Review of the psychosocial and behavioural correlates of adult seat belt use

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OBJECTIVES

• Discuss the methodological issues and short comings of the research into adult seat belt use

• Summarise the psychosocial and behavioural correlates of seat belt use/non-use by adults

• Present recommendations for further Australian research into the use of seat belts by adults
BACKGROUND

- Australian seat belt laws introduced 1970 to 1972

- Usage in Australia is around 95%-98% across all occupants [USA 2007: <70% - >90%]

- Lower usage among certain occupant groups [backseat passengers, some child and rural groups]

- Usage lower again (~70%) for those involved in fatal crashes

How do we move forward in the promotion of seat belt wearing when only a minority of Australian adult occupants fail to use a seat belt regularly or at all?

*Austroads* project SS1388
Various project objectives, including:

- Determine the need for specific targeting of countermeasures
- Synthesise our understanding of adults who use and fail to use a seat belt
  - Review of the research literature [this presentation]
  - Analysis of Australian crash data
Literature Review

Published and unpublished literature on the correlates of seat belt use sourced from:

- *Austroads* Project Advisory Group members [in house publications/material]

- Retrieval of national and international literature via a variety of on-line databases, eg, Australian Transport Index; TRIS; ITRD, Psychinfo

FINDINGS

- Methodological issues-
- Correlates of seat belt use-
Sources of seat belt data and classification of use

Cross-sectional roadside observations of vehicle occupant usage
- ‘One-off’ measure of belted; unbelted, or incorrectly belted

Surveys of self-reported usage
- Continuum of usage, eg., *always, mostly, sometimes, never*
- Consistent; Inconsistent; and Refusers

Traffic offence records for failing to use a seat belt
- Cross-sectional and longitudinal count data; rates

Police and hospital records of seat belt use by persons involved in a crash
- Use, non-use, failed use or unknown use; as reported by police or by surviving occupant
Methodological Problems

No common metric across studies for the measurement and classification of seat belt

- Difficult to assimilate findings across studies

General failure to consider the validity and/or reliability of measures:

- Seat belt use or non-use
- Predictor variables

Methodological Problems

Data analysis typically restricted to the calculation of proportions and sometimes rates

- Covariates rarely taken into consideration
- Few studies calculate adjusted ‘odds’ for use

No consistent categorisation of age for ‘adult’ status
Demographic correlates of adult use/non-use

Age of occupant

- Lower use among younger to middle age (up to 40/44 years) adult occupants compared with older age occupants
- Holds across drivers and passengers; males and females

Gender

- Males are less likely than females to be belted, particularly among young-middle age groups
- Most compelling evidence in Australia is for fatalities

Socioculture

- Various measures of SES (income, occupational status, education) identify lower use among lower socioeconomic persons
- Minimal Australian evidence on use by SES; lower use among ‘trade, blue collar and unskilled’ workers
- Internationally, Indigenous and ethnic minority (non-caucasian) groups evidence lower usage
- Minimal Australian evidence published to support a common perception that Indigenous are less likely to use
- Confounding correlation of SES and cultural status
### Trip and vehicle correlates of adult use/non-use

#### Occupant Type
- Evidence of lower use among passengers compared with drivers
- Lower use among back or rear seat passengers compared with front seat passengers
- Lowest use among young back seat passengers
- Reasonable Australian evidence of usage differences between drivers and passengers

#### Type and location of road
- Reasonable evidence of higher use on multilane and freeways; lower use on rural and remote area roads
- Western Australian data supports lower use by persons with increasing remoteness of crash location

#### Time of day
- Lowest use observed late at night and early morning
- Limited Australian reporting of lower use by persons involved in crashes late at night/early morning
- Night-time non-use confounded by other risk factors such as alcohol
Trip and vehicle correlates of adult use/non-use

Trip length
- Lower use for shorter trips, closer to home

Vehicle type
- Lower use by occupants of older, heavier vehicles
- Lower use by those driving 4WD and Sports Utility Vehicles
- Possible confounding of SES and other demographics with vehicle type and age

Individual differences and behavioural correlates of adult use/non-use

Personality
- Stronger theoretical rather than empirical evidence of an association between risk taking personality and use

Attitudes and beliefs
- Varying evidence of lower use by persons who:
  - Do not favour mandatory use
  - Believe they are unlikely to be detected for not wearing
  - Have a lower expectation of the safety benefit of use
  - Consider seat belts to be ‘uncomfortable’
  - Are unlikely to be influenced by peers or norms for use
- Generally ‘weak’ association with usage
Individual differences and behavioural correlates of adult use/non-use

Other driving and health-related behaviours

Non-users are
- Less likely to obey speed limits and to crash at higher speeds
- More likely to have illegal Blood Alcohol Concentration levels
- Likely to binge drink and consume alcohol at levels approximating ‘addiction’
- More likely to report use of illegal substances such as marijuana

Users are
- More likely to report positive health related practices such as regular exercise, regular sleep patterns

CONCLUSIONS
AND
RECOMMENDATIONS
Considerable variation in the methodology used to investigate the correlates and predictors of adult belt use

Most evidence relates to users/non-user from Nth America and Europe with limited generalisability to the Australian problem

Variation in the strength and consistency of relationship between variables and usage

Strongest association across data sources for age; gender; occupant type; ethnicity; travel location, other driving and health behaviours

Increase the use of ‘qualitative’ methods to understand why at risk groups are non-users

Australian research should strongly target those who are ‘infrequent’ users

Continue to research the influence of technological solutions on non-users, eg., Enhanced Seat Belt Reminder Systems and Interlocks

Improve national recording and analysis of seat belt use by crash involved persons
QUESTIONS?