

Text Messaging and Driving Safety: When is it the Wrong Message?

Goal of Module

To discuss the risks involved in text messaging while driving. The module is to be used in classroom portion of novice driver education as a supplement to discussions on distracted driving. This section is not designed to be a comprehensive module on all aspects of distracted driving.

Integration with Driver Education Programs/Curriculums

| If you are using: | This module might best fit in: |
|--------------------------|--|
| How To Drive | Chapter 14: Keeping Fit To Drive |
| Responsible Driving | Chapter 17: Psychological and Social Readiness |
| Licensed To Learn | Unit 6: Driver and Vehicle |

Instructor Preparation

Have on hand:

- Cell phone(s) (1-2)
- Deck of cards
- Stopwatch
- Optional:
 - Simulated steering wheel
 - AAA Foundation for Traffic Safety brochure titled “Pay Attention!”



Introduction

Now let's take a closer look at one growing aspect of distracted driving: text messaging.

- Specifically, we'll be discussing how text messaging with a mobile phone while driving can increase your risk of experiencing a collision.

Cell Phones

- Nowadays almost everyone has a cell phone
- 974,000 vehicles on the road at any given daylight moment being driven by someone on a hand-held phone (NHTSA)
- Over 236 million people subscribe to wireless communication devices (Insurance Information Institute)
- Cell phone use accounts for 2,600 vehicle fatalities and 300,000 collisions annually

Many cell phone users like to stay in touch with friends and family constantly.

- That's fine when you're not driving, but it's a big concern when you are driving
- Let's look at some of the numbers/statistics:
 - Risk of collision increases by up to 400% when talking on a cell phone while driving
 - Nearly 80% of collisions involve some form of driver inattention (distraction, fatigue or looking away)
 - In one study of 100 drivers^[1], cell phones were associated with the highest frequency of distraction-related events for crashes and near-crashes
 - Another study^[2], done with driving simulators, found that when talking on a cell phone:
 - Young drivers' response times to brake lights ahead were as slow as those by elderly drivers
 - Drivers of all ages were 9% slower in hitting their brakes when needed
 - Crash rates were more than 5 times greater than for undistracted drivers. That's an increase of over 500%!

So as you can see, cell phone use while driving is a major issue in today's society. Another driving safety issue related to the cell phone is text messaging.



Text Messaging

- Not too long after cell phones became more widely used, the process of “texting” began

Optional Content: Definition of “Texting”

Text messaging, or **texting** is the common term for the sending of "short" (160 characters or fewer) text messages from [mobile phones](#). The individual messages which are sent are called **text messages**, and more colloquially **SMSes**, **texts**, or even **txts** (in "[text speak](#)"). [adapted from *Wikipedia*]

- Texting has grown in popularity, such that today many cell phone users use their phone to both talk *and* text

ASK: Who here has used your phone to send or receive text messages?

ASK: Why do you use your phone to text?

ASK: How do you like it!

ASK: Can someone give a demonstration of texting?
(students may not be allowed to have cell phones in the classroom)

How Texting Can Impact Driving

ASK: How is texting different from talking on a cell phone?

- Texting requires you to spend more time looking at the small screen on the cell phone
- Text messages are typically shorter than conversations
- Texting may involve having two hands on the cell phone



To understand the effects of texting on driving we need to understand the driving task. At its simplest, driving can be divided into three main tasks:

1. **Perception**- the driver must perceive what's going on in the driving environment
2. **Decision**- the driver must use the information gained through perception to make a decision on what to do about a particular situation
3. **Action**- the driver must execute his/her decision

Optional Content

Note: Some instructors may instead prefer to use the terms “IPDE”, “SIPDE” or “SEE.” The following lists some common approaches and their abbreviations:

- PDA - Perception, Decision, Action
- IPDE - Identify, Predict and Decide, Execute
- SIPDE - Scan/Search, Identify, Predict and Decide, Execute
- SEE - Scan/Search, Evaluate, Execute

Or, stated through an example:

- A. The driver perceives a car ahead stopping suddenly (**Perception**)
- B. To avoid colliding with the suddenly stopping car ahead, the driver must decide whether to apply the brakes or steer around (**Decision**)
- C. The driver avoids a collision by turning the steering wheel to drive around the vehicle ahead (**Action**)

ASK: Looking at these three steps, where can a driver error take place?
(Pause for student response)

- In all three!
- They're all important
- A mistake in any one of these could cause the chance of a collision to increase substantially



Let's take a look at each of these three tasks, when texting is factored in.

1. Perception

ASK: How could texting while driving affect the first step, a driver perceiving what's going on around them?

- If your attention is focused on texting, you could easily miss perceiving an important change in your driving environment
 - Such as a car pulling out in front of you
 - Or a signal light changing from yellow to red
 - Or a stop sign
 - *Discuss other examples?*

2. Decision

ASK: How could texting affect the second step, making a decision about what to do in an unexpected situation?

- If you are texting, your attention is divided, right?
- That's bad, because divided attention means that *all* decision making slows down
- As you add more tasks, your performance on each one becomes slower
- Let's do a quick demonstration of this type of impairment (decision making)



► Hands-on Exercise: **Card Sorting and Distraction**

Approximate Time: 4 minutes

Equipment: Deck of playing cards
Stopwatch

Directions:

1. Select one participant to perform the exercise.
2. Time how long it takes the participant to sort the cards into 4 piles by suit (hearts, diamonds, clubs and spades).
3. Share the elapsed time with the class.
4. Repeat step 2, but while reading the addition problems (see below) aloud to the participant and waiting for the participant to provide the answer. Ask the participant to answer as many problems correctly as possible.

(Whether the answers are correct or not is not relevant- the addition task is to provide a distractor).

5. Share the new elapsed time with the class, explaining that the more tasks the brain is required to perform at one time, the longer it takes to perform any single one.

Addition Problems:

| | | | | | |
|--------|-------|--------|------|-------|-------|
| 14 + 7 | 8+17 | 15 +14 | 9+13 | 9+7 | 5+18 |
| 16+6 | 12+9 | 18+7 | 16+5 | 14+14 | 13+8 |
| 19+8 | 6+11 | 8+13 | 17+3 | 16+15 | 3+16 |
| 9+12 | 4+11 | 16+17 | 5+19 | 10+7 | 18+7 |
| 11+6 | 4+13 | 7+10 | 5+16 | 8+13 | 11+14 |
| 6+17 | 11+12 | 12+17 | 5+18 | 15+8 | 13+7 |
| 17+7 | 9+7 | 12+7 | 6+13 | 8+11 | 5+13 |
| 14+4 | 15+8 | 4+7 | 9+14 | 7+17 | 9+13 |
| 6+17 | 5+17 | 13+7 | 13+4 | 7+9 | 8+5 |

So, we can see that even in this simple exercise:



- The more things we try to do at once, the less effective we can be at any single one
- Our ability to make decisions is reduced because of the multiple tasks attempted
- It demonstrates the need to place our primary focus on driving when we're behind the wheel.

The third and final driving task affected is the Action or the “executing a decision” task

3. Action

ASK: How could texting affect the third step, taking action on your decision?

- If you are texting, you could fail to execute the driving maneuver you selected in the decision step
 - You could fail to turn the steering wheel far enough or fast enough
 - [Demonstrate with Simulated Steering Wheel]
- Remember that when texting, at least one hand is off the steering wheel and on the phone instead
 - Steering control is greatly reduced when you steer with just one hand
 - You need to have both hands on the steering wheel to effectively steer, especially in emergency situations
- You could also fail to brake or accelerate at the right time, or with the proper amount of pressure on the pedal

Perhaps the largest concern is texting's ability to impair the first step, perception

- If your attention is devoted to texting and you fail to perceive the car stopping or turning in front of you, you'll never even get to the second step (decision)!
- Even if you typically make great decisions and have excellent vehicle control skills, if you don't perceive the need to activate these skills because you failed in perception, you're far more likely to experience a collision!

Note that texting may be even more dangerous than talking on a cell phone

- When texting, the driver must often take his/her eyes off the roadway to look at the small screen on the phone
- This could be different than talking on the phone, which might allow the driver to keep his/her eyes on the road to a greater degree

Preventing Distractions



ASK: Now that we have seen how texting can cause substantial risk while driving, what can you as a driver do to prevent being distracted while driving?

- Before you drive, turn your cell phone off
 - Let voicemail capture your messages, both voice and text
 - Pick up your messages later, once you've completed your journey
- If you have to call or text, pull off the road safely and stop

Summary

Some Positive Cell Phone Statistics

Although cell phone use on the road is a risk management concern, it is also true that wireless technologies do provide benefits to safety and traffic management.

- The Cellular Telephone and Internet Association reported that drivers using cell phones place 139,000 emergency calls each day.
- Cell phones have also proven to be beneficial in a driver's personal security by allowing drivers to contact help quickly when they experience roadside mechanical problems.

When used properly, cell phones can be a great asset. However, as you have seen today, when you combine multiple tasks such as cell phone use and texting it has a measurable effect on one's ability to perceive, decide and take action to even minor situations.

Supplementary Information

Resources

AAA Public Affairs (www.aaapublicaffairs.com)
AAA Foundation for Traffic Safety (aaaafoundation.org)
CTIA- The Wireless Association (www.ctia.org)
Governors Highway Safety Association (www.ghsa.org)
National Highway Traffic Safety Administration (NHTSA; www.nhtsa.dot.gov)
U.S. Food and Drug Administration (www.fda.gov/cellphones)

References

- [1] Strayer, D., Drews, F. and Crouch, D. (2003). Fatal distraction? A comparison of the cell-phone driver and the drunk driver. Department of Psychology, University of Utah.
- [2] 100-Car Naturalistic Study (2005). Virginia Tech Transportation Institute (VTTI), sponsored by NHTSA, VDOT and VTRC.

