it is understandable that Robertson should seek to discredit my book. The fact that all he could come up with were extraneous trivia adds support to my thesis. Vehicle factors cannot explain the huge Canada/USA difference in the raw data, because vehicles in both countries are similar; nor can demographic factors.

In the quest for clarity and understanding I have debunked many hocus pocus opaque analyses that manage to find sought-after effects invisible in raw data. My 1991 book critiqued two much cited studies (one by Robertson) on the safety benefits of vehicle regulation. Analyzing the same data, one study reports absurdly high benefits, the other zero benefits. I characterized both as "the triumph of zeal over science, or perhaps even common sense".

One reviewer concludes "Evans has a clear passion for getting the right answers ... one senses that his agenda is simply to understand how to improve traffic safety" and another "Evans's book dismisses much of the folklore very effectively".

It is common in data analysis to discard a point that departs widely from the trend when there are additional reasons for considering it suspect. Robertson's review meets such a standard.

L Evans

Science Serving Society, 973 Satterlee Road,
Michigan 48304-3153, USA;
le@scienceservingociety.com

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Injury prevention and poverty

Dr Pless's editorial on injury prevention and terrorism in the October issue of the journal addresses perhaps the two most pressing problems of society at this time—poverty and terrorism.¹ For us in the field of injury

prevention, one of the threads that ties preventing injuries to addressing poverty is education. Educated individuals have lower rates of risk taking behaviors, less exposure to hazardous environments, better use of safety devices, and thus lower rates of fatal and non-fatal injuries. In the developing world, one of the best predictors of infant mortality and a break in the intergenerational cycle of poverty is the educational status of the parents, especially the mother. Early education can have a lifelong effect on later academic success and thus employment success.

How do we translate Dr Pless's words and mine above to meaningful action? The commentaries from two heroes of injury prevention in the same edition of the journal demonstrate far better than our words that actions by single individuals can make a difference across an entire country.^{2,3}

F P Rivara

Harborview Injury Prevention & Research, Box
359960, Seattle, WA 98104, USA;
fp@u.washington.edu

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CALENDAR

2006 RoSPA Road Safety Congress: the Road to Safer Behaviour

27 February to 1 March 2006, Blackpool, England. Visit www.rospa.com/road/index.htm for further information.

Ontario Injury Prevention Conference 2006

5-7 March, 2006, Toronto. The theme of the conference is "injury prevention through the ages". Visit www.oipc.org for more information.

XII International Winter Road Congress

27-30 March 2006, Torino, Italy. Visit www.aipcr2006.it for further information for this meeting, organised by the World Road Association.

Reducing Firearm-Related Mortality and Morbidity: Data to Action

31 March to 1 April 2006, Durban, South Africa. The objectives of the conference are to

examine how the collection and linkage of accurate and relevant data can assist in developing policies aimed at the prevention and reduction of firearm-related death and injuries, giving examples of good practice in this regard and identifying limitations and obstacles; and to examine how data are translated into action to prevent firearm related death and injury, giving examples of good practice, exploring the ways in which the social, political, and economic environment either inhibits or facilitates the translation of data into action. Further information available from <http://tinyurl.com/as2rr>.

6th International Conference on Measuring the Burden of Injury

1 April 2006, Durban, South Africa. The conference objectives are to promote the understanding, use, and development of interdisciplinary health status and injury outcomes measures; to provide a forum for injury scientists from around the world to discuss emerging issues in the measurement of injury outcomes; and to encourage a harmonized approach to injury outcomes research. For further information contact Stephen Luchter on sluchter@earthlink.net.

8th World Conference on Injury Prevention and Safety Promotion

2-5 April 2006, Durban, South Africa. Further information and key dates available from www.safety2006.info.

International Society for Child and Adolescent Injury Prevention (ISCAIP) Bi-Annual Conference

5-6 April 2006, Durban, South Africa. For further information visit www.iscaip.net.

2nd International Seminar on Injury Research Methods

6-7 April 2006, Cape Town, South Africa. Organised by ECOSA-Eurosafe and the Medical Research Council. For more information contact Saakje Mulder on s.mulder@consafe.nl or visit www.mrc.ac.za/conference/ecosa/index.htm.

15th International Safe Communities Conference: Creating a Safer Environment

9-11 April 2006, Cape Town, South Africa. Visit <http://tinyurl.com/dn3sr> for further information.

Australian Injury Prevention Network 8th National Injury Prevention Conference

27-29 September 2006, Sydney, Australia. Visit www.aipn.com.au/conference.html for further information.