

# Age and Sex Profiles of Speeding and Drink Driving Offenders and Drivers Involved in Casualty Crashes

Ross McColl, Road Accident Research Unit, Adelaide University

## 1. Introduction

This paper is drawn from a larger report, 'Age and Sex Profiles of Speeding and Drink Driving Offenders', and presents details of the age and sex of drivers involved in casualty road crashes, or detected for speeding or drink driving. Two hypotheses were presented from a review of an earlier report (McColl RA, Sutherland N, 1998, Demographic and Offence Profile of Speeding in South Australia). The report had noted a consistency in the age distributions of various sets of speeding offenders, with a peak around 20 years of age and a steep decline with increasing age. This will be termed the 'typical age pattern'. It also noted that as the offences became more serious, the proportion of male and young drivers increased. The hypotheses were that these factors would also exist with drink driving and casualty crashes.

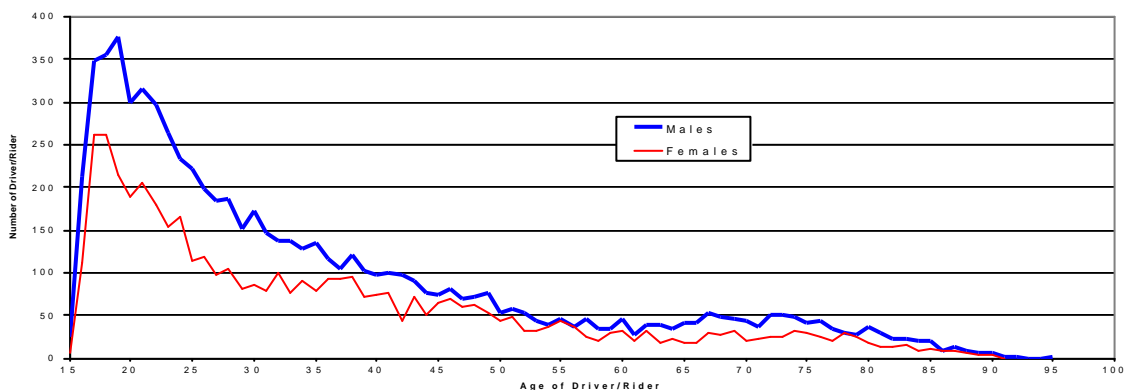
## 2. Road Crashes

This section presents statistics on drivers and riders involved in casualty crashes reported to Police in South Australia from 1995 to 1998 inclusive. It presents figures for drivers/riders, who were deemed to be most at fault in the crash.

### 2.1. All Driver/Riders

Figure 2.1.1 presents the age and sex distributions for all errant drivers and riders involved in casualty crashes. The 'typical age pattern' reveals itself. The number of female driver/riders is generally less than males. The general downward trend with age is reversed in the ages 60 to 75.

Figure 2.1.1 Age of Driver/Riders Involved in Casualty Crashes by Sex ,South Australia, 1995 to 1998 – Errant Drivers/Riders



## 2.2. Crash Severity

Figures 2.2.1 and 2.2.2 present statistics on the crash severity. Figure 2.2.1 presents fatality statistics. Here the numbers are relatively low and variability is greater. Males tend to follow the 'typical age pattern', whereas for females, the number of driver/riders is far more evenly distributed by age. This results in a large difference between males and females in the younger age groups.

Figure 2.2.1 Age and Sex of Drivers/Riders Involved in Fatal Crashes, South Australia, 1995 to 1998 – Errant Drivers/Riders

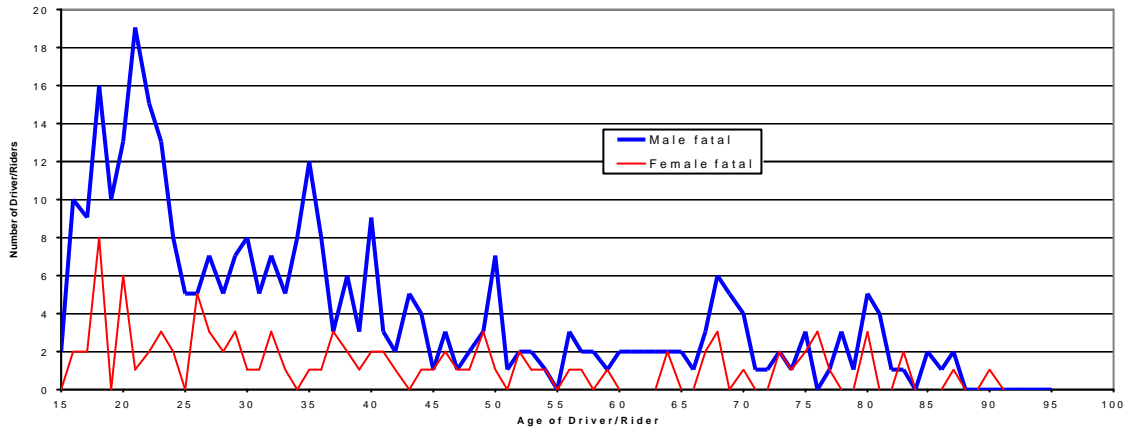
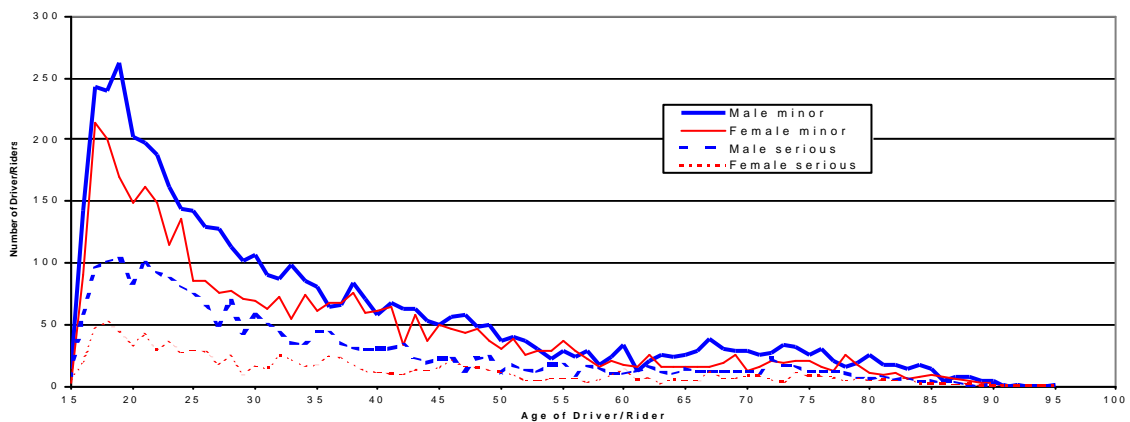


Figure 2.2.2 presents statistics for minor casualty crashes (treated by doctor) and serious (admitted to hospital) crashes. It shows that as the severity increases, male and female statistics diverge. This is in keeping with the hypothesis that as the seriousness of a crash (or offence) increases the proportion of males will increase. However the other part of the hypothesis does not appear to hold. The graphs do not reveal any obvious increase in the proportion of young drivers as the severity increases.

Figure 2.2.2 Age and Sex of Drivers/Riders Involved in Casualty Crashes by Crash Severity, South Australia, 1995 to 1998 –Errant Drivers/Riders



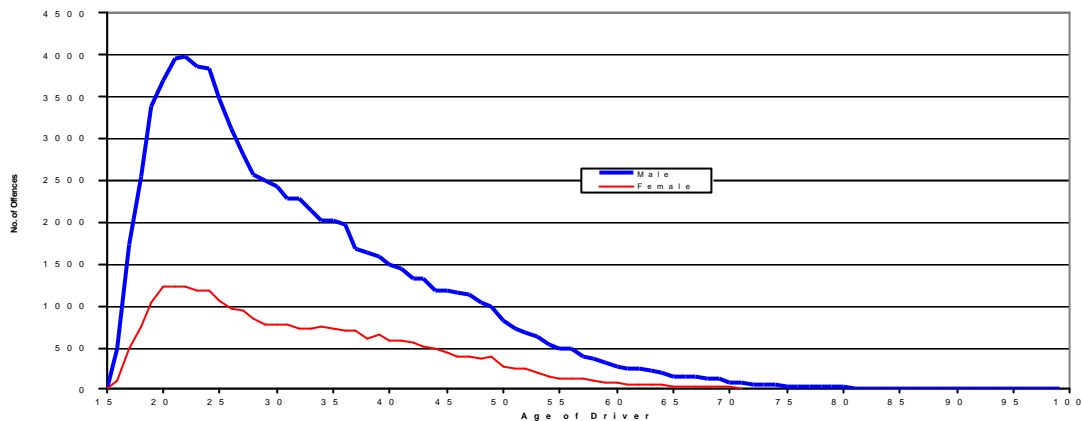
### 3. Speeding

This section presents statistics on persons detected by non-speed camera devices for exceeding the speed limit in South Australia in 1995 and 1996.

#### 3.1. All non-camera offences

Figure 3.1.1 presents the age and sex distributions for all persons detected by non-speed camera devices for speeding.

Figure 3.1.1 Age and Sex of Drivers/Riders Detected for Speeding (non-camera) South Australia, 1995, 1996

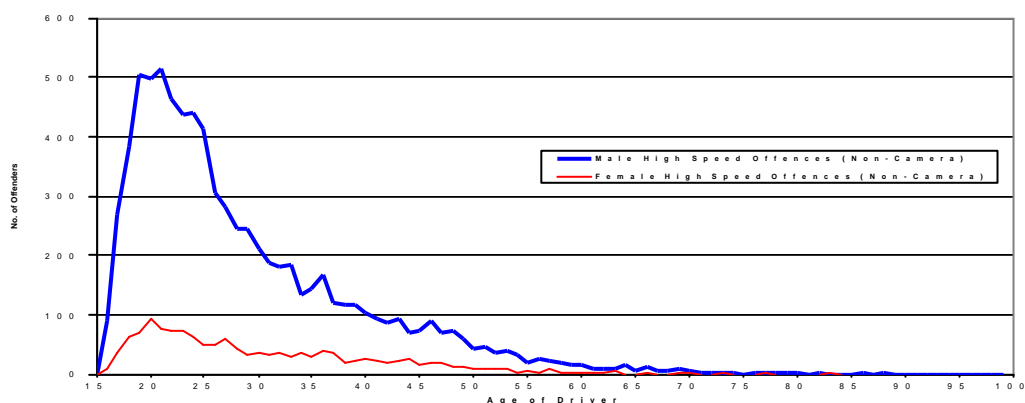


These curves follow the 'typical age pattern', with males outnumbering females.

#### 3.2. High Speed Offenders

Figure 3.2.1 presents the statistics for persons detected by non-speed cameras at high speeds (30 km/h or more above the speed limit).

Figure 3.2.1 Age and Sex of Drivers/Riders detected at High Speeds, South Australia, 1995, 1996

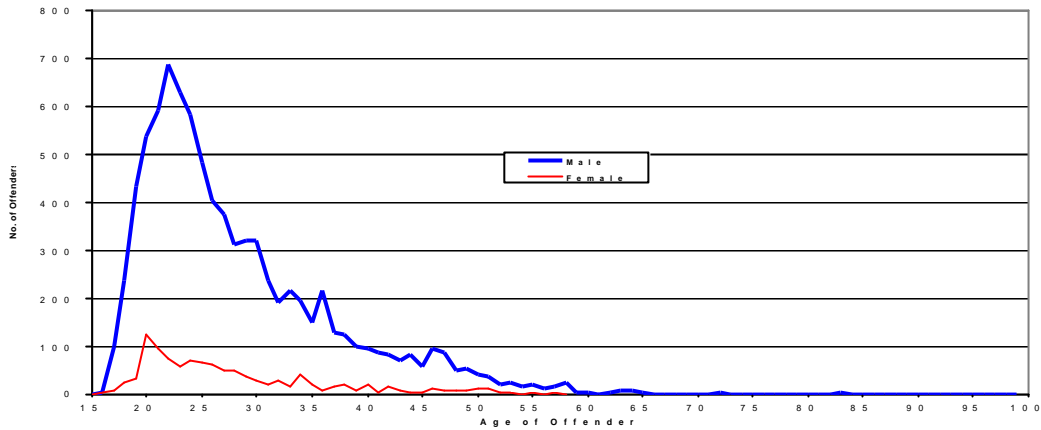


The 'typical age pattern' is followed but with an increase in the proportion of male and young drivers, compared to the statistics for all offenders. This corresponds with the hypothesis that increased severity of offence will see higher proportions of male and young drivers.

#### 3.3. Repeat Offenders

Figure 3.3.1 presents statistics for repeat offenders (those detected more than 3 times in the 2 year period)

Figure 3.3.1 Age and Sex of Driver/Riders Detected Repeatedly for Speeding, South Australia 1995,1996



This also has a somewhat ‘typical age pattern’, but with the peak at a higher age. (This probably reflects the fact that it takes time to accumulate a number of offences.)

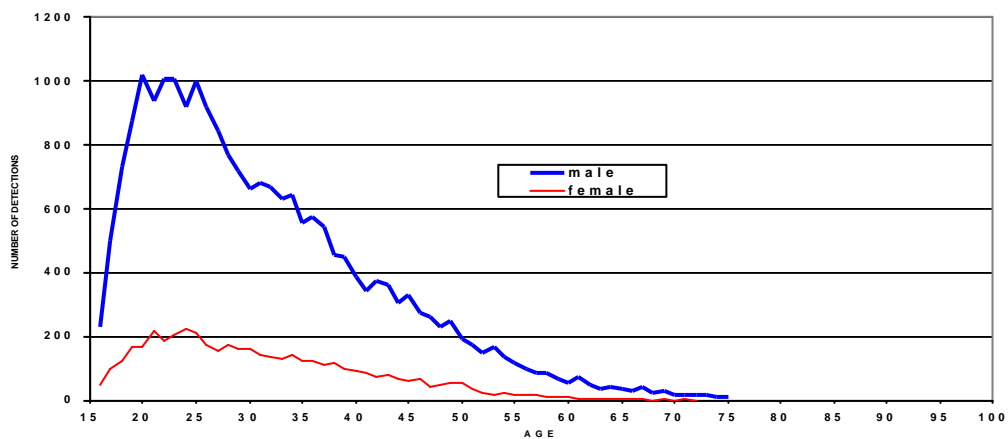
## 4. Drink Driving

This section presents statistics on drink driving offenders detected in South Australia from 1995 to 1998 inclusive.

### 4.1. All Drink Driving Offenders

Figure 4.1.1 presents statistics for all drink driving offenders detected. It reveals the ‘typical age pattern’ with males far outnumbering females.

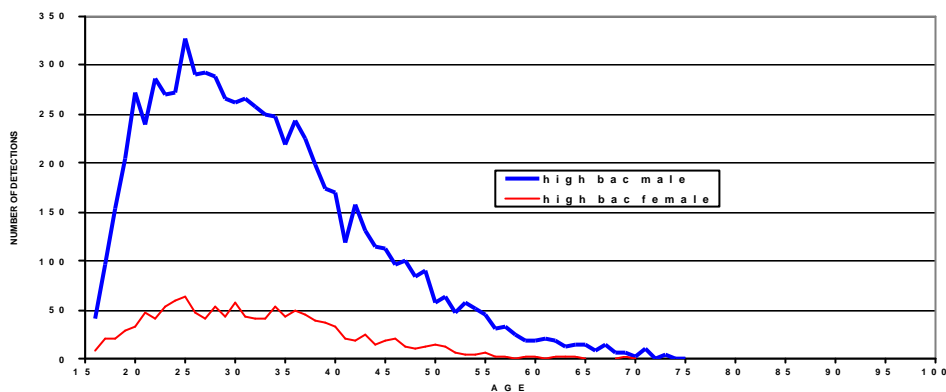
Figure 4.1.1 Age and Sex of Drink Driving Offenders, South Australia, 1995 to 1998



## 4.2. High Blood Alcohol Reading

Figure 4.2.1 presents statistics for high (.150 plus) blood alcohol reading drink driving offenders.

Figure 4.2.1 Age and Sex of Drink Driving Offenders with High Blood Alcohol (.150 plus) South Australia 1995 to 1998.

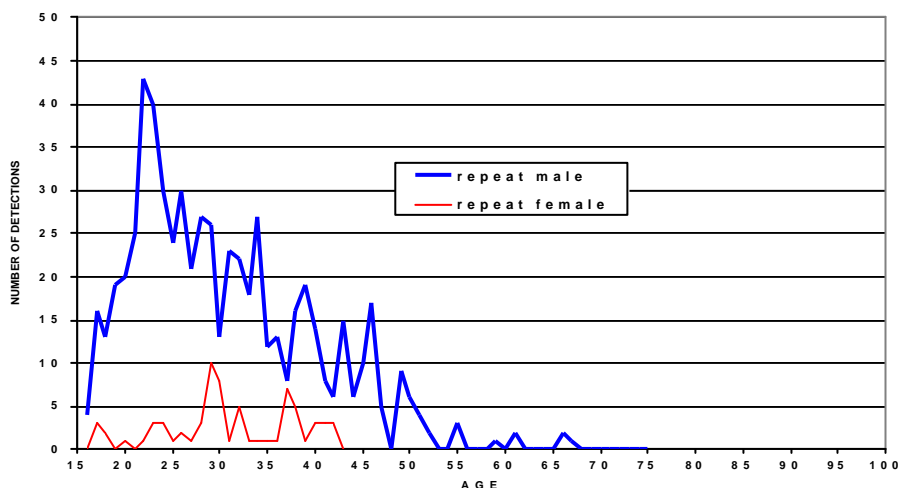


The high level detections reveal a pattern with a much broader peak range and a similar ratio of males to females as for all drink driving offenders. This does not support the hypothesis that there will be a higher proportion of males and young drivers with the more serious offences.

## 4.3. Repeat Offenders

The following graph presents statistics for the number of repeat offenders (those with 3 or more detections in the 4 year period).

Figure 4.3.1 Age and Sex of Repeat Drink Driving Offenders, South Australia, 1995 to 1998



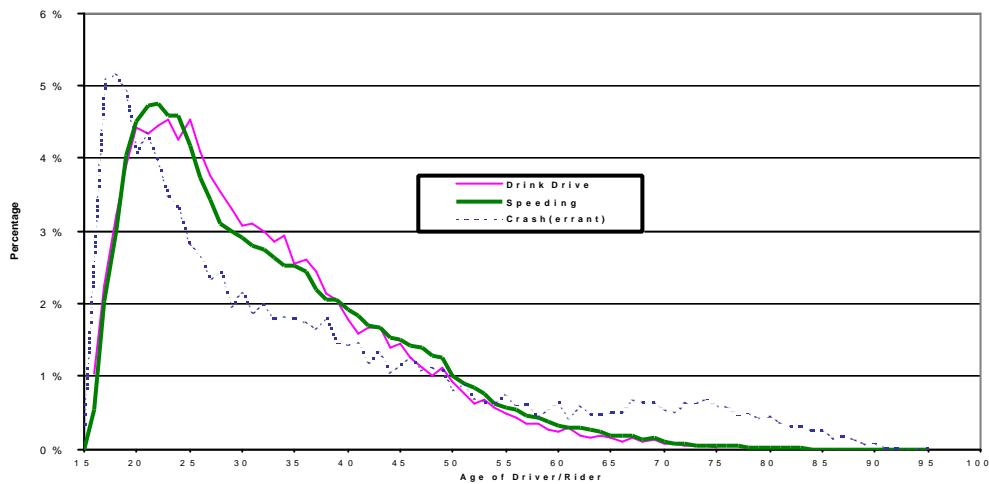
The number of repeat offenders is relatively low, thus the graph shows some variability. It reveals a 'typical age pattern' for males, but with a peak at an older age. Females show a different pattern, with more of the peaks after 30 years of age.

## 5. Crashes, Speeding and Drink Driving

### 5.1. Combined Graph

Figure 5.1.1 presents the statistics for 'errant' drivers/riders involved in crashes, drink driving and speeding offenders. All are expressed as a percentage by age group to allow for comparisons.

Figure 5.1.1 Age of 'Errant' Driver/Riders involved in Casualty Crashes (1995 to 1998), Speeding Offenders (1995,1996) and Drink Driving Offenders (1995 to 1998), South Australia



As mentioned previously, all the sets follow the 'typical age pattern'. There is a remarkable similarity between the drink driving and speeding distributions while crash drivers (errant) peak at a younger age and stay relatively high in the older age groups.

Clearly drink driving and speeding are important factors in crash statistics, but there may be other factors involved, including exposure, lack of experience and the increased affinity with risk taking (beyond speeding and drink driving). The fact that the crash distribution peaks at an earlier age to the speeding and drink driving distributions, suggests that lack of experience will be important. For drivers over 60 years of age, exposure and risk taking probably decline. The increase in crash numbers is possibly associated with a decline in abilities associated with driving.

The age profiles are frequently similar, however the sex percentages are quite different. With crash statistics, male numbers are only slightly greater than female numbers, whereas with speeding, males are two or three to one, and with drink driving, four or five to one.

## **5.2. Hypotheses**

The hypothesis that the distributions will follow the 'typical age pattern' has held true for the majority of the sets and subsets, but with a few notable variations, as with high level drink drivers.

The hypothesis that the proportion of males and young drivers will increase with the seriousness of the crash or the offence has not generally held true. For speeding, it appears to be true. For drink driving, the high blood alcohol offenders have generally been older and, although drink driving is predominantly a male offence, the proportion of males does not change greatly with the severity of the offence. For drivers involved in casualty crashes, the proportion of males increases with crash severity, but there is no increase in the proportion of young drivers. It is known that factors other than speeding and drink driving influence road crashes. These must overwhelm the increased proportion of young drivers in serious casualty crashes that should have been generated by the increased proportion of young drivers committing the more serious speeding offences. One possibility is the greater robustness of young people, however the issue of exposure is probably the most important.

## **5.3. Exposure**

Exposure statistics are available from combining statistics on stated vehicle use (from Omnibus Surveys performed by the Australian Bureau of Statistics) with Driver Licensing statistics. These are limited to state-wide statistics. It is also possible to estimate exposure from the crash statistics, by assuming that age and sex distributions for those drivers involved in crashes who were listed as having made 'no error', would approximate the distributions of all drivers. This method would allow more detailed analysis, but it may not produce valid estimates of exposure.

There is worth in preparing a follow-on report which would fully investigate the issue of exposure and also apply the figures to produce statistics on crash involvement by age and sex, per vehicle kilometre travelled.

## **6. References**

McColl RA, Sutherland N. 1998. Demographic and Offence Profile of Speeding in South Australia. Safety Strategy Transport SA.

McColl RA. (Scheduled for publication 2001). Age and Sex Profiles of Speeding and Drink Driving Offenders and Drivers Involved in Casualty Crashes. Safety Strategy Transport SA