ORIGINAL ARTICLE

Pattern of seat belt wearing in Nanjing, China

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Objective: To describe the patterns of seat belt wearing in Nanjing, China for drivers, front seat passengers, and rear occupants of motor vehicles.
Design: Roadside observational study.
Setting: Four sites in central and northern Nanjing during daylight hours over 1 week in April 2005.
Subjects: Drivers and passengers of 17 147 cars, taxis, goods vans, and pickups, which traveled in the inside traffic lane.
Main outcome measures: Percentage seat belt wearing for each of seating position, age/sex, time of day, vehicle type, day of week.
Results: The rate of seat belt wearing was significantly higher in drivers (67.3%, 95% CI 66.6 to 68.0) than front seat passengers (18.9%, 95% CI, 18.0 to 19.8). It was negligible for second front seat passengers (2.6%, 95% CI 0.3 to 4.9) and rear seat passengers (0.5%, 95% CI 0.3 to 0.7). Belt tampering, such that protection would be reduced in the event of a crash, was observed for 18.5% of taxi drivers. Drivers were most likely to wear seat belts in cars and vans and at a city roundabout; front seat passengers were most likely to wear seat belts in non-taxi vehicles, during the evening rush hour, if the driver was wearing a belt, and on the local north road. Drivers were least likely to wear a belt in the early morning, in pickups and taxis, on Tuesday (or the following week), and on the local north road; front seat passengers were least likely to wear a belt in taxis and if the driver was not wearing a belt.
Conclusions: Rates of seat belt wearing by passengers were low despite national legislation and provincial regulations coming into effect several months before the survey. Combined education and enforcement are necessary accompaniments to legislation.

China, in association with its phenomenal economic development, is undergoing rapid motorization, recent impetus being provided by entry into the World Trade Organization in 2002 and the associated tariff reductions. Just over half a million new cars were registered annually between 1998 and 2000, and seven times this figure, 3.8 million, in 2005 (fig 1).

Road traffic fatalities are expected to increase as China continues to motorize. A World Health Organization and World Bank report estimated that there were 250 000 road traffic fatalities in China in 2002 and a rate of 19.0 per 100 000 population (vs 9.3 for Australia, 5.7 for Sweden, 5.9 for Canada, and 5.6 for the UK).[2] Official Chinese government estimates of road traffic fatalities were considerably lower, at 104 732 deaths and 494 174 injuries in 2003.[3]

Seat belts are one important and proven road safety intervention. They reduce the risk of death or serious injury in a crash by almost 50% for both drivers and front seat passengers and about 25% for rear seat passengers. They are most effective in frontal impact and ''running off the road'' crashes.[4–6] From 1970, legislation on seat belt wearing has progressively been introduced into the motorized world.[7] Wearing rates currently approximate 95% for front seat occupants and 90% for rear seat occupants in Australia, 79% for all occupants in the USA, 94% in the front and 90% in the rear for Germany, and 93% in the front and 83% in the rear for the UK.[8–10]

Few studies on seat belt wearing have been conducted in China, especially for all seat positions, despite motorization and rising road tolls. It is important to establish wearing rates in order to direct interventions and monitor improvements for this highly significant country with one-fifth of the world's population.

Nanjing, a city of 6 million and the capital of the relatively prosperous and therefore relatively motorized Jiangsu Province, was selected in consultation with the China Centers for Disease Control and Prevention (China CDC) as the setting for a seat belt study. The study was undertaken in April 2005 by Monash University Accident Research Centre in collaboration with the Jiangsu Provincial CDC in Nanjing. China CDC is modeled on the US Center for Disease Control and Prevention and has responsibility for injury prevention under its Department of Noncommunicable and Chronic Disease Control.

Seat belts have been required to be fitted in front seats in China from 1993 and in rear seats from October 2004.[11 12] A national road safety law was passed in 2003 and became effective in May 2004 requiring seat belts to be worn where fitted.[13] As of January 2005, Jiangsu provincial regulations stipulate that drivers can be fined ¥50 (US$6) and passengers ¥5 (US$1) for non-use of seat belts.[14]

The aim of the study was to describe the patterns of seat belt wearing in Nanjing, China in April 2005 following the introduction of a national law and provincial regulations. There were three objectives:

(1) to observe and record seat belt wearing in passenger vehicles for drivers, front seat passengers, and up to three rear seat occupants;
(2) to describe the traffic mix—that is, vehicle types observed moving in all lanes in the observed direction—and thereby identify any selection bias in vehicles observed;
(3) to validate seat belt wearing by taxi drivers by observing seat belt use, including belt tampering, from inside taxis while being driven to and from observation sites.

METHOD

A pilot study was conducted in 2004 to familiarize the researchers with Nanjing traffic and to identify optimal

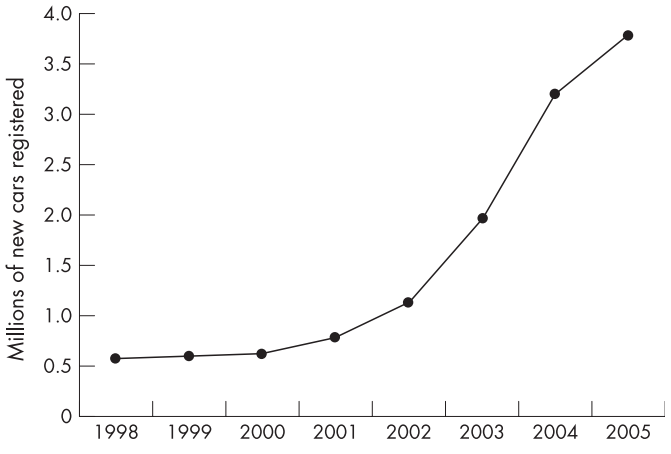

Figure 1 New car registrations in China, 1998–2005.[1]

observation points and potential barriers to and facilitators of reliable observations. An inter-rater reliability study was undertaken in conjunction with the pilot study.[15]

Characteristics of Nanjing traffic identified as barriers to observing seat belt (and any child restraint) wearing were the preponderance of bicycle lanes and associated scarcity of safe viewing areas, the frequency of darkened windows in private cars and vans, the difficulty in quickly identifying relevant vans from the variety of goods and passenger vans and minibuses, dim street lighting for night viewing, apparent lack of child restraints, and discernment of belt tampering. Belt tampering mostly comprised the belt being clamped near the D-ring with a peg or bulldog (spring paper) clip in a slackened, less safe position or placed behind the driver. Belt tampering has been documented previously in Malaysia[16] and Beijing.[17]

April (mid spring) was selected as the survey month in order to maximize the number of open-windowed vehicles, thereby enhancing visibility. Additional benefits were relative comfort for the roadside observer and minimal likelihood of cancellation because of heavy rain.

Criteria for site inclusion were slowing traffic for a controlled intersection, a safe position for viewing traffic in the closest lane, diverse traffic flows, convenient observer traveling distance, and substantial motor vehicle traffic. Four sites were selected in central and northern Nanjing that satisfied these criteria. Two of the four sites had tested satisfactorily in a November 2004 inter-rater reliability study, and the others were selected at a later date by Jiangsu Provincial CDC to fit the inclusion criteria.[15] Table 1 gives descriptions of the four sites. At site 3, the site with least traffic, two lanes were observed in order to approximate the numbers of vehicles at the other sites.

Observations were conducted in a 3-day cycle over daylight hours (06:00–18:00) at the four sites over a 7-day week. (Night observations had shown poor agreement in the inter-rater reliability study.[15]) Each site was observed over 2 h time periods, both morning and afternoon. Eight observers, working in pairs, rotated over the sites and time periods and recorded manually.

Table 1 Road traffic observation sites in Nanjing

Site		Description	Surrounds
1	Central	City centre	Hotels, department stores
2	Central	Roundabout	Commercial, park
3	North	Local road	Apartments, shops
4	North	Main road	Apartments, supermarket

Types of four-wheeled motor vehicles included in the observations were taxis, other cars, vans (goods only), and pickups (utilities). Emergency vehicles, buses, minibuses, and passenger vans were excluded.

A training day, which included instructions, site visits, trial observations, and discussion of observation issues, was held before the observational study. The observers, public health students on fieldwork experience at Jiangsu Provincial CDC, were co-supervised by China CDC staff.

There were two stages to each 2 h observation period: (1) to determine any single lane bias, vehicle type was initially recorded in all lanes, one observer recording taxis and pickups, the other cars and vans for 10 min; (2) vehicle types were split between observers, and age/sex, vehicle type, and seat belt wearing were recorded for up to three front and three rear seat positions, for all vehicles passing in the closest lane for 40 min. After a 5 min rest, vehicle types were swapped between observers, and recording was continued for another 40 min. Where relevant, codes for ''unclear if occupant'', ''unclear sex/wearing sear belt'', ''belt tampering'', and ''missed vehicles'' were recorded. ''Age/sex'' comprised child estimated as aged under 8 years, and male and female aged 8 years or over. Efficiency of recording was increased by using a default for ''male''.

The study received ethics approval from the Monash University Standing Committee on Ethics in Research Involving Humans.

The survey started on Saturday. Heavy rain on Tuesday of the survey week caused that day's survey to be postponed to the following Tuesday, and the halved Friday staff availability caused reallocation of available observers to cover all sites and morning/afternoon.

In an additional sub-study for validation purposes, in-taxi observations of seat belt wearing by the driver were recorded during journeys to and from observation sites. Characteristics of seat belt wearing by the driver, including belt tampering, were recorded.

Statistical analysis

Frequencies were calculated and cross-tabulations performed using SPSS, and 95% CIs were calculated. Poisson regression was then applied to control for confounding factors to indicate factors associated with the use of seat belts. Adjusted relative risk (RR) and 95% CIs were calculated. The dependent variables were ''driver/front seat belt wearing'' and the independent variables ''weekday'', ''site'', ''time of day'', ''vehicle type'', ''age/sex'', ''observer'' (and ''front seat passenger seat occupancy'' for drivers and ''driver wearing seat belt'' for front seat passengers). ''Unclear'' observations were excluded, and ''belt tampering'' was included with ''not wearing'' in order to make ''seat belt wearing'' a dichotomous variable. Potential confounding factors were halved Friday observations, the second survey week for Tuesday, observer differences, and some site and time period unevenness in the 7-day timetable.

RESULTS

Observational survey

There were 17 147 vehicles and 31 959 occupants for whom seat belt wearing was clearly observed. The mean number of occupants per vehicle was 1.9, and males predominated in all seating positions, particularly the driving seat (91%). Drivers accounted for over half the total occupants (53.7%).

Peak traffic hours were either side of standard working hours, and the quietest period for traffic was early morning (before 08:00). Cars (49.4%) were the most common passenger vehicles observed, followed by taxis (42.2%), vans (6.4%), and then pickups (2.0%). Site 1, the centre of the city (in the

Table 2 Characteristics of drivers when seat belt wearing status was clear

Characteristic	No of drivers	% correctly worn	% belt tampering	% not worn	Adjusted RR (wearing)¶ (95% CI)
Vehicles	17147	67.3	8.2	24.5	
Sex					
Male	15596	67.1	8.3	24.5	1
Female	1527	69.0	6.4	24.6	1.03 (0.97 to 1.1)
Time of day					
06:00–7:59	1532	51.9	4.8	43.3	1
08:00–9:59	3312	70.5	8.6	20.9	1.30* (1.18 to 1.42)
10:00–11:59	3098	70.3	7.3	22.4	1.30* (1.16 to 1.38)
12:00–13:59	2975	65.3	9.6	25.1	1.19* (1.10 to 1.30)
14:00–15:59	2832	67.4	8.0	24.6	1.25* (1.13 to 1.37)
16:00–17:59	3398	70.2	8.8	21.0	1.27* (1.16 to 1.39)
Vehicle type					
Taxi	7244	56.1	18.8	25.1	1
Car	8443	76.7	0.2	23.1	1.37* (1.32 to 1.43)
Van	1122	75.4	1.3	23.3	1.39* (1.29 to 1.51)
Pickup	338	47.0	1.5	51.5	0.92 (0.79 to 1.09)
Sites					
1 City centre	5601	67.2	13.7	19.1	1
2 Roundabout	3861	69.2	8.5	22.4	1.09* (1.03 to 1.16)
3 Local road	2666	55.0	5.2	39.9	0.84* (0.78 to 0.91)
4 Main road	5019	72.7	3.3	24.0	0.98 (0.91 to 1.05)
Survey day					
Monday	2954	72.0	7.7	20.3	1
Tuesday†	2509	58.6	8.7	32.7	0.87* (0.81 to 0.94)
Wednesday	2689	67.1	8.3	24.6	0.97 (0.90 to 1.04)
Thursday	2889	67.1	10.6	22.3	0.94 (0.88 to 1.00)
Friday‡	1262	69.7	10.2	20.0	0.96 (0.88 to 1.04)
Saturday (day 1)	2517	70.2	4.8	25.0	1.03 (0.96 to 1.11)
Sunday	2327	66.9	7.4	25.7	0.97 (0.90 to 1.05)
Front seat occupancy					
Front seat unoccupied	9160	66.4	9.0	24.6	0.97 (0.94 to 1.01)
Front seat occupied	7908	68.4	7.2	24.4	1

RR, relative risk.
*Significant result.
†Tuesday of following week.
‡Half observation periods.
¶Each factor adjusted for all other factors.

Table 3 Characteristics of seat belt wearing by passengers when wearing status was clear

Characteristic	No of front seat passengers	% wearing seat belt†	% not wearing seat belt†	Adjusted RR wearing‡ (95% CI)	No of rear seat passengers	% wearing seat belt
Occupants	7752	19.0	80.7		6801	0.5
Age/sex						
Male ⩾8 years	5018	17.7	82.0	1	4058	0.6
Female ⩾8 years	2710	21.3	78.5	1.06 (0.95 to 1.18)	2441	0.5
Child <8 years¶	189	10.1	89.9	0.69 (0.43 to 1.11)	192	0.3
Time of day						
06:00–7:59	616	12.1	87.9	1	452	0.2
08:00–9:59	1350	19.8	80.0	1.17 (0.87 to 1.67)	1020	0.3
10:00–11:59	1545	15.7	84.1	0.98 (0.74 to 1.31)	1225	1.0
12:00–13:59	1475	17.3	82.1	1.23 (0.94 to 1.61)	1348	0.4
14:00–15:59	1345	19.1	76.2	1.32 (0.98 to 1.76)	1126	0.4
16:00–17:59	1681	18.5	78.7	1.37* (1.03 to 1.80)	1630	0.3
Vehicle type						
Taxi	3391	4.7	95.1	1	4206	0.2
Car	3568	31.1	68.8	5.86* (4.9 to 7.01)	2476	1.0
Van	640	30.3	68.6	6.20* (4.95 to 7.78)	71	0
Pickup	224	8.5	91.5	2.55* (1.57 to 4.14)	48	0
Sites						
1 City centre	2390	20.7	78.9	1	2209	0.2
2 Central roundabout	1641	13.2	86.8	1.04 (0.87 to 1.25)	1845	0.2
3 Local north road	1214	19.5	79.3	1.22* (1.0 to 1.49)	951	0.2
4 Major north road	2578	20.1	79.6	0.93 (0.77 to 1.13)	1796	1.2
Driver wearing seat belt						
Worn	5263	25.8	74.0	1	4543	0.6
Not worn	2489	4.8	95.0	0.23* (0.19 to 0.28)	1478	0.3

RR, relative risk.
*Significant result.
†Difference between sum and 100% represents belt tampering.
‡Each factor adjusted for all other factors.
¶Second front seat passenger included in % wearing seat belt but not in model.

Table 4 Potential bias: vehicle type

Vehicle type	All lanes*	Percentage (95% CI)	Closest lane†	Percentage (95% CI)
Taxi	2410	38.2 (36.8 to 39.2)	7563	42.2 (41.5 to 42.9)
Car	3484	55.3 (53.8 to 56.2)	8843	49.4 (48.7 to 50.1)
Van	331	5.3 (4.5 to 5.5)	1148	6.4 (6.0 to 6.8)
Pickup	77	1.2 (0.8 to 1.2)	352	2.0 (1.8 to 2.2)
Total	6302	100	17 906	100

*First 10 min per observation period in observed direction.
†80 min per observation period.

location of hotels and department stores) was the busiest site, followed by site 4, a northern suburbs main road.

Seat belt wearing

Seat belt wearing was significantly higher for drivers (67.3%; 95% CI 66.6 to 68.0) than for front seat passengers (18.9%; 95% CI 18.0 to 19.8), and the combined rate for front seat occupants was 51.9% (95% CI 51.3 to 52.5). Seat belt wearing by rear seat passengers was negligible (0.5%, 95% CI 0.3 to 0.7).

Drivers

Table 2 gives the characteristics of seat belt wearing by drivers. There were significant differences for time of day, vehicle type, site, and day of week.

Drivers were significantly more likely to be wearing seat belts at all time periods than early morning (06:00–08:00) (RR = 1.19–1.30). Car and van drivers were significantly more likely to wear seat belts than taxi drivers (RR = 1.37 and 1.39, respectively), and pickup drivers were as likely to wear a seat belt (RR = 0.92, 95% CI = 0.79 to 1.09). If belt tampering is considered to be ''wearing'' rather than ''not wearing'', then taxi drivers were significantly more likely to wear a seat belt than pickup drivers (RR = 0.73, 95% CI = 0.62 to 0.86).

Only on Tuesday (substitute day) was seat belt wearing significantly more likely than on Monday (RR = 0.87, 95% CI = 0.81 to 0.94). There was no apparent survey effect, as seat belt wearing did not increase as the survey progressed (Saturday was day 1).

Compared with site 1 (the city centre), seat belt wearing by drivers was significantly more likely at site 2 (the central roundabout) (RR = 1.09, 95% = CI 1.03 to 1.16), and less likely at site 3 (the local road) (RR = 0.84, 95% CI = 0.78 to 0.91).

Occupancy of the front seat and the sex of the occupant were not associated with significantly different likelihoods of the driver wearing a seat belt. If the substitute Tuesday was removed from the model, the significantly less likelihood of seat belt wearing during the week than the weekend (RR = 0.94, 95% CI = 0.90 to 0.98) disappeared.

Passengers

Front seat passengers

Results described in this section exclude second front seat passengers (reported separately below). Table 3 describes the characteristics of seat belt wearing by front seat passengers.

Table 5 Validity: in-taxi observations on seat belt wearing by driver

Wearing status	Frequency	%
Wearing	48	50
Belt tampering	19	20
Not wearing	28	30
Total	95	100

There was generally less significant seat belt wearing associated with front seat passenger characteristics than with drivers. Front seat passengers were significantly more likely to wear a seat belt in the following conditions: 16:00–18:00 than early morning (06:00–08:00) (RR = 1.37, 95% CI = 1.03 to 1.80); in all vehicle types than in taxis (cars, RR = 5.86, 95% CI = 4.9 to 7.01; vans, RR = 6.2, 95% CI = 4.95 to 7.78; pickups, RR = 2.55, 95% CI = 1.57 to 4.14); on the local road than in the city centre (RR = 1.22, 95% CI = 1.0 to 1.49). Front seat passengers in vehicles in which the driver did not wear a belt were four times less likely to wear a belt than in those in which the driver did wear a belt (RR = 0.23, 95% CI = 0.19 to 0.28). Front seat belt wearing was not significantly more or less likely for days of the week, week/weekend, or age/sex.

Second front seat passengers

There were 189 second front seat passengers, of whom only 2.6% (95% CI = 0.3 to 4.9) were wearing seat belts. Many (44.9%) second front seat passengers were children, mostly seated on the lap of an adult. Pickups were over-represented with regard to second front seat passengers (32.3% of all second front seat passengers vs 2.9% of first front seat passengers).

Rear seat passengers

The rate of wearing seat belts was consistently low for rear seat passengers (0.5%, 95% CI 0.3 to 0.7) regardless of the variable investigated (up to 2.3%), and detailed characteristics are therefore not reported.

Child passengers

There were 381 child passengers estimated to be aged < 8 years. Most of these were in seat positions where seat belt wearing was rare—that is, 21.8% were second front seat passengers and 50.4% were rear seat passengers. The rate of seat belt wearing by child passengers was 8.8% (95% CI 7.35 to 10.35) compared with 12.9% (95% CI 12.62 to 13.18) for adult passengers and 42.6% (95% CI 42.32 to 42.88) for adult occupants. The young children were usually seated on the lap of an adult passenger.

Potential bias

Observation of only the closest lane appears to have biased the vehicle mix. A significantly greater proportion of taxis, vans, and pickups but fewer cars were observed in the closest lane compared with all lanes in the observed direction, as recorded in the 10 min before each seat belt observation period (table 4).

Visibility

For only a small proportion of vehicles was it unclear whether there were passengers in the front seat (0.5%) and the rear seat (2.5%). Cars, which generally had more dark-glassed and closed windows than taxis (confirmed in a supplementary survey), were over-represented for unclear occupancy, with 0.8% front and 4.6% rear seats unclear.

Lack of good visibility of the front seat passengers overall, where clearly occupied, was 1.2% for sex and 2.5% for wearing

seat belts. For rear seat passengers, it was 3.2% and 1.7%, respectively. Only one vehicle was recorded as missed.

Validity

Of the 95 taxi drivers observed from inside the taxi with regard to seat belt wearing over the duration of the survey, 20% (95% CI 11.1 to 26.9) were observed to have tampered with their belts (table 5). This was consistent with the roadside survey results, where 18.5% (95% CI 17.6 to 19.4) of taxi drivers were observed with tampered belts.

DISCUSSION

Wearing of seat belts was significantly higher (67.3%) for drivers than for front seat passengers (18.9%) and negligible for rear seat passengers (0.5%). This percentage for drivers was less than the approximately 80% observed for Nanjing drivers in the inter-rater reliability/pilot study in late 2004, similar to the 64% of 2400 Beijing drivers observed in late 2004, and higher than the 50% for drivers in a Guangzhou study.[15 18 19] The percentage is also higher than in a Thai study in 2000 (42.7%), carried out soon after their seat belt legislation.[20] The rate for front seat passengers (18.9%) was lower than in the Guangzhou study (40%).[19] The rates of seat belt wearing, particularly in the rear of the vehicle, were considerably lower than for other motorized countries (above). These rates are consistent historically, the pattern being higher for drivers than for passengers and for front versus rear seats.[9 20 21]

In addition to the occupant's own safety risk, unbelted occupants substantially increase the risk for belted occupants, hence the term the ''backseat bullet''.[22–26] As seat belts are required only to be fitted in China in the rear seats of vehicles purchased from October 2004, and it may not be easy for police to differentiate between old and new vehicles, enforcement is likely to be poor.

Comparing both driver and passenger results, time of day, vehicle type, and observation site were factors that significantly influenced seat belt wearing at the 95% CI level for both driver and front seat passengers. Seat belt wearing by the driver significantly increased the likelihood of passengers in the front seat also wearing belts, as has been found in other studies.[27] Sex was not a significant factor, which contrasts with studies showing that females were usually more likely to wear a belt.[20 21]

The issue of belt tampering by 18.5% of taxi drivers complicates what should be a straightforward decision by the observer about seat belt wearing. Belt tampering can be difficult to observe accurately from the roadside because, by its nature, it is intended to resemble wearing. A floppy belt or clips are the most obvious signs, but a belt may be behind the driver. Belt tampering offers reduced protection in the event of a crash.

Where the second front seat passenger was a young child ($n = 83$), they were often seated on the lap of an adult, a particularly high-risk position in the event of a crash. There were 381 children who were considered by the observers to be aged < 8 years and in motorized countries would require a child restraint. However, child restraints were not included in the study, as none had been observed in the pilot survey or during traffic familiarization. When used properly, child restraints reduce injury by 90–95% for rear-facing systems and 60% for forward-facing systems compared with not using a restraint.[28]

Limitations of the study

The most important limitations of this study are as follows. (1) Neither night-time nor highway observations were performed; anecdotally, the results would be lower than those observed in our study for the former and higher for the latter. (2) Passenger vans, although common, were excluded because the brief period available for observing each vehicle did not allow time to accurately differentiate the gradual progression between passenger vans, minibuses, and multi-purpose vehicles. (3) Cars were under-sampled because of both their under-representation in the closest lane and the relative difficulty in observing occupancy, seat belt wearing, and age/sex caused by darkened windows. As cars are associated with relatively high rates of seat belt wearing, the overall rates may therefore be biased downwards for each seating position. (4) The extent of fitting of rear seat belts is not known. (5) The middle rear seat belt is likely to be a lap belt, as also may be the case for the second front seat, and these cannot easily be discerned from the roadside. However, only about 300 (1.7%) vehicles had three rear seat passengers, making this a minor issue. Some of the 184 second front seat passengers not wearing belts (36% in pickups) may have been wearing lap belts. Although the study results cannot be generalized, the methods should be applicable to other areas of China and could be used to build up a set of representative results.

Key points

- The prevalence of seat belt wearing was 67.3% for drivers, 18.9% for front seat passengers, and negligible (0.5%) for rear seat passengers.
- Belt tampering that would reduce protection in a crash was observed in 18.5% of taxi drivers.
- Wearing of seat belts by drivers was significantly more likely in cars and vans and at a city roundabout; wearing of seat belts by front seat passengers was significantly more likely in non-taxi vehicles, during the evening rush hour, if the driver was wearing a belt, and on the local north road.
- Drivers were significantly less likely to be wearing a seat belt in the early morning and in pickups; front seat passengers were significantly less likely to be wearing a seat belt in taxis and if the driver was not wearing a belt.
- Rates of seat belt wearing overall were low despite legislation coming into effect several months before the survey. Combined education and enforcement are necessary accompaniments to legislation.

IMPLICATIONS FOR PREVENTION

Key areas of concern and therefore possible improvement are: overall lack of seat belt wearing; lack of seat belt wearing by drivers in the early morning; belt tampering by taxi drivers; lack of seat belt wearing by pickup drivers; lack of seat belt wearing by drivers on local roads; lack of seat belt wearing on Tuesdays; and lack of seat belt wearing by all passengers, but especially in the rear seat, in taxis, and where the driver is not wearing a belt. Seat belt wearing should continue to be monitored. As combined education and enforcement is a proven necessary accompaniment to legislation, the current level of these should be determined. Examples of successful seat belt wearing programs of relevance are a recent intervention in Guangzhou and the Por Amor campaign in Costa Rica.[19 29]

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LACUNAE

Tube station's bosses ban Heelys on platforms

Heelys, the shoes with wheels in the heels which have raised safety fears, have been banned at a London Tube station. A sign at Balham, on the Northern Line, asks parents to make sure children do not wear them. The sign does not explain why, but Transport for London (TfL) said the decision was made after comments from passengers and because more children had used the station during the holidays. A TfL spokeswoman would not say if the ban would be imposed at other stations. The training shoes allow children to skate simply by transferring their weight to their heels. Users now face a £500 fine. Peter Cornall of the Royal Society for the Prevention of Accidents said that the shoes are unlikely to be a hazard.