



Reducing Distracted Driving Among Adults: Child-to-Adult Interventions

Distracted driving is a major contributor to crashes. In 2020, there were 3,142 lives lost to crashes involving distracted driving (Stewart, 2022). Countermeasures that aim to reduce distracted driving exist, such as laws, enforcement campaigns, outreach, and programs for adult and teen drivers (Venkatraman et al., 2021). However, these typically target the drivers themselves; few if any efforts were identified at the time of this study involving attempts to get younger school children to intervene with their drivers. The benefit of such child-to-adult interventions is potentially two-fold: (1) they may reduce the distracted driving behaviors of the drivers that the children target for an intervention and (2) they may reduce the distracted driving behaviors of the children when they become licensed at some later age. The U.S. Department of Transportation's Volpe National Transportation Systems Center conducted a study that identified and evaluated a child-to-adult intervention program for distracted driving for NHTSA and the Governors Highway Safety Administration under the National Cooperative Research and Evaluation Program.

Method

The project team conducted a thorough review of the literature and of existing programs. Five criteria were used to select programs considered for evaluation:

1. Focused on the dangers of distracted driving;
2. Targeted younger, elementary school (ES) children;
3. Used a child-to-adult intervention to decrease the distracted driving behavior of a child's driver;
4. Had a process for evaluating effectiveness; and
5. Could provide evaluation data to the project team.

Only one program met these criteria. This program was the combined effort of two organizations, End Distracted Driving (EndDD.org), a project of the Casey Feldman Memorial Foundation, and Safe Roads Alliance (SRA, [saferoadsalliance.org](https://www.saferoadsalliance.org)).

Originally, the EndDD/SRA program was intended to be delivered in person by teachers in elementary schools. However, the COVID-19 pandemic took hold just as the assessment of the elementary school program was about to start. To increase the reach of the program, high school

students were added because a live, interactive program produced by EndDD already existed.

As part of the EndDD/SRA program, elementary school students received an online delivery of a 30-minute, prerecorded video of a distracted driving lesson (DDL) and online delivery of a survey before and after the lesson to provide data to evaluate the program. High school students received an online delivery of an interactive PowerPoint presentation, usually over Zoom. Both high school and elementary school students received the pre-DDL survey and the post-DDL survey. EndDD/SRA obtained 459 pre-DDL and 196 post-DDL survey responses from eight high schools. EndDD/SRA obtained 118 pre-DDL surveys and 34 post-DDL surveys from five elementary schools.

Results

High school students. High school students responded to 48 questions. For purposes of analysis, these were grouped into 9 categories made up of 17 subcategories (See Table 1). Responses were scored on 4- or 5-point scales that assessed attitudes, knowledge, and frequency of certain behaviors related to distracted driving. Between-subjects and matched *t*-tests were conducted to detect statistically significant changes in scores from before to after the program, though Table 1 shows only the results of the between-subjects *t*-tests.

Example Question

When a parent/caregiver is texting or looking at apps while driving, I will speak to them on my own about their distracted driving.

- a. Strongly disagree
- b. Disagree
- c. Neither agree nor disagree
- d. Agree
- e. Strongly agree

Individual survey scores were averaged across questions within subcategories except for five questions scored correct or incorrect.

Based on analyses, five conclusions were drawn:

1. There was statistically significant improvement across 9 of the 17 subcategories.

Table 1. Pre- and Post-DDL Survey Results for High School and Elementary School Students

Category	Subcategory	High School		Elementary School	
		Pre-DDL Mean	Post-DDL Mean	Pre-DDL Mean	Post-DDL Mean
1) Knowledge of DD	Meaning of DD	3.35	3.64**	2.91	3.41**
	Other Knowledge of DD*	1.01	1.76**		
2) Relative Risk*	Understanding Relative Risk	3.76	3.83		
3) Concerns	Worry About DD	2.92	3.09	3.58	3.14
4) Safety & Consideration of Others*	Safety of Others	4.64	4.62		
	Consideration of Others	3.65	3.70		
5) Right Words to Say to Driver	Knowledge of Right Words to Say	2.41	3.25**	2.55	2.85
	Saying "I Am Worried..."	0.26	0.57**	0.23	0.41
6) Intervention Confidence	DD	2.83	3.03**	3.30	3.44
	Overall	3.57	3.70	4.22	3.96
7) Intervention Frequency	Parents	1.67	1.97**	0.78	0.72
	Friends*	1.53	1.69		
	Passengers*	1.80	2.12**		
8) Program Effect (Perceived driver behavior change)	Parents	3.63	3.77**	1.21	0.77
	Friends*	4.16	4.39**		
	Passengers*	4.13	4.18		
9) Future Behaviors	Engage in Distracting Activities	3.00	3.08	3.50	3.81

*Not used in elementary school survey

** $p < .05$

- The effect of the program on students' knowledge of distracted driving and words to use in interventions and their perceived behavioral control (intervention confidence for distracted driving) was positive.
- There was an increase in the actual reported interventions with their drivers around engaging in distracting activities (for parents and passengers).
- There was a decrease in students' subjective estimates of how much their parents and friends (as drivers) engaged in distracting activities.
- There was no change in the likelihood that students believe they will engage in distracting activities in the future.

Elementary School Students. The pre-DDL survey and post-DDL survey for the elementary school students were shorter than the ones for the high school students. Two entire categories and several subcategories were omitted on the elementary school survey because it was not clear that elementary school students would easily understand the questions (See Table 1). To shorten the number of responses required of the elementary school students, a random half of the students

in the elementary schools were given questions only about talking, and the other half were given questions only about texting. Thirteen questions were included in the texting and talking pre-DDL and post-DDL surveys.

Of the nine tests conducted, only one demonstrated an effect of the program. Knowledge of DD increased after the administration of the program, and the increase in scores was statistically significant. However, it is important to note that the number of observations is likely too small to make any conclusive statement at this point about whether elements of the program were effective.

There were differences between the high school and elementary school programs that may have created differential effects on the evaluation. Notably, the elementary school program was entirely passive, whereas the high school program was not. Additionally, the amount of time that the high school students were exposed to the DDL program (70 minutes) was over twice amount of time that the elementary students were exposed to the DDL (about 30 minutes). Longer exposure to the concepts may have facilitated learning in the case of the high school students.

Conclusions

Two programs aimed at teaching elementary and high school students about intervening with distracted drivers were evaluated. The high school program was successful in increasing survey scores following the administration of the virtual distracted driving lesson. Importantly, the results indicated that following the distracted driving lesson, there were more interventions by students to their parental/caregiver drivers who were engaged in distracting behavior. Unknown is whether the interventions changed driving behavior following the student intervention. The results of the elementary student program evaluation were inconclusive. The elementary school sample size was small due to recruitment challenges during the COVID-19 pandemic. While the changes in attitudes, knowledge, and frequency of student-to-driver interventions in high school students is promising, additional evaluation is needed to determine the effectiveness of both the high school and elementary school child-to-adult intervention programs on behavior change amount parents and caregivers as well as the students who complete the program.

Full Report

Fisher, D. L., Byrne, A., Calabrese, C., Lehrer, A., & Petrella, M. (2022, August). *Reducing distracted driving among adults: Child-to-adult interventions* (Report No. DOT HS 813 328). National Highway Traffic Safety Administration. https://rosap.nhtl.bts.gov/view/dot/62658/dot_62658_DS1.pdf

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