Frequency and Severity of In-Vehicle Distractions – A Self-Report Survey

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Background

- Driver inattention has been convincingly linked to accidents (Dingus, Klauer, Neale, Petersen, Lee, Sudweeks et al., 2006)
- "avoidable distraction" UK 18/8/8 legislation
- Attentional demands have been reported to be user, task, environment, and time-related (Petitt et al., 2007)
- User and task factors have been extensively considered in the literature

Actual Behaviours...

- 96% distracted by advertising, Speirs, Winmill, & Kazi (2008)
- Lack of concentration (72%), adjusting in-vehicle equipment (68%), and other people, objects, or events (68%), McEvoy, Stevenson, & Woodward (2006)
- Top 3 distracting behaviours, reading or sending texts, attending to children, RAC [Australia] Motor Insurance, 2009)
- 11% admit to texting, 8% using phone handheld, 7% using portable music players; RAC Report on Motoring (2009)

Research Aims

- Obtain real-world data on:
  - prevalence
  - rated severity, and
  - accident association of distractors
- Consider individual and driving variables to mediate engagement

Method & Participants

- An online survey
- Promotion
  - Radio
  - Website & Electronic Newsletter
  - Driver forum

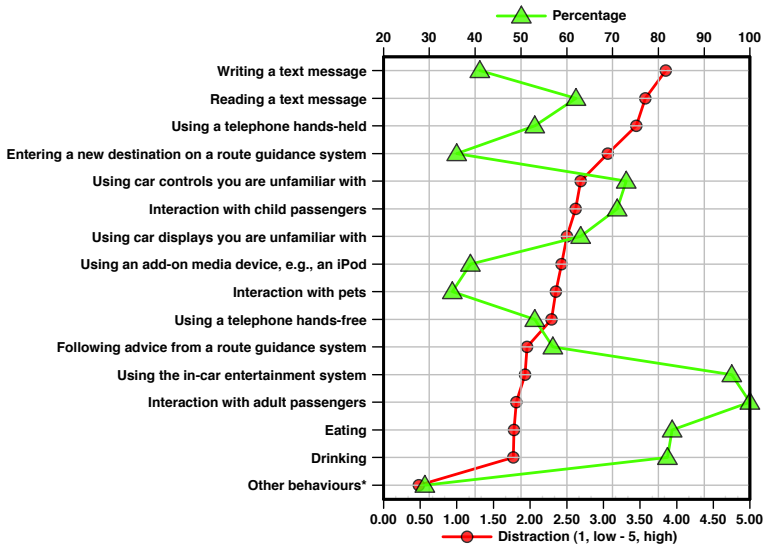
Survey Structure

- Demographics
- Rating & engagement with distractions
- Frequency of distracting behaviours
- Associated accidents & near misses
- International Personality Item Pool (Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger & Gough, 2006)

Respondents

- 482 individuals
- 67% Male
- Driving experience was 19 years (SD = 12.1)
- Average annual mileage = 12,000 (SD = 5,790)
- Average age = 39 years (SD = 12.6)

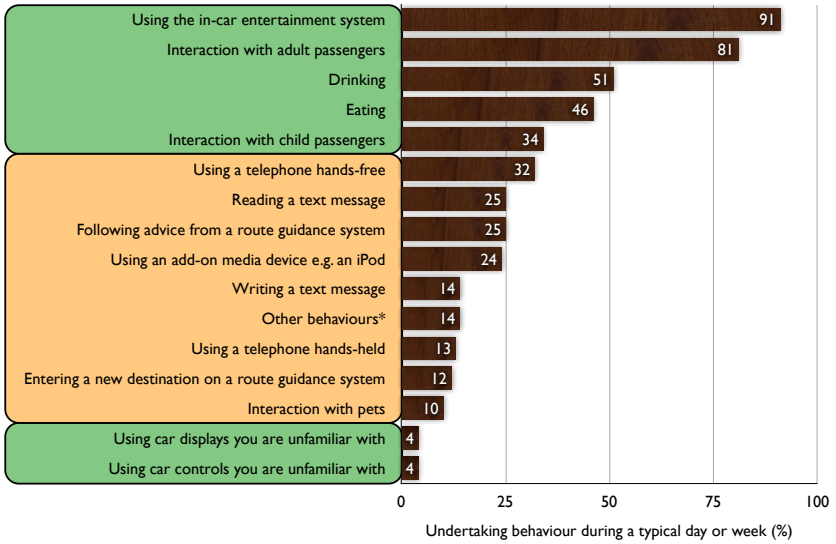
What & How Bad?



Behaviours Rated Most Distracting 1 (low) - 5 (high)

- Writing text messages (3.85)
- Reading a text message (3.57)
- Using the telephone hand-held (3.45)

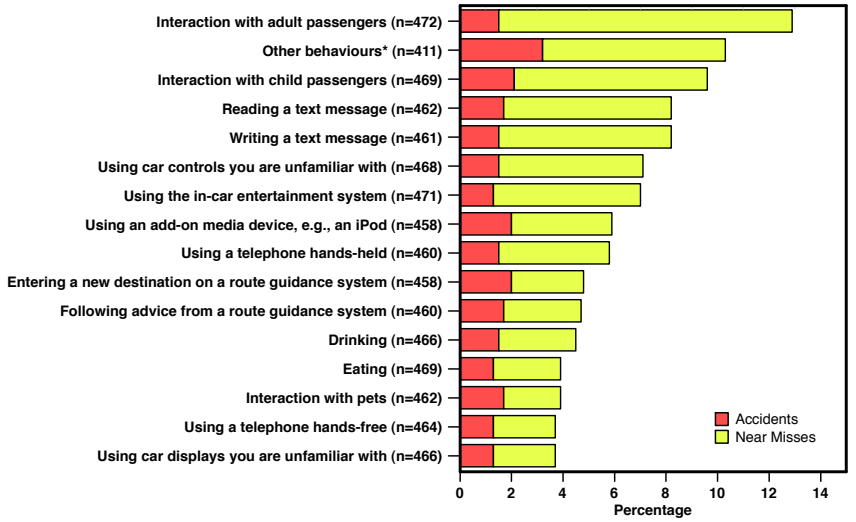
How Often?



Highly distracting behaviours undertaken during a typical day or week (%)

- Using the telephone hand-held (32%)
- Reading a text message (25%)
- Following route guidance (25%)
- Using an add-on media device (24%)

Accidents & Near Misses



Percentage Self-Reported Accidents (near misses)

- Interacting with children 2.1(7.5)
- Using an MP3 Player/iPod 2.0 (3.9)
- Sat. Nav. destination entry 2.0 (2.8)
- Interacting with adults 1.5(11.4)

Hierarchical Multiple Regression Beta & Significance Values

Variable	Model 1†	Model 2††
Age	-0.272***	-0.278***
Extraversion	0.166**	0.142**
Agreeableness	-0.122	-0.131
Conscientiousness	-0.115*	-0.063
Emotional stability	0.001	-0.012
Intellect	-0.027	-0.036
Mileage		0.282***
Penalty points		0.151**
Accident frequency assuming responsibility		0.096*
Adjusted R^2	0.131***	0.253***

*p < 0.05, ** p < 0.01, *** p < 0.001.
†Model 1 F (6, 361) = 9.05, p < 0.001, ††Model 2 F (9, 358) = 13.46, p < 0.001.

Conclusions

- UK data on severity, frequency and accident association
- Drivers are frequently, repeatedly undertaking highly distracting behaviours (illegal in the UK)
- Trait variables revealed as predictive of engagement in distracting activities
- Driver behaviour variables offer significant opportunities to mediate undesirable behaviour