

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

BACKGROUND

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

BACKGROUND

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*

METHODOLOGY

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Published and unpublished literature on the correlates of seat belt use sourced from: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

Sources of seat belt data and classification of use

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

Demographic correlates of adult use/non-use

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

Trip and vehicle correlates of adult use/non-use

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

RECOMMENDATIONS

- 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?