SOCIAL INFLUENCES ON YOUNG DRIVERS' TEXTING BEHAVIOR WHILE DRIVING

By

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To my parents,

Por su amor y apoyo incondicional en todos estos años.
Ustedes me guiaron y me ensenaron a salir adelante
encima de cualquier obstáculo.
Gracias por sus sacrificios y el tiempo que han
dedicado para hacerme una mejor persona.
Gracias a Dios por tenerlos en mi vida, nada de esto
hubiera sido posible sin ustedes.

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Abstract

Despite the advances that have been made to enhance vehicular safety, motor vehicle accidents remain one of the greatest public safety concerns in the country. According to the National Highway Traffic Safety Administration, in 2010 there were 32,885 people killed in an estimated 5,419,000 police-reported motor vehicle traffic crashes (NHTSA, 2010). Some of these accidents could be prevented if people adopt safer driving habits.

Texting behind the wheel is especially an issue among teenagers since text messaging has become the preferred method of communications among teenagers. There is some research that suggests drivers can be influenced by the behavior of their parents or friends. But most of this research has been focused on cell phone use when driving. There is limited research in regards to texting behind the wheel. An anonymous online survey was utilized to collect data from 18-24 year olds, regarding their texting and driving behavior and their parents' and friends' behavior. This survey was distributed through the Steven's Driving Facebook page. 441 responses were collected. The results showed that 81.3 % of young drivers reported texting and driving, which agrees with previous literature. Furthermore, no differences were found in the texting and driving behavior of young drivers of different genders and ages. Drivers, between the age of 18 and 24, that currently text and drive are 2.24 times more likely to have observed their parents texting and driving prior to having their license. Also, young drivers that engage in texting while driving are, 3.8 times more likely to have seen their friends also text and drive. Specifically, young drivers in all three age groups, 18-19, 20-21 and 22-24 are 3.02, 4.11 and 4.0 times more likely to have friends that currently text then those that do not. The influence of peers on texting and driving continue to be a problem.

More studies need to be performed on the influence parents have on their children's texting and driving behaviors. Public awareness campaigns need to be developed that focus on telling parents not to text and drive especially when in the presence of their children.

Introduction

Driving has become the primary means of transportation for many people in the United States due to the significant contributions of many inventors such as Henry Ford. Ford transformed the automobile “from a luxury for the few to a convenience for the many”. His contributions and the advancement in roads and highway infrastructure made the widespread of personal cars possible (Post, 2007). Cars provide a high degree of mobility making it the preferred mode of transportation, despite the potential hazards it can create.

The first recorded vehicular accident that ended in a fatality occurred in Ireland in 1869, when a passenger was thrown from a moving vehicle and was crushed by its wheels. However, it took until 1922 that significant advances in automobile safety were made with the introduction of the hydraulic brake system. In the 1930s vehicular safety awareness continued to increase as new safety options we created and became standard features in cars. For example, in 1930 safety glass became a standard feature in all Ford cars and in 1936 a back-up brake system was developed by Hudson Terraplane. Additionally, General Motors began conducting the first barrier crash tests in 1934 (Crash Test, 2014).

In the subsequent decades more safety features were introduced such as disc brakes, padded dashboards, headrests and three point lap and shoulder seat belts. Also, several organizations were created to further increase safety awareness such as the creation of the World Forum for Harmonization of Vehicle Regulations in 1958. This organization was created to establish international standards and promote the development of vehicle safety. Other organizations established with the same purposes were the Department of Transportation in 1966

and the National Transportation Safety Board in 1967, later on known as National Highway Traffic Safety Administration (NHTSA). Furthering safety awareness, the NHTSA began crash testing popular cars in 1979 and making the results available to the public. (Crash Test, 2014).

Despite the advances that have been made to enhance vehicular safety, motor vehicle accidents remain one of the greatest public safety concerns in the country. According to the National Highway Traffic Safety Administration, in 2010 there were 32,885 people killed in an estimated 5,419,000 police-reported motor vehicle traffic crashes (NHTSA, 2010). Although this is a decrease from previous years, it still means that an average of 90 people per day was killed in motor vehicle traffic crashes in 2010. Some of these accidents could be prevented if people adopt safer driving habits.

In 2011, the NHTSA reported that 3,331 people were killed and 387,000 people were injured in motor vehicle crashes that involved distracted drivers. 385 of those people who were killed and 21,000 of those people who were injured, were involved in crashes where at least one driver was using a cell phone at the time of the crash (NHTSA, 2013a). This suggests that 12% of fatalities and 5% of injuries that were caused by distracted driving could've been avoided if people hadn't use a cell phone while driving. In order to reduce distracted driving, it is important to understand what causes this behavior and how to discourage people from engaging in this activity. This research investigates variables that might influence safe or unsafe driving behavior; specifically those that influence texting while driving among the young, inexperienced drivers.

Literature Review

As cell phone use increases among adults, young adults, and children there is a concern that distracting driving may also increase. This section provides an overview of distracted driving research, including texting while driving research. Environmental and social influences are also discussed. Based on the previous research, two previously unexplored hypotheses are presented. The objective of this thesis is to test these hypotheses.

1. DISTRACTED DRIVING

As technology advances and becomes universal, it becomes indispensable in a person's daily life. In most cases technology has improved the human experience by enriching the way humans connect with one another. The creation of mobile phones is one of those inventions that revolutionized the world. Its beginnings trace back to 1908 when a US patent was granted in Kentucky for a wireless telephone. Although, it wasn't until April of 1973 that Martin Cooper, a Motorola employee, made the first call using a handheld cell phone (uSwitch, 2005).

In 1983, the Federal Communications Commission (FCC) approved the first cell phone for commercial use in the United States, called the Motorola DynaTac (uSwitch, 2005). Thereafter, the cell phone became widely used, making staying in touch more accessible and effortless. Nevertheless, this invention has had some disadvantages especially when used while driving.

Distracted driving is caused by three main types of distractions: visual (taking eyes of the road), manual (taking hands of the wheel), and cognitive (taking mind off of driving) (Benden, Smith, Henry, & Congleton, 2012). Only one of these distractions is needed to increase the risks

of a collision but, most secondary activities while driving involve more than one distraction.

Some activities that provide multiple distractions while driving are: eating, taking to other passengers, using a navigation system, adjusting the radio or using a cell phone. However, using a cell phone behind the wheel is one of these activities that distract the driver visually, manually and cognitively, making this activity one of the most dangerous to engage in while driving. This is especially true when using a cellphone to text while driving (NHTSA, 2013b).

1.1. Talking and Driving

Cell phone usage behind the wheel is deemed to be so dangerous that several states have laws regulating and restricting its use inside a moving vehicle. Talking on a hand-held cell phone while driving is against the law in 12 states and the District of Columbia, and the use of cell phones is restricted for novice drivers in 37 states and the District of Columbia. Moreover, using a cellphone to text while driving is deemed more dangerous by regulators as its banned in 41 states and the District of Columbia and restricted in 6 states for novice drivers (Insurance Institute for Highway Safety, 2013). Despite having regulations in place, people continue to use their cell phone behind the wheel putting themselves and other drivers in danger.

It is estimated that 1.3 million car collisions that occurred in 2008 were attributed to talking on the cell phone and could've been prevented if drivers didn't talk and drive. This risk is especially higher in drivers younger than 30, as they are almost twice as likely (16%) to talk on the cell phone and drive as compared to all drivers combined (7%) (Farmer, Braitman, & Lund, 2010).

Although the risks of cell phone use behind the wheel are difficult to quantify, the National Safety Council issued a report in which it states that there is an under-reporting of cell

phone usage in fatal car crashes. The gap in data collections happens due to a lack of reliable methods to accurately identify the extent of involvement a cell phone played in causing the car to crash, especially when the crash is fatal (The National Safety Council, 2013).

Currently, there isn't a reliable tool that can confirm cell phone usage during the time of a crash, like a breathalyzer does when alcohol is involved. The lack of such tool contributes to under reporting of cellphone use, due to the fact that if they admit to use a cell phone when they crashed, they will appear guilty and would have to take responsibility of the crash. Therefore, the full extents of the risks associated with cell phone usage behind the wheel are likely to be underestimated.

1.2. Texting and Driving

As new methods of communications are developed, new trends become apparent in the population. As cell phones became the primary mode of communication, text messaging also became popular. Text messaging provides a simple method to transmit short messages rapidly with minimal interruption to the person receiving the message, compared to receiving a phone call. This might be the reason text messaging has become the preferred method of communications among teenagers.

In 2010, 75% of 12 to 17 year olds owned cell phones and 54% of those teens reported to text on a daily basis with 50% of teens sending over 50 text messages a day totaling more than 1,500 a month (Lenhart, Ling, Campbell, & Purcell, 2010). As cell phones became necessary, and texting becomes indispensable people become attached to their phone. This attachment produces a need for people to always be connected, despite the risks, compelling people to text and drive.

Almost twice as many adults, aged 18 to 65, reported reading (10 %) rather than sending (6%) texts or e-mails behind the wheel (Tison, 2011). Among a younger population, ages 18 to 30, the figures increase dramatically. In this age group 70% of drivers initiate texts behind the wheel, while 81% reply to texts and 92% read texts behind the wheel (Atchley, Atwood, & Boulton, 2011). Although more people read text messages instead of actually writing or initiating them, all these actions distract the driver visually, cognitively and manually. It was found that young adults who text while drive are at a higher risk of getting traffic citation than those who do not engage in this behavior while driving (Cook & Jones, 2011).

These findings also agree with another study that reports that 74% of young drivers aged 17 to 29 have reported to texting at least a few times per month while driving. Additionally, 10% have reported to accessing the internet while driving, at least a few times per month. It has been suggested that these figures are on the rise as people have more accessibility to devices capable of performing these functions (Cook & Jones, 2011).

Research suggest that males and females drivers in the 17 to 24 age group are equally likely to text while driving, (Madden & Lenhart, 2009; Nemme & White, 2010) even though females have been found to send more text messages in general compared to males (Billieux, Van der Linden, & Rochat, 2008). Furthermore, engaging in texting while driving has been found to decrease driving control by increasing swerving times, incorrect lane changing and average headway time (Hosking, Young, & Regan, 2009).

Text messaging behind the wheel has also been linked with an increased risk of crash or near-crash event by 23.2 times when driving in a heavy vehicle or truck as compared to non-distracted driving. Presenting a serious risk, as a heavy vehicle can cause more damage to people

and property as compared to a smaller vehicle. Texting behind the wheel also is attributed to contribute the longest duration of eyes-off-road time, with drivers not looking at the road for 4.6 seconds over a six-second interval, according to VTTI's research. "This equates to a driver traveling the length of a football field at 55 miles per hour without looking at the roadway" (Box, 2009).

In a controlled experiment where participants 16 to 25 years of age drove in a driving simulator with randomly assigned distraction (talking on cell phone, text messaging or no distraction) established that texting was the most hazardous distraction. During the text messaging task, participants had greater lane deviations and crashes compared to the two other conditions. Talking on a cell phone while driving, as well, had a negative impact on traffic flow. These tasks increased speed fluctuation and the time of completion of any given scenario, subsequently, reducing road safety and increasing adverse effects on traffic operations (Stavrinos et al., 2013).

According to a telephone survey conducted by Princeton Survey Research International, 48% of teens aged 12 to17 have reported to being in a car while the driver was texting. The rate substantially increases to 64% when only looking at 16 and 17 year old teenagers, who are assumed to be of driving age. Though, the survey did not specify the age of the distracted driver or whether it was a parent that was texting and driving. However, another study which used a telephone survey and focus groups in combination, noted an increased frequency in teenagers reporting parental use of a cell phone while driving (Madden & Lenhart, 2009).

Therefore, it is possible that parents are engaging more and more in these activities behind the wheel without realizing that they're impacting their teenagers' safety perceptions. A

study which sampled Australian university students, showed that young adults with a positive attitude towards texting and driving are more likely to text and drive (Nemme & White, 2010). Interestingly, 54% of people who reported sending messages while driving say that their driving is not affected by their cell phone usage. Conversely, of the people that responded that they would answer a call or send a text while driving, 90% reported that they would feel very unsafe if they were a passenger and another driver was engaging in this behavior (Tison, 2011). This type of thinking can easily be transmitted to new drivers creating a cycle of unsafe driving practices.

2. ENVIRONMENTAL & SOCIAL INFLUENCES

Teenagers' safety attitude towards driving is influenced by their own exposure to risky situations while being in a vehicle. High school students with lower grades were found to be at a higher risk of being exposed to unsafe factors while in a car and were also more likely to perceive unsafe behaviors such as smoking while driving, speeding, racing, and text-messaging as less dangerous than students with better grades. Differences in perceiving risk are also varied according to race, sex and location. While 87% of teenagers perceive drinking and driving to be the greatest hazard while driving, only 12% were exposed to it. On the other hand, cell phone use was perceived as a significant hazard by 28% of teenagers but they were exposed to it 57% of the time (Ginsburg et al., 2008).

The correlation between exposure and perception of risk can be explained in part by a desensitization of the teenagers' perceived risks of cell phone use behind the wheel because of an over exposure to the hazard. Even though there is evidence that shows that the risk of cell phone use and driving has not change, more people are engaging in this behavior more making it

sociably acceptable. Even parents are engaging in this behavior worsening the problem, when in reality they can be part of the solution.

2.1 PARENTS' INFLUENCE

Parents have the potential to positively impact their children's driving safety. However research shows that fathers in particular tend to be a stronger role model to male teenagers than mothers. There is evidence to suggest that younger males are more influenced by their father's driving style. While young women, are equally influenced by both parents. Social roles also influence the extent to which a young driver learns driving styles from their parents. For example, a recklessness style of driving is not transmitted by a mother or a careful driving style is not transmitted by a father (Miller & Taubman-Ben-Ari, 2010).

Consequently, fathers may have a bigger influence in driving safety because male teenagers tend to have the largest collision rates compared to female teenagers and other age groups (Shope & Bingham, 2008). Fathers should engage more with their teenagers, especially male teenagers, to instill in them a strong safety attitude toward driving.

A recent study showed that a more positive family climate is attributed to higher conformity to authority, lower susceptibility to peer pressure and greater preference to adopt a careful style of driving. Moreover, a family's non commitment to safe driving was correlated with higher perceived peer pressure (Taubman-Ben-Ari & Katz-Ben-Ami, 2012).

A parent's driving behavior prior to a teenager's licensure may have an impact on their teenager's driving record. That's why is important for a parent to adopt safety behaviors when their children are young in order to influence their safety decisions as much as possible. Research shows that there's a correlation of a parent's driving record of at-fault collisions and other

driving offenses, four years prior to teenager's licensure, and their teenage child's collision risk in their first three years of driving. A teenager's relative risk rises by 32% to 35% when both parents have an at-fault collision as compared to a household where neither parent has an at-fault collision. Furthermore, a father's driving record of moving violations not related to speeding is associated to an increased collision risk for male teenagers, but does not increase collision risk for female teenagers. A mother's driving record of moving violations impact their children's collision risk equally (Wilson, Meckle, Wiggins, & Cooper, 2006).

The influence a parent has on their children can affect all aspects of safe driving. One study found teenagers were more likely to wear their seatbelts if the driver was an adult, presumably a parent, than if the driver was another teenager (Williams, McCartt, & Geary, 2003). A study in Beirut concluded that having a good parent-child relationship, defined as getting along with one's parents, proved to be a good indicator of child's likelihood of wearing a seatbelt (Habib et al., 2010). Increased discussions about safety principles between parents and teenagers have proved to increase the teens' positive attitude toward driving safety (Yang et al., 2013). Hence, the substantial influence of the parents over their teenagers can outweigh the social pressure of their peers to behave in a riskier manner while driving.

When looking at the behavior of teen drivers during the first year of licensure it is evident by looking at Figure 1 that after three months there's a sharp increase of driving time. This is due to the transitioning from supervised to unsupervised driving. As the time behind the wheel increases considerably during the 4th month, their experience does not increase as rapidly. Therefore, their exposure to risks associated with driving increase such as, risky driving behaviors.

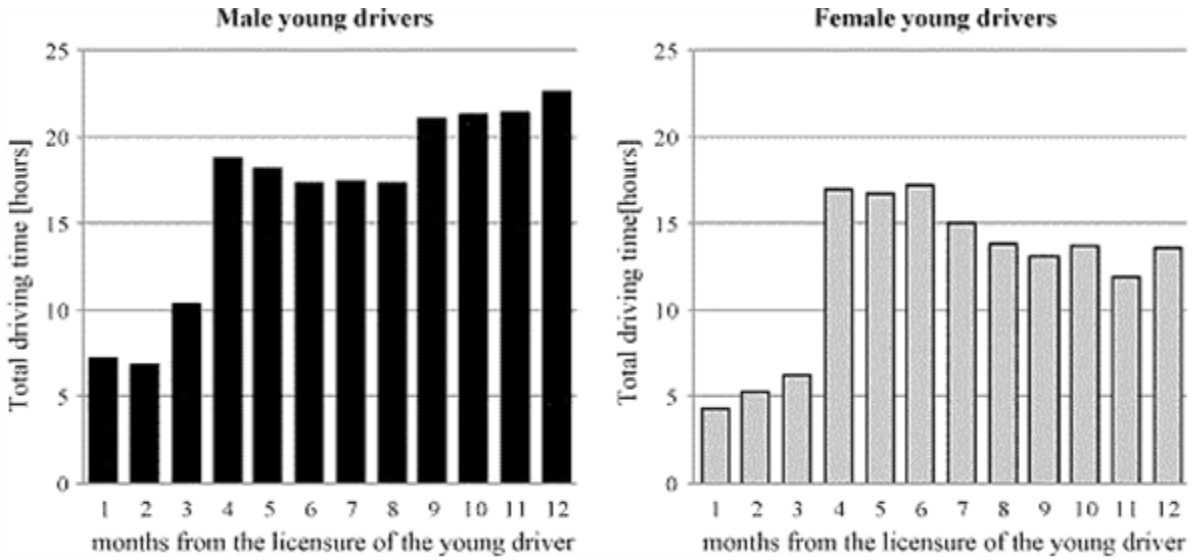


Figure 1: Distribution of total driving time during the first year of licensure in Males and Females according to Prato, Toledo et al 2010.

A connection has been established between higher risk indices in young drivers with parents who have high risk indices as compared to young drivers with parents who have lower risk indices (Prato, Toledo, Lotan, & Taubman - Ben-Ari, 2010). When novice drivers are unsupervised, they may feel more freely to engage in risky activities as talking or texting behind the wheel because they might see other experienced drivers, like their parents, use their cell phones behind the wheel.

2.2 Friends' Influence

Teenagers tend to be more susceptible to peer pressure more than adults. It has been suggested that teenagers tend to engage in risky behavior more when driving with risky friends than in the presence of adult passengers. Crash rates among teen drivers were 96% higher among teenagers driving with risky friends that when in the presence of adult passengers (Simons-Morton et al., 2011). This is particularly true when teens are driving in the presence of teenage male passengers (Ouimet et al., 2010). It has also been reported that teenagers driving with peers

tend to speed more often and make more errors when driving compared to teenagers that drive without passengers (Williams, Ferguson, & McCartt, 2007).

2.3 Environmental Influence

Other factors that cannot be controlled by a young driver, such a socioeconomic status can also impact a safety attitude. For example, a student's socioeconomic status (SES), as measured by a student's eligibility to receive free lunch, was shown to be negatively associated with teenagers' seat belt use, especially on Fridays (Kim, Depue, Spence, & Reine, 2009). This study confirmed what was found previously (McCartt & Northrup, 2004), teenagers have a lower seat belt use on the weekends. This can be related to the increased death rates of teenagers on the weekends. Reckless behavior, such as this, could also be associated with other unsafe behaviors such as texting and driving.

3. Research Objectives

As shown through the literature, young drivers tend to be influenced by many factors increasing the risk of accidents and near misses. Factors that can influence teenager driving behavior include family influences, social pressures, and distractions. Parents can play a pivotal role in educating their teenagers in adopting safer driving habits by modifying their own behavior in front of them. Furthermore, friends can also influence each other's behavior behind the wheel and have a potential to create a safer environment behind the wheel.

In the present literature, most of the research is focused on cell phone usage behind the wheel, but there is limited research in regards to texting behind the wheel. Particularly, there is little research that addresses whether or not young drivers model their texting and driving

behavior after those who seem to influence them in other ways. Considering that texting has become a mayor method of communication amongst the younger population it's important to understand what motivates young drivers to text, despite the obvious risk associated with this behavior.

The current study aims to analyze texting habits of novice drivers, specifically young adults, to investigate their behavior and attitude towards safety while driving and the social factors that might influence their behavior. This study will provide a better understanding of texting behavior behind the wheel and the extent this behavior is influenced by social influences, such as parents and friends. Exploring the extent of social influences on young drivers texting behavior while driving can be used to develop a more effective safety awareness programs to reduce texting behind the wheel which in turn will reduce accidents on the road due to texting.

Specifically the research questions attempted to be answered are:

1) To what extent do parents influence a young driver's driving and texting behavior and attitude?

2) To what extent do close friends influence a young driver's texting and driving behavior and attitude?

4. HYPOTHESES

According to evidence gathered from the literature, it is hypothesized that young driver's texting and driving behavior will be influenced by their parents' texting behavior.

It is hypothesized that:

- If young drivers see their parents texting and driving they will be more likely to text and drive, even if their parents tell them not to text and drive, compared to parents who don't text and drive in front of their children.

- If young drivers have close friends that text and drive, they will be more likely to text and drive, despite the risks, compared to young drivers who don't have close friends that text and drive.

Methods

An anonymous online survey was utilized to collect data for this study. The survey was created using Google forms and was distributed via Facebook. Facebook was used as a medium to recruit participants as it was assumed that it was highly used website by the target population therefore it should provide a good representative sample of the target population. The population targeted was young people, ages 18-24 that had a valid driver's license or driver's permit. The study was approved by the University at Buffalo, Social & Behavioral Sciences Institutional Review Board (SBSIRB). The informed consent, survey and other documents approved by the SBSIRB are in Appendix A.

1. RECRUITMENT

The participants were recruited from Facebook users who were able to see the posting on Steven's Driving School Facebook, a driving school founded in 1940 that serves Erie and Niagara county Page, or see the Facebook advertisement. A posting was created on the Steven's Driving front page that shared the survey's link. The post was accessible to be seen by all the users that have "liked" Steven's Driving School Facebook, refer to Figure 1.

Additionally, the posting was also featured as an advertisement, created specifically to target people who were 18-24 years old within 25 miles of Buffalo, NY. By making the post into an advertisement, it was possible to reach people outside Steven's Driving School audience. This advertisement was visible by the specified Facebook users on their news feed. The news feed is the main page that the users see as soon as they log on to Facebook.

Upon seeing the posting, interested participants had to click on the announcement to identify themselves as a potential research participant. No personal identifiable information was collected therefore their identity remained anonymous. Furthermore, since interested participants can access Facebook freely from anywhere, they were able to choose to view the announcement as privately as they wish.

Figure 2: Facebook posting

2. Data Collection

The Facebook post and advertisement were originally supposed to run for two weeks. It was assumed that this was enough time to collect four hundred responses. It was believed that four hundred responses would provide enough data to provide reasonable study power, and given budget constraints. However, 415 responses were collected on the first day that the survey was posted. The survey was closed at the end of the first day.

Ten duplicate responses were identified in the initial data set. Duplicate responses were defined as a response in which every answer was exactly the same as another response, and were believed to originate from the same individual. Therefore, the survey "was reopened" and additional responses were collected the next day. The survey was finally closed at the end of the second day with a total of 441 responses.

2.1 SURVEY

An on line survey was chosen because it was inexpensive and quick tool to gather the needed data. Also, it reduced data entry error because the answers were being automatically recorded as the participants submitted their responses. The survey was composed of 21 questions, with 3 questions having multiple parts, bringing the total to 29 separate questions. Most of the questions on the survey were multiple choice questions and a few questions were based on a 5 or 7 point likert scale. The full survey is given in Appendix A. Approximately 5-10 minutes was required to complete the survey.

The first page of the survey was the consent form. It had information regarding the content of the survey, confidentiality measures and compensation information. The consent form and the survey were only administered in English, as it was anticipated that all participants were able to understand and read in English. Subsequently, consent was granted by checking the box at the bottom that said,

> "I have read and understand the above consent form, I certify that I am 18 years old or older and, by checking the box "I Agree" and clicking on the Continue button, I indicate my willingness voluntarily take part in the study."

Next, the survey contained questions about respondents' thoughts and behavior towards texting and driving. It also contained items that asked questions about their parents' and friends' behavior toward texting and driving. These questions were developed and guided by findings of existing literature. Due to the fact that texting and driving is illegal in New York State, the participants were told that they did not have to answer any questions that they felt uncomfortable answering. Furthermore, they were informed that their responses would be kept confidential and their identity would remain anonymous.

Once the survey was fully developed, there were several trial runs performed to confirm that the survey was working and the responses were being recorded properly. Once the survey was working properly, a link was added to the "Thank You" page that linked the survey to a separate website that collected their emails for compensation.

2.2 COMPENSATION

In order to keep each participant's identity anonymous, name, phone number and addresses were not collected. The only identifying information collected was the email address, which was required for compensation purposes only. The email addresses were collected in a separate secure website to ensure that email addresses could not be linked to the survey data. Data were collected in such manner that, not even the person collecting the data, would be able to associate the responses with the identity of the person providing it.

The participants had the option to be paid a $5 eGift card from Starbucks, Dunkin' Donuts, Panera Bread or Amazon. Once the participant filled out the survey, they were directed to a "Thank You" page that provided them a link to a separate independent compensation website. The "Thank You" page also informed the participants that they would receive their

payment in 5 business days after completing the survey. After clicking the link, the participants were able to select their eGift card and provide their email. Once the participants had submitted this information, their compensation choice and email would be stored in a secure database provided through Amazon Web Services (AWS). After all the emails were collected, the participants were paid according to their preference.

3. DATA ANALYSIS

The email addresses were extracted from AWS and saved on a local Excel spreadsheet. Additionally, Facebook also collect statistical data that include number of people that saw the post, number of people that clicked on the post and the number of people that actually clicked on the link.

The survey responses were automatically stored on an Excel spreadsheet on Google Drive. These responses were then moved to a local spreadsheet, coded and exported to SPSS for further analysis. The key code for the variables can be seen in Appendix B. In SPSS, the data was analyzed descriptively, for frequency counts and to see trends in data. The data set was then divided by whether or not they had a current driver's license and by parent and friend texting and driving behavior to see if there were patterns in respondents' texting and driving behavior. The raw data output can be seen in Appendix B.

The data set was also coded into different age categories based on the texting and driving law timeline. Group ages 22-24 was assumed to be made up of a majority of drivers that obtained

their license before a texting and driving law was passed[1]. Group ages 20-21 was assumed to be made up of a majority of drivers that obtained their license after a texting and driving law was passed, but before it was made a primary law. Group ages 18-19 was assumed to be made up of a majority of drivers that obtained their license after the texting and driving law became primary.

In order to analyze if these variables influence young driver's texting and driving behaviors, Chi Square tests and Spearman's rank correlation analysis were performed to detect statistical significance. P-Values of 0.05 were used to identify statistically significant associations between variables. Additionally, odds ratios were calculated to quantify how strongly these variables affected young driver's texting and driving behavior.

[1] In 2009 a person could only be stopped for texting and driving, only if they were doing something else wrong. A person couldn't be stopped for texting alone. In 2013, texting and driving became a primary law and a person could get stopped for this offense alone.

Results

Facebook statistics estimates that 14,048 unique Facebook users were reached through the Facebook post and advertisement. This figure includes users that were able to see the post through Steven's Driving Facebook page, including users who could have seen it on their newsfeed as a result of a friend liking, commenting or sharing the post (2,056), and users that might have seen the post through an advertisement on their newsfeed (11,992). Exact figures of the Facebook users that were eligible for the survey based on age are unknown, as the post was partially advertised to users outside the desired demographic. Likewise, the number of Facebook users who were eligible based on whether they currently held a valid driver's license or permit was also unknown. However, the post and advertisement received a total of 897 clicks (6.4% of possible users reached).

Overall, 441 responses were obtained in a two day period (approximately 20 hours combined). Duplicate responses (10), participants not in the 18-24 age group (22) and participants that responded that they did not have a valid permit or driver's license (2) were deleted. Duplicate responses were defined as a response in which every answer was exactly the same as another response. A total of 34 responses were deleted and were not part of the analysis, 407 responses were analyzed.

1. POPULATION

The sample was composed of 298 women and 109 men. The mean age (S.d) was 20.7 (1.85) years. The age distribution was almost the same between females and males (mean ages 20.6 and 20.8, respectively). There was no significant difference in age or gender associated with

hours driven in a week. 59.5% of the respondents reported their current level of education to be "some college", followed by 25.1% reporting to be college graduates, 11.1% to be high school graduates, and lastly 4.4% reported their current level of education to be "some high school".

In the sample population, 90.7% (n=369) of the respondents reported to currently have a valid driver's license and 9.3% (n=38) reported to only have a driver's permit. There was a significant difference in the distribution of hours driven per week between respondents that currently have a driver's license as opposed to those who only have a driver's permit (χ^2 = 74.067, df = 3, p= 0.000). Many respondents with a driver's license reported driving more than five hours per week (40.9%), while almost all of respondents with a driver's permit reported to drive less than one hour a week (47.4%).

Given that only 38 participants reported to have a driver's permit out of a sample of 407 respondents, and almost half drove less than an hour (47.4%), those responses were omitted from the primary analysis regarding driving behavior. However, this population is described separately. Table 1 summarizes the respondent's driving frequency.

Table 1: Duration of hours driven per week based on status of driver's license

	Hours driven per week				Total
	< 1hour	1-3 hours	3-5 hours	> 5 hours	
Driver's License	6.0%	24.7%	28.5%	40.9%	369
Driver's Permit	47.4%	31.6%	2.6%	18.4%	38
Total	9.8%	25.3%	26.0%	38.8%	407

Subsequently, driving tendencies of driver's license holders were analyzed (n=369). Considering respondents were not obligated to answer every question, subsequent analyses differ in number of respondents reported. There is a significant difference between driver's license duration and frequency driven a week (χ^2 = 24.744, df=9, p=0.003). The respondents with the

most experience reported driving more during the week. Table 2 shows the duration, in hours, participants drove during the week based on how long they've had their driver's license.

Table 2: Duration of hours driven per week based on when license was obtained

Amount of time with driver's license	Hours driven per week				Total
	< 1hour	1-3 hours	3-5 hours	> 5 hours	
< 3 months	40.0%	20.0%	20.0%	20.0%	5
3 months to a year	15.2%	24.2%	27.3%	33.3%	33
1 year to 2 years	9.4%	25.9%	29.4%	35.3%	85
> 3 years	2.4%	24.5%	28.6%	44.5%	245
Total	5.7%	24.7%	28.5%	41.0%	368

2. DRIVING BEHAVIORS OF THOSE WITH DRIVER'S PERMIT

As previously mentioned, 38 participants reported to have a driver's permit. This subset was similarly composed of females (n=27) and males (n=11) compared to the total population (71.0%, 29.0% respectively). However, this population was slightly younger with a mean age of 19.21 and standard deviation of 1.49.

In this subgroup, 94.7% of respondents reported to never texting and driving (n=36), with 57.9% reporting that they ignore incoming text messages (n=22) and 34.2% reporting they have someone else answer for them (n=13). Only two respondents reported to text at a stop or red light. Contrastingly, these respondents reported that 47.4% of their close friends and 63.2% of their parents text and drive (n=24). At least 10 respondents reported that at least one parent texts and drives and 4 respondents reported that both parents texts and drive.

3. DRIVING BEHAVIORS OF THOSE WITH DRIVER'S LICENSE

A great majority of respondents with a valid driver's license, reported to texting behind the wheel, compared to respondents that reported never texting and driving (81.3%, 18.7% respectively). There were no significant differences observed between males and females (χ^2 = 4.416, df=4, p=0.35), nor were there differences by age (χ^2 = 28.639, df=24, p=0.23) in texting frequency while driving. The prevalence of texting frequency of those with driver's license is summarized in Table 3 below.

Table 3: Driver's prevalence of texting and driving

Texting Prevalence	Frequency	Percent	Cumulative Percent
Never	69	18.7	18.7
Less than once per week	84	22.8	41.5
Less than once per day	113	30.6	72.1
More than once per day	103	27.9	100
Total	369	100.0	

Among those who admitted to texting and driving, 88.9% reported to texting while keeping one hand on the wheel, 6.8% reported to texting while keeping both hands on the wheel and only 4.1% reported to texting with both hands. Additionally, there was a moderate association between a young driver's response to an incoming text message and hand texting style (r =0.49, p=0.00), with those who response quickly to be more likely to text with two hands while driving. Respondents who don't usually text and drive are more likely to ignore an incoming text message (54.4%), than those who text and drive. As described in Table 4, the data suggest that out of the respondents that admitted to texting behind the wheel, 86.4% reported to wait until a stop light or red light to respond to an incoming text message and text with one hand on the wheel.

Table 4: Mannerisms of texting and response to incoming text message

Hand Texting Style	Response to an incoming text message				Total
	Ignore it	Have someone else answer	Wait until a stop light/red light	Reply right away	
N/A	52.4%	35.2%	5.6%	0.0%	20.1%
Keep both hands on the wheel	4.9%	7.4%	4.7%	5.3%	5.2%
Keep one hand on the wheel	40.2%	57.4%	86.4%	78.9%	71.5%
Text with both hands	2.4%	0.0%	3.3%	15.8%	3.3%
Total	82	54	213	19	368

Furthermore, 93.3% respondents who admitted to texting and driving reported to texting at stop signs or red lights (n=279). This was followed by 65.3% reporting to texting on empty roads (n=195), and 29.8% reporting to texting while in traffic (n=89). Other places participants reported to texting were busy roads (12.7%), and highways or expressways (21.4%). Table 5 has the summary of the results.

Table 5: Texting frequency by location (n=299)

Location	Responses		Percent of Cases
	N	Percent	
Empty Roads	195	29.3%	65.2%
Busy Roads	38	5.7%	12.7%
Traffic	89	13.4%	29.8%
High/Express way	64	9.6%	21.4%
Stop signs/ red lights	279	42.0%	93.3%
Total	665	100.0%	222.4%

4. YOUNG DRIVERS' THOUGHTS ON TEXTING AND DRIVING

77.0 % of young drivers reported not knowing anyone who has been in a car crash due to texting and driving (n=284), 11.9% reported knowing someone being a victim (n=44), and 11.1% reported knowing someone that caused an accident related to texting and driving (n=41). Furthermore, 77.5% of respondents feel unsafe when in a car where the driver is texting, 16.8 % don't care and 2.4% feel safe. Table 6 shows young driver's perceptions on texting and driving.

The highest percentages per statement are in red. While many respondents reorganize the risks of texting and driving, many continue to text and drive.

Table 6: Young driver's thoughts about texting and driving

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Reading text messages while driving is dangerous (n=369)	3.3%	2.4%	5.7%	4.9%	18.2%	31.2%	34.4%
Replying to text messages while driving is dangerous (n=368)	3.8%	1.6%	2.4%	4.1%	12.0%	25.0%	51.1%
Initiating text messages while driving is dangerous (n=366)	3.6%	1.6%	1.9%	4.1%	10.1%	27.3%	51.4%
Since I am a skilled driver, I can text and drive safely (n= 369)	31.2%	24.4%	10.8%	13.3%	8.1%	6.5%	5.7%
I worry about being hit by a driver who is texting (n= 367)	6.3%	8.2%	5.7%	15.5%	14.2%	20.4%	29.7%
Texting and driving should be illegal (n=369)	5.7%	3.3%	5.7%	14.1%	11.1%	19.5%	40.7%

5. Parents' Influence on Young Driver's Texting Behavior

According to the respondents, 90.0% of the respondent's parents had previously told them not to text and drive, yet only 70.7% of the respondents reported never observing their parents texting and driving before obtaining their driver's license. The parents' texting prevalence, as observed by the respondents prior to obtaining their driver license is summarized in Table 7.

Table 7: Parents' prevalence of texting and driving, as observed by respondents prior to licensure

Texting Prevalence	Frequency	Percent	Cumulative Percent
Never	261	70.7	70.7
Less than once a week	48	13.0	83.7
Less than once a day	33	8.9	92.7
More than once a day	27	7.3	100.0
Total	369	100.0	

5.1 Parental Influence Prior to License

There was a trend in a young driver's current texting and driving behavior and the frequency they observed their parents text and drive prior to getting their driver's license that almost reached statistical significance ($\chi^2 = 5.313$, df=2, p=0.07). Figure 3 shows the trend that as young drivers observe their parents text and drive with more frequency before they get their license, the more likely they are to text and drive after getting their license.

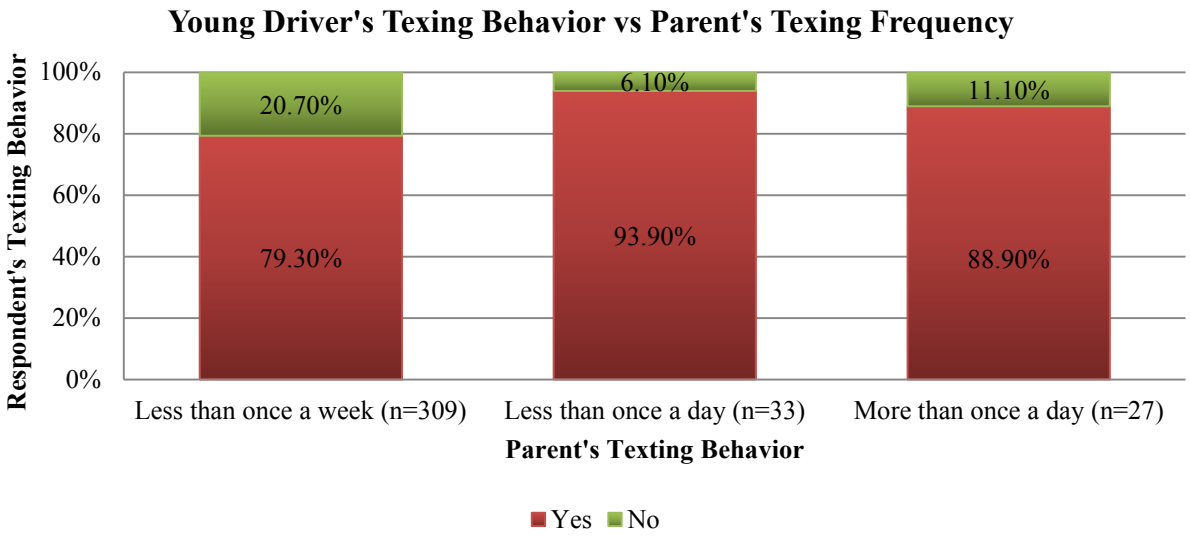


Figure 3: Young driver's texting and driving behavior compared with parents' texting and driving Frequency, as observed by respondents prior to getting their license (n=369)

Furthermore, a strong statistical difference was also detected when comparing the texting and driving behavior of young drivers with whether they ever observed their parents texting and driving before obtaining their license ($\chi^2 = 5.783$, df=1, p=0.01). The corresponding OR is 2.24 [95% CI: 1.6-16.3].

Parents' texting behavior also affects young drivers differently based on age. A significant difference was observed in the 18-19 age group ($\chi^2 = 7.511$, df=1, p=0.00). As shown in Figure 4, there is a positive association regarding the respondents driving behavior and the

parents' behavior as observed by the respondents before obtaining their license (r =0.27, p=0.00). For example, 90.9% of respondents that observed their parents texting while driving, before obtaining their license, presently text and drive. Conversely, 68.3% of respondents that observed their parents texting while driving, before obtaining their license, presently text and drive. The corresponding OR is 4.63 [95% CI: 1.4-14.8].

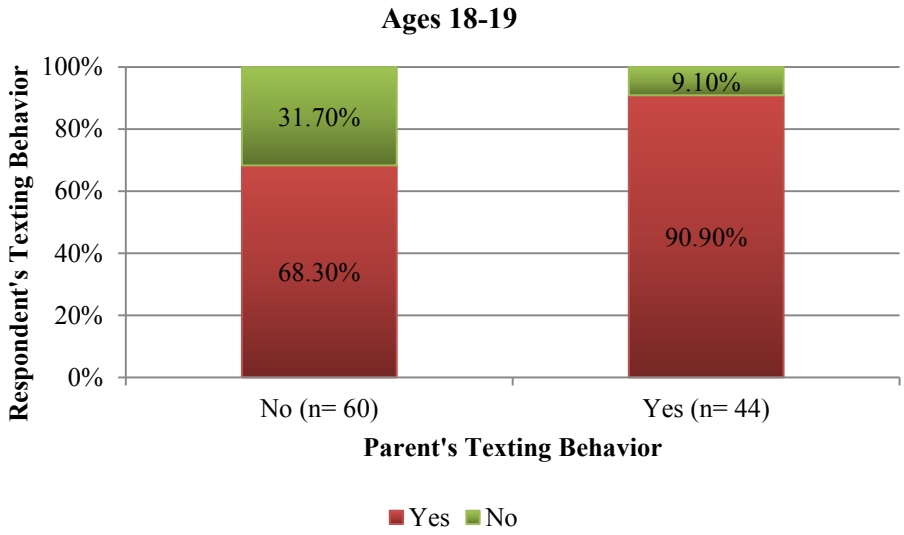


Figure 4: Young drivers texting and driving behavior compared with parents' texting and driving behavior as observed by respondents prior to getting their license (n=104)

5.2 Parental Influence After License

Based on the data gathered, parental texting and driving behavior also has an effect on young drivers, even after they obtain their license. There was a statistical significant difference observed in the young driver's texting and driving behavior compared to their parents' observed current texting and driving behavior (χ^2 = 6.044, df=1, p=0.00), the respective OR is 2.15 [95% CI: 1.16-3.98]. Figure 5 shows the young driver's texting and driving behavior compared with parents' current texting and driving behavior.

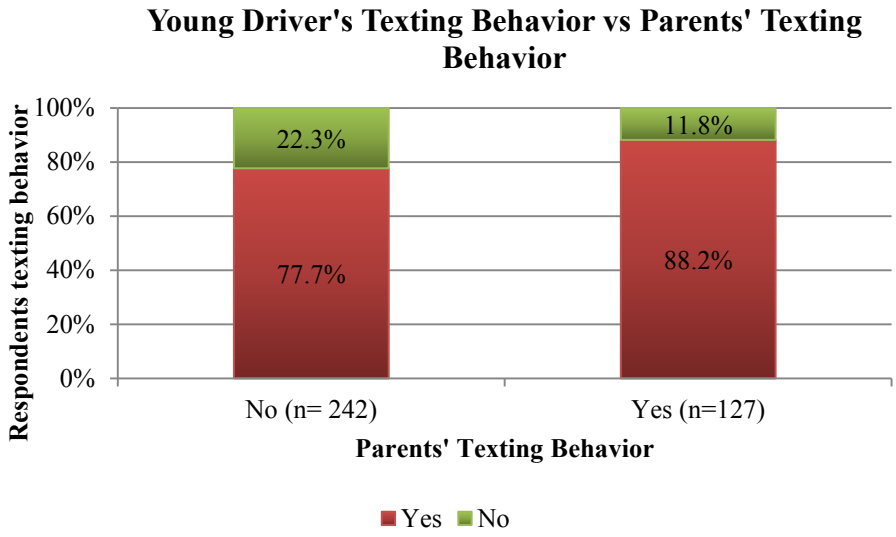


Figure 5: Young driver's texting and driving behavior compared with parents' texting and driving behavior as observed by respondents (n=369)

As shown previously, 65.6 % of the respondent's parents currently do not text and drive (n=242), 23.1% have at least one parent that drives (n=85) and 11.4 % reported that both parents text and drive (n=42). Although only 34.4% of parents text and drive, a significant difference was observed in the number of parents currently observed texting and driving compared to the frequency of young drivers who text and drive ($\chi^2 = 11.902$, df=4, p=0.01). Young drivers who texts more frequently in a week are more likely to observe at least one or more parents who texts and drives. See Figure 6.

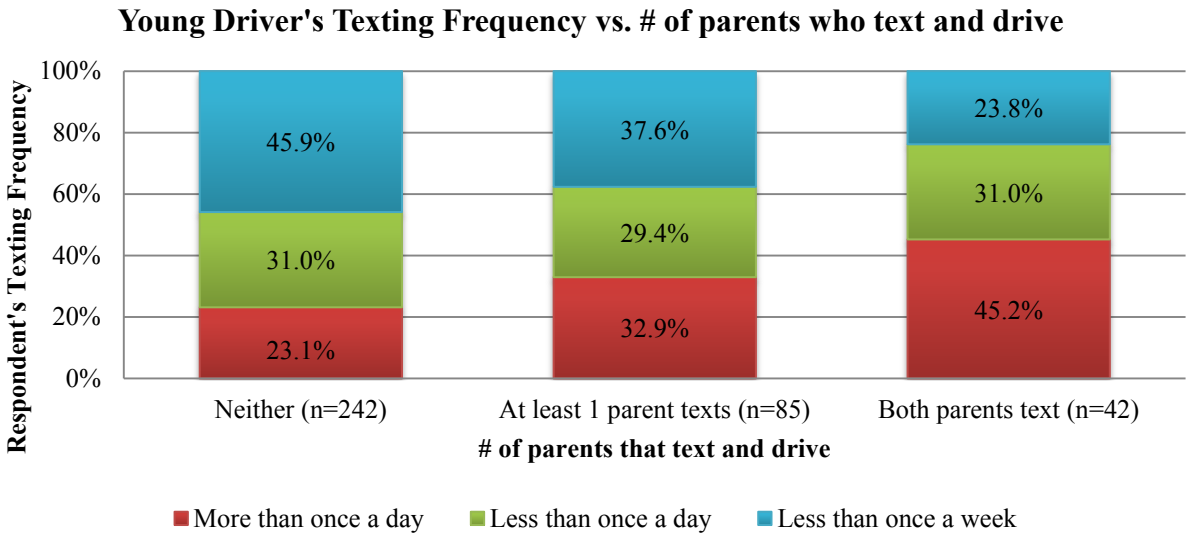


Figure 6: Young driver's texting and driving behavior compared with parents' current texting behavior (n=369)

Parents' texting behavior also affects young drivers differently based on age. A significant difference was observed in the 18-19 age group ($\chi^2 = 8.624$, df=1, p=0.00). As shown in Figure 7, there is a positive association regarding the respondents driving behavior and the parents' behavior as observed by the respondents before obtaining their license (r =0.29, p=0.00). For example, 91.3% of respondents that observed their parents texting while driving, presently text and drive. Conversely, 67.2% of respondents that observed their parents texting while driving, presently text and drive. The corresponding OR is 5.12 [95% CI: 1.6-16.4].

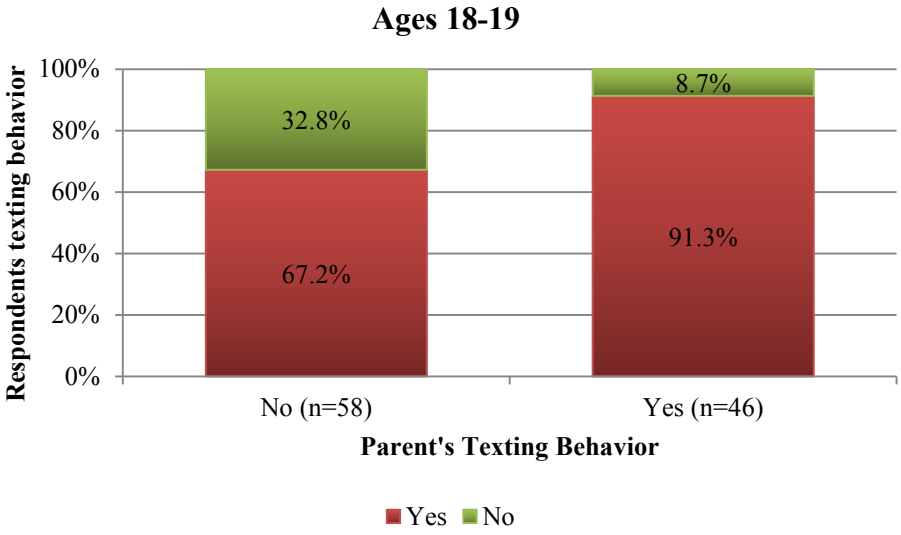


Figure 7: Young driver's texting and driving behavior compared with parents' texting and driving behavior as observed by respondents (n=104)

6. Friends' Influence on Young Drivers' Texting Behavior

According to the respondents (n=367), only 19.0% reported that their close friends have never text and drive. As compared to 80.5% of the respondents that reported their close friends currently text and drive. However, the close friend's texting prevalence, as observed by the respondents prior to obtaining their driver license is summarized in Table 8.

Table 8: Friend's prevalence of texting and driving, as observed by respondents, prior to licensure (n=368)

Texting Prevalence	Frequency	Percent	Cumulative Percent
Never	105	28.5	28.5
Less than once a week	77	20.9	49.5
Less than once a day	110	29.9	79.3
More than once a day	76	20.7	100.0
Total	368	100.0	

6.1 Friends' Influence Prior to License

A statistical significance was detected between a young driver's texting and driving frequency and the frequency they observed their friends text and drive prior to getting their driver's license ($\chi^2 = 16.136$, df=4, p=0.00). Figure 8 shows the positive association observed that suggests that as young drivers observe their friends text and drive with more frequency, before they get their license, the more frequent they will text and drive after getting their license.

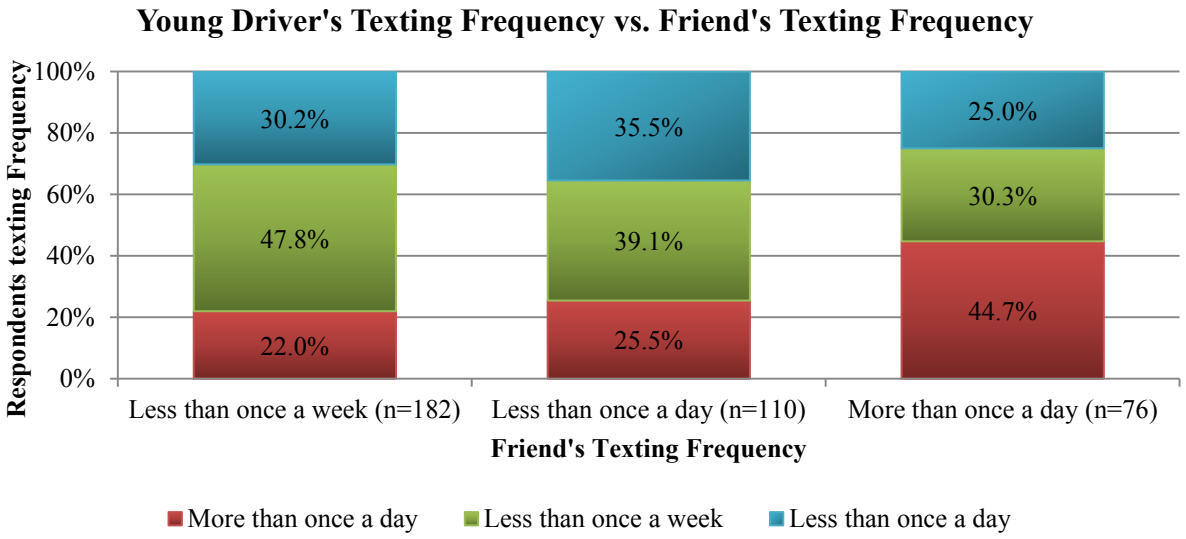


Figure 8: Young driver's texting and driving behavior compared with friend's texting behavior, as observed by respondents prior to getting their license (n= 368)

Friends' texting behavior also affects young drivers differently based on age. A significant difference was observed in the 18-19 age group ($\chi^2 = 4.170$, df=1, p=0.04). As shown in Figure 9, there is a positive association regarding the respondents driving behavior and the friends' behavior as observed by the respondents before obtaining their license (r =0.20, p=0.04). For example, 81.4% of respondents that observed their friends texting while driving, before obtaining their license, presently text and drive. Conversely, 58.8% of respondents that didn't observed their friends texting while driving, before obtaining their license, presently text and drive. The corresponding OR is 3.06 [95% CI: 1.0-9.3].

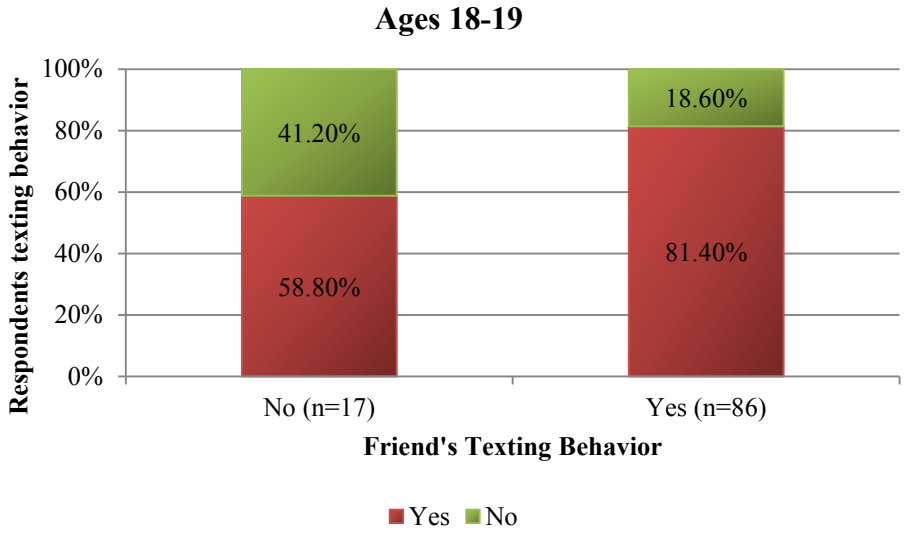


Figure 9: Young drivers texting and driving behavior compared with friend's texting and driving behavior as observed by respondents prior to getting their license (n=103)

6.2 Friends' Influence After License

Close friends' texting and driving behavior also has an effect on young drivers, even after they obtain their license. There was a statistical significant difference observed in the young driver's texting and driving behavior compared to their friend's observed current texting and driving behavior ($\chi^2 = 6.044$, df=1, p=0.00), the OR is 3.8 [95% CI: 2.1-6.8]. Figure 10 shows the young driver's texting and driving behavior compared with their friends' current texting and driving behavior.

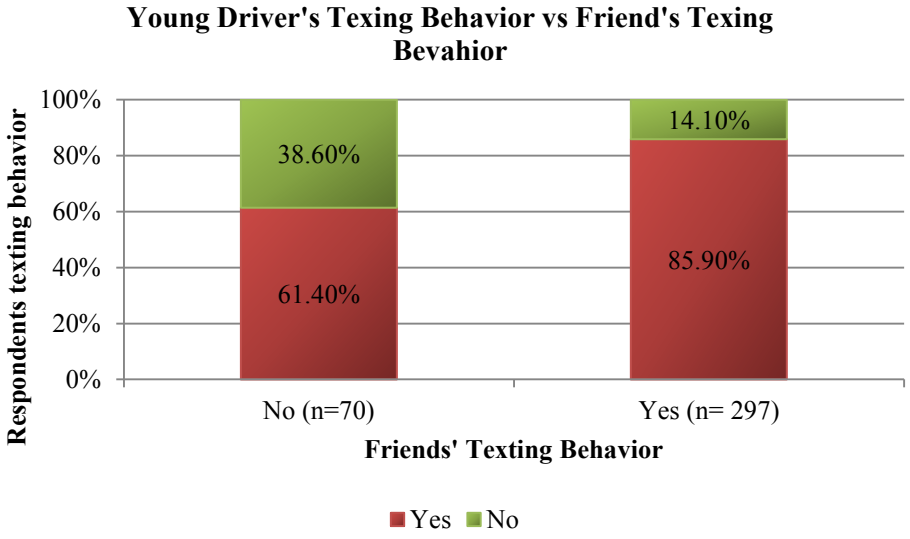
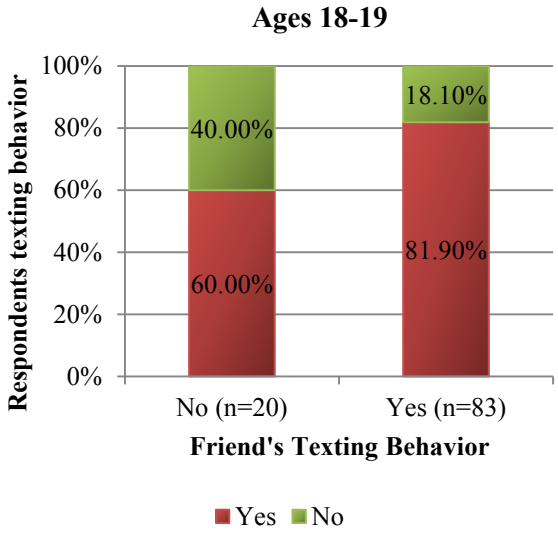
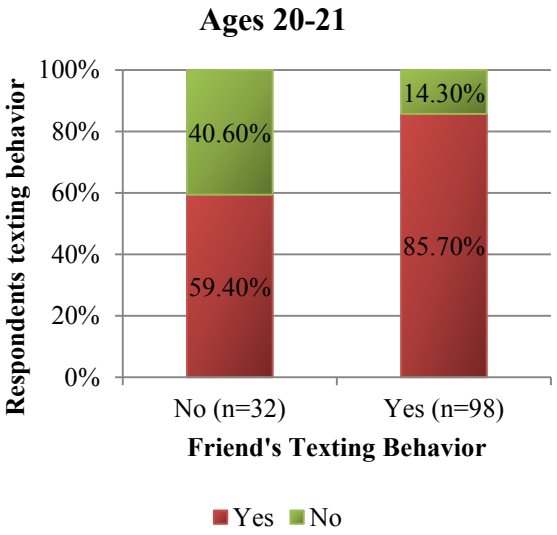


Figure 10: Young driver's texting and driving behavior compared with friends' texting and driving behavior as observed by respondents (n=367)

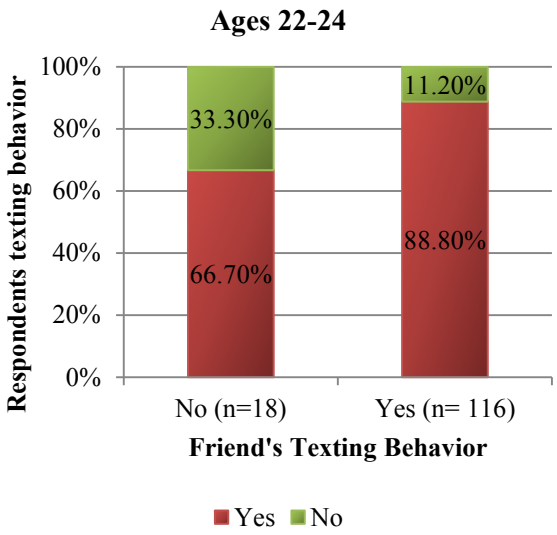
Friends' texting behavior also affects young drivers differently based on age. A significant difference was observed in all the three age groups, 18-19 age group ($\chi^2 = 4.468$, df=1, p=0.03), 20-21 age group ($\chi^2 = 10.170$, df=1, p=0.00) and 22-24 age group ($\chi^2 = 6.269$, df=1, p=0.02). As shown in Figure 11, there is a positive association regarding the respondents driving behavior and the friends' behavior as currently observed by the respondents, for all age groups. The corresponding ORs for ages 18-19, ages 20-21 and ages 22-24 are 3.02 [95% CI: 1.1-8.7], 4.11 [95% CI: 1.7-10.1] and 4.0 [95% CI: 1.3-12.4] respectively.



(a) Young adults aged 18-19 (n=103)



(b) Young adults aged 20-21 (n=130)



(c) Young adults aged 22-24

Figure 11: Young driver's texting and driving behavior compared with friend's texting and driving behavior as observed by respondents

Discussion

It is evident that young drivers are aware of the dangers of texting and driving, as over 80% of the respondents agreed that reading, replying or initiating text messages while driving is dangerous, and 77.5% of the respondents reported to feeling unsafe when in a car where the driver is texting. However, young drivers continue to engage in this risky behavior at alarming rates, as 81.3 % of young drivers reported to text behind the wheel. These figures were similar to previous findings (Atchley et al., 2011). The results also showed that males and females aged 18-24 are equally likely to text and drive, which supports previous studies (Madden & Lenhart, 2009; Nemme & White, 2010).

Similarly, age didn't appear to influence the texting and driving behaviors of young drivers. All of the respondents were similarly likely to text and drive, despite the younger respondents obtaining their license after the law was adjusted in 2009 to include texting and driving as a moving violation and an adjustment to the law in 2011 to make texting and driving a primary offense. These results may suggest that the addition to the law hasn't been an effective way to reduce texting and driving.

The results also may suggest that young drivers who are more likely to text and drive also are more likely to engage in risker behavior while driving. It was found that respondents who are more likely to reply right away to a text message are more likely to let go of the wheel and text with both hands, as compared to respondents that are more likely to ignore or have someone else answer an incoming message. These respondents are more likely to keep both hands on the wheel, while texting, or text with one hand while driving.

One of the reasons why texting has rapidly increased in the past years is the increased accessibility to smartphones. In 2009 only 18% of people owned smartphones, whereas in 2011 that number was up to 44%, more than doubling (Neilsen Company, 2011). It is probable that by now this number is higher, especially within the younger demographics. This increased accessibility to smartphones makes it more likely for people to be tempted to text and drive, which is especially concerning in young novice drivers. However, social influences can play a role in influencing young drivers to adopt safer driving habits.

1. PARENTS' IMPACT

One of the objectives of this study is to explore the extend parents' influence a young adult's driving and texting behavior and attitude. It was hypothesized that if young drivers see their parents texting and driving they will be more likely to text and drive, even if their parents tell them not to text and drive, compared to parents who don't text and drive in front of their children. There is evidence that may suggest that parents have an impact on their children texting habits just by texting and driving in front of their children.

Even though 90% of the respondents reported that their parents had previously told them not to text and drive, only 70.7 % of the respondent's parents, as observed by the respondents, never were seen to text and drive. Therefore these figures indicate that there are at least 20% of parents that tell their children not to text and drive but do so in front of them; giving the young drivers mix messages.

Parents' texting and driving behavior before their children get their license may be just as important as their behavior after their children have their license. The results indicate that respondents who text and drive more frequently are more likely to have multiple parents that

text. The results show that just by respondents observing their parents text at any frequency, they are more likely to text and drive after obtaining their license. Drivers, between the age of 18 and 24, that currently text and drive are 2.24 times more likely to have observed their parents texting and driving prior to having their license. Additionally these young drivers, that text and drive, are 2.15 times more likely to currently have observed their parents text and drive.

The odds of observing parents who text and drive, prior to obtaining their license, significantly were increased among the respondents who text and drive among the 18-19 age group. These respondents are 4.63 times more likely to have observed their parents text, prior to obtaining their license and 5.12 times more likely to have parents who currently text and drive. It is noted that these odds ratios might be somewhat overestimated due to response bias, as responders who text are more likely to notice their parents' texting and driving behaviors.

2. FRIENDS' IMPACT

The other objective of this study was to explore the extend friends influence young driver's driving and texting behavior and attitude. It was hypothesized that if young drivers see their friends texting and driving they will be more likely to text and drive, compared to young drivers that have friends who don't text and drive. Younger adults are more likely to be influenced by their friends since they spend a great amount of time together. It is possible that if young adults that are starting to drive and see their friends are texting and driving it makes it acceptable for them to do the same. Results from this study suggest a relationship may be apparent.

The results show that young drivers that currently text and drive more frequently, are more likely to have seen their friends texting and driving more frequently before they obtained

their driver's license. This relation is apparent, as well, when young drivers observe their friends currently text and drive. Young drivers who engage in texting while driving are 3.8 times more likely to have observed friends texting and driving.

The relationship between young drivers observing their friends texting and driving prior to getting their license is found in the younger group as well. Young drivers, between 18 and 19 years old, who engage in texting while driving are 3.1 times more likely have observed their friends text and drive, prior to getting their license. This relationship is more apparent between young drivers that currently have friends that text and drive. Young drivers in all three age groups, 18-19, 20-21 and 22-24 are 3.02, 4.11 and 4.0 times more likely to have friends that currently text and drive, respectively. This suggests that young drivers are observing their friends texting and driving with more frequency, and this may influence them to text and drive. Young drivers might see this behavior as socially acceptable because they see it so often.

3. FUTURE RESEARCH

More research needs to be done to fully understand the influence parents have on their children regarding texting and driving behaviors. This relationship could be quantified by creating logistic regression models that take into account other influences, such as friends and analyzing the combined effects. Also, longitudinal studies could be conducted to reduce the likelihood of respondent recall bias.

Texting and driving has become an epidemic that has decreased road safety. More studies need to be performed on the influence parents have on their children's texting and driving behaviors. Currently, there are texting and driving campaigns that focus on friends, or on the consequences of texting and driving but non focus on the parents'. It's important to have

campaigns that focus on telling parents not to text and drive. As this study shows children that see that their parents are texting and driving, even prior to getting their license, are more likely to text and drive.

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Appendix A

Texting and Driving Behavior Survey

UNIVERSITY AT BUFFALO, STATE UNIVERSITY OF NEW YORK
Informed Consent Document

This consent form explains the research study. Please read it carefully. Ask questions about anything you do not understand. If you do not have questions right now, you should ask them later if any come up.

This research study is intended for adult participants who are 18 years of age and over and have a valid driver's license or permit. If you are not yet 18 or do not have a driver's license or permit, please do not participate in this study.

You may only take this survey once

FOR QUESTIONS ABOUT THIS RESEARCH, CONTACT:
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This study is being conducted by Maria Bejarano-Rodriguez (mariabej@buffalo.edu) under the supervision of Dr. Victor Paquet (vpaquet@buffalo.edu). Any questions, concerns or complaints that you may have about this study can be answered by Maria Bejarano-Rodriguez.

If you have any questions about your rights as a participant in a research project, or questions, concerns or complaints about the research and wish to speak with someone unaffiliated with the project, you should contact (anonymously, if you wish) the Social and Behavioral Sciences IRB, Office of Research Compliance, Clinical and Translational Research Center, 875 Ellicot St. Room 5018, Buffalo, NY 14203 or by e-mail/phone sbsirb@research.buffalo edu / (716) 645-6474.

PURPOSE:
The purpose of this research project is to gather information of teenagers' texting behavior, as well as their attitude towards texting and driving. The results of this study should further our understanding of the factors that influence teenage texting and driving behavior. This understanding will help will help to develop more efficient safety awareness programs to reduce texting behind the wheel, which in turn will reduce accidents on the road due to texting. The survey should take approximately 10 minutes to complete.

PROCEDURES:
If you agree to be a part of this study, you will be asked to fill out a questionnaire regarding your texting and driving habits. Some of the questions may be a bit personal or sensitive (for example, How often do you text while driving? Do you know of someone who has been in a car crash due to texting and driving?) You are free not to answer any questions you do not wish to answer. You may withdraw from the study at any time by exiting the survey without penalty. Withdrawing would have no foreseeable negative effects.

CONFIDENTIALITY:
The information you provide by filling out the survey is completely anonymous and therefore no one will be able to identify your responses. Your identity will in no way be related to the study. If you withdraw from this study, all individually identifiable data provided by you will be destroyed and not used for analysis.

In order to monitor this research study, representatives from federal agencies such as NIH (National Institutes of Health) and OHRP (Office of Human Research Protection) or representatives from the UB Human Research Protections Program may inspect the research records. This process may reveal your identity.

RISKS:
There are no known risks to participating in this research.

BENEFITS:
There is likely no direct benefit to you for participating in this study, but this study will provide a better understanding of texting behavior behind the wheel and the extent this behavior is influenced by parental texting and driving behavior. Exploring the extent of parental influence on teenage texting and driving behavior will help to develop better safety awareness programs to reduce texting behind the wheel, which in turn can reduce accidents on the road due to texting.

PAYMENT:
You will receive a $5 eGift Card to one of the following: Dunkin' Donuts, Starbucks, Panera or Amazon when you submit the survey. To receive your gift card for participating in the survey and ensure that your survey responses cannot be linked to your identify or email address we have created a separate website for your compensation. Your answers will not be linked to your email.

JOINING OF YOUR OWN FREE WILL (VOLUNTEERING FOR THE STUDY):
Your participation is voluntary. Your refusal to participate will involve no penalty. You do not have to answer every question and may refuse to answer any questions that you do not want to answer. You may withdraw from the study at any time by contacting the investigator and all data that can still be identifiable attributed to you will be withdrawn by the investigator. Please print a copy of this consent form for your records, if you so desire.

* Required

1. I HAVE READ AND UNDERSTAND THE ABOVE CONSENT FORM, I CERTIFY THAT I AM 18 YEARS OLD OR OLDER AND, BY CHECKING THE BOX "I AGREE" AND CLICKING ON THE CONTINUE BUTTON, I INDICATE MY WILLINGNESS VOLUNTARILY TAKE PART IN THE STUDY. *
   Check all that apply.

   - [ ] I Agree

Texting and Driving Behavior Survey (1/2)

2. AGE: * _____
3. DO YOU CURRENTLY HAVE A VALID DRIVER'S LICENSE? *
   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ No, but I have a driver's permit
   - ◯ I do not have a driver's license or a driver's permit

4. GENDER
   Mark only one oval.

   - ◯ Female
   - ◯ Male

5. WHAT IS YOUR CURRENT LEVEL OF EDUCATION?
   Mark only one oval.

   - ◯ Some High School High
   - ◯ School Graduate
   - ◯ Some College
   - ◯ College Graduate

6. HOW MANY HOURS A WEEK DO YOU DRIVE?

Mark only one oval.

- ◯ < 1 hour
- ◯ 1-3 hours
- ◯ 3-5 hours
- ◯ > 5

7. HOW LONG HAVE YOU HAD YOUR LICENSE?

Mark only one oval.

- ◯ < 3 months
- ◯ 3 months to 1 year
- ◯ 1 year to 2 years
- ◯ > 3 years

8. HOW OFTEN DO YOU TEXT WHILE DRIVING?

(i.e., either moving and texting or stopped but not in "park")

Mark only one oval.

- ◯ Never
- ◯ Less than once per week
- ◯ More than once per week but less than 7 times per week (less than once per day)
- ◯ More than once per day but less than 5 times per day
- ◯ More than 5 times per day

9. WHEN YOU TEXT AND DRIVE, DO YOU

Mark only one oval.

- ◯ Keep both hands on the wheel
- ◯ Keep one hand on the wheel
- ◯ Text with both hands
- ◯ N/A

10. WHAT IS YOUR REACTION UPON RECEIVING A TEXT MESSAGE WHILE DRIVING?
Mark only one oval.

- ◯ Have someone else answer for you
- ◯ Ignore it
- ◯ Reply right away
- ◯ Wait until a stop or red light to answer
- ◯ N/A

11. PLEASE CHECK ALL THAT APPLY FOR THE FOLLOWING QUESTION:
Where do you text and drive?
Check all that apply.

- ☐ On empty roads
- ☐ On busy roads
- ☐ In traffic
- ☐ While parked
- ☐ On the highway/expressway
- ☐ At stop signs/ red lights
- ☐ N/A

12. DO YOU KNOW OF SOMEONE WHO HAS BEEN IN A CAR CRASH DUE TO TEXTING AND DRIVING?

Mark only one oval.

- ◯ Yes, they were a victim
- ◯ Yes, they caused the accident
- ◯ No

TEXTING AND DRIVING BEHAVIOR SURVEY (2/2)

13. WHEN I'M IN A CAR WITH A DRIVER THAT IS TEXTING:
Mark only one oval.

- ◯ I feel safe
- ◯ I feel unsafe
- ◯ I don't care
- ◯ N/A

14. PLEASE ADVISE HOW YOU FEEL ABOUT THE FOLLOWING STATEMENTS
Mark only one oval per row.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
Reading text messages while driving is dangerous	◯	◯	◯	◯	◯	◯	◯
Replying to text messages while driving is dangerous	◯	◯	◯	◯	◯	◯	◯
Initiating text messages while driving is dangerous	◯	◯	◯	◯	◯	◯	◯
Since I am a skilled driver, I can text and drive safely	◯	◯	◯	◯	◯	◯	◯
I worry about being hit by a driver who is texting	◯	◯	◯	◯	◯	◯	◯
Texting and driving should be illegal	◯	◯	◯	◯	◯	◯	◯

15. HAVE YOUR PARENTS TOLD YOU NOT TO TEXT AND DRIVE?
Mark only one oval.

- ◯ Yes
- ◯ No

16. DO YOUR PARENTS TEXT AND DRIVE?

Mark only one oval.

- ◯ Only my mother
- ◯ Only my father
- ◯ Both
- ◯ Neither

17. BEFORE YOU GOT YOUR LICENSE, HOW OFTEN DID YOU OBSERVE YOUR PARENTS TEXTING WHILE DRIVING?

(e.g. moving or stopped but not in"park")

Mark only one oval.

- ◯ Never
- ◯ Less than once per week
- ◯ More than once per week but less than 7 times per week (less than once per day)
- ◯ More than once per day but less than 5 times per day
- ◯ More than 5 times per day

18. PLEASE ADVISE HOW YOU FEEL ABOUT THE FOLLOWING STATEMENTS

Mark only one oval per row.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
I communicate efficiently with my parents	◯	◯	◯	◯	◯
My parents are involved in my life	◯	◯	◯	◯	◯
I value my parent's opinions	◯	◯	◯	◯	◯

19. DO YOUR CLOSE FRIENDS TEXT AND DRIVE?

Mark only one oval.

- ◯ Yes
- ◯ No

20. BEFORE YOU GOT YOUR LICENSE, HOW OFTEN DID YOU OBSERVE YOUR CLOSE FRIENDS TEXTING WHILE DRIVING?
(e.g. moving or stopped but not in"park")
Mark only one oval.

- ◯ Never
- ◯ Less than once per week
- ◯ More than once per week but less than 7 times per week (less than once per day)
- ◯ More than once per day but less than 5 times per day
- ◯ More than 5 times per day

21. PLEASE ADVISE HOW YOU FEEL ABOUT THE FOLLOWING STATEMENTS
Mark only one oval per row.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
I feel like I can tell my close friends anything	◯	◯	◯	◯	◯
My close friends are a big part in my life	◯	◯	◯	◯	◯
I value my close friend's opinions	◯	◯	◯	◯	◯

Confirmation Page

Your response has been recorded.

Thank you for your participation!

To receive your gift card for participating in the survey and ensure that your survey responses cannot be linked to your identify or email address we have created a separate website for your compensation.

If you would like to register to receive a gift card please go the following link:

http://ec2-54-208-217-190.compute-1.amazonaws.com/

Please close your browser in order to avoid any private information being disclosed outside of the research context.

Thank you for your participation.

Have a wonderful day :-)

COMPENSATION PAGE

ec2-54-208-217-190.compute-1.amazonaws.com

Thank you for participating in the Texting and Driving Behavior Survey.

Please only fill out this form once.

- Please select the type of gift card that you would like to receive:
  - 0 $5 Starbucks eGift Card
  - 0 $5 Dunkin' Donuts eGift Card
  - O $5 Panera eGift Card
  - 0 $5 Amazon eGift Card

Please type email carefully, as the eCard will be sent to this email.

- Email:

O I certify that I have participated in the study "Texting and Driving Behavior" and understand that I ant registering for a eGift card for my participation

| Submit |

Thank you for your participation!

Your Request was Successfully Submitted

You will receive your eGift card within 5 business days

Please email mariabej@huffalo.edu if you have any questions or if you do not receive the eGift card within 5 business days.

Thank you again!

Appendix B

KEY CODE

```
*Q2.
VALUE LABELS Q2
  1 "No, but I have a driver's
permit"
  2 'Yes'.
*Q3.
VALUE LABELS Q3
  1 'Female'
  2 'Male'.
*Q4.
VALUE LABELS Q4
  1 'Some High School'
  2 'High School Graduate'
  3 'Some College'
  4 'College Graduate'.
*Q5.
VALUE LABELS Q5
  1 '< 1 hour'
  2 '1-3 hours'
  3 '3-5 hours'
  4 '> 5'.
*Q6.
VALUE LABELS Q6
  1 '< 3 months'
  2 '3 months to 1 year'
  3 '1 year to 2 years'
  4 '> 3 years'.
*Q7.
VALUE LABELS Q7
  1 'Never'
  2 'Less than once per week'
  3 'Less than once per day'
  4 'More than once per day but
less than 5x'
  5 'More than 5 times per day'.
*Q8.
VALUE LABELS Q8
  1 'N/A'
  2 'Keep both hands on the wheel'
  3 'Keep one hand on the wheel'
  4 'Text with both hands'.
*Q9.
VALUE LABELS Q9
  1 'N/A'
  2 'Ignore it'
  3 'Have someone else answer'
  4 'Wait until a stop/ red light'
  5 'Reply right away'.
*Q9.2.
VALUE LABELS Q9.2
  1 'Ignore it/ N/a'
  2 'Have someone else answer'
  3 'Wait until a stop light/red
light'
  4 'Reply right away'.
*Q11.
VALUE LABELS Q11
  1 'No'
  2 'Yes, they were a victim'
  3 'Yes, they caused the
accident'.
*Q12.
VALUE LABELS Q12
  1 'N/A'
  2 'I feel unsafe'
  3 "I don't care"
  4 'I feel safe'.
*Q13.
VALUE LABELS Q13
  1 'Strongly Disagree'
  2 'Disagree'
  3 'Somewhat Disagree'
  4 'Neutral'
  5 'Somewhat Agree'
  6 'Agree'
  7 'Strongly Agree'.
*Q14.
VALUE LABELS Q14
  1 'Strongly Disagree'
  2 'Disagree'
  3 'Somewhat Disagree'
  4 'Neutral'
  5 'Somewhat Agree'
  6 'Agree'
  7 'Strongly Agree'.
*Q15.
VALUE LABELS Q15
  1 'Strongly Disagree'
  2 'Disagree'
  3 'Somewhat Disagree'
  4 'Neutral'
  5 'Somewhat Agree'
  6 'Agree'
  7 'Strongly Agree'.
```

```
*Q16.
VALUE LABELS Q16
  1 'Strongly Disagree'
  2 'Disagree'
  3 'Somewhat Disagree'
  4 'Neutral'
  5 'Somewhat Agree'
  6 'Agree'
  7 'Strongly Agree'.
*Q17.
VALUE LABELS Q17
  1 'Strongly Disagree'
  2 'Disagree'
  3 'Somewhat Disagree'
  4 'Neutral'
  5 'Somewhat Agree'
  6 'Agree'
  7 'Strongly Agree'.
*Q18.
VALUE LABELS Q18
  1 'Strongly Disagree'
  2 'Disagree'
  3 'Somewhat Disagree'
  4 'Neutral'
  5 'Somewhat Agree'
  6 'Agree'
  7 'Strongly Agree'.
*Q19.
VALUE LABELS Q19
  1 'No'
  2 'Yes'.
*Q20.
VALUE LABELS Q20
  1 'Neither'
  2 'Only my mother'
  3 'Only my father'
  4 'Both'.
*Q21.
VALUE LABELS Q21
  1 'Never'
  2 'Less than once per week'
  3 'Less than once per day'
  4 'More than once per day but
less than 5x'
  5 'More than 5 times per day'.
*Q22.
VALUE LABELS Q22
  1 'Strongly Disagree'
  2 'Somewhat Disagree'
  3 'Neutral'
  4 'Somewhat Agree'
  5 'Strongly Agree'.
*Q23.
VALUE LABELS Q23
  1 'Strongly Disagree'
  2 'Somewhat Disagree'
  3 'Neutral'
  4 'Somewhat Agree'
  5 'Strongly Agree'.
*Q24.
VALUE LABELS Q24
  1 'Strongly Disagree'
  2 'Somewhat Disagree'
  3 'Neutral'
  4 'Somewhat Agree'
  5 'Strongly Agree'.
*Q25.
VALUE LABELS Q25
  1 'No'
  2 'Yes'.
*Q26.
VALUE LABELS Q26
  1 'Never'
  2 'Less than once per week'
  3 'Less than once per day'
  4 'More than once per day but
less than 5x'
  5 'More than 5 times per day'.
*Q27.
VALUE LABELS Q27
  1 'Strongly Disagree'
  2 'Somewhat Disagree'
  3 'Neutral'
  4 'Somewhat Agree'
  5 'Strongly Agree'.
*Q28.
VALUE LABELS Q28
  1 'Strongly Disagree'
  2 'Somewhat Disagree'
  3 'Neutral'
  4 'Somewhat Agree'
  5 'Strongly Agree'.
*Q29.
VALUE LABELS Q29
  1 'Strongly Disagree'
  2 'Somewhat Disagree'
  3 'Neutral'
  4 'Somewhat Agree'
  5 'Strongly Agree'.
```

RAW DATA

Do you currently have a valid driver's license? * How many hours a week do you drive? Crosstabulation

			How many hours a week do you drive?				Total
			< 1 hour	1-3 hours	3-5 hours	> 5	
Do you currently have a valid driver's license?	Yes	Count	22	91	105	151	369
		% within Do you currently have a valid driver's license?	6.0%	24.7%	28.5%	40.9%	100.0%
	No, but I have a driver's permit	Count	18	12	1	7	38
		% within Do you currently have a valid driver's license?	47.4%	31.6%	2.6%	18.4%	100.0%
Total		Count	40	103	106	158	407
		% within Do you currently have a valid driver's license?	9.8%	25.3%	26.0%	38.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	74.067[a]	3	.000
Likelihood Ratio	54.722	3	.000
Linear-by-Linear Association	42.002	1	.000
N of Valid Cases	407		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.73.

How long have you had your license? * How many hours a week do you drive? * Do you currently have a valid driver's license? Crosstabulation

Do you currently have a valid driver's license?				How many hours a week do you drive?				Total
				< 1 hour	1-3 hours	3-5 hours	> 5	
Yes	How long have you had your license?	< 3 months	Count	2	1	1	1	5
			% within How long have you had your license?	40.0%	20.0%	20.0%	20.0%	100.0 %
		3 months to 1 year	Count	5	8	9	11	33
			% within How long have you had your license?	15.2%	24.2%	27.3%	33.3%	100.0 %
		1 year to 2 years	Count	8	22	25	30	85
			% within How long have you had your license?	9.4%	25.9%	29.4%	35.3%	100.0 %
		> 3 years	Count	6	60	70	109	245
			% within How long have you had your license?	2.4%	24.5%	28.6%	44.5%	100.0 %
	Total		Count	21	91	105	151	368
			% within How long have you had your license?	5.7%	24.7%	28.5%	41.0%	100.0 %

Chi-Square Tests

Do you currently have a valid driver's license?		Value	df	Asymp. Sig. (2-sided)
Yes	Pearson Chi-Square	24.744[b]	9	.003
	Likelihood Ratio	18.281	9	.032
	Linear-by-Linear Association	10.702	1	.001
	N of Valid Cases	368		

b. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .29.

When you text and drive, do you * Combined N/A and Ignore it Crosstabulation

			Combined N/A and Ignore it				Total
			Ignore it/ N/a	Have someone else answer	Wait until a stop light/red light	Reply right away	
When you text and drive, do you	N/A	Count	43	19	12	0	74
		% within Combined N/A and Ignore it	52.4%	35.2%	5.6%	0.0%	20.1%
	Keep both hands on the wheel	Count	4	4	10	1	19
		% within Combined N/A and Ignore it	4.9%	7.4%	4.7%	5.3%	5.2%
	Keep one hand on the wheel	Count	33	31	184	15	263
		% within Combined N/A and Ignore it	40.2%	57.4%	86.4%	78.9%	71.5%
	Text with both hands	Count	2	0	7	3	12
		% within Combined N/A and Ignore it	2.4%	0.0%	3.3%	15.8%	3.3%
Total		Count	82	54	213	19	368
		% within Combined N/A and Ignore it	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	105.910[a]	9	.000
Likelihood Ratio	103.400	9	.000
Linear-by-Linear Association	88.641	1	.000
N of Valid Cases	368		

a. 7 cells (43.8%) have expected count less than 5. The minimum expected count is .62.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.491	.046	10.796	.000[c]
Ordinal by Ordinal	Spearman Correlation	.476	.047	10.363	.000[c]
N of Valid Cases		368			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

PARENT (never/ <1 wk/ <1 day/ >1 day) VS YOUNG DRIVER (No/Yes)

Crosstab

			Do you text and drive?		Total
			No	Yes	
How often parent (3 Cat)	Never	Count	57	204	261
		% within Do you text and drive?	82.6%	68.0%	70.7%
	Less than once a week	Count	7	41	48
		% within Do you text and drive?	10.1%	13.7%	13.0%
	Less than once a day	Count	2	31	33
		% within Do you text and drive?	2.9%	10.3%	8.9%
	More than once a day	Count	3	24	27
		% within Do you text and drive?	4.3%	8.0%	7.3%
Total		Count	69	300	369
		% within Do you text and drive?	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.717[a]	3	.081
Likelihood Ratio	7.807	3	.050
Linear-by-Linear Association	5.557	1	.018
N of Valid Cases	369		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.05.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.123	.043	2.372	.018[c]
Ordinal by Ordinal	Spearman Correlation	.129	.044	2.483	.013[c]
N of Valid Cases		369			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

PARENT (No/Yes) VS YOUNG DRIVER (No/Yes) –AGE CATEGORY

Chi-Square Tests

Age (Categories)		Value	df	Asymp. Sig. (2-sided)
18-19 years	Pearson Chi-Square	9.529[b]	3	.023
	Likelihood Ratio	10.249	3	.017
	Linear-by-Linear Association	7.521	1	.006
	N of Valid Cases	104		
20-21 years	Pearson Chi-Square	2.773[c]	3	.428
	Likelihood Ratio	2.706	3	.439
	Linear-by-Linear Association	1.352	1	.245
	N of Valid Cases	131		
22-24 years	Pearson Chi-Square	5.531[d]	3	.137
	Likelihood Ratio	5.504	3	.138
	Linear-by-Linear Association	4.475	1	.034
	N of Valid Cases	134		
Total	Pearson Chi-Square	10.875[a]	3	.012
	Likelihood Ratio	11.039	3	.012
	Linear-by-Linear Association	9.971	1	.002
	N of Valid Cases	369		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.75.
b. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.17.
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.45.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.67.

FRIEND (never/ <1 wk/ <1 day/ >1 day) VS YOUNG DRIVER (never/ <1 wk/ <1 day/ >1 day)

Crosstab

			How often Text (3Cat)				Total
			Never	Less than once a week	Less than once a day	More than once a day	
How often Friends (3 Cat)	Never	Count	23	25	35	22	105
		% within How often Text (3Cat)	33.3%	29.8%	31.0%	21.6%	28.5%
	Less than once a week	Count	17	22	20	18	77
		% within How often Text (3Cat)	24.6%	26.2%	17.7%	17.6%	20.9%
	Less than once a day	Count	17	26	39	28	110
		% within How often Text (3Cat)	24.6%	31.0%	34.5%	27.5%	29.9%
	More than once a day	Count	12	11	19	34	76
		% within How often Text (3Cat)	17.4%	13.1%	16.8%	33.3%	20.7%
Total		Count	69	84	113	102	368
		% within How often Text (3Cat)	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.331[a]	9	.032
Likelihood Ratio	17.585	9	.040
Linear-by-Linear Association	8.413	1	.004
N of Valid Cases	368		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.25.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.151	.052	2.930	.004[c]
Ordinal by Ordinal	Spearman Correlation	.157	.052	3.039	.003[c]
N of Valid Cases		368			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

FRIEND (never/ <1 wk/ <1 day/ >1 day) VS YOUNG DRIVER (no/yes)

Crosstab

			Do you text and drive?		Total
			No	Yes	
How often Friends (3 Cat)	Never	Count	23	82	105
		% within Do you text and drive?	33.3%	27.4%	28.5%
	Less than once a week	Count	17	60	77
		% within Do you text and drive?	24.6%	20.1%	20.9%
	Less than once a day	Count	17	93	110
		% within Do you text and drive?	24.6%	31.1%	29.9%
	More than once a day	Count	12	64	76
		% within Do you text and drive?	17.4%	21.4%	20.7%
Total		Count	69	299	368
		% within Do you text and drive?	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.467[a]	3	.481
Likelihood Ratio	2.475	3	.480
Linear-by-Linear Association	1.895	1	.169
N of Valid Cases	368		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.25.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.072	.052	1.378	.169[c]
Ordinal by Ordinal	Spearman Correlation	.072	.052	1.380	.168[c]
N of Valid Cases		368			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

FRIEND (NO/Yes) VS YOUNG DRIVER (no/yes)

Chi-Square Tests

Age (Categories)		Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
18-19 years	Pearson Chi-Square	4.468[c]	1	.035		
	Continuity Correction[b]	3.293	1	.070		
	Likelihood Ratio	4.044	1	.044		
	Fisher's Exact Test				.068	.039
	Linear-by-Linear Association	4.425	1	.035		
	N of Valid Cases	103				
20-21 years	Pearson Chi-Square	10.170[d]	1	.001		
	Continuity Correction[b]	8.632	1	.003		
	Likelihood Ratio	9.217	1	.002		
	Fisher's Exact Test				.003	.002
	Linear-by-Linear Association	10.092	1	.001		
	N of Valid Cases	130				
22-24 years	Pearson Chi-Square	6.269[e]	1	.012		
	Continuity Correction[b]	4.583	1	.032		
	Likelihood Ratio	5.093	1	.024		
	Fisher's Exact Test				.023	.023
	Linear-by-Linear Association	6.222	1	.013		
	N of Valid Cases	134				
Total	Pearson Chi-Square	22.146[a]	1	.000		
	Continuity Correction[b]	20.575	1	.000		
	Likelihood Ratio	19.342	1	.000		
	Fisher's Exact Test				.000	.000
	Linear-by-Linear Association	22.086	1	.000		
	N of Valid Cases	367				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.16.
b. Computed only for a 2x2 table
c. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.47.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.65.
e. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.55