

# Policy proposal: restricting cell phone use while driving research proposal examp...

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In 2011, the National Highway Traffic Safety Administration estimated that 1.3 million traffic accidents in the US, which is approximately 23 percent of all accidents, occur while drivers are using cell phones (Lane, 2011). Around 1.2 million crashes occur because drivers use phones for conversations while the other 100, 000 occur because a driver is typing text messages (Lane, 2011).

A survey was conducted on 912 smartphone users by State Farm, and 19 percent of them reported using their cell phone for surfing the internet (Sarno, 2011). Although their online survey did not report the demographics of the participants, it is not considered scientifically valid because the population most likely included only younger people and lacks a random sample (Sarno, 2011). However, it is not possible to dismiss the importance of the survey results because tasks that divide visual attention, such as driving and surfing the web, impair reaction time and can cause severe consequences (Lamble, Kauranen, Laakso, & Summala, 1999).

Statistics point out that cell phone use while driving is a serious issue because it is associated with more than 1.3 million crashes per year. It is estimated that 350 of those crashes are fatal (National Safety Council [NSC], 2011). Even with those statistics, only 11 states in the US have passed laws that prohibit all drivers from using hand-held cell phones (Governors Highway Safety Association [GHSA], 2013). All cell phone use is banned for school bus drivers in 19 states and D. C. while cell phone use for novice and intermediate is prohibited in 37 states and D. C. (GHSA, 2013).

The following policy proposal presents evidence from peer-reviewed research to prove that cell phones, both hand-held and hands-free, divide the drivers'

attention and cause deterioration of driving-related abilities, which is accountable for car accidents. Various policies can be proposed to decrease the use of cell phones while driving, but aside from focusing on legislations, those policies need to create alternative regulations, such as policies for private sector companies, that could prevent cell phone use and improve adherence to legislations.

## **Literature Review**

In a study by Lamble et al. (1999), participants between 20 and 29 years of age were tested to measure the driver's ability to simultaneously perform cell phone-related tasks and detect a car decelerating in front of them. The first group focused on driving; the second group performed a divided visual attention task; the third group focused on a task that did not require visual attention. However, in contrast to the first group, the other two groups recorded between .5 and 1 second impairment in their reaction times.

When compared to research on novice drivers and their reaction times, the impaired reactions caused by performing tasks that divide attention is similar to the slow reaction of inexperienced drivers (Lamble et al., 1999)

When compared to research focused on investigating the reaction time of drivers who had 0.04 percent blood alcohol concentration, participants in the study by Lamble et al. (1999) showed a three times larger deterioration in their reaction time.

While some people consider hands-free devices a safe way for using cell phones while driving, research does not support those findings. According to various studies, hand-held devices can increase the likelihood of traffic accidents, and they cannot be considered safer than using cell-phones

(Redelmeier, & Tibshirani, 1997; McEvoy et al., 2005). The use of both devices was associated with quadrupling the chances of traffic accidents because of the driver's divided attention (Redelmeier, & Tibshirani, 1997). According to a meta-analysis by Horrey and Wickens (2006), engagement in cell phone conversations is mainly responsible for increasing reaction time tasks, and in some cases, it was associated with poor lane-keeping abilities. The meta-analysis also proved that most studies agreed that both hand-held cell phones and hands-free devices showed similar patterns when measuring driving performance (Horrey & Wickens, 2006). Because conversations with passengers also showed similar patterns as conversations on the phone, it is possible to conclude that dividing focus and increasing mental load can have a negative effect on driving if the driver does not prioritize road safety.

## **Policy Recommendations**

In order to make effective policies, they need to be directed towards various. For example, simply restricting cell phone use and proposing fines does not guarantee that the policies will be enforced or that the investigators will obtain a confession about cell phone use during the accident. In addition to traditional policies, alternative solutions need to be taken to ensure preventing cell phone use during driving, such as private sector responses and better crash reporting.

## **All Cell Phone Use Bans for Drivers**

Some states currently ban hand-held cell phone use while driving, but no states prohibit hands-free devices and their use while driving. However, because research shows minimal differences in patterns when investigating

the effects of both hand-held and hands-free calls, policy-makers in all states should consider banning the use of cell phones completely for drivers.

Most states also consider findings that younger drivers are more likely going to be at risk for crashing because of cell phones while driving than adults or the elderly (Caird, Scialfa, Ho, & Smiley, 2004). However, it is important to consider that drivers between the ages of 30 and 49 reported using cell phones as a distraction method more often than younger participants (Stutts, Reinfurt, Staplin, & Rodgman, 2001). All cell phone use needs to be restricted for drivers of all ages in the US, not just for novice drivers.

## **Education on Safety and Driving**

Policy-makers need to include a mandatory education for learning and novice drivers. It should cover the potential hazards of dividing their attention while driving and primarily focus on statistics caused by cell phone use while driving. The goal of the education is to promote understanding the importance of prioritizing tasks and undivided attention while driving.

## **Investigation and Crash Reporting Policies**

Crash data has serious flaws because they rely on statements that do not have to be accurate. In addition, if cell phone use was admitted during an investigation, crash reports will most likely never be updated (NSC, 2013). All crash report forms need to include cell phone usage, and databases need to be adapted to determine the type of cell phone usage during the accident. Finally, access to cell phone records from wireless providers need to be accessible to authorities during crash investigations.

## **Policies for Service Providers**

Service providers can have a significant role in reducing traffic accidents. For example, it is suggested that cell phone vendors can implement an option to set a driving mode on the phone, which will inform the caller that the person they are trying to reach is driving. Other possibilities include campaigns by both vendors and service providers that raise awareness about the impact of cell phone use on driving abilities.

## **Future Recommendations**

While research results are mainly consistent in their findings, several limitations and future recommendations need to be taken in account. For example, Horrey and Wickens (2006) suggest that conversations over cell phones were moderated by the caller to alleviate loss of reaction abilities. In future research, more specific protocols need to be established to determine the flow and type of conversations used in a research to gain specific results and findings.

The differences in circumstances under which traffic accidents occur also need to be covered in future research. Researchers mainly focused on testing the reaction times while driving on straight roads (Lamble et al. 1999), so there is no data that can be used to compare how more complex tasks in driving, such as merging into traffic or parking a car, affect the driver's reaction time while talking on the cell phone (Caird et al., 2004). More research needs to focus on different types of driving tasks and documenting the type of driving task used in research.

## Conclusion

The first step in creating a safer environment for drivers is to establish legislations that restrict cell phone use for drivers. However, it is evident that bans enforced by legislations are effective for a one-year period, after which their effectiveness declines and statistical data becomes similar to the pre-ban period (Caird et al., 2004). With that in mind, policies also need to emphasize the obligations of cell phone vendors and service providers in promoting safety among their users.

Finally, because correct data is the fundamental requirement of valid scientific research, better crash reports and crash investigation policies need to be in place to collect accurate data. Although future research needs to investigate the specific driving tasks and how different types or flow of phone conversations can affect driving abilities, it is already evident that cell phone use while driving is potentially dangerous, so policies regarding its restriction should be developed as soon as possible.

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