

Young Researchers Seminar 2009

Torino, Italy, 3 to 5 June 2009

Texting whilst driving:

Drivers subjective awareness of the risks of sending and receiving text messages whilst driving

Ryan Robbins



Agenda

- 1 Why study texting whilst driving
- 2 Why simulation?
- 3 How did we investigate texting whilst driving?
- 4 What did we find?
- 5 What does that mean?

Why Study Texting Whilst Driving?

RAC survey found 45% of drivers admit texting whilst driving (2008)

Why young drivers?

- Mobile phone use is common
- Generally higher accident rates
- Lack of understanding of social attitudes to TWD

Why Study Texting Whilst Driving?

Legality of texting whilst driving (TWD) is unclear

Providing phone is in a cradle it is not explicitly illegal to touch keypad and compose message:

*“You **MUST NOT** use a hand-held mobile phone, or similar device, when driving”*

Regulations 104 & 110; Highway Code

However!

Drivers have a responsibility to be in control of their vehicle at all times:

*“You **MUST** exercise proper control of your vehicle at all times.”*

Regulation 10, Highway Code

Texting whilst driving

Ryan Robbins



An example of an expert at TWD

this media proudly hosted by:

www.orism.net

orism.net

Texting whilst driving

Ryan Robbins



Why Simulation?



- Safe
- Controlled
- Repeatable
- Analysis
- Previous studies

Texting whilst driving

Ryan Robbins



TRL CarSim



Texting whilst driving

Ryan Robbins



How did we investigate TWD?

17 drivers between the ages of 17 and 24

Participants completed three drives:

- Familiarisation drive
- Control Drive
- Texting Drive
 - Reaction time tasks – tone and red bar stimulus
 - Sending messages
 - Reading messages

Range of data collected:

- Attitudinal information
- Sim data (see Reed & Robbins, 2009)

Texting whilst driving

Ryan Robbins



Texting Tasks

Used own phone; usual techniques

Composed messages prompted by verbal instruction e.g.:

“Happy birthday. Have fun at the party”

Read messages contained memorable information e.g.:

“Edward has forgotten his BOWTIE for the wedding”

Control text messages

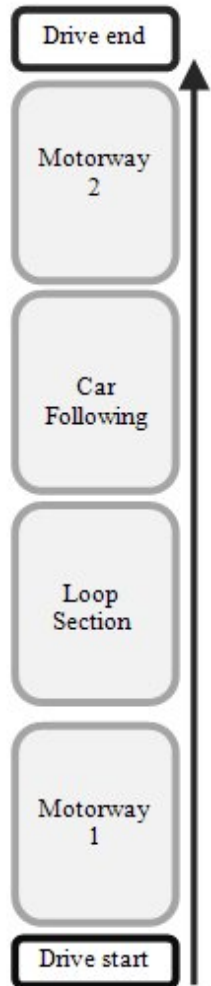
Participants timed completing comparable messages

Texting whilst driving

Ryan Robbins



Trial Design



Texting whilst driving

Ryan Robbins



The Test Route

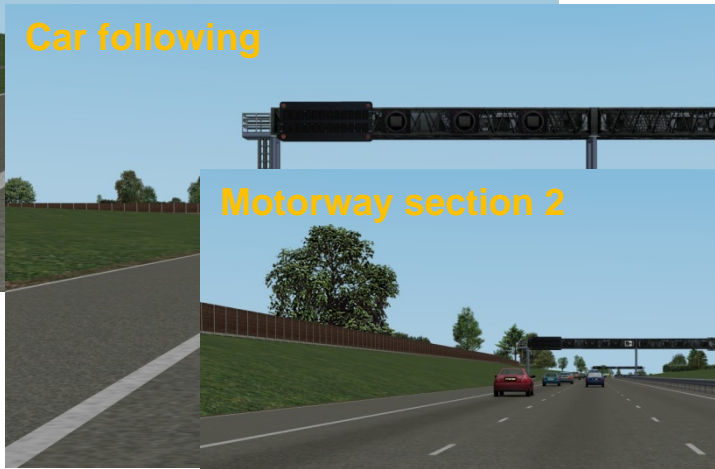
Motorway section 1



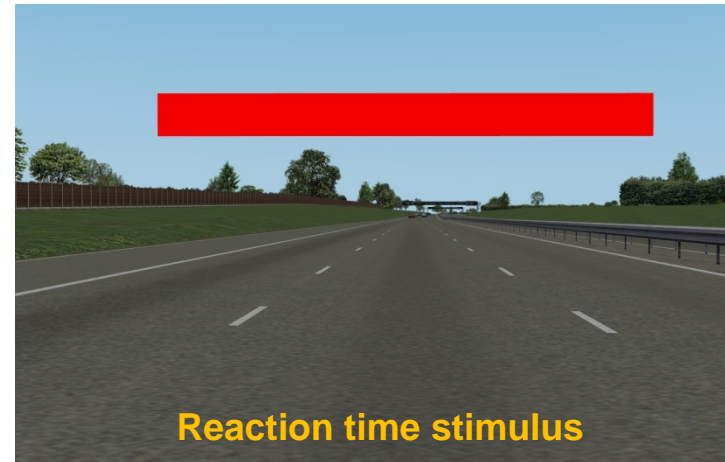
Loop section (curve following)



Car following



Motorway section 2



Reaction time stimulus

Texting whilst driving

Ryan Robbins



Questionnaires

Questions were presented in five sections:

- How young drivers tend to use their mobile phones
- Beliefs regarding the legality of texting whilst driving
- How risky they believe texting whilst driving is
- How they believe texting whilst driving affects their performance
- Differences in performance when sending or receiving a text message

Texting whilst driving

Ryan Robbins



What did we find?

What are the typical patterns of mobile phone use?

The majority of participants are likely to:

- Leave their phones switched on
- Not in silent mode
- Not use their phones 'hands-free'

Texting was very popular amongst our participants

- 11 out of 17 drivers text "21 to 30" times a week

These patterns of use suggests young drivers expose themselves to the risks of texting whilst driving

What did we find?

Perceptions of the legality of TWD

Is it currently legal [or should it be legal] to use your phone whilst driving to...

- ...send a text message if it is in a cradle?
- ...read a text message if it is in a cradle?
- ...send a text message if you are using it handheld?
- ...read a text message if you are using it handheld?

Understanding of the law as it stands:

- Vast majority believe it is illegal to text whilst driving in all circumstances (regardless of cradle).

Opinions on how the law should be:

- Majority believe it should be illegal to text whilst driving in all circumstances (7 felt reading a text was acceptable)

Texting whilst driving

Ryan Robbins



What did we find?

Relative risks of the TWD

The risk ratings of writing or reading a text message were almost identical at 79.0% and 78.9% respectively

Which is in contrast with the sizable proportion who felt reading a message should be legal.

Rank	Driving Behaviour	Rating of risk
1	When a driver has been drinking (regardless of amount)	92.9
2	When a driver is racing others	87.4
3	When a driver is tired	86.2
4	Other drivers on the road are acting unsafely	81.6
5	When a driver is talking on their mobile phone (handheld)	79.1
6	When a driver is writing a text message	79.0
7	When a driver is reading a text message	78.9
8	When a driver is angry enough to have road rage	77.2
9	When a driver is speeding	71.8
10	When a driver is in a hurry	71.4
11	When a driver is selecting music while driving	67.7
12	When a driver is inexperienced	65.4
13	When a driver is talking on their mobile phone (handsfree)	61.6
14	When passengers are in the car	49.2

Texting whilst driving

Ryan Robbins



What did we find?

Subjective impressions of performance impairment

Participants rated their performance as significantly worse in the texting drive for:

- Maintenance of lane position and speed in the curve following section. ($t(16) = -2.72$; $p = 0.01$).
- Responding to the 'tone' RT task ($t(16) = -3.24$; $p = 0.01$).
- Responding to the 'red bar' RT task ($t(16) = -3.41$; $p < 0.01$).
- Overall performance ($t(16) = -4.06$; $p < 0.01$).

They did not feel it affected their ability to maintain a constant distance to the vehicle in front ($t(16) = -0.029$; $p = 0.86$).

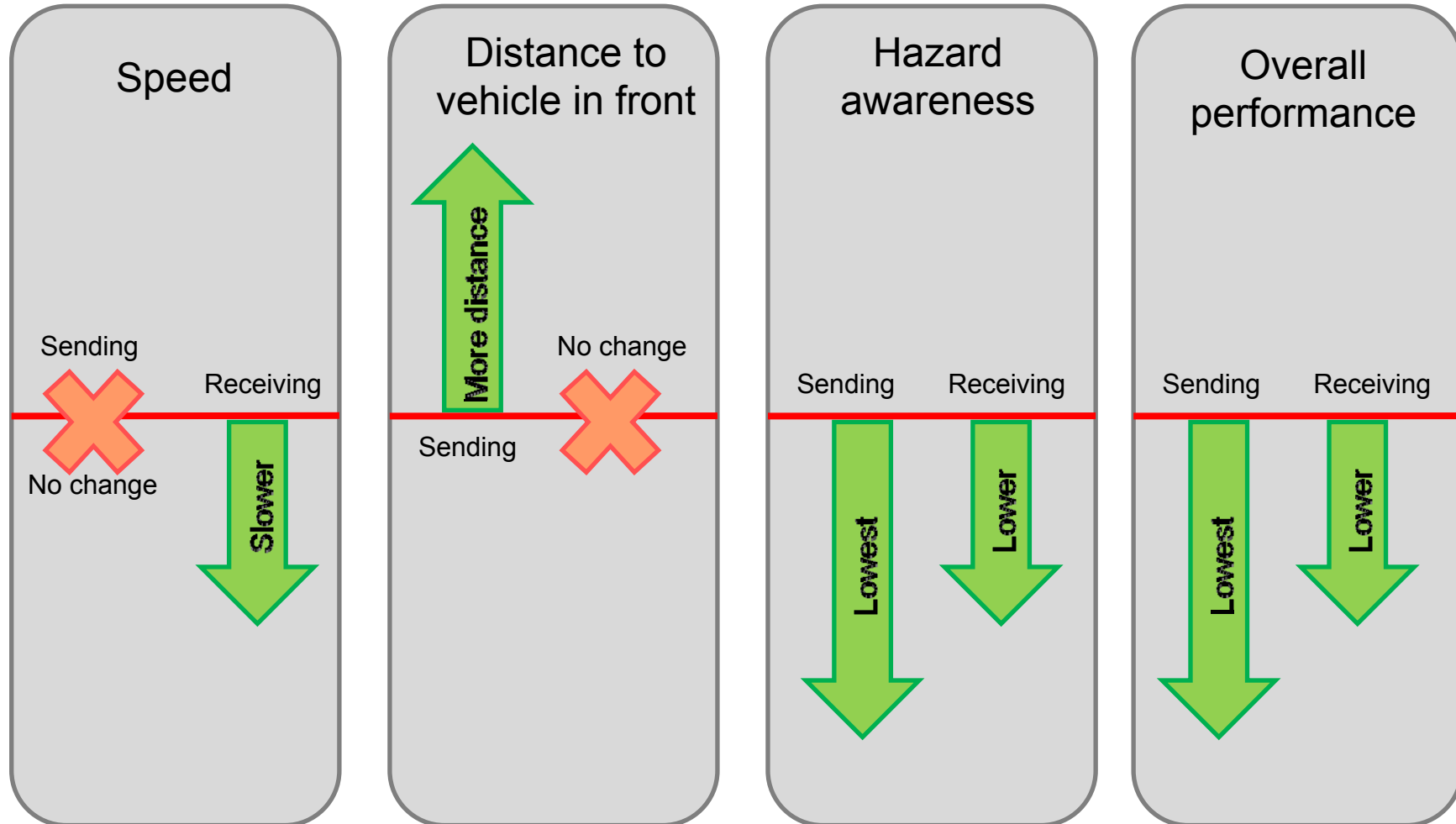
What did we find?

Differences in performance when sending or receiving a text message

Participants were asked for their impressions of the relative difficulty of sending or receiving a text message across a range of driving behaviours

- Sending a text message requires more concentration.
- Sending a text message makes it more difficult to keep in lane

What did we find?



Texting whilst driving

Ryan Robbins



What does that mean?

Change of habits:

- Young drivers text frequently and leave phones on: may be exposing themselves to the temptation of interacting with the mobile phones whilst driving.

Yes **ALL** drivers should be encouraged to switch their phones off when driving to remove a source of potential distraction.

Clarify the legal position?

- Ambiguity regarding the legality of TWD may lead to confusion.
- Most agreed TWD should be illegal – though dangers of reading messages may be underestimated

Legal position should be more explicit

Texting whilst driving

Ryan Robbins



What does that mean?

The risks of TWD:

- Drink driving, racing other drivers and tiredness were rated as substantially more dangerous than texting whilst driving
- Young drivers may not be aware of how risky both sending and receiving messages are

A public awareness campaign could help to educate young drivers as to the dangers of TWD.

Perceptions of driving performance:

- Participants had insight into the impairment caused by text messaging
- They also recognised that writing/sending a message was more of a distraction than reading an incoming message

Translating this awareness of impairment into a willingness to change attitudes and behaviour is vital

Texting whilst driving

Ryan Robbins



Thank you

Questions?



Texting whilst driving

Ryan Robbins

