



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Eden C. Delphey	Project Number 22128
Project Title Talking on a Cell Phone while Driving: Is It Dangerous?	
<p align="center">Abstract</p> <p>Objectives/Goals The objective was to determine if talking on either a hand-held or hands-free cell phone while driving interferes with steering, scanning and concentration skills necessary for safe driving.</p> <p>Methods/Materials A driving simulator program that scores drivers on steering, scanning and concentration was installed on home computer, along with a steering wheel and brake pedals. Thirty four participants age 16 or older "drove" the course under these driving conditions: (1) without any distractions, (2) while answering questions on a hand-held cell phone, (3) while answering questions on a hands-free cell phone and (4) while counting backwards from 400 by 7s.</p> <p>Results The total score (steering, scanning and concentration combined) that drivers received when talking on a hand-held cell phone was, on average, 24% lower than the score they received when driving undistracted. However, their steering score was only affected a little by the cell phone conversation. The most interference was with scanning and concentration. When drivers used a hands-free cell phone, all interference with steering was eliminated, but total scores did not improve much because answering mentally challenging questions still caused a lot of interference with scanning and concentration. Drivers also had problems with scanning and concentration (but not steering) when trying to drive while counting backwards.</p> <p>Conclusions/Discussion My conclusion is that talking on either a hand-held or hands-free cell phone interferes with scanning and concentration. Using a hands-free phone gives drivers a little better steering control, but the real problem - driver inattention to what is going on around him - is not eliminated. Steering seems to be a more mechanical task that can be done even if the driver is distracted.</p>	
Summary Statement This project uses a driving simulator program on a computer to test whether talking on a cell phone while driving interferes with steering, scanning and concentration abilities.	
Help Received My mother helped me find an affordable driving simulator program to use and asked the questions over the phone to each subject while I ran the tests.	