12-10-2014

A Preliminary Study of Distracted Driving

Sarina Karwande
Chapman University, karwa100@mail.chapman.edu

Ashley Nieto
Chapman University, nieto106@mail.chapman.edu

Lauren Rhodes
Chapman University, rhode115@mail.chapman.edu

A Preliminary Study of Distracted Driving

Karwande, Sarina, Nieto, Ashley, Rhodes, Lauren
HS357: Seminar in Multidisciplinary Perspectives in the Health Sciences
Crean School of Health and Behavioral Sciences, Chapman University, Orange, CA

Introduction

The Centers for Disease Control (CDC) report that distracted driving is a "problem on the rise" with increasing numbers of injuries and deaths each year. More than nine people are killed each day while more than 1,153 people are injured in crashes involving a distracted driver (CDC, 2014). Specifically, accidents are the number one killer of adolescents (ages 15-24), the vast majority being automobile-related (Lenné &Young, 2010). One of the most dangerous forms of distracted driving is texting while driving because it combines all three types of distraction: visual, manual, and cognitive (RoSPA, 2002). Texting and driving is a growing public safety hazard as pointed out by media and public service announcements. As health science students, we wanted to find out if college students text and drive, and to ask their opinions about the issue. We conducted a survey of cell phone use and driving, and included questions about general cell-phone use. Overall, the aim of the study was to examine if distracted driving is viewed as merely one manifestation of distracted living. We found that students viewed texting and driving as dangerous and that while they continued to practice it, their rationales were contradictory.

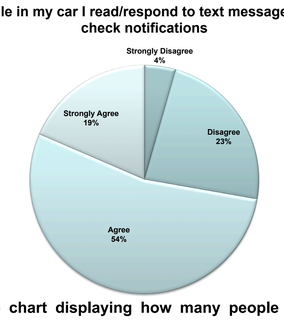

Figure 1. Pie chart displaying how many people read/respond to text messages or check for notifications while in their car.

Methods

An online multi-campus survey was administered to 227 college students ranging from the ages of 18-22. Participants were aware that the study was aimed to assess the patterns of multitasking and distracted driving. Both private and individual Facebook page provided a link to our survey administered through KwikSurveys.

- The survey consisted of 17 questions focuses on why and how college students are distracted on a daily basis by technological devices.
- A Likert scale was used to collect responses.
- All participants had the ability to view the data and conclusions on the Facebook page.

Results

Of all respondents in this study, 73% answered that they text and drive as seen in Figure 1. Ironically, Figure 2 displays that the majority of respondents think texting and driving is dangerous. As seen in the bar chart (Figure 3), the majority of respondents believe texting and driving should be illegal. Of the 227 participants, 155 people said yes, texting and driving should be illegal while 70 people said it shouldn't be illegal. Two people chose to not answer this question.

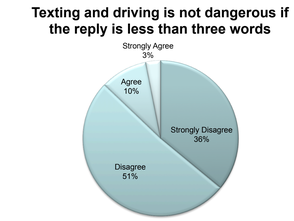

Figure 2. Pie chart displaying the results of the 227 respondents to the statement, "Texting and driving is not dangerous if the reply is less than three words."

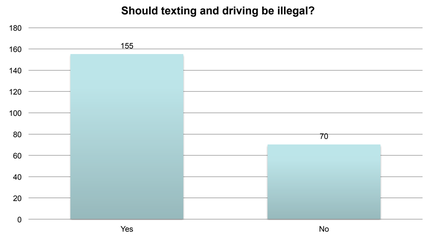

Figure 3. Bar chart displaying whether or not texting and driving should be illegal.

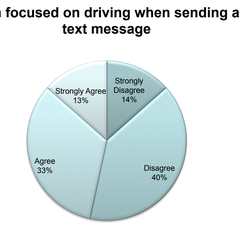

Figure 4. Pie chart showing results of the respondents who responded to the statement "I am focused on driving when sending a text message."

Our results indicate that most respondents use their cell phones in their car (Figure 1), but most people believe it is dangerous to text and drive (Figure 2). Knowing this, why do people still use their phones while driving? Could this be linked to a larger problem of distracted living? Most people believe texting and driving should be illegal (Figure 3) while Figure 4 displays respondents believing they are focused when sending a text message. Of all respondents, 47% kept their phones next to them at all times (Figure 5) and text more than three times during an hour of studying (Figure 6). The majority also agreed that current technology makes it easy to multitask (Figure 7). The data shows a strong correlation between being distracted in class and texting while driving as examples of habitual multitasking. This implies a busy distracted lifestyle is linked to distracted driving.

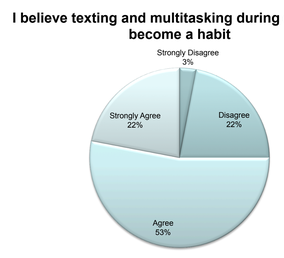

Figure 5. Pie chart showing the percentage of participants that believe texting and multitasking during class has become a habit for them.

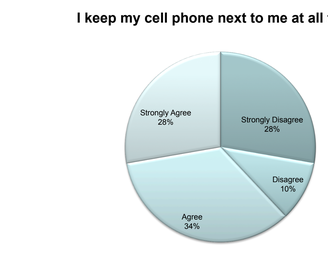

Figure 6. Pie chart showing the percentage of participants that believe texting and multitasking during class has become a habit for them.

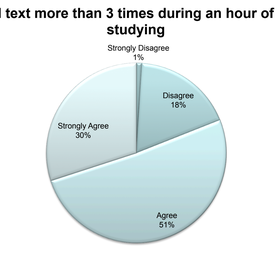

Figure 7. Pie chart showing results to the statement "I text more than 3 times during an hour of studying."

Discussion and Conclusions

Following our study, the results indicated that students (ages 18-22) are aware of the dangers associated with texting and driving but continue to do it. Texting and driving is merely one aspect of a distracted lifestyle. Our study demonstrated an association between multitasking in the classroom and in the car. Implications of these results may include informing health professionals of the ironic beliefs of this age group and the need to consider addressing this issue of health and safety in their primary care practice. Our research poses as a foundation of additional research focusing on gender differences. The imbalance of male to female respondents limited our data conclusions. Therefore, additional research may target these gender differences in the age group of 18-22 by analyzing the whole pattern of electronic devices, social media and distraction. Lastly, future research should focus on populations besides college students that demonstrate a distracted lifestyle. Our research suggests the reasons behind the risky behavior are complex and merit further investigation.

Implications for Professional Practice in the Health Sciences

In order to decrease the behavior of texting and driving, health professionals should:

- Increase the consequences for texting and driving by adding more points to your record if caught.
- Incorporate texting and driving information into Driver's Education before acquiring a license.
- Focus on individual as a whole rather than just texting behavior to change lifestyle rather than the habit.

For Future Research:

- Another interesting study would be to take a poll of how people think they could break this habit and what would be helpful.

Acknowledgements

We would like to acknowledge the Crean College of Health and Behavioral Sciences as well as Dr. Roberta Lessor for her guidance and patience throughout the duration of this study.

References

Atchley, Atwood and Boulton Aaron. 2011. "The choice to text and drive in younger Drivers: Behavior may shape attitude." Accident Analysis and Prevention volume 43 (issue 1): 134-142. Retrieved October 19, 2013(http://www.sciencedirect.com/science/article/pii/S0001457510002095).

Barto, Thomas P. & Wang Wenli. 2010. "Deterring Adolescent Dependency on Text Messaging: A Conceptual Model and Framework for Behavior Control."16th Americas Conference on Information Systems: 1-9. Retrieved October 19, 2013 http://www.wxl359.com/tui/ITM501/modules/module3/719852010%20AMCIS_%20Paper%20Submission%20%28Final%20April%2026%29.pdf.

Bayer, Joseph B & Campbell, Scott W. 2012. "Texting while driving on automatic: Considering the frequency- independent side of habit." Computer in Human Behavior volume 28 (issue 6): 2083-2090. Retrieved October 22, 2013 (http://www.sciencedirect.com/science/article/pii/S0747563212001628#).

Bowman, Lauren L., Levine, Lauren E., Bradley, Waite E. and Gendron Mitchel . 2010. "Can student really multitask? An experimental study of instant messaging while reading." Computers and Education volume 54 (issue 4): 927-931. Retrieved October 17, 2013 (http://www.sciencedirect.com/science/article/pii/S0360131509002656).

Carrier, Mark L., Cheever, Nancy A., Rosen, Larry D., Benitez, Sandra, Chang, Jennifer. 2009. Multitasking across generations: Multitasking choices and difficulty ratings in three generations of Americans." Computers in Human Behavior volume 25: 483-489 Retrieved November 9, 2013

Centers for Disease Control (CDC). 2014. Distracted Driving. http://www.cdc.gov/Motorvehiclesafety/Distracted_Driving/ (Retrieved November 12, 2014) (http://www.csudh.edu/psych/MultitaskingFinal.pdf).

Fried, Carrie B. 2006. "In class-Laptop use and its effects on student learning." Computers and Education volume 50: 906-914. Retrieved October 19, 2013 (http://www.stanford.edu/dept/CTL/ClassroomLaptops/wikiupload/d/d9/In-class%2Blaptop%2Buse%2Band%2Bits%2Beffects%2Bon%2Bstudent%2Blearning.pdf)

Harrison, Marissa A. 2011. "College Students' prevalence and perceptions of text Messaging while driving." Accident Analysis and Prevention Volume 43 (Issue 4): 1516-1520. Retrieved October 18, 2013 (http://www.sciencedirect.com/science/article/pii/S0001457511000546).

Hosking, Simon G., Young, Kristie L., Regan, Michael A. 2009. "The Effects of Text Messaging on Young Drivers." SAGE volume 51: 582-592. Retrieved October 18, 2013 http://hfs.sagepub.com.libproxy.chapman.edu/content/

Lenne, Michael G. and Kristie L. Young. "Driver Engagement in Distracting Activities and the Strategies Used to Minimize Risk." *Safety Science* 48: 326-332. (http://www.sciencedirect.com/science/article/pii/S09257535). 51/4/582.full.pdf+html.

Madden Mary & Lenhart Amanda. 2009. "Teens and Distracted Driving: Texting, Talking and Other Uses of the Cell Phone Behind the Wheel." Retrieved October 19, 2013 (http://trid.trb.org/view.aspx?id=905345).

Rosen, Larry D., Carrier, Mary L & Cheever, Nancy A. 2013. "Facebook and texting made me do it: Media-induced task-switching while studying." Computers in Human Behavior volume 29 (issue 3): 948-958 Retrieved October 16, 2013 (http://www.sciencedirect.com.libproxy.chapman. edu/science/article/pii/S074756 3212003305).

*The Royal Society for the Prevention of Accidents (RoSPA)*2002. "The Risk of Using a Mobile Phone While Driving." 1-31. Retrieved October 19, 2013. (http://www.rospa.com/roadsafety/info/mobile_phone_report.pdf)