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Traffic Inj Prev. Author manuscript; available in PMC 2018 November 03.

Published in final edited form as:

Traffic Inj Prev. 2018 ; 19(6): 569–576. doi:10.1080/15389588.2018.1458100.

Attitudes on Technological, Social, and Behavioral Economic Strategies to Reduce Cellphone Use While Driving in Teens

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Abstract

Objective—The majority of U.S. teens admit to handheld cellphone use while driving, an increasingly common cause of crashes. Attitudes towards novel cellphone applications and settings that block use while driving are poorly understood, potentially limiting uptake. We examined teens' willingness to reduce cellphone use while driving and perceptions of potential strategies to limit this behavior.

Data Availability

The datasets generated during and/or analyzed during the current study are not publicly available since informed consent and Institutional Review Board (IRB) approval did not include public release. However, de-identified data are available from the corresponding author on reasonable request and pending IRB approval.

Contributions

Conception, design, funding: Delgado, Lee, Winston, Halpern
Drafting of manuscript: Delgado, Setubal, McDonald
Data analysis: Delgado, Setubal, Saulsgiver
Interpretation of data and critical revisions to manuscript: All

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Methods—Teen drivers (n=153) aged 16–17 who owned smartphones and admitted to texting while driving completed an online survey. Survey instruments measured willingness to give up cellphone use and perceptions of technological and behavioral economic strategies to reduce cellphone use while driving. We used Chi-square tests to test the hypothesis that willingness to give up certain types of cellphone use while driving and the perceptions of strategies to reduce cellphone use while driving would differ by self-reported frequency of texting while driving in the past 30 days (low [1–5 days] vs. high [6 or more days].

Results—Most teens were willing or somewhat willing to give up reading texts (90%), sending texts (95%), and social media (99%) while driving. However they were not willing to give up navigation (59%) and music applications (43%). Those who engaged in high-frequency texting while driving were more likely to say they were not willing to give up navigation applications (73% vs. 44%, $P<0.001$), music applications (54% vs. 32%, $P<0.001$), and reading texts (15% vs. 4%) ($P=0.029$). Overall, the following strategies where rated as likely to be "very effective" for reducing texting while driving: gain-framed financial incentives (75%), loss-framed financial incentives (63%), group-based financial incentives (58%), insurance discounts (53%), automatic phone locking while driving (54%), email notifications to parents (47%), automated responses to incoming texts (42%), peer concern (18%), and parental concern (15%). Those who engaged in high-frequency texting while driving were less likely to say that following strategies would be very effective: automated responses to incoming texts (33% vs. 53%, $P=0.016$), peer concern (9% vs. 29%, $P=0.002$), and parental concern (9% vs. 22%, $P=0.025$). The strongest perceived benefit of cellphone blocking apps was decreasing distraction (86%). The predominant reason for not wanting to use this technology was not wanting parents to monitor their behavior (60%).

Conclusions—Promising strategies for increasing acceptance of cellphone blocking technology among teen drivers include automated screen locking and permitting hands-free navigation and music combined with behavioral economic incentives to sustain engagement.

INTRODUCTION

Motor vehicle collisions are the leading cause of death in teens.(1) Drivers 15–19 years old are more likely than any other age group to die in distraction-related crashes caused by cellphone use.(2) The proportion of young drivers seen using their phones while driving in roadside observations has doubled over the last five years despite widespread legal bans and educational campaigns.(3) Novel strategies are urgently needed to address this health-risk behavior, as 83% of U.S. high school students report cellphone use while driving in the last 30 days in 2015.(4) Specifically, 71% made or answered a phone call, 64% read or sent a text message, 20% read or sent an email, 29% checked a website, 71% changed music, and 53% looked at directions or a map.(4) Cellphone use while driving continues despite 97% young drivers knowing that this behavior is dangerous.(5)

In November of 2016 the National Highway Traffic Safety Administration (NHTSA) released guidelines recommending the use of operating system, aftermarket applications, and devices to enable a "Driver Mode" on smartphones to limit use while driving.(6) Akin to the federally mandated use of an "Airplane Mode" intended to limit cellular transmissions during air travel, a "Driver Mode" can be implemented on cellphones automatically limiting handheld cellphone use over certain speed thresholds consistent with driving based on native

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phone sensors or Bluetooth pairing with in-vehicle devices. These settings and applications have customizable configurations that can be programmed to activate when the car is moving, including: locking the phone screen, silencing notifications, blocking incoming calls and text messages, and sending automated responses to incoming text messages. Research on these applications supports the efficacy of blocking technology on significantly reducing phone calls and text messaging while driving compared to control groups.(7–9) Third party smartphone applications that enable a “Driver Mode” are also available for download,(10) but adoption and use been limited. While reasons for limited adoption have not been examined in the peer-review literature, media reports suggest this is due to limited consumer acceptability.(11) A recent study examining the adoption of similar smartphone apps to monitor and provide feedback on driving behavior among young drivers showed that perceived gains (e.g. financial incentives) and social norms are the biggest motivating factors in adoption of these applications, with perceived losses (e.g. privacy concerns from parental monitoring) being less of a factor.(12) More recently, on June 5, 2017 Apple (Cupertino, CA) announced a “Do Not Disturb While Driving Mode” that became available as an iPhone operating system feature in Fall 2017 that can be turned on to lock the phone screen and silence and send automated responses to incoming text messages while driving.(13)

Applications and settings aimed at limiting cellphone use while driving will only be effective from a population health standpoint if widely adopted and sustainably used. A promising approach to increased adoption of these applications and settings to sustainably change behavior is to increase perceived gains of these actions by providing financial incentives.(12, 14) This could be brought to scale through usage-based auto-insurance programs that use mobile telematic smartphone apps to provide insurance discounts based on monitored driving and phone use behavior.(15) The effectiveness of financial incentive strategies in usage-based insurance programs could be enhanced by leveraging insights from behavioral economics as has been effective for health behavior change. (15) This includes increasing the frequency and salience of incentives, leveraging individuals’ tendencies to stick with default options and to be more averse to losses than to gains, and by using social forces to make incentives stronger by tying them to group-based performance.(16–20)

In order to develop widely scalable interventions and strategies using promising smartphone applications to limit cellphone use while driving, a better understanding of attitudes towards these technologies and strategies to sustain use over time is needed, particularly in teen drivers who are at the highest risk for distraction related crashes. The goal of this study was to determine attitudes of teen drivers who admit to texting while driving about strategies aimed at reducing cellphone use while driving. Our survey measured: 1) willingness to give up cellphone use while driving (e.g. texting, email, music, and navigation applications); 2) perceptions of effectiveness of various behavioral interventions to discourage phone use while driving, including financial incentives and social incentives, particularly novel approaches designed using insights from behavioral economics; and 3) perceptions of benefits of cellphone blocking technology, features they would be interested in adopting, and reasons for not using cellphone blocking technology. To gain further insight into approaches that would be most effective for the highest risk respondents, we tested the hypothesis that those engaging in high-frequency texting while driving would not be willing to give up several types of cellphone use while driving and these individuals would perceive strategies

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without financial incentives to be less effective relative to perceptions of those who engage in low-frequency texting while driving.

METHODS

Study Design and Population

We conducted a survey of adolescent drivers with approval of the Institutional Review Boards of the Children's Hospital of Philadelphia (CHOP) and the University of Pennsylvania. We recruited participants who were high school students between the ages of 16 and 17. We distributed letters and emails with study information and inclusion criteria to parents of 3,000 adolescents living in Pennsylvania who had a previous health care visit in the CHOP system. Teens needed to meet the following inclusion criteria: live with a parent or guardian, have a valid driver's license, drive themselves to school, own a smartphone with a data plan, admit to texting while driving at least once in the past 30 days, and not already use an application that enables cellphone blocking while driving. Interested families were directed to the University of Pennsylvania's web-based platform for behavioral health research, Way to Health (www.waytohealth.org) where they created an account, completed the online consent and assent, an eligibility survey which confirmed that each of the inclusion criteria were met, and a study survey if eligible to participate. Recruitment and enrollment occurred from 01/2015–08/2015. Participants were compensated $20 in Amazon gift cards. After completion of the survey, participants were invited to participate in a future randomized trial of default cellphone blocking behavioral engagement strategies.

Baseline Measures

The survey instrument was administered online via Qualitrics. We collected data on demographics (age, race, ethnicity), type of smartphone they owned, number of times they drove per week, whether they had a prior traffic violation and had been in a crash or near-crash as a driver. To quantify the frequency of texting while driving, we used the most commonly-cited self-report measure of handheld cellphone use while driving from the Centers for Disease Control and Prevention Youth Behavioral Risk Surveillance Survey: "During the past 30 days, on how many days did you text or email while driving?"(21) The responses were further dichotomized to low (1–5 days) vs. high (6 or more days) based on the median of this variable.

Outcomes

Willingness to give up cellphone use while driving—This was assessed with this question, "Describe your willingness to give up the following cellphone uses while driving (not willing to give up, somewhat willing to give up, willing give up): a) reading texts; b) reading emails; c) sending texts; d) making non hands free calls; e) receiving non hands free calls; f) making hands free calls; g) receiving hands free calls; h) navigation apps such as Google Maps; i) social media apps such as Facebook; j) music apps such as Pandora or Spotify; or k) other frequently used apps not mentioned. We randomly assigned the order of each cellphone use.

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Perceptions of strategies to reduce cellphone use while driving—We surveyed participants on their perceptions towards 10 strategies to reduce cellphone use while driving. These were chosen to capture common social strategies that are used today, strategies that could be delivered current smartphone apps and settings, and promising, but not previously tested financial incentive strategies informed by behavioral economics.(15–18, 20, 22–24) These were measured using the following question: "Imagine being in a program to reduce texting and driving. How effective do you think each of these strategies would be to stop texting while driving over the course of 1 year (not effective at all, not too effective, somewhat effective, and very effective)?" The 3 "status quo" social strategies were: a) "Having my parent tell me they are concerned about me texting and driving" (Parental concern); b) "If my parent(s) also take(s) action to stop texting while driving" (Parent also takes action); and c) "Have a close friend or significant other tell me they are concerned about me texting and driving and putting me up to a challenge" (Peer concern); The 3 technological strategies were: a) "Having my phone automatically lock so I can't use it while the car is in motion" (Automated phone locking); (b) "Having my phone send automated responses to incoming texts to let people know I'm driving and can't reply until I stop driving" (Automated text response); and c) "Having a text or email sent to one of my parents so they can monitor every time I text while driving" (Automated parental notifications). The 4 alternatively structured financial incentive strategies we tested had an expected value of $250 over the course of 1 year. These included: a) "Knowing my car insurance will be $250 cheaper if I don't text while driving" (Insurance $ discount), b) "Participate in a contest with a group of friends in order to win up to $1,000 in a year based on everyone reducing texting while driving" (Group-based $ rewards);(22, 23) c) "Getting paid up to $5 in cash or gift card every week I don't text and drive up to a max of $250" (Individual $ rewards);(17) and d) "Getting $250 put into an account that I can redeem at the end of the year, but having $5 deducted from it each week I text and driving" (Individual loss-framed $ incentive).(22, 24)

Attitudes towards cellphone blocking technology—We asked participants to select from a list of 7 benefits of using cellphone blocking technology (e.g. I don't need to look away from the road), 10 features they would be interested in using (e.g. Change to silent mode – no sounds with incoming calls/texts), and 10 reasons for not wanting to using blocking technology (e.g. I don't need this kind of help). Participants could choose as many as they wanted in each category or not select any at all. All questions are provided in the Table 1.

Analysis

We used descriptive statistics to tabulate survey responses. We used Chi-square or Fisher's exact tests to determine whether the following differed by self-reported frequency of texting while driving in the past 30 days (low [1–5 days] vs. high [6 or more days] for the following outcomes: 1) lack of willingness to give up certain types of cellphone use while driving (% not willing); 2) perceived effectiveness of strategies to reduce cellphone use while driving (% very effective); 3) perceived benefits of cellphone blocking technology; 4) features of cellphone blocking technology most interested in using; and 5) reasons for not using this technology. Results were considered statistically significant when $P \leq 0.05$.

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RESULTS

A total of 372 individuals consented to participate out of the 449 potential participants who signed on to the study website (See Figure A1 in online appendix). Of the 449 77 did not complete the consent process. Of the 372 who consented to participate, 219 were excluded, most commonly for reporting no texting while driving in the past month (n=182), not driving to school (n=58), and not being 16–17 years old (n=50). The remaining 153 participants who were eligible to participate completed the survey. The median participant completion time was 21 minutes (range 13–31 minutes). Demographic characteristics of eligible respondents are shown in Table A1. The participants had a mean age of 16.8 years old, were 61% female, 86% white, 6% black or Latino. Most owned an Apple iPhone (91%) vs. an Android (9%) and also drove every day (76%). A total of 17% reported having been in a crash, 29% in a near crash, and 9% had received a ticket for a moving violation. A total 52% engaged in high frequency texting while driving (6 or more days).

Willingness to give up aspects of cellphone use while driving

Participants were willing or somewhat willing to give up most types of cellphone use while driving except for navigation and music applications. Specifically, 99% of teens were willing/somewhat willing to give up social media application use, followed by sending text messages (95%), and reading text messages (90%). Conversely, the teens were not willing to give up navigation applications and music applications (59% and 43%, respectively) (Figure 1). Some were also not willing to give up hands-free calls (20% making, 25% receiving). Those who engaged in high frequency texting while driving were more likely to say they were not willing to give up navigation apps (73% vs. 44%, $P<0.001$), music apps (54% vs. 32%, $P<0.001$), and reading texts (15% vs. 4%) ($P = 0.029$) (Figure 2).

Perceptions of strategies to reduce cellphone use while driving

Participants perceived the following strategies as being “very effective” for reducing texting while driving (in decreasing order): gain-framed financial incentives (75%), loss-framed financial incentives (63%), team-based financial incentives (58%), automatic phone locking while driving (54%), insurance discounts (53%), email notifications to parents when text while driving (47%), automated responses to incoming texts (43%), a parent also taking action to stop texting while driving (19%), a close friend being concerned about them (18%), and a parent being concerned about them (15%) (Figure 3). Those who engaged in high frequency texting while driving were less likely say that following strategies would be very effective: automated responses to incoming texts (33% vs. 53%, $P=0.016$), close friend being concerned about them (9% vs. 29%, $P=0.002$), parent being concerned about them (9% vs. 22%, P=0.025), and parent also taking action to stop texting and driving (10% vs. 29%, $P=0.003$) (Figure 4).

Attitudes towards cellphone blocking technology

The top three perceived benefits of cellphone blocking apps included decreasing distraction (86%), not taking eyes off the road (76%), and complying with cellphone laws (52%). The top three reasons for not using this technology include: not wanting parents to monitor their behavior (60%), not knowing how this technology works (45%), and having never seen or

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used the cellphone blocking technology (39%). The top three features teens were most interested in using included: silencing incoming notifications (70%), locking phone completely except for 911 calls (59%), and automatic replies to incoming texts (57%). (Table 1). Those who engaged in high frequency texting while driving were more likely to want the option to be able to override the blocking function to send text messages (28% vs. 12%, P=0.030).

DISCUSSION

Smartphone applications and settings to create a “Driver Mode”, akin to an automated “Airplane Mode,” have been shown to restrict handheld cellphone use while the vehicle is in motion.(7–9) We sought to better understand factors that would increase the acceptability of a “Driver Mode” among teens. In our sample of 153 high school students aged 16–17 who drive regularly and admit to texting, we found that most teens were willing to give up most types of cellphone use while driving such as texting and social media, but approximately half were not willing to give up the use of navigation and music applications. Those who more frequently engaged in texting while driving were even more even less willing to give up music and navigation apps as well as reading texts while driving. The teen drivers we surveyed perceived several technological approaches to reduce the impulse to engage in cellphone use as being very effective, including silencing notifications automatic responses to incoming calls and text messages. They perceived the benefit of cellphone blocking to be primarily in reducing distraction, but were wary of the potential for their parents to monitor behavior. Respondents perceived potential behavioral economic interventions with financial incentives as well as cellphone blocking to be much more likely to be effective at reducing their cellphone use while driving than their parents and their friends telling them not do so. This was particularly the case for those who engaged in frequent texting while driving. Together these findings suggest initial approval of combining innovative, acceptable, and promising technological and behavioral approaches for sustainably reducing cellphone use while driving among teen drivers.

In essence a “Diver Mode” can act as a commitment device(25) to control future impulses to engage in handheld cellphone use while driving and promote self-control. The potential population impact of these efficacious technologies, like other commitment devices and apps to promote safe driving, is a product of uptake, defined as adoption and use, and efficacy (individual effectiveness conditional on uptake).(12, 25) Based on this, to be effective, these applications and settings need to be designed so that they do not simply attract highly motivated parents and teens, who might change their behavior on their own, but those who are at higher risk for engaging in this behavior and who are likely to be less motivated to install and maintain such an application on their phone.

We found that majority of teen drivers perceived the most important benefit of cellphone blocking technology was to reduce distractions from notifications and allowing them to better keep their eyes on the road. However, we found a key barrier to the acceptance of cellphone blocking apps is unwillingness to give up the use of navigation and music apps, despite a willingness to use a setting that locks the phone completely except for 911 calls. Smartphone navigation and music apps have gained popular appeal in the last five years and

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are increasingly being used instead of in-vehicle alternatives.(26, 27) The relative riskiness of engaging with these apps has not yet been elucidated, but is likely to increase depending on the degree of handheld, visual, and cognitive engagement.(28, 29) Allowing exceptions to permit handsfree use of these apps if programmed at the beginning of a drive or while stopped so that they can run without interaction while other phone functions are blocked may be a necessary compromise for adoption and sustained effective use of other blocking functions.

Many respondents indicated they would not want to use cellphone blocking and monitoring technology because they did not want their parents to monitor their behavior. Increased parental engagement through supervisory practice driving, improved parent-teen communication, limit setting and feedback reports from safety event-triggered in-vehicle video monitoring has been shown to improve safe driving behaviors.(30–35) Our survey respondents echoed privacy concerns identified by teens in prior studies on the acceptance of previously available technologies to monitor driving.(36–39) However, teen drivers have expressed that direct, automated feedback from devices, rather than parental review and discussion of in-vehicle data, may be more objective and thus may be more credible and acceptable.(39) And perceived risks to privacy of automated feedback data was viewed to be less of a factor in the adoption of smartphone driving monitoring applications than perceived gains such as financial incentives or whether peers use these applications.(12) A better understanding is needed on how to design interventions using cellphone use monitoring applications to achieve the optimal balance of the efficacy of parental engagement in the automated feedback loop and acceptance by teens to maximize effectiveness.

Long-term behavior change and sustained use of cellphone blocking applications has been difficult to maintain.(40) The acceptability of smartphone settings and applications that enable a “Driver Mode” could be increased by including the features teens were most interested in using: silencing incoming notifications and automatic replies to incoming texts and incoming calls. As with all mobile devices and apps, increasing uptake and sustaining use of “Driver Mode” will require behavioral engagement strategies.(41) Prior studies that examined uptake of apps meant to monitor and provide feedback on driving behavior found that perceived gain is the biggest motivating factor in adoption of these applications.(12, 14) The effect of financial incentives on increasing uptake of apps that monitor driving safety was even stronger among those who were more “present biased” and had the tendency to overweigh immediate gains over actions in their best long-term interest.(12) Furthermore, it has been shown that those who text while driving are more present-biased compared with those who do not.(42) Indeed in our study, gain-based financial rewards were perceived to the most effective strategy among those who texted while driving frequently, supporting the promise of this initial engagement approach in this high-risk population.

In order to sustain use, feedback loops to keep teen drivers off their phones and engage with cellphone blocking apps could be enhanced using concepts from behavioral economics.(15–17, 41, 43, 44) A promising intervention would be coupling automated post-trip feedback with a financial incentive to make the act of maintaining the use of a cellphone blocking setting and/or abstaining from handheld phone use more salient and attractive than the impulse to pick up and use a phone while driving.(45) We found the two strategies that were

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most perceived to be “very effective” for reducing texting while driving were financial rewards (75%) and loss-framed financial incentives (63%). The reason why loss-framed incentives may be more effective when actually tested is the behavioral economic phenomenon of loss aversion in that individuals are more sensitive to losses than equivalent gains.(46) For example, actuarially equivalent loss framed incentives were more effective than gain or lottery framed incentives for promoting physical activity as measured by smartphone apps that monitor step counts.(24) Whether this would hold for incentivizing safe driving behavior still needs to be investigated. Financial incentives could be brought to scale through repurposing existing auto–insurer teen driver discounts into incentives based on actual driving performance and phone use as measured by in vehicle devices or smartphone telematic applications in usage-based insurance programs.(47, 48)

This study raises several questions in need of future research. The comparative effectiveness of smartphone-based strategies to sustainably reduce cellphone while driving and subsequent safety events is greatly needed. Specifically, the future studies should test cellphone blocking with and without additional engagement strategies such as automated feedback and incentives and examine the intended and unintended consequences of automated parental notification strategies. Research designs should examine the balance between more aggressive interventions that could be more efficacious with whether they are acceptable enough to be adopted and used.

There are limitations to this study. We used self-report data and these may not reflect actual behavior or preferences if confronted with real-world choices. The survey recruitment strategy was designed to screen and recruit eligible participants who completed the survey for a future randomized trial of smartphone based strategies to reduce cellphone use while driving. Thus recruitment for the study relied on a sample of convenience and may not be generalizable outside of the recruitment catchment area of urban and suburban Southeastern Pennsylvania. We were not able to calculate an overall response rate since we cannot determine what proportion of those who were mailed an invitation to participate who met eligibility criteria such as admitting to texting while driving in the last month. Including only those who admit to texting while driving partially limits response bias by measuring the attitudes and perceptions of only those engaged this risky behavior. Finally, by recruiting participants that had previous contact with a pediatric health care system, exposure to an injury or illness first hand may have caused attitudinal bias in participants’ attitudes.

In summary, a highly promising strategy based on perceived acceptability and effectiveness for reducing cellphone use while driving among teen drivers includes a cellphone blocking app with automatic responses to incoming texts and calls that still permits navigation and music application, combined with behavioral economic incentives to reinforce good behavior and sustained use. Additional research to determine the effectiveness of interventions that pair cellphone blocking and monitoring technology with behavioral economic engagement strategies is warranted.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Acknowledgments

The authors than Molly Tedeiken, BS for recruitment and enrollment of participants. Research reported in this publication was supported by: (1) the National Center for Advancing Translational Sciences of the National Institutes of Health under award number UL1TR000003 (Delgado, Lee) and the National Institute on Aging under award number P30AG034546 (Delgado) under pilot grants from the University of Pennsylvania Center for Health Incentives and Behavioral Economics; (2) National Institute of Child Health and Human Development under award number K23HD090272001 (Delgado); (3) National Heart, Lung, and Blood Institute under award number K12HL109009 (Delgado). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

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APPENDIX

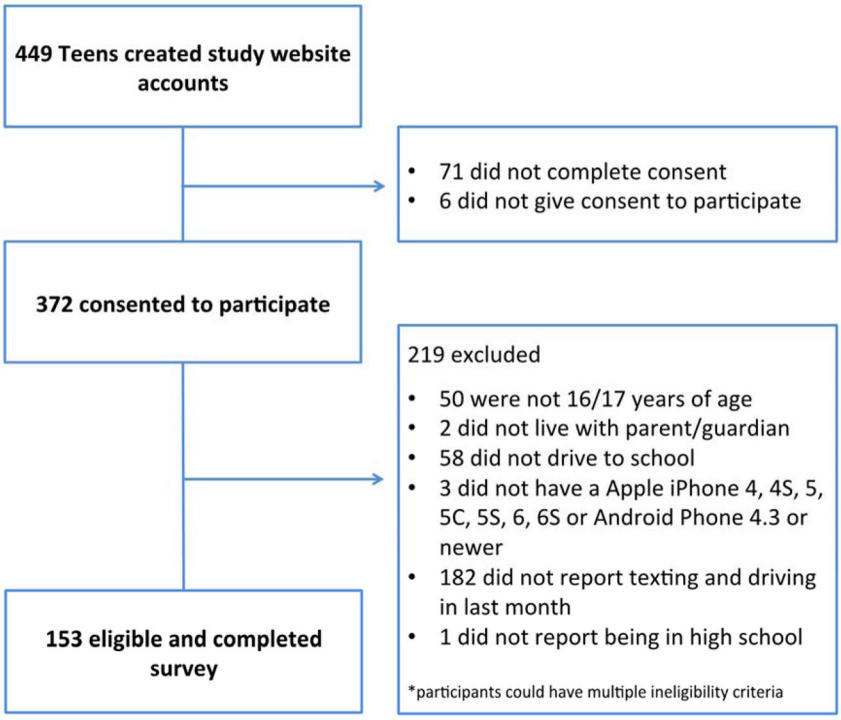

Figure A1.
Flow Diagram

Table A1

Demographics, Phone, and Driving Characteristics of Survey Respondents

Characteristic	Total N (%)
Age (%)	
16 years old	28 (18)
17 years old	125 (82)
Grade (%)	
9th	0 (0)
10th	6 (4)
11th	60 (39)
12th	87 (57)
State (%)	
Pennsylvania	153 (100)
Race (%)	
White	132 (86)

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Characteristic	Total N (%)
Black	5 (3)
Other	14 (9)
Did not answer	2 (1)
Ethnicity (%)	
Hispanic/Latino	4 (3)
No	149 (97)
Type of smartphone (%)	
Apple iPhone 4, 4S, 5, 5C, 5S, 6, 6S	139 (91)
Android Phone 4.3 or newer	14 (9)
Times drive per week (last month) (%)	
1–2 times a week	2 (<1)
3–5 times a week	33 (22)
Every day	116 (76)
Ticket for a traffic violation (%)	
Yes	13 (9)
Ever been/almost been in an accident as driver? (%)	
Yes-accident	26 (17)
Yes-almost accident	44 (29)
Days text or email while driving (past 30 days) (%)	
1–2 days	37 (24)
3–5 days	35 (23)
6–9 days	32 (21)
10–19 days	29 (19)
20–29 days	11 (7)
Everyday	6 (4)

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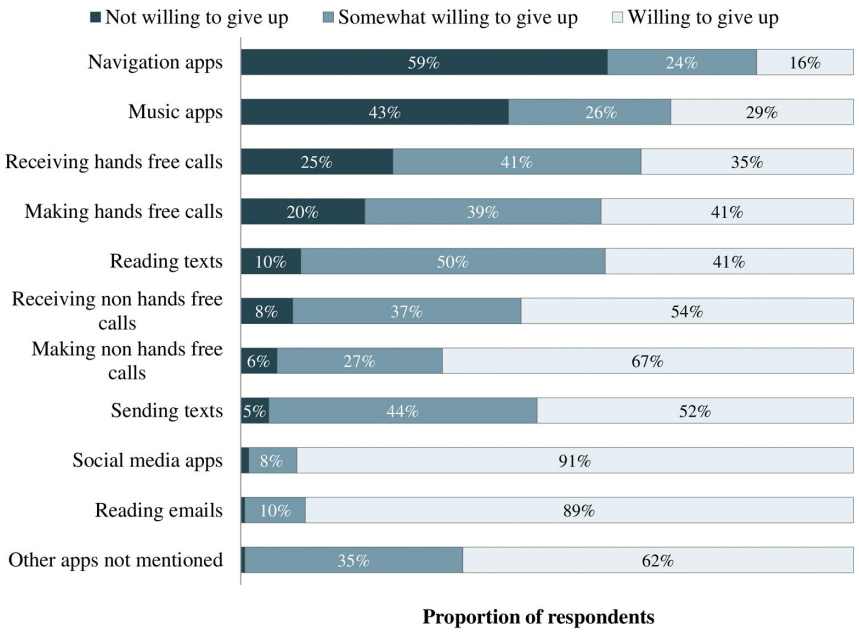

Figure 1.
Willingness to Give Up Types of Cellphone Use While Driving

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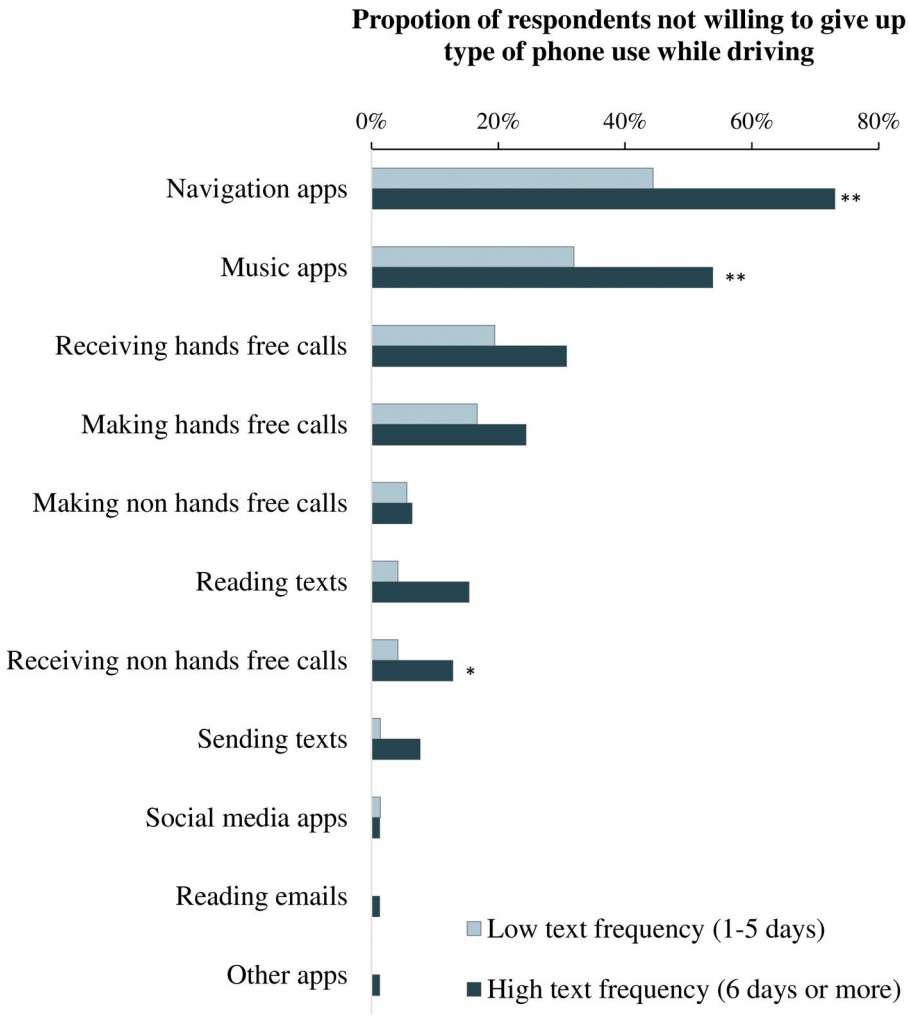

Figure 2. Proportion Not Willing to Give Up Types of Cellphone Use While Driving According to Texting While Driving Frequency over Past 30 Days

* = P ≤ 0.05; ** = P <0.01

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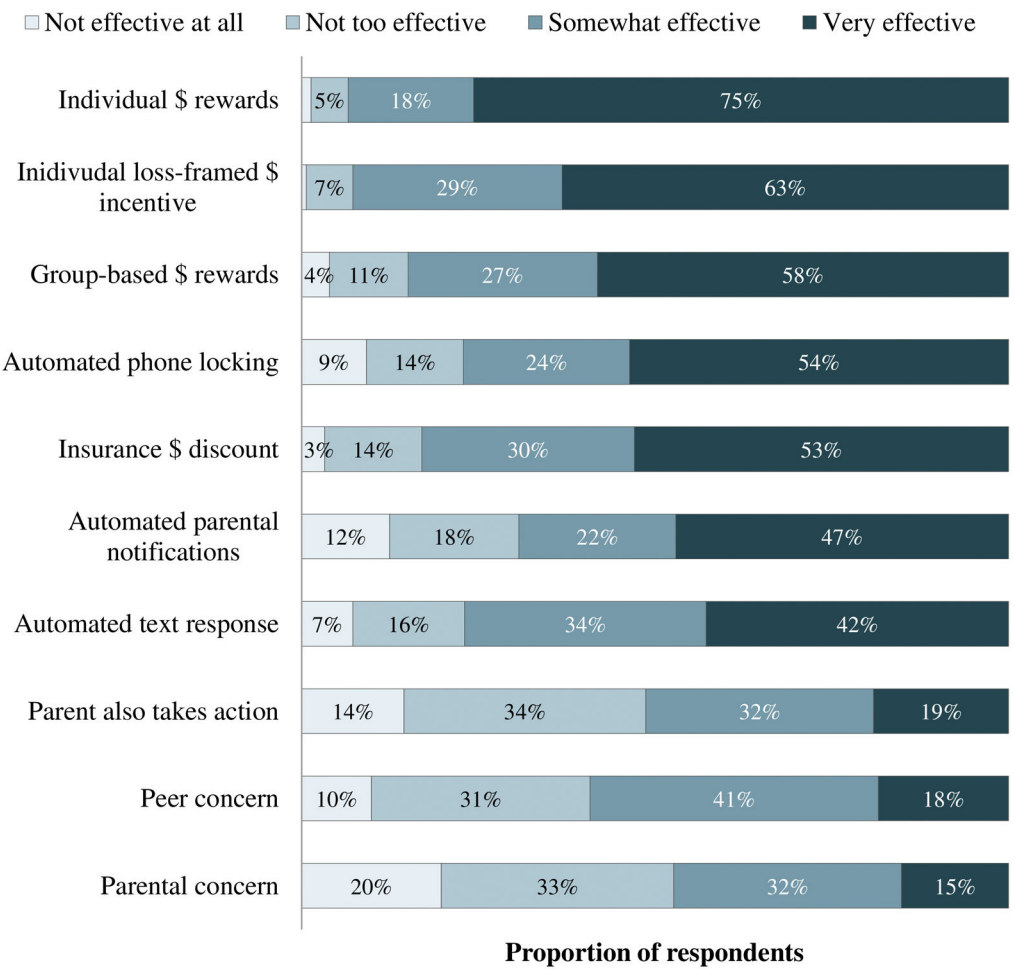

Figure 3.
Perceived Effectiveness of Proposed Strategies to Reduce Cellphone Use While Driving over the Course of One Year

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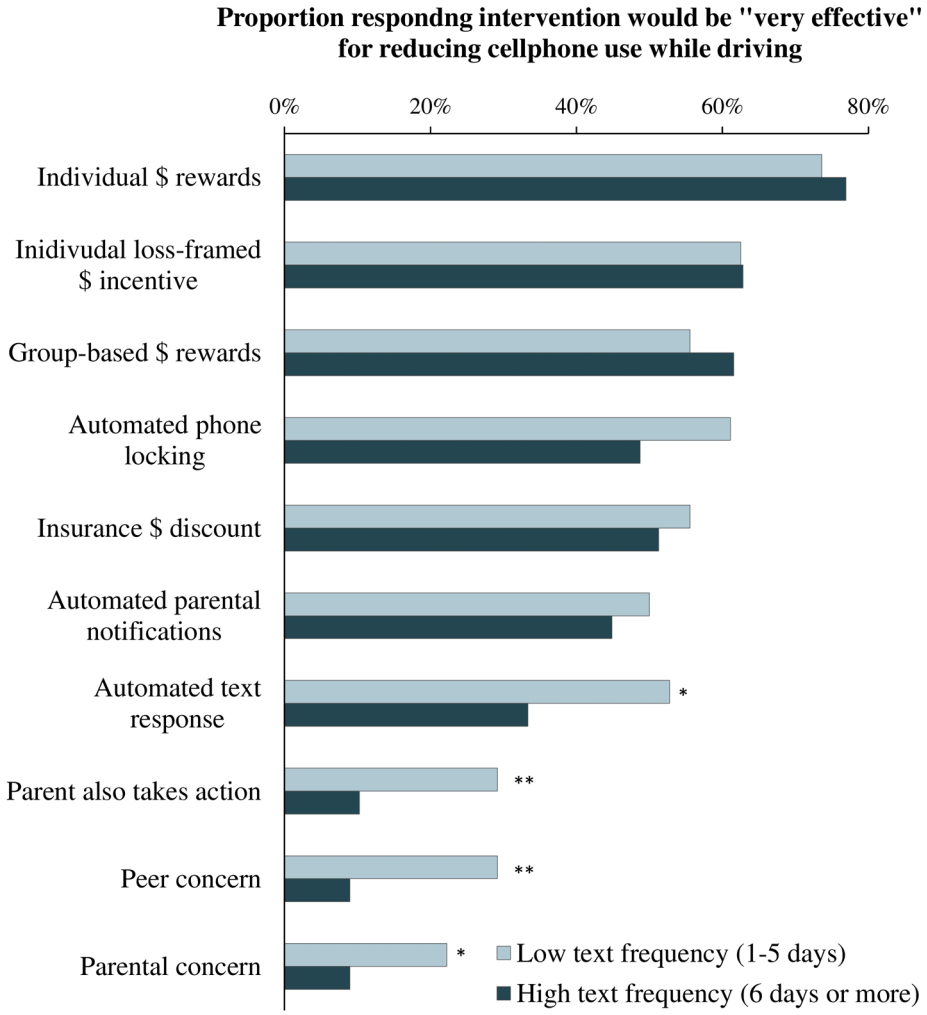

Figure 4. Perceived effectiveness of proposed intervention strategies according to baseline texting while driving frequency

* = P ≤ 0.05; ** = P <0.01

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Table 1

Attitudes towards blocking technology

Perception of cellphone blocking technology	Low N (%)	High N (%)	*P*-value	Total N (%)
Benefits for using this type of cell phone blocking technology? (%)				
I don't get distracted	62 (86)	68 (87)	0.999	130 (87)
I don't need to look away from the road	57 (79)	58 (74)	0.615	115 (77)
Comply with the cellphone laws	37 (51)	41 (53)	0.999	78 (52)
Save money on car insurance	36 (50)	40 (51)	0.999	76 (51)
No one should use their cellphone while driving	34 (47)	31 (40)	0.448	65 (43)
The technology is cool	14 (19)	13 (17)	0.818	27 (18)
Number of participants that did not respond	0	0		0
Features you would be interested in using? (%)				
Change to silent mode (no sounds with incoming calls/texts)	53 (74)	52 (67)	0.454	105 (70)
Lock the phone completely, except for calling 911	39 (54)	49 (63)	0.363	88 (59)
Automatic reply with incoming texts	43 (60)	42 (54)	0.575	85 (57)
Automatic reply with incoming calls	40 (56)	36 (46)	0.324	76 (51)
Blacken my cellphone screen	33 (46)	34 (44)	0.911	67 (45)
Allow override when receiving calls from anyone	23 (32)	27 (35)	0.862	50 (33)
Allow override when making calls	17 (24)	30 (38)	0.075	47 (31)
Allow override when receiving texts from anyone	12 (17)	20 (26)	0.254	32 (21)
Allow override when sending text messages	9 (12)	22 (28)	0.03	31 (21)
Lock the phone completely	4 (6)	10 (13)	0.212	14 (9)
Number of participants that did not respond	2 (3)	0		2 (1)
Reasons for not using this type of cellphone blocking technology? (%)				
I don't want my parents monitoring what I do on my phone	37 (51)	53 (68)	0.057	90 (60)
I don't know how it works	33 (46)	34 (44)	0.911	67 (45)
I have never seen or used this technology	28 (39)	30 (38)	0.999	58 (39)
It is important for me to answer calls and texts	21 (29)	33 (42)	0.132	54 (36)
I don't need this kind of help	22 (31)	13 (17)	0.069	35 (23)
It is important for me to make calls and send texts	10 (14)	17 (22)	0.295	27 (18)
I don't trust this type of technology	13 (18)	11 (14)	0.662	24 (16)
None of my friends are using this type of technology	12 (17)	12 (15)	0.999	24 (16)
None of my parents are using this type of technology	11 (15)	9 (12)	0.665	20 (13)
I've heard bad things about this technology	2 (3)	1 (1)	0.944	3 (2)
Number of participants that did not respond	3 (4)	2 (3)		5 (3)

Participants who responded to questions selected a mean of 3.3 benefits for using, 3.9 features interested in using, and 2.7 reasons for not using cellphone blocking technology.