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Adolescents' perspectives on distracted driving legislation

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Abstract

Purpose: Distracted driving is a growing global epidemic, with adolescent drivers reporting frequent engagement in distracted driving behaviors. Public health initiatives and legislative efforts designed to decrease the prevalence of these unwanted driving behaviors have demonstrated small, but significant reductions in crash risk. Non-compliance is a known problem among drivers of all ages, but may be especially problematic for novice, adolescent drivers. Using a construct from the Health Belief Model, the relations between demographic factors, perceived threat to safety, and peer influences were investigated with adolescents' support for three types of distracted driving legislation regarding: (a) reading or sending text messages/emails while driving; (b) hand-held cell phone use while driving; and (c) using non-driving-related-in-vehicle (NDIV) technology while driving. Investigating adolescents' perceptions provides an opportunity to understand distracted driving enforcement and legislation.

Methods: Three hundred and seventy-nine adolescents aged 15–19 (M = 16.12, SD = 0.56) were recruited from public high schools. Demographics, perceptions, and support regarding distracted driving were assessed using self-report surveys. Statistical analyses included bivariate correlations and adjusted odds ratios to investigate influences of adolescent support for distracted driving legislation.

Results: Female adolescents were at two times greater odds of supporting a law against texting/emailing while driving compared to male adolescents. Greater perceived threat to safety was associated with all three types of distracted driving legislation (aOR = 1.10, 1.33). Minimal association was found with peer influences.

Conclusions: Perceived threat to safety and gender were associated with legislative support in adolescents.

Practical Application: Interventions and public health campaigns that incorporate elements related to perceived threat may be more successful with female adolescent drivers than male adolescents. Future experimental research will help to determine what factors affect adolescents' perspectives on distracted driving to promote compliance with related legislation.

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Keywords

distracted driving; adolescent; teen; perceived threat to safety; legislative support

1. Introduction

Global organizations such as the World Health Organization (WHO) have recognized distracted driving, namely mobile phone use, as a growing risk factor for motor-vehicle collisions (MVCs) and road-traffic events (WHO, 2011). Distracted driving is defined as any behavior that captures a driver's attention away from the task of driving to focus on a different activity (Vegega, Jones, & Monk, 2013). Whereas drivers younger than 21 years old only constitute 5.4% of licensed drivers in the United States (National Center for Statistics and Analysis, 2017b), drivers aged 15–19 represent 7% of overall driver fatalities and have the highest proportion of age-group fatalities related to distracted driving (e.g., 9%; National Center for Statistics and Analysis, 2017a). Furthermore, distracted driving along with other forms of driver error has been cited as the most common contributing factor to serious crashes involving an adolescent driver (Curry, Hafetz, Kallan, Winston, & Durbin, 2011). Adolescent drivers engage in distracted driving behaviors on a frequent basis (Carter, Bingham, Zakrajsek, Shope, & Sayer, 2014; Pope, Bell, & Stavrinos, 2017), which affects their driving performance (e.g., increased lane deviations, fluctuation in speed, and navigation errors; Stavrinos, Pope, Shen, & Schwebel, 2017). Federal agencies such as the National Highway Traffic Safety Administration (NHTSA) and professional societies such as the American College of Preventive Medicine (ACPM) have recommended strong educational awareness campaigns and stricter law enforcement to promote better adherence to distracted driving legislation and reduce distracted driving behaviors (Sherin et al., 2014).

Distracted driving legislation and regulations (Governors Highway Safety Association [GHSA], 2014) vary by state in strictness and enforcement, with distracted driving-related citations constituting a small percentage of total traffic citations (Rudisill & Zhu, 2016). Despite these legislative efforts (Catherine Chase, 2014), distracted driving is still prevalent with only small reductions in crash risk being attributed to laws and policy efforts, such as cell phone bans for all drivers (Lim & Chi, 2013). When focusing specifically on age-specific young driver bans, policy effectiveness on crash risk is inconclusive (Lim & Chi, 2013). In some jurisdictions crash risk actually increased possibly due to mechanisms such as increased concealment behavior (Ehsani, Bingham, Ionides, & Childers, 2014; Gauld, Lewis, & White, 2014). Results pertaining to cell phone usage and crash-risk reduction also varies based on outcome and confounders (McCartt, Kidd, & Teoh, 2014). Ferdinand et al. (2015) found primary enforcement texting laws have been associated with fewer MVC-related hospitalizations compared to secondary laws, an effect seen for drivers' aged 22– 64 and less evident for adolescents, aged 15–21. Non-compliance with driving laws and restrictions (Carpenter & Pressley, 2013; Curry, Pfeiffer, & Elliott, 2017) suggest a mismatch between legislation, social norms, and attitudes around distracted driving behavior (Atchley, Hadlock, & Lane, 2012; Bingham, Zakrajsek, Almani, Shope, & Sayer, 2015; Sanbonmatsu, Strayer, Behrends, Ward, & Watson, 2016).

Although adolescents cannot vote until age 18, they are directly affected by driving laws and in many ways driving is one of their first steps toward being a civically engaged adult (Winston & Senserrick, 2006). Involving adolescent drivers in the decision-making about the laws that will affect them is not common practice, although it is feasible and can provide useful information. For example, in New Jersey, legislation calling for new adolescent drivers to display reflective decals on their vehicle has been effective in reducing crash rates of teenagers (Curry, Elliott, Pfeiffer, Kim, & Durbin, 2015; Curry, Pfeiffer, Localio, & Durbin, 2013). While effective, the law was very unpopular with teenagers and their families, which may have affected their initial compliance with this specific provision of NJ's Graduated Driver Licensing Law (McCartt, Oesch, Williams, & Powell, 2013).

In the context of distracted driving legislation, we lack information about how adolescents perceive these laws, which is potentially a missed opportunity for needed buy-in from the target population prior to enacting new legislation. Schroeder, Meyers, and Peña (2018) reported from the NHTSA 2015 National Distracted Driving Telephone Survey, 92% of the 6,001 respondents supported the idea of a texting or emailing ban while driving and over half (74%) supported a ban on hand-held cell phone use while driving. However, only 8.2% of the total respondents of the NHTSA survey were adolescents ages 20 years or younger.

Adolescents' support for legislation may be influenced by their perceptions about the dangers of distracted driving as well as their perceptions about important others' approval of the behavior, such as peers. Perceived threat, comprised of the individual beliefs of perceived susceptibility and severity, refers to how threating a certain situation or issue is to your overall health and how susceptible you believe you are to it and its consequences (Champion & Skinner, 2008). In particular, perceived susceptibility has been measured in previous preventive health communications contexts and has shown to be one of the strongest predictors of health behaviors (Jones et al., 2015). In the context of distracted driving, Sanbonmatsu, Strayer, Behrends, et al. found that one of the strongest predictors of college undergraduate's support for distracted driving legislation was how threatening they perceived it to be for public safety (i.e., safety in general). However, there are methodological differences in how risk perceptions are measured in driving studies (Machin & Sankey, 2008; Mirman & Curry, 2016), which may account for the mixed findings regarding the associations between risk-perceptions and distracted driving across studies (Rhodes & Pivik, 2011; Sanbonmatsu, Strayer, Behrends, et al., 2016).

There is ample evidence across a range of health risk behaviors that adolescents are influenced by their peers to take risks that they would not normally take if in the company of an adult, or if they are alone (Gardner & Steinberg, 2005; Simons-Morton, Lerner, & Singer, 2005). In the context of distracted driving, adolescents appear to be differentially sensitive to using mobile devices to communicate depending on their interlocutor (Mirman, Durbin, Lee, & Seifert, 2017), how the device was being used (text vs. phone call; Atchley, Atwood, & Boulton, 2011), and perceived importance of the communication (Nelson, Atchley, & Little, 2009). Finally, adolescents may be susceptible to engaging in risk behavior due to a bandwagon effect (i.e., engaging in a behavior against your own personal belief due to overall group participation; Gardner & Steinberg, 2005; Møller & Haustein, 2014; Simons-Morton et al., 2005; Snyder et al., 2004).

Lastly, there is evidence to suggest that gender may play a role in adolescents' support for distracted driving legislation, as differences with law compliance and perceptions toward distracted driving are apparent. Struckman-Johnson, Gaster, Struckman-Johnson, Johnson, and May-Shinagle (2015) found in a sample of 510 college age adolescents, more women than men agree that texting while driving should be considered illegal along with saying that almost half of the interventions (4 out of 10) presented would influence them to stop driving distracted. Regarding compliance, the presence of hand-held cell phone bans have been associated with lower hand-held cell phone use for women (Rudisill & Zhu, 2017). While Rudisill and Zhu (2017) age groups included adolescents ages 16–19, little research has been done on possible gender differences in this subgroup of adolescents and even less in the context of support for distracted driving legislation.

In the current study, we evaluated the strength of adolescents' support of three distracted driving legislation topics: (a) reading or sending text messages/emails while driving, (b) using a hand-held cell phone while driving, and (c) using non-driving-related-in-vehicle (NDIV) technology while driving. In addition, we determined if support of these provisions was associated with age, gender, driving exposure, perceived threat (a construct from the Health Belief Model) regarding distracted driving behavior, and perceived peer approval of distracted driving behaviors.

Hypotheses

We hypothesized that support for distracted driving legislation would be strongest for female adolescents, those with greater perceived threat, and less perceived acceptance of distracted driving among peers.

2. Method

2.1. Participants

The study sample consisted of 379 high school driver's education students from five high schools in a large metropolitan area in the southeast region of the United States. Participant age ranged from 15–19 years (M_{age} = 16.12, SD = 0.56). The sample was 58.0% (n = 220) female, 54.9% (n = 208) Caucasian, 39.3% (n = 149) African American, 2.4% (n = 9) biracial, 1.1% (n = 4) American Indian/Alaskan Native, 0.8% (n = 3) Asian, 0.8% (n = 3) Hispanic/Latino, 0.3% (n = 1) other races. The sample varied in licensure stage based on the age distribution and elective nature of driver's education in the state (i.e., driver's education is not mandatory and can be taken at any phase of licensure); see Table 1.

2.2. Procedure

This cross-sectional study was part of a larger program of research conducted with adolescent drivers in a high school driver's education setting. The current analysis consists only of the baseline assessments. Surveys were administered in-person at schools by trained research assistants. A university IRB approved the study protocol. The five participating high schools were representative of the demographic makeup of the larger school system comprised of 13 schools from which they came. A classroom announcement informed all students present for driver's education the day of the study. Adolescents provided their

consent to participate in the research study. Across the schools, there was a 93% (379 out of 417 adolescents) participation rate. Students who chose not to participate were instructed to work on other class work. The study visit lasted the entire class period. Students completed the surveys independently.

2.3. Baseline Measures

2.3.1. Demographics.—Demographic information such as age, gender, and driving exposure (e.g., how many days per week do you drive?) were collected with a standard self-report demographic questionnaire.

2.3.2. Health Belief Model perceived threat.—Perceived threat was assessed using four questions measuring how serious four distracted driving behaviors, performed by others, (e.g., drivers talking on a cell phone, text messaging or emailing, using social media, and taking selfies) were perceived to be to their personal safety. An example item was, “How much of a threat to your personal safety are drivers talking on cell phones”; answer choices were on a 4-point ordinal scale: (1) “not a threat,” “minor threat,” “somewhat serious threat,” and (4) “very serious threat.” Responses were summed to make a perceived threat total score with a possible range of 4 to 16 ($\alpha = 0.74$). Higher scores indicated stronger endorsement (e.g., perceived as more threatening to safety).

2.3.3. Perceived peer approval of distracted driving behaviors.—Peer approval was assessed using five questions measuring how accepting individuals perceived their peers were of driver’s engagement in various distracted driving behaviors (e.g., talking on a hands-free cell phone, talking on a hands-held cell phone, text messaging or emailing, checking social media, and taking selfies while driving). An example item was, “In your school, how acceptable would most other students say it is for a driver to talk on hands-free cell phone while driving;” answer choices were on a 4-point Likert type scale: (1) “completely unacceptable,” “somewhat unacceptable,” “somewhat acceptable,” and (4) “completely acceptable.” As before, responses were summed across the five questions to make a total peer approval score ($\alpha = 0.80$).

2.3.4. Support for distracted driving legislation.—Three types of proposed distracted driving legislation, adapted from a 2012 traffic safety report (AAA Foundation for Traffic Safety 2013), were used as the outcome variables of interest: (1) a law against reading or sending text messages/emails while driving, (2) a law against using hand-held cell phones while driving for all ages, and (3) federal government regulation on NDIV technologies to prevent distraction. NDIV includes technology such as in-vehicle communication and entertainment systems. An example item was, “How strongly do you support or oppose having a law against reading, typing, or sending text messages or email while driving;” answers were measured using a 4-point Likert type scale: (1)“strongly oppose,” “somewhat oppose,” “somewhat support,” and (4) “strongly support.”

2.4. Data Analysis

2.4.1. Preliminary analyses.—Means, standard deviations, and proportions were calculated for the demographic variables. Normality analyses on the outcome variables

revealed significant Shapiro-Wilks tests (p's < .0.05), suggesting that normality was violated for all three outcome variables. To assess initial level of relatedness Spearman Rho correlations were conducted between adolescent age, gender, driver attitudes and support for the three types of proposed anti-distracted driving legislations. Group differences by gender were evaluated using Mann-Whitney U tests. To compare levels of support across distracted driving legislation outcomes, a Friedman's test was conducted with Wilcoxon Signed Rank post-hoc tests. Missingness was assessed as 5.0% (n = 19) of the sample had some form of missing data. To handle missingness, pairwise deletion was used for correlations and listwise for regressions. Individuals without full cases on all variables of interest were compared to those with and no significant differences (p's > 0.05) were found for any of the variables.

2.4.2. Regression analyses.—

Responses were binary coded (strongly oppose and somewhat oppose coded as "0," strongly support and somewhat support coded as "1"). Separate binary logistic regressions were conducted for each anti-distracted driving law outcome on the total sample of 360, with full cases for all three outcomes. Age, gender, number of days driven per week, perceived threat, and peer approval were simultaneously entered in the same step in the model to assess unique associations with support of the distracted driving law. All regressions accounted for individual differences in driving exposure due to the age distribution and elective nature (i.e., not mandatory and can be taken at any phase of licensure) of driver's education in Alabama. Results are presented as adjusted odds ratios (aOR). All analyses were conducted in SPSS 23 with significance denoted by a level of $p < 0.05$.

3. Results

3.1. Preliminary results.

Table 2 contains demographic characteristics of the sample. Regarding support for a law against reading or sending text messages/emails, 56.2% (n = 213) of the total sample reported strong support. A quarter of the total sample (n = 93) reported strong support for a law against handheld cell phone use for all ages. Only 16.9% (n = 64) of the total sample strongly supported a proposed federal government regulation on NDIV technology.

Table 3 contains Spearman Rho correlations which revealed that age was associated with gender ($p < 0.001$) and driving exposure ($p < 0.001$), such that older age was associated with being male and driving more days per week. Furthermore, being male was also weakly associated with driving more days per week when compared to females (r = 0.15). Perceived threat to safety was associated with peer approval (p = 0.010), such that more threatening distracted driving behaviors were seen to personal safety, the individual perceived it to be less acceptable by their peers. Perceived threat to safety was also associated with all three of the distracted driving laws (p's < 0.001), with stronger threat perceptions being related to stronger support for each of the proposed distracted driving laws.

Females reported greater perceived threat to safety (U = 14608.50, p = 0.022) and more peer acceptance (U = 14150.00, p = 0.015) compared to male adolescents. Regarding distracted driving legislation, females reported greater support for a law against reading and sending a text/email while driving (U = 12136.00, $p < 0.001$), a law against hand-held cell phone use

for all ages (U = 14889.00, p = 0.032), and federal regulation on NDIV technology (U = 14818.50, p = 0.028).

Lastly, when comparing the level of support across the distracted driving legislations, there was a significant difference in support χ^2 (2) = 373, $p < 0.001$. Post-hoc Wilcoxon Signed Rank tests revealed a significant difference regarding levels of support. Support was greater for a law against texting and emailing while driving when compared to a law against hand-held cell phone use for all ages (Medians 4.0 vs. 3.0, $Z = -9.16$, $p < 0.001$) and a federal government regulation on NDIV technology (Medians 4.0 vs. 2.0, $Z = -10.74$, $p < 0.001$). Furthermore, support for a law against hand-held cell phone use for all ages was greater when compared to a federal government regulation on NDIV technology (Medians 3.0 vs. 2.0, $Z = -5.65$, $p < 0.001$).

3.2. Logistic Regression analyses.

The likelihood ratio χ^2 test was significant for two of the three distracted driving law (p's < 0.01), with the full model for federal regulation on NDIV technology model showing lack of better fit when compared to the null model (p = 0.055).

3.2.1. Prohibiting reading and sending texts/emails—

When assessing support for a law against reading and sending a text/email while driving, an association with gender and perceived threat emerged (see Table 4). The gender effect suggested that female adolescents, compared to males, were associated with a two times greater odds of supporting a law against reading or sending texts/emails while driving (aOR = 2.51, 95% CI [1.41, 4.47], p = 0.002). Regarding the effect for perceived threat, every 1 point increase in perceived threat to safety was associated with a 33% greater likelihood of supporting a law against reading or sending text messages/emails while driving, regardless of gender (aOR = 1.33, 95% CI [1.18, 1.50], $p < 0.001$). No significant associations were found regarding age, driving exposure, or peer approval.

3.2.2. Prohibiting hand-held cell phone use for all ages—

The only significant predictor of support for a law against using hand-held cell phone use for all ages (i.e., not just adolescents) while driving was perceived threat to safety (aOR = 1.24, 95% CI [1.11, 1.38], $p < 0.001$). Results indicated that every 1 point increase in perceived threat to safety was associated with a 24% greater likelihood of supporting a law against using handheld cell phones while driving for all ages. No significant associations were found regarding age, gender, driving exposure, or peer approval.

3.2.3. Federal regulation on NDIV technology—

Regarding a federal regulation on NDIV technology no predictors emerged as significant at the α level of 0.05. Two associations, perceived threat to safety (p = 0.067) and peer acceptance (p = 0.099), were significant at the α level of 0.10. No significant associations were found for age, gender, or driving exposure.

4. Discussion

Lack of compliance undermines the effectiveness of legislative cell phone bans to curtail risky behavior. This warrants an understanding of pre-existing support for such legislation to inform policy-makers and practitioners to help cultivate community buy-in and self-enforcement. The current study found that adolescents reported the strongest support for a law against reading and sending a text/email while driving (56.2%), followed by a law against using hand-held cell phone use for all ages (24.5%), and lastly a federal regulation on NDIV technology (16.9%). Partial support for the hypotheses found that female adolescents and those with greater perceived threat had greater odds of supporting distracted driving legislation. Contrary to expectation, perceived peer acceptance was not significantly associated with the odds of supporting legislation.

Regarding gender, females had two times greater odds of supporting a distracted driving law against reading and sending texts/emails while driving compared to male adolescents. The gender differences seen with perceived threat and support for the distracted driving legislation aligns with previous findings regarding epidemiological evidence of greater female compliance with local hand-held cell phone bans across ages (Rudisill & Zhu, 2017) and females being more likely to report texting while driving as illegal (Struckman-Johnson et al., 2015). Possible mechanisms for this gender difference in perceived threat may include personality factors or gender-based socialization. For example, across cultures, females are found to be more agreeable than males (Costa Jr., Terracciano, & McCrae, 2001) and this increased tendency to cooperate more and show more concern might predispose females to support legislation more than males. Regarding gender-based socialization, injury may be more normalized for male children as parents may socialize them to take more risks than females; indirectly influencing females to develop a greater perception of risk susceptibility (Morrongiello & Hogg, 2004; Schwebel & Barton, 2005).

Greater perceived threat was also associated with less perceived peer approval and more support for all three types of distracted driving legislation by both male and female adolescents. These findings extend prior work from Sanbonmatsu, Strayer, Behrends, et al. (2016) that found that perceived threat to public safety was associated with greater support for distracted driving legislation, by demonstrating it in a younger age group. The association between perceived threat to safety and support for distracted driving legislation lends further support for the Health Belief Model, which considers perceived threat as a combination of two key constructs, perceived risk susceptibility and perceived severity. These beliefs and feelings regarding the likelihood of being affected or injured as well as the seriousness of those consequences has shown consistent predictability with other health-related behaviors (Champion & Skinner, 2008; Jones et al., 2015). While research regarding distracted driving has investigated engagement in the actual behavior and less with support for the legislation, research has found that for young drivers aged 18–30, perceived risk may be superseded by the importance of the call (Nelson et al., 2009).

Perceptions of peer acceptability of distracted driving behaviors did not demonstrate significant associations with adolescents' support for the distracted driving legislation. This differs from the ample amount of adolescent research on social, behavioral, and health-

related risk-taking demonstrating links between perceived peer behavior and values that can shape and influence personal commission of risk-behavior. Specifically, the desire to please peers in combination with the social context of driving with same age passengers may influence individuals to engage in riskier driving behaviors (Allen & Brown, 2008; Brown, Bakken, Ameriger, & Mahon, 2008), such as distracted driving. Understanding individual differences of susceptibility to peer pressure, such as perceived peer acceptance of distracted driving behaviors may contribute to engagement and overall support for restrictive legislation. In the current study, we did not measure adolescents' perceptions about peers' approval of distracted driving legislation, but rather peers' engagement in the types of behavior that would be restricted should those types of legislation be adopted. Adolescents may make a distinction between engaging in the behavior or not, as well as the legitimacy of different approaches to curtail that risk behavior (e.g., a household rule vs. a state-enforced ban). Future research can explore these nuances.

Finally, lack of significant associations between individual factors and a federal regulation on NDIV technology may be attributed to the perception that in-vehicle technology is not as risky or distracting of a factor in comparison to cell phone use (Prat, Gras, Planes, Font-Mayolas, & Sullman, 2017); when research suggests otherwise (Horrey & Wickens, 2004; Lee, 2007). Further research on risk perceptions and how they may vary depending on the type of technology (e.g., a navigation cell-phone application versus entertainment system) may better explain adolescents' perceived risk, engagement in the behavior, and support of the regulations regarding it (Parnell, Stanton, & Plant, 2017).

4.1. Strengths & Limitations

This study had several strengths including a small proportion of eligible participants who declined to participate (< 10%), model covariates informed by theory and empirical evidence, and addresses a gap in the literature on adolescents' perspectives on distracted driving legislation. However, some limitations should be noted.

One limitation is generalizability across states as cell phone and text messaging legislation and enforcement vary for drivers of all ages (Insurance Institute for Highway Safety, 2017). We also were unable to collect sociodemographic information about the adolescents who elected not to participate in our study, so a comparison between them and the sample of participants is not possible. The second, being the lack of representation of all the high schools within the targeted school district. Random sampling was used which successfully reflected the overall sociodemographic makeup of the entire school district, future studies should incorporate stratified sampling to extend external validity.

We measured driving exposure using days driven per week. Future research could incorporate more granular measures of driving exposure to determine how perceptions of legislation changes as a function of accumulating different driving experiences. While these findings add further discussion to the cross-sectional findings on attitudes and distracted driving (Atchley et al., 2011; Sanbonmatsu, Strayer, Behrends, et al., 2016; Sanbonmatsu, Strayer, Biondi, Behrends, & Moore, 2016), further research is needed in the form of longitudinal observational studies which incorporates the complex interaction of development, attitudes, beliefs, and behavior regarding distracted driving.

4.2. Conclusions

Adolescents supported a law against reading or send texting messages and emails more than laws against hand-held cell phone use for all ages and federal government regulation on NDIV technologies. Perceived threat beliefs may be an important target of public health campaigns, and when paired with the introduction of new legislation on the topic of distracted driving, may complement compliance and community buy-in. Other research has suggested that fear-based tactics should be targeted in conjunction with providing developmentally adequate coping and self-efficacy mechanisms, and avoiding fear-based induction of anger (Carey & Sarma, 2016). Finally, prior research has indicated that targeting adolescents' beliefs about avoiding cell phone use while driving may be particularly potent (Hafetz, Jacobsohn, García-España, Curry, & Winston, 2010).

5. Practical applications

Interventions and public health campaigns that incorporate elements related to perceived threat to safety may be more successful with female adolescent drivers than with male adolescents. Examples of these elements include offering education to increase personal awareness of the consequence or risk of engaging in distracted driving behaviors (personally or by others) such as receiving a distracted driving-related violation or being injured or dying from a distracted driving-related crash (see Atchley et al., 2012; McDonald, Brawner, Fargo, Swope, & Sommers, 2018; Tian & Robinson, 2017). Future studies should continue to investigate perceived threat and risk in the context of distracted driving, but also focus on other behavior change factors. These factors include, but are not limited to, perceived benefits (Parsons, Siegel, & Cousins, 1997; Steadman, Chao, Strong, Maxwell, & West, 2014), decision making heuristics (Reyna & Farley, 2006), and individual differences in personality such as sensation seeking (Maslowsky, Buvinger, Keating, Steinberg, & Cauffman, 2011), as these factors may also show effectiveness with both female and male adolescents.

Technological mediums such as YouTube® and social media platforms may offer a potential benefit for public health campaigns geared toward improving traffic safety culture. As the age of video viewership tends to be younger, with males streaming the most videos, these platforms may offer an appropriate method for engaging pre-adolescents and adolescents who may be more predisposed to risky driving behaviors (Lister et al., 2015; Steadman et al., 2014; Vingilis et al., 2017). Tailoring messages to account for gender differences in personality and socialization related to distracted driving may help to further engage teens by targeted their social identity (Moran & Sussman, 2014). Lastly, while understanding attitudes and perceptions are important for behavior change and legislation support, integration with other technology-based, safety countermeasures including cellphone applications to deter cellphone-based distraction (Creaser, Edwards, Morris, & Donath, 2015; Delgado et al., 2018) and interactive vehicle features (Lerner, Singer, & Huey, 2008) such as driver assist or function lock-out may provide a platform for better compliance and adolescent support.

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Biography

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Abbreviations:

MVCs	motor vehicle collisions
NHTSA	National Highway Traffic Safety Administration
ACPM	American College of Preventative Medicine
GHSA	Governors Highway Safety Association
NDIV	non-driving-related-in-vehicle

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Highlights

- Adolescent support was the greatest for a law against texting and emailing while driving when compared to a law against hand-held cell phone use for all ages and a federal government regulation on non-driving-related-in-vehicle technology.
- Female adolescents were at two times greater odds of supporting a law against texting and emailing while driving compared to male adolescents.
- Greater perceived threat to safety was associated with greater support for distracted driving legislation.

Table 1.

Minimum age and time requirements for Alabama ’s Graduated Driver Licensing process by licensure phase, as of 2017

Driver’s license phase and unsupervised driving restrictions	Age[a]	Time[b]
Stage I - Learner’s permit	15	After 30 hours of supervised (licensed driver > 21 years) behind-the wheel practice
Stage II - Provisional license	16	6 months
Cannot drive between the hours of 12 a.m. and 6 a.m.	-	-
1 passenger other than immediate family in the vehicle	-	-
May not use a cellular or handheld device behind the wheel	-	-
Stage III — Unrestricted license	17	-

Note.

[a]Minimum age in years license can be held.

[b]Minimum time license can be held.

Table 2.

Sample characteristics

	n	*M*	*SD*	Range	%
Age	379	16.12	0.56	15 – 19	-
Gender (Female)	379	-	-	-	58%
Days driven per week	375	3.43	2.34	0 – 7	-
Perceived threat	372	14.11	2.08	4 – 16	-
Peer approval	371	11.16	3.58	5 – 20	-
		Strongly oppose	Oppose somewhat	Support somewhat	Support strongly
Support for:		%	%	%	%
Law against reading or sending text messages/ emails	373	6.9	12.9	22.4	56.2
Law against hand-held cell phone for all ages	374	11.3	26.6	36.1	24.5
Federal government regulation on NDIV technologies	374	22.2	27.2	31.9	16.9

Note. *M* = mean, *SD* = standard deviation, NDIV = non-driving-related in-vehicle.

Table 3.

Intercorrelations among study variables.

	1	2	3	4	5	6	7	8
1. Age	1							
2. Gender (Female)	0.180**	1						
3. Days driven per week	0.175**	0.145**	1					
4. Perceived threat	−0.012	−0.119*	−0.080	1				
5. Peer approval	−0.057	−0.145**	−0.034	−0.135**	1			
6. Law against reading or sending text messages/emails	−0.028	−0.269**	−0.101	0.355**	−0.017	1		
7. Law against hand-held cell phone for all ages	0.027	−0.111*	−0.095	0.280**	−0.062	0.416**	1	
8. Federal government regulation on NDIV technologies	0.020	−0.114*	−0.096	0.168**	−0.098	0.222**	0.481**	1

Note.

NDIV = non-driving-related.

* $p < 0.05$.

** $p < 0.01$.

Table 4.

Logistic regression for distracted driving legislation (n = 360).

						95% CI		
	B	**SE**	**Wald**	**df**	**aOR**	***LL***	***UL***	***p***
Law against reading or sending text messages/emails								
Age	−0.11	0.25	0.19	1	0.90	0.55	1.47	0.666
Gender (Female)	0.92	0.29	9.80	1	2.51	1.41	4.47	0.002*
Days driven per week	0.03	0.06	0.17	1	1.03	0.91	1.16	0.677
Perceived threat	0.29	0.06	21.80	1	1.33	1.18	1.50	<0.001*
Peer approval	0.00	0.04	0.01	1	1.00	0.93	1.09	0.941
Law against hand-held cell phone for all ages								
Age	0.20	0.22	0.80	1	1.22	0.79	1.86	0.370
Gender (female)	0.28	0.24	1.41	1	1.32	0.83	2.10	0.234
Days driven per week	−0.03	0.05	0.47	1	0.97	0.88	1.06	0.493
Perceived threat	0.21	0.06	14.58	1	1.24	1.11	1.38	<0.001*
Peer approval	−0.03	0.03	1.04	1	0.97	0.91	1.03	0.307
Federal government regulation on NDIV technologies								
Age	0.21	0.20	1.10	1	1.24	0.83	1.83	0.293
Gender (Female)	0.27	0.23	1.41	1	1.31	0.84	2.04	0.235
Days driven per week	−0.05	0.05	0.99	1	0.96	0.87	1.05	0.320
Perceived threat	0.10	0.05	2.72	1	1.10	0.99	1.22	0.067±
Peer approval	−0.05	0.03	2.72	1	0.95	0.90	1.01	0.099±

Note. B = estimate, SE = standard error, df = degrees of freedom, aOR = adjusted odds ratio, CI = confidence interval, LL = lower limit, UL = upper limit, NDIV = non-driving-related in-vehicle.

*$p < 0.05$.

±$p < .10$.