Effects of Cellular Devices on Teen Driving

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The purpose of this experiment was to investigate how distractions affect teen reaction times and awareness on the road. It was hypothesized that both calling and texting on cellular devices will significantly affect reaction times and awareness of teen drivers. However, texting will have a greater and more negative impact than calling. To test reaction times a board was swung in front of a stationary car. A video of a highway played in front of it on a projector screen. The board represented hazards on the road. The voltage from the brake fuse was measured in order to know when the brake was pressed. A light sensor measured when the board came into view of the participant by recording when it crossed in front of the light source. The difference between the time of the light deficiency and when the brake was pressed resulted in a reaction time. To test awareness, participants were asked questions about their surroundings throughout the experiment. All 30 participants completed one control and two experimental trials, which were calling and texting. A total of 270 data points were collected and analyzed by using a t-Test: paired two sample for means. The hypothesis was strongly supported. The p-values of calling(.0024) and texting(.000017) showed that there was sufficient statistical evidence that both calling and texting inhibit driving. There was also statistical evidence that texting has a greater and more negative impact than calling. Additionally, the awareness participants had of their surroundings plummeted from 53% for control, 30% for calling and just 7% for texting.

Awards Won:
American Psychological Association: Third Award of $500