

Texting While Driving

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Safe driving requires paying attention. When driving and texting the majority of our focus is taken off of the road and put onto the phone, causing the person who is driving to become partially unaware and fairly ignorant of potential problems, accidents, and/or other surrounding drivers.

It seems texting has become a normal part of life, especially in the younger generation, where we are becoming increasingly dependent on our cellphones not only for communication through text messages, but also social media, navigation through GPS, and even to have an instantaneous answer to a question (Duggan, 2013). Needless to say, the minute people see or hear their phone it is nearly impossible for them to leave it alone. Unfortunately, this is the case even when driving. People ignore the warnings and insist on picking it up anyway, even though they know the possible consequences. This is dangerous because of the simple fact that people cannot multitask. They cannot have their undivided attention on more than one thing at time (Pashler, H, 1994), yet they believe that they can (Sanbonmatsu et al., 2013). When focused on more than one thing, people's brains have more activity, causing them to struggle to perform a given task effectively (Monk et al., 2008).

Nearly 91% of college-aged students reported texting while driving at some point in their life (Tucker et al., 2015), and in large surveys of high school and college students, more than 40% reported texting while driving at least once in the previous 30 days (Olsen et al., 2013).

Texting while driving is dangerous because distracted individuals are unable to detect safe opportunities for action (Holte & Ferraro, 2018), this is due to the impaired ability to respond quickly to things happening around us. People are aware that distracted driving is a danger to other people on the road, so why do they still feel the need to do this, even though they put their

own safety and the safety of others at risk? Often, people don't think texting while driving is dangerous until something bad happens, and at that point it may be too late.

In 2015, cellphone use was associated with 14% of distraction-affected fatal crashes (Li et al., 2018) and nearly 1.5 million car accidents per year were related to cell phone usage while driving (Schroeder & Sims, 2018).

Lack of self-control is probably the main culprit for anyone who picks up their phone while behind the wheel. Not picking it up has to be something you choose not to do, and, yes, for most this is very difficult, because of their lack of self-control. Unfortunately, when they hear the phone go off, they can't control themselves enough to leave it alone, so they pick it up (Billieux et al., 2008). For some, social pressure, or even proximal sources, such as a significant other is yet another proof of self-control loss. This is seen in the Social Norms Theory suggesting that individuals are influenced by perceptions of how their social groups act. As seen in a texting and driving survey of 835 students, results found that those with high-risk significant others were also more likely to be high-risk (Trivedi & Beck, 2018).

Another reason people text while driving is because of sensation seeking, which is a person's proclivity for trying new experiences, taking on risks, and disregarding social norms. (Zuckerman et al., 1978). Previous research has linked sensation seeking with problematic behavior in general (Roberti, 2004), as well as more specifically with cell phone use while driving.

We believe that there is 25 percent more brain activity when people are doing both, driving and texting at the same time. As well as, there will be 30 percent more driving anomalies with people who are texting while driving, as opposed to those who have their complete attention on only driving.

Method

Participant

The participant of this experiment will be a student of SUNY Broome Community College in the general psychology class, PSY 110-B02, from the Spring 2019 semester. The volunteer must be above the age of 18 and be a licensed driver. He or she should be a fairly good, confident driver, and should not be under the influence of any drugs or alcohol prior to, or during the experiment.

Materials and Apparatus

For this experiment we will need a Biopac MP40 to measure the participant's brain activity. We will need a driving simulator and checklist (see Appendix A) to observe and count the amount of driving anomalies, a chair for the participant to sit in, and two working cell phones.

Procedure

Before performing the experiment, we will explain the whole process and obtain consent from the participant. After consent is given, we will have the participant sit in a chair with the driving simulator in front of them. During this time, they will have about 5 minutes to get used to using the simulator. We will then hook him or her up to the Biopac MP40 to measure their brain activity. We will record the participant's brainwaves while he or she is driving without any distractions for 10 minutes. After this, the participant may have a 5-minute rest. Then, we will have the participant begin driving while sending and receiving text messages. We will record their brainwaves and keep a count of the amount anomalies by using the checklist. Again, this will last for about 10 minutes. When satisfied with the amount of data collected, we will

disconnect the Biopac MP40. Once assured the participant is well, they may leave the experiment.

Method of Analysis

After finishing the experiment, the participant's brain activity between driving and texting and only driving will be compared. We will also look at the number of anomalies that were counted while the participant was driving, both with and without the phone. If we find that there is 25 percent more brain activity with the participant when they were driving and texting; as well as, 30 percent more anomalies than undistracted driving, this will support our hypothesis and show that texting and driving is, in fact, dangerous, and people need to be 100 percent focused in order to drive safely.

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Appendix A

Possible anomalies that will be used to count how many were observed when the participant was driving both distracted and undistracted.

- 1.) Running through red lights or stop signs:
- 2.) Not maintaining a specific speed:
- 3.) Unsafe lane changing:
- 4.) Driving in the wrong direction:
- 5.) Swerving:
- 6.) Hitting a curb:
- 7.) Hitting another vehicle:
- 8.) Poor turning: