GPS and Educational Presentation Program to Lower Distracted Driving Accidents

Introduction/Overview

Issue of Distracted Driving:

There has been a recent trend in the number of accidents caused by distracted driving (CDC,2020). This is a dangerous activity because many of these accidents can be deadly where not only are the drivers affected, but also innocent passengers, and pedestrians. This goes to show that it's not only be dangerous to the driver but others around you as well, it could be anyone. If the driver uses their phone and drives at the same time, they are less likely to pay attention to the road and their surroundings which can lead to an accident. It is important to lower the number of people using their phones while driving as this will reduce the number of accidents caused by distracted drivers. We intend to make a program which will get people off their phones and focus on the road. This program will be intended to reduce the numbers of distracted drivers.

Background on Distracted Driving:

Distracted driving is a serious case that can cause fatal accidents. There are many factors that affect the ability of the driver to be focused on the road such as other people in the car, being in a rush, or constantly checking your phone. These different situations will affect the extent to which our program is successful.

Majority of our information on the statistics involved with distracted driving were found mainly on the CDC website with information found on how many crashes happen each year and why these happen. We focused the research mainly on those that included distracted driving as a reason for some of the crashes. We also plan to incorporate two peer reviewed journals that also provide insight to how distracted driving is a major cause and risk for a car crash. The data for specific numbers on distracted driving in the DFW we look at articles from TX dot to get this information. The other two articles one of which is peer reviewed are actual studies that have looked at ways to prevent distracted driving accidents we will use these in order to explore our possible solution.

Goal of Proposal:

We are wanting to explore a way that will reduce distracted driving and lower the number of car accidents that it causes. We are not going to be able to address all the issues that play into distracted driving nor are we going to be able to prevent all accidents. We are wanting to explore a way to lower car crashes with the use of phones being the main cause. In doing so we will specify the solution to this it will not aim to take phones away from users completely, rather it will look at how to lower the need to look or use their phones.

Our plan is to implement a program in which users will be shown a presentation then receive a GPS and use this instead of their phone. They will be given checkpoints to measure the success. The program will run for 2 years with the check ins to be every three months. In the end, hopefully we can become bigger and branch out.

Proposal Outline:

What you can find in this proposal:

- Adress needs of users
- Research that looks at statistics of issue
- Issues affect people from the DFW
- How this problem has been tried to be solved
- How our Plan will work
- How to measure the success of our plan
- Benefits for the user and stakeholders

Needs of Users:

The targeted users are drivers who constantly use their phone while driving, specifically looking at younger drivers. Some of these younger users are using their phones to get directions or connect with friends while driving. They know it is dangerous to use their phones while driving but do it nonetheless as it is a device that is able to give directions and contact others. The need to do these tasks quickly is a large reason to why these drivers use their phones. These drivers will want to learn how to stay connected with their phone without using it or looking at it too much. This program will benefit the users because it is informative and convenient. After this program, the user will be able to know the effects of distracted driving and what they can do to minimize this.

Research

Distracted Driving Statistics:

In the previous research on the issue, we found many statistics on the number of accidents caused by distracted driving but also the specific reasons whether these be other people, phones, etc. Recent studies done on the topic of distracted driving show that "In the U.S. in 2018, over 2,800 people were killed and an estimated 400,000 were injured in crashes involving a distracted driver." (CDC,2020). These stats show a clear issue when it comes to distracted driving as it can not only be lethal it can also injure. More data from the CDC also show a correlation between phone use and distracted driving as "At any given time in 2018, an estimated 2.1% of all drivers on the road were visibly using a handheld device – a 0.1% increase from 2017." (CDC, 2020). This correlation is between how with the increase of using a device it increases the risk of distracted driving. This information also allows to see that even though 2.1% looks like a small number it is a large percentage of the overall population of drivers because this would be about 365,400 drivers.

DFW Statistics:

For residents in the DFW area the issue of distracted driving should be on top of issues needed to be solved as it is one of the areas most affected by distracted driving. "According to TxDOT statistics released by AAA on Wednesday, Dallas County recorded 18 deadly crashes caused by distracted driving in 2017, a 20 percent increase from the 15 such crashes in 2016." (TxDot,2019). The number of car accidents caused by distracted driving is on the rise in the DFW area meaning that this is an issue that residents should worry about since it is one that they face each day whether it be themselves or other drivers distracted driving has impacted them in some way. The issue is one that is seen across Texas not just in DFW which should be of even more concern for DFW residents if they move around the state.

“According to the Texas Department of Transportation, the number of distracted driving deaths in the state in 2018 was more than 95,000. This involves both low level accident and genuinely catastrophic events” (Solomon, 2019). To compare, the overall estimated number of deaths caused by unintentional injuries are 167,127. This would mean the distracted driving deaths are 56% of all total unintentional injuries. These are the stats for the numbers across Texas in deaths caused by distracted driving accidents it is an issue that impacts DFW residents whether they know it or not because not everyone you drive with are from the DFW area.

Solution

Solutions to Issue of the past:

There have been many ways that the problem of distracted driving has tried to be solved but all of them fail in making it a solution all users would implement. One study had the idea of having video cameras in the car while a user drives to lessen the risk of distracted driving. The results found where that “The authors estimated relative risks associated with talking on the phone to be near 1, in contrast to estimates of a relative risk of nearly 4 in previous studies without video recordings.” (Mick ,2014). These results from their solution to the issue of distracted driving may have lowered the risk of distracted driving but it had discrepancy's when it comes to user implementation and when it comes to examining how dialing and talking are different distractions. This study proved it to be a potential solution but needs tweaks in order to account for all user usage of their phones. Another study found how cell phone use was the highest reason for distracted driving and concluded that “As difficult as it is, we all need to just hang up and drive.” (Kahn, C., Cisneros, V., Lotfipour, S., Imani, G., & Chakravarthy, B., 2015). This conclusion is not a solution that can be implemented across the board to all users nor is it something all users will implement. Our solution should be something that helps reduce the rates of distracted driving such as the first research and not a drastic solution as the second research suggests.

Our Plan Description:

Our plan will implement aspects that we have seen in our research to have worked that being that a driver is less likely to drive distracted when they have a feeling someone is watching this resulted in lower rates of distracted driving. At the same time, we saw that just saying a slogan does not reduce distracted driving with regards to using devices.

Our plan is specially for the youngsters who easily get distracted while driving. For that we are going to organize the program and give a presentation which will educate the teenagers on the effects of distracted driving which are increasing the numbers of accident and leading towards the deaths and explain how to minimize this problem.

Program:

- Two groups of 10 participants each.
- One group will get the presentation.
- Other will get presentation and GPS device.
- Program will last 2 years.
- Check ins every 3 months.

- Receive data and evaluate which group was more successful.

We plan to allow all users to keep the GPS they are given, and the other group will also get GPS for them to keep. Users who also have shown to not be on their phones as much during the program will be given prizes based on their data at each 3-month checkpoint. These can be small things such as a gift card to Starbucks or a free car wash–things that will motivate them and are good little pick me ups.

Implementation and Timeline:

In order to implement our plan, we will need the support of the state of Texas. With their support we will be able to provide the group that needs GPS systems to have one without any out-of-pocket costs. Their support will also allow for the easy tracking of data as well as allowing for the spread of the results of the program to a bigger area of all over the state of Texas. Our overall objective in our program is to find a way to lower the number of distracted drivers using their phones either by only being taught about it or being taught about the dangers as well as being provided a GPS to not use their device while driving.

Budget and Personnel:

- 20 Users and 5 data keepers.
- Budget for program: 3,000 dollars.
- 50 dollars GPS for all users total 1,000 dollars.
- 1,000 dollars for staff pay.
- 1,000 dollars to purchase incentives.

This program will take one year to prepare with making of the oral presentation to explain the dangers of distracted driving while using their phones with statistics as well as research to show how important the issue is. There will also be a process in connecting with the state and for them to approve the program. After this when the program is approved, we will get participants from a high school to be put into our two groups and report the results for two years. Three years is the overall timeframe we will be looking at to establish as well as get results.

Plan to Measure Success:

We will measure our success by creating checkpoints every three months where the participants let us know how the GPS has worked for them. Through these checkpoints, we will be able to collect data on the drive and how well the driver was able to stay off their phone. We plan to measure how efficient the GPS is and assess how well it worked for the drivers. In addition to the data, we will have a survey on how well the users liked the product and their thoughts about it. This will help us determine what we can change about it to benefit them better. As we continue to work on our program, our plan to measure success will be advanced in the future where we will have an app that can monitor the drive.

Programs Effects on Users and Stakeholders:

This program will help the users understand what difference a device and presentation can have on a person. The program will show which group will be more likely to implement the changes needed to avoid using their phones while driving. Stakeholders such as other drivers will see the results of the program to implement themselves to further understand the issue of distracted driving with regards to using a cellular device. The drivers who continue to use their phones after the program could be the

ones with the oral presentation and the ones who improve on this could be the ones who received a GPS to use. Any result will show users and stakeholders what is most effective in reducing distracted driving with regards to using a phone while driving.

Conclusion:

In this proposal we have discussed the current research and statistics when it comes to Distracted driving caused by cell phone usage. After looking at previous research the program was presented with the goal of lowering the number of distracted drivers using their phones by looking at data from the program. We hope that if anything you take away that this issue is one that effects anyone on the road and that our proposal aims to lower the number of distracted drivers using their cell phones.

References

CDC (2020, September 22). Distracted Driving at Work.

https://www.cdc.gov/niosh/motorvehicle/topics/distracteddriving/default.html

CDC (2020, October 26). Distracted Driving.

https://www.cdc.gov/transportationsafety/distracted_driving/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fmotorvehiclesafety%2Fdistracted_driving%2Findex.html

Kahn, C., Cisneros, V., Lotfipour, S., Imani, G., & Chakravarthy, B. (2015, December). Distracted Driving, A Major Preventable Cause of Motor Vehicle Collisions: "Just Hang Up and Drive".

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4703177/?tool=pmcentrez

Mick, C. (2014). Distracted driving and crash risk. *The New England Journal of Medicine, 370*(16), 1564-1566. doi:http://dx.doi.org.ezproxy.uta.edu/10.1056/NEJMc140124

Solomon, D. (2019, April 18). Houston and Dallas Lead the Nation in Distracted Driving.https://www.texasmonthly.com/news/houston-and-dallas-lead-the-nation-in-distracted-driving/

TxDOT. (2019, January 30). Deadly Distracted Driving Crashes Up 20 Percent In Dallas County. https://dfw.cbslocal.com/2019/01/30/txdot-deadly-distracted-driving-crashes-up-dallas/