

Resources and Tools to Reduce Multiple Risky Driving Behaviors

Task 2 Report

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1 INTRODUCTION

There is growing recognition that drivers involved in fatal crashes are often engaged in multiple risky behaviors – not wearing a seat belt, speeding, and driving impaired or distracted (*FARS*, 2020). To reach our collective goal of zero deaths on our nation’s roadways, we must seek to understand factors associated with multiple risky driving behaviors and then develop and test interventions that can effectively reduce these risky driving behaviors and improve overall driving safety.

This project proposes to develop and test a brief intervention that is designed to address multiple risky driving behaviors and can augment existing infrastructures.

This report summarizes Task 2 of this project. The purpose of Task 2 is to create content for a brief intervention to reach drivers who engage in multiple risky behaviors, to pilot test and refine the intervention, and to develop a plan for the full experimental design study to be implemented in Task 3.

The Task 2 Report includes the assessment tool designed to gather information about multiple risky driving behaviors and factors associated with multiple risky driving behaviors, content created for the brief intervention, pilot testing results, and a plan for the experimental design study.

2 BACKGROUND

High-risk drivers make up approximately 6% of the driving population but account for a disproportionate number of crashes and near crashes (Guo & Fang, 2013). Research findings suggest that the consequences associated with high-risk driving (i.e., driving violations, crashes, injuries, and fatalities) are substantial (Dahlen et al., 2005; Oltedal & Rundmo, 2006). There is growing recognition that drivers involved in fatal crashes are often engaged in multiple risky behaviors – not wearing a seat belt, speeding, and driving impaired or distracted (*FARS*, 2020). Those engaging in multiple risky driving behaviors may require more intensive or different interventions than are typically provided to drivers who are cited for any one of these risky behaviors in isolation. To reach our collective goal of zero deaths on our nation’s roadways, we must seek to understand factors associated with multiple risky driving behaviors and then develop and test interventions that can effectively reduce these risky driving behaviors and improve overall driving safety.

In Task 1, a literature review was conducted to understand the multifaceted nature of impulsivity (what impulsivity is, kinds of impulsivity, etc.), how impulsivity is measured, and the relationship between impulsivity and high-risk driving behaviors. Further, the literature review explored ways to reduce impulsivity and inform the development of a successful intervention to influence high-risk driving behaviors. While the focus of the literature review was on impulsivity, other factors like sensation seeking, affinity for risk, risk awareness and substance use disorders were also reviewed. The literature review completed in Task 1 was used to inform the development of an intervention that addresses multiple risky driving behaviors.

3 ASSESSMENT

3.1 Assessment Development

To develop the initial version of the assessment, we reviewed the instruments used in the literature for the constructs relevant to this study (e.g., driving behaviors, impulsivity, risk perceptions, normative beliefs, etc.). Using the Center for Health and Safety Culture’s (CHSC) extensive experience in surveys of driver behaviors and beliefs as well as published research, we chose survey items that met minimum standards psychometrically and that were reasonable to administer to our planned study population (i.e., an online survey of young adults). When published instruments were not available, we used items the CHSC had used successfully in the past whenever possible. Table 1 describes the source of survey items for each study construct. A copy of the assessment instrument is provided as Appendix 8.1.

Table 1. Measures for Study Constructs

Construct	Instrument and Source	Notes and/or adaptation(s)
Speeding/Aggressive	CHSC	Previously used by the CHSC (Otto et al., 2021).
Distracted Driving	Traffic Safety Culture Index (AAA Foundation for Traffic Safety, 2021)	Removed hands-free technology items and added “reached for an object while driving” item.
Seat Belt	CHSC	Similar to widely used national surveys (i.e., National Survey of Drug Use and Health; Youth Risk Behavior Survey).
Driving Under the Influence (DUI)	CHSC	The CHSC has used these same items for recent other work measuring DUI behaviors.
Compensating Behaviors	CHSC	Newly developed for this study to parallel the intervention.
Impulsivity	UPPS-P short version (Cyders et al., 2014)	
Emotional Intelligence	Driver Emotional Intelligence Scale (DEIS) (Ahmed et al., 2021)	DEIS was based on Trait Emotional Intelligence Questionnaire short form (Petrides, 2009).
Risk Perceptions	Traffic Safety Culture Index (AAA Foundation for Traffic Safety, 2021)	Matched to study behaviors.
Injunctive Norm Beliefs	Traffic Safety Culture Index (AAA Foundation for Traffic Safety, 2021)	Matched to study behaviors.
Descriptive Norm Beliefs	CHSC	The CHSC uses similar items in many projects.
Control Beliefs	Elliott & Armitage study on speeding (2009)	Global perceived behavioral control items matched to study behaviors.

3.2 Assessment Pilot Testing

The assessment was pilot tested to determine internal and test-retest reliability of the measures with the focus population. We used a Qualtrics purchased panel of young adults (18-25) in the

United States to complete the pilot test. The pilot test was reviewed and approved by the Institutional Review Board at Montana State University.

The sample was recruited by inclusion criteria of age 18-25 in the United States, drive a vehicle at least once a week over the last 30 days, and report two or more risky driving behaviors (i.e., speeding, driving distracted, not wearing a seat belt, driving under the influence of alcohol or cannabis). Risky driving behaviors were initially assessed using one representative survey item for each set of behaviors; follow-up items were asked for those who endorsed the behavior.

Eligible participants who completed the initial survey were invited to complete the same survey a second time approximately three weeks later. Altogether, 234 participants completed one or two surveys; 124 completed just the initial survey and did not complete the second survey, while 110 completed both surveys. Time elapsed between survey completions ranged from 16 to 28 days with a *Mean* of 21.7 days (*SD* = 3.3). Most participants (79.1%) completed the second survey between 17 and 24 days after the first.

Most participants reported driving a vehicle most days each week (Time 1: 78.6%, Time 2: 85.0%), and at both survey administrations, most respondents described themselves as women (Time 1: 70.9%, Time 2: 72.6%). On average, participants were 22.3 years old and lived in 36 different states. The population density of participants' communities varied; at Time 1, 29.3% reported living in a large city, 33.7% in a suburb near a large city, 25.5% in a small city or town, and 11.5% in a rural area. Time 2 population density responses were similarly distributed. Most survey respondents had received a high school diploma, an associate's degree, or had completed some college but not earned a degree (Time 1: 72.2%, Time2: 69.3%).

In the construction of the instrument, we included items for both aggressive driving and speeding behaviors, as they are closely related and often measured together. In the analyses of the pilot test, we consider the aggressive and speeding items together and the speeding items independently, as speeding is the specific behavior of interest in this multi-risk study.

Table 2 describes the scale and subscale construction and the internal reliability as estimated with Cronbach's alpha (α) for each. Generally, α coefficients less than 0.5 are considered unacceptable and the minimum level is typically 0.7. Applying that guideline to our measures, we find most subscales to have acceptable reliability. Both the subscales for aggressive/speeding behaviors combined and speeding alone have lower reliability than other behaviors and aggressive/speeding combined had greater reliability than speeding alone (.62 vs .41). For emotional intelligence, our results support the use of 29 items (out of 30 total) of the Drivers' Emotional Intelligence Scale (DEIS), consistent with the development research of the instrument (Ahmed et al., 2021). For the secondary outcomes of risk perceptions and injunctive normative beliefs, the speeding only subscales had greater reliability than the aggressive/speeding combined. Overall, our pilot results support the conclusion that the scales and subscales have appropriate internal consistency for use with the focus population of this study.

Review of descriptive statistics of each scale also indicate that aggressive/speeding and distracted driving were by far the most reported risky driving behaviors, while not wearing a seat belt and driving under the influence of substances (DUI) were much less frequent.

Table 2. Scale Descriptions and Reliability

Scale/Subscale	Number of items	Scale range (higher scores) ¹	Cronbach's Alpha (Reliability) ²	<i>n</i>
Risky Driving Behaviors	--	0 – 4 (greater frequency)	--	--
Aggressive/Speeding	4		.62	220
Speeding only	2		.41	220
Distracted driving	4		.73	215
Seat belt wearing	3		.73	77
DUI	7		.71	59
Impulsivity	20	1 – 4 (greater impulsivity)	.80	210
Driver Emotional Intelligence Scale (DEIS)	29	1 – 7 (greater emotional intelligence)	.89	206
Self-control	12		.90	207
Emotionality	11		.82	208
Anxiety	6		.80	208
Risk Perceptions	--	1 – 5 (greater risk perceptions)	--	--
Aggressive/Speeding	4		.62	231
Speeding only	2		.72	231
Distracted driving	4		.81	232
Seat belt wearing	3		.87	233
DUI	7		.90	228
Injunctive Norm	--	1 – 5 (greater perceived approval)	--	--
Aggressive/Speeding	4		.75	222
Speeding only	2		.80	222
Distracted driving	4		.87	222
Seat belt wearing	3		.89	222
DUI	7		.96	222
Descriptive Norm	--	0 – 5 (belief that others engage more frequently)	--	--
Aggressive/Speeding	4		.85	218
Speeding only	2		.83	219
Distracted driving	4		.87	218
Seat belt wearing	3		.80	218
DUI	7		.94	218
Control Beliefs	--	1 – 7 (greater perceived control)	--	--
Speeding	4		.87	232
Distracted driving	4		.87	231
Seat belt wearing	4		.92	230
DUI	8		.95	229

Note. ¹ Parenthetical description provides interpretation of higher scores. ² Cronbach's alpha is calculated based on sample at Time 1 only; behavior scales are based on those who endorsed that behavior.

Next, we analyzed the relationship between participants' responses to the survey items at the two different time points. Table 3 shows the means at both Time 1 and Time 2 as well as the correlations and repeated-measures t-test results. In these results, we observe similar means at the two time periods for most scale and subscales. As expected, most of the means across the two

time periods are fairly highly correlated and do not differ significantly, indicating stability of measurement over time. Specifically, the measurements for risky driving behaviors are relatively stable, with the most change observed for the DUI measurement, which had only a few respondents. Impulsivity, emotional intelligence, risk perceptions, and control beliefs also showed moderate-to-high correlations and no significant differences between the two time periods. The measurements for injunctive normative beliefs showed more variation between the time periods, with beliefs around DUI behaviors appearing more stable than other beliefs. Overall, results indicate that the measurements are relatively stable across time without any specific intervention. However, because these are measurements of behaviors and cognitions, there is some expected inconsistency or variability across time, underscoring the need for a control group during the trial when attempting to ascertain the impact of an intervention.

Table 3. Scale Means at Time 1 and Time 2 and Correlations and Tests of Differences

Scale/Subscale	Time 1 <i>M</i>	Time 2 <i>M</i>	<i>R</i> ²	Repeated-measures <i>t</i>	<i>n</i>
Risky Driving Behaviors					
Aggressive/Speeding	2.38	2.30	.43**	1.20	101
Speeding only	2.80	2.66	.48**	1.88	101
Distracted driving	2.42	2.29	.47**	1.87	93
Seat belt wearing	1.63	1.52	.65**	.78	25
DUI	1.10	0.97	.58 ⁺	1.06	18
Impulsivity	2.27	2.26	.79**	.39	98
Driver Emotional Intelligence Scale (DEIS)	4.57	4.59	.72**	-.37	97
Self-control	4.91	4.84	.59**	.73	97
Emotionality	4.39	4.53	.54**	-1.47	97
Anxiety	4.21	4.19	.47**	.14	97
Risk Perceptions					
Aggressive/Speeding	2.92	2.94	.52**	-.29	109
Speeding only	2.80	2.79	.43**	.15	109
Distract	3.40	3.54	.34**	-1.45	109
Seat Belt	3.70	3.78	.53**	-.87	109
DUI	3.98	3.90	.48**	.89	109
Injunctive Norm					
Aggressive/Speeding	2.91	2.77	.20 ⁺	1.36	104
Speeding only	2.97	2.79	.16	1.35	104
Distract	2.47	2.40	.17	.58	104
Seat Belt	2.35	2.21	.27*	1.13	104
DUI	1.98	1.92	.43**	.55	104
Descriptive Norm					
Aggressive/Speeding	2.97	2.84	.28*	.91	103
Speeding only	3.07	2.94	.30*	.88	103
Distract	2.97	2.79	.20 ⁺	1.21	102
Seat Belt	3.01	2.68	.24 ⁺	2.16 ⁺	102
DUI	2.07	2.05	.28*	.15	102
Control Beliefs					
Speed	5.55	5.48	.47**	.54	109

Distract	5.41	5.17	.33**	1.56	109
Seat Belt	6.13	6.03	.52**	.83	108
DUI	5.91	5.90	.48**	.10	107

Notes. Includes participants with both Time 1 and Time 2 data. For behaviors, only participants who endorsed that behavior are included. ⁺ $p < .05$; * $p < .01$; ** $p < .001$

Finally, as the planned intervention includes asking participants to choose harm reduction strategies for risky driving behaviors, the pilot test version of the assessment included items to assess whether participants had considered or tried a variety of harm reduction strategies. Participants responded to the questions, and the variation in their patterns of responding indicated that they were able to answer the questions in a meaningful way.

Pilot test findings support the use of the assessment for the randomized controlled trial to test the effect of the brief intervention. We will use these results to inform refinements to the assessment and to provide needed context in interpretation of the findings of the randomized controlled trial for the intervention.

4 BRIEF INTERVENTION

4.1 Brief Intervention Development

To develop the initial version of the brief intervention designed for drivers engaged in multiple risky driving behaviors, we relied on the literature review completed in Task 1 to understand what strategies had been previously tested to reduce the constructs of interest in this study: speeding, impaired driving, non-seat belt use, distracted driving, impulsivity, risk perceptions, driver emotional intelligence, and other mediating factors. Additionally, we sought to include elements in the brief intervention that would seek to meet the person where they are in the process of behavior change, explore cognitions related to multiple risky driving behaviors, provide behavioral strategies to increase safe driving behaviors, and use strategies that would seek to grow a person's motivation.

We developed content sessions for the brief intervention to be delivered virtually in approximately 5-7 minutes each followed by a series of text messages to support participant learning between each session. All components of the brief intervention were designed to be delivered as a stand-alone intervention or to be augmented to accompany an existing program or strategy. All components of the brief intervention are virtual and do not require a trained professional to implement.

Five sessions were created in total: The Emotion Session, Seat Belt Session, Distracted Driving Session, Driving Under the Influence of Substance Session, and Speeding/Aggressive Driving Session. The Emotion Session focused specifically on identifying and regulating emotion, a strategy which seeks to reduce impulsivity. The skill of identifying and regulating emotion was carried into the specific behavior sessions (Seat Belt Session, Distracted Driving Session, Driving Under the Influence of Substance Session, and Speeding/Aggressive Driving Session). The sessions that were specific to a behavior followed a similar format designed to provide education and heighten risk awareness, provide personalized feedback based on the assessment about multiple risky driving beliefs and behaviors, provide normative data about the specific risky driving behaviors, practice identifying and regulating feelings, and provide specific risk mitigating strategies to reduce multiple risky driving behaviors and improve safety.

Additionally, text messages were designed to build motivation and commitment for change, bolster protective beliefs, and encourage participants to practice identifying and regulating emotion. Intervention content developed for pilot testing can be found in Appendix 8.2. The content of the intervention was based on a theoretical foundation including an Integrated Behavior Model, Motivational Interviewing, Transtheoretical Model of Behavioral Change, Harm Reduction, Cognitive-Behavioral Approach, and a Strengths-Based Perspective. Table 4 shows the logic model created for the proposed intervention.

Table 4. Logic Model Created for the Proposed Intervention

Multiple Risky Driving Behaviors					
Strategy: Brief Intervention					
Problem Identification / Opportunity	Strategy Goals Broad action statements about the purpose(s) of the strategy and what it is intended to accomplish	Short-Term Outcomes (e.g., skills, knowledge, beliefs)	Intermediate Outcomes (e.g., behaviors)	Long-Term Outcomes (e.g., consequences)	Health Impacts
<p>Multiple risky driving behaviors result in negative consequences including increased crash risk, serious injuries, and fatalities.</p> <p>There is a gap in understanding how to address impulsivity and the underlying beliefs and behaviors of individuals engaging in multiple risky driving behaviors.</p> <p>Drivers engaging in multiple risky behaviors (such as not using a seat belt, speeding, and driving impaired) may require more intensive or different interventions than are typically provided to drivers who are cited for any one of these risky behaviors in isolation.</p> <p>There is an opportunity to use a harm reduction approach to traffic safety.</p>	<p>Reduce multiple risky driving behaviors to improve safety through a brief intervention that targets specific factors including: impulsivity, risk, perceptions, and attitudes and beliefs.</p> <p>Provide education on multiple risky driving behaviors.</p> <p>Build motivation and commitment for change.</p> <p>Provide personalized feedback about multiple risky driving beliefs and behaviors.</p> <p>Provide specific advice for strategies based on feedback to reduce multiple risky driving behaviors and improve safety.</p>	<p>Understand why multiple risky driving behaviors are particularly problematic.</p> <p>Increase understanding of cognitions and feelings related to risk driving behaviors.</p> <p>Increase commitment to implement a strategy to reduce multiple risky driving behaviors.</p> <p>Use strategies from intervention (skills to reduce high risk driving)^P</p> <p>Increase knowledge of compensating behaviors^P</p> <p>Increase risk perceptions.^O</p> <p>Increase emotional regulation.</p> <p>Increase self-efficacy.</p> <p>Increase protective beliefs (control, normative).^O</p>	<p>Decrease engagement in risky driving behaviors (one or more): Speeding,^O Distracted,^O Impaired, driving^O Seat belt use.^O</p> <p>Based on targeted skills, knowledge, and beliefs, participants may: Increase risk compensating behaviors.^O</p> <p>Decrease impulsivity.^O</p>	<p>Decrease serious injuries and fatalities on roadways.</p> <p>Decrease in citations.</p>	<p>Fewer poor driving outcomes.</p> <p>Improved mental, emotional, and behavioral (MEB) health. MEB is important for individuals to thrive (National Academies of Sciences, Engineering, and Medicine, 2019).</p>

Notes: Bold items will be measured. ^PProcess measures; ^OOutcome measures

4.2 Brief Intervention Pilot Testing

To optimize outcomes and make best use of limited resources, the intervention components were pilot tested and refined. We recruited a convenience sample of college students at Montana State University to complete the intervention pilot testing (See Appendix 8.3). The intervention pilot study was reviewed and approved by the Montana State University Institutional Review Board (IRB). Participants completed a brief online survey to screen eligibility to participate in the interview process (See Appendix 8.4). The eligibility survey asked about seat belt use, distractions, speeding/aggressive driving, and driving under the influence of alcohol and/or cannabis. The voluntary survey was administered from Qualtrics on an encrypted site.

Participants who qualified for the interview were between the ages of 18-25 who reported having engaged in at least two risky driving behaviors in the past 30 days. Participants who qualified were asked to indicate if they were willing to be interviewed and provided their name and email address. Participants were contacted via email to invite them for an interview and were given a copy of the consent form (See Appendix 8.5) and intervention content to review. A total of eight participants completed the interview. Participants were incentivized with a \$20 Amazon gift card for participating in the interview. Each participant reviewed two content sessions. All participants reviewed the Emotion Session and then reviewed one of the four high-risk behavior sessions. The interview consisted of a semi-structured interview protocol and lasted approximately 20 minutes (See Appendix 8.6). A summary paragraph for each session is provided. The interview data will be used to refine the intervention content in Task 3.

Emotion Session Summary

Eight participants were interviewed about the content of the Emotion Session. Participants thought the content of the emotion session was thought provoking. The content seemed to bring awareness to how emotions influence behaviors, specifically driving behaviors. Many agreed that feelings impact driving behavior and that this session helped them to make that connection. One participant reflected that this session was a “good way to check themselves” because there are specific examples, and they can practice with their own emotions.

When asked, “What resonated with you?” many participants mentioned the content that discussed how a person feels, what a person can do to change how they feel, and how one can change or react differently if they choose. One participant expressed surprise about how they kept thinking about the content, even the next day: “I actually have been thinking about this since I read it.”

The emotion session document did not seem confusing to participants and did not appear to have language choices that did not resonate with participants. Further, the Emotion Session document did not seem to elicit strong feelings after reading the content; however, two participants suggested that the content made them reflect on themselves and their past experiences.

Participants described the tone of the document in a variety of ways and used words such as “relatable,” “caring,” “instructive,” “distant,” “light and understanding,” “positive reinforcement,” “experience oriented,” “careful,” and “empathetic or consciousness.”

While many participants shared that the examples used throughout the Emotion Session were relatable, some participants offered suggestions for making the examples more relatable. For example, one participant shared that making the examples “more specific so I can put myself in that situation” would help. Another suggested that “connecting driving and emotions more” and adding “Here is why you might want to do this... Add more self-motivating statements,” would be helpful.

Seat Belt Session Summary

Two participants were interviewed about the content of the Seat Belt Session. Overall, the content of the Seat Belt Session was not confusing, was relatable, and the strategy options were doable to participants. It was noted by one participant that the statistics presented in the session were thought provoking: “The stats are terrifying, not in a bad way, but it is eye opening and enlightening. Numbers can help. This is the reality.” Another participant suggested that the document made them think: “A lot was common sense, but I appreciated the idea of choosing to focus on one of these strategies. This is a different way to increase awareness. It was a nice extensive list [of strategies].”

While one participant suggested that there wasn’t a strong tone in the language, the other participant suggested that this session had “more gravity, and more substance compared to the emotion one.” Further, one participant suggested that after reading the content they “didn’t have any strong feelings.” The other participant suggested that they felt reflective of the content as suggested by the statement: “I reflected on whether I am doing this (the suggested strategies) or if I am part of the problem. I am trying to look at myself critically.”

Distracted Driving Session Summary

Two participants were interviewed about the content of the Distracted Driving Session. Overall, the content of the Distracted Driving Session was not confusing, language choices used in the document were relatable, and the strategy options seemed doable to participants. One participant stated, “I think the biggest thing I was thinking about was the list of strategies that I could try. It helped me think about what I was willing to do.” Another participant stated that the normative data stood out: “The stats that were provided – I like an even mix of stats and personal motivation. This one had a nice balance.” Both participants noted that the strategy options listed varied, and one stated, “You could find something you could do.” One participant suggested that the tone of the language “didn’t feel clinical or preachy,” and that “It doesn’t demonize you for possibly having bad driving habits.” The other participant suggested that the tone was “informative and applicable.”

Speeding/Aggressive Driving Session Summary

Two participants were interviewed about the content of the Speeding/Aggressive Driving Session. Overall, the content of the Speeding/Aggressive Driving session was not confusing, language choices used in the document were relatable, and the strategy options seemed doable to participants.

One participant shared their initial thoughts and feelings about the content and stated, “I do this stuff often you know like passing other vehicles. It is almost like this feeling like you have to speed. You don’t want other people to pass you, so you speed up. Maybe it’s a competitive thing.” One participant stated that the strategy options provided were “broad and a starting point for someone to pick something they could do to be safer.” Another participant shared that the strategies were doable and stated, “Yes, I could definitely monitor my speed more, especially when I feel rushed or frustrated. I probably don’t even know that I am increasing my speed because of how I feel. When my friends are in the car with me, I already slow down, I drive safer.” When asked how participants felt after reading the content of the Speeding/Aggressive Session, one participant said they “thought some of the numbers [statistics] were scary.” Another stated: “I have a tendency to drive too fast. It made me reflect on that and slow down today. It was an eye opener.”

Driving Under the Influence of Substances Session Summary

Two participants were interviewed about the content of the Driving Under the Influence of Substances (DUI) Session. Overall, the language choices used in the document were relatable, didn’t elicit strong feelings after reading the content, and the strategy options seemed mostly doable. One participant stated that while they wouldn’t set a reminder to call a taxi before drinking, they would do the other options. Another participant stated, “there is a limit. If I go to dinner and have a beer, I have no qualms about driving.” When asked what resonated about the document, one participant stated, “The stats really stuck with me. I knew it was a problem, but I didn’t know it was that big of a problem.” Another participant stated that they didn’t feel the statistic about “Most drivers don’t drive under the influence” was totally accurate. The participant stated, “I feel like people drink and drive but don’t think they are drunk. Saying most don’t drive after being over the legal limit would be more believable.” The overall tone of the language used in the document was described as “technical,” “helpful, and “uncondescending.”

Compensation/Participation Questions

In addition to interviewing participants about the content of the sessions, all eight participants were also asked questions about their motivation for participating in virtual sessions, factors that would make participating less appealing, and compensation for participation.

Overall, participants suggested that incentives are important for participation. For example, one participant stated, “Honestly, the incentive is what drove me to this interview and would probably be why I would participate in the sessions.” Another participant stated, “Everything that happens with my friend group revolves around incentives.” In addition to incentives, it was also suggested that explaining the other benefits of participation might help people decide if they want to participate or not. Another participant suggested: “If you’re having trouble reaching people, I know referral incentives are well received, as it might cause one reached person in a group or organization to connect with the rest.”

Amazon gift cards were identified by the majority of participants as the preferred vendor for a gift card; although, gas cards and Visa gift cards were also mentioned. It was suggested that to complete three virtual sessions (5-7 minutes each) followed by a series of text messages,

participants would appreciate dollar amounts from approximately \$5.00 per session up to \$15.00 per session. Other participants suggested that \$20 for all three sessions would be a reasonable amount. One participant thought “a name in a drawing would be enough,” but that was not expressed by any other participants.

Participants had a variety of different answers when asked about participating in sessions if they were entered into a raffle for higher value items like ski tickets, concert tickets, or an iPad. One participant said they would do it for a raffle “as long as it didn’t feel ‘scammy.’ And if I trust the source of where it is coming from.” One participant said, “Absolutely, concerts for sure,” Another said, “Ski tickets would be awesome!” One participant said they would participate “if easy and accessible,” and they offered the advice: “Some surveys are too long. Keep it short. 15 or 20 questions max.” Another participant indicated that they probably would not participate for a raffle. They said, “My participation would improve if there was a guarantee of an incentive. If the raffle was really good, like an iPad, I might do it. But it would have to be easy and not take much time if I wasn’t guaranteed something.”

When asked what would make participating less appealing, some participants weren’t sure, but other participants gave specific responses such as the following:

- “As long as everything feels anonymous. I don't want to feel like anything is incriminating”
- “If the survey or the activity was too long. Some people really care about security questions and don’t want things to get too personal.”
- “Biggest one would be not having enough information about the study right away and what the benefits would be to do it. Be really clear about how long this will take also.”
- “Anything that makes accessing it hard or needing cumbersome software to do it. I would not want a face-to-face interaction. I hate WebEx or things like that. I wouldn’t participate with a platform like that.”
- “If I didn’t think my driving was bad, if I didn’t get paid, and if I didn’t think doing these things were a problem I would be less motivated to participate.”

When asked if there was anything else participants would like to share, responses included:

- “Keep the surveys short and easy. I won’t do anything that takes too long or is too much effort.”
- “I think you should make parts of the session virtual, like an informative video or short clip need to add more interactive elements, not just reading on a screen.”
- “It was good.”
- “The documents were informative. It would be cool to see them come together.”

5 RANDOMIZED CONTROLLED TRIAL PLAN

5.1 Study Aim

The aim of the study is to test the efficacy of a brief intervention designed to reduce multiple risky driving behaviors. The outcomes of interest are speeding, driving under the influence, seat belt use, and distracted driving.

5.2 Study Setting and Participants

Participants in this study will be recruited from a university through direct email advertising to a random sample of students provided by the university and supplemented if needed by classroom recruitment and social media posting about the study. Individuals who respond to the study advertisements will be given introductory information about the study and will be screened for eligibility. Eligibility criteria:

- Ages 18-25
- Hold a valid driver's license
- Report driving at least once a week
- Report engaging in at least two risky driving behaviors in the past month

5.3 Method and Design

All procedures will be approved by the Montana State University Institutional Review Board for human subjects research before the study begins, and participants will provide informed consent.

We will use a randomized controlled trial design to test if the brief intervention decreases multiple risky driving behaviors. Eligible participants will be randomly assigned to one condition – control or intervention. All participants will complete measures at three timepoints – baseline, post-intervention (i.e., immediately following intervention for intervention participants and the same time delay from baseline for control participants), and follow up (i.e., three months following post-intervention). Table 5 provides the estimated timeline for each participant.

Ideally every participant in the intervention group would complete every session and measure at the appropriately scheduled times; however, we recognize that this is not likely to happen. Some participants might start a session and not complete it. Some might complete the first session, but not start the second session, and yet others might be delayed in the timeline. Our goal will be to retain participants in the study as much as possible, and we will seek to collect data regardless of completion at any point in the trial. We plan to send at least two reminder messages (email and text) to participants who are not responsive in each session's timeframe. We will also encourage any participants who finish at least one session to take the post and follow-up assessments. By retaining as much data as possible, we can explore the potential effect of dose, and we will adjust statistical analyses as necessary to account for varying completion timelines.

Table 5. Timeline for Each Participant

	Week 0	1	1	2	3	4	5	6	7	8-19	20
Intervention	Recruit and screen	Session 1 Consent, randomize, baseline Assess.	Session 2 emo. regulation	Session 2 practice (and texts)	Session 3 1 st behavior	Session 3 practice (and texts)	Session 4 2 nd behavior	Session 4 practice (and texts)	Session 5 Post assess.	* 3 month post	Follow-up assess.
Control	Recruit and Screen	Session 1 Consent, randomize, baseline assess.	No Tx	No Tx	No Tx	No Tx	No Tx	No Tx	Post assess.	* 3 month post	Follow-up assess.

All data will be gathered via self-report, and measures will assess outcomes as well as the beliefs and factors targeted by the intervention. Demographic information will be collected.

Primary Outcome Measures:

- A. Speeding
- B. Driving under the influence
- C. Seat belt use
- D. Distracted driving

Secondary Outcome Measures:

- E. Impulsivity
- F. Risk perception
- G. Protective beliefs (control beliefs, normative beliefs)
- H. Driver’s emotional intelligence
- I. Increased use of risk mitigating strategies

We will also gather data on frequency of driving and types of trips (i.e., purpose, length, type of roadway, and geography), alcohol and cannabis use behaviors, crash involvement, citation history. These additional variables will serve as potential covariates in our analyses.

In the original proposal, we proposed a budget of \$6000 to incentivize participation in the study and assumed a very small sample of 20-30 participants. However, after completing the literature review and refining and revising the random controlled study plan, we realize that we will need significantly more participants in the study to be able to detect any changes between the intervention and control group. A power analysis suggests a total final sample of 172 participants is necessary for 80% power to detect a small-to-moderate effect (partial $\eta^2 = .03$) with $\alpha \leq .05$ and a .5 correlation between measurements. Additionally, based on a review of literature and previous experience, we anticipate participant attrition, which will require us to over recruit (350 participants) to ensure an adequate final sample size.

Based on pilot study data, incentivizing participation is an important motivator for participation and the current funding available to compensate participants is inadequate for the number of people who will need to be recruited for the study.

The current funding available to compensate participants for participating in the study is \$6,440 (\$180 was used for the pilot study). Table 6 shows the compensation schedule for each participant (based on the need to recruit 350 participants) in the random controlled trial. While we recognize there will be attrition in the random controlled trial, the current incentive schedule does not match with the data we collected from pilot testing ([See Section 4.2 above for more details](#)). The intervention participants would only receive \$6 for participation in all three of the virtual sessions.

Table 6. Current Incentive Schedule for Each Participant

	Week 0	1	1	2	3	4	5	6	7	8-19	20
Intervention	Recruit and screen	Session 1 Consent, randomize, baseline Assess.	Session 2 emo. regulation	Session 2 practice (and texts)	Session 3 1 st behavior	Session 3 practice (and texts)	Session 4 2 nd behavior	Session 4 practice (and texts)	Session 5 Post assess.	* 3 month post	Follow-up assess.
	--	\$5	\$1	\$1	\$1	\$1	\$1	\$1	\$5	--	\$5
Control	Recruit and Screen	Session 1 Consent, randomize, baseline assess.	No Tx	No Tx	No Tx	No Tx	No Tx	No Tx	Post assess.	* 3 month post	Follow-up assess.
	--	\$5	--	--	--	--	--	--	\$5	--	\$5

Based on pilot testing results, we are requesting additional funds to incentivize study participation. We are requesting an additional \$13,550.00 for incentives plus indirect costs (IDCs). If this request to Pooled Fund Board is approved, Table 7 shows the proposed incentive schedule for each participant.

Table 7. Proposed Incentive Schedule for Each Participant

	Week 0	1	1	2	3	4	5	6	7	8-19	20
Intervention	Recruit and screen	Session 1 Consent, randomize, baseline Assess.	Session 2 emo. regulation	Session 2 practice (and texts)	Session 3 1 st behavior	Session 3 practice (and texts)	Session 4 2 nd behavior	Session 4 practice (and texts)	Session 5 Post assess.	* 3 month post	Follow-up assess.
	--	\$10	\$5	\$5	\$5	\$5	\$5	\$5	\$15	--	\$15
Control	Recruit and Screen	Session 1 Consent, randomize, baseline assess.	No Tx	No Tx	No Tx	No Tx	No Tx	No Tx	Post assess.	* 3 month post	Follow-up assess.
	--	\$10	--	--	--	--	--	--	\$15	--	\$15

We will use CIAS as the platform for intervention delivery. CIAS is an open-source resource that was funded by the National Institutes of Health, National Institute of Biomedical Imaging and

Bioengineering, through an award to Michigan State University (CIAS, n.d.). CIAS is a platform that supports the development of digital behavioral health interventions to be shared with participants and allows data to be collected through the same platform. The CIAS platform includes animated narration and can support other video and audio features for a more interactive intervention experience. While this is a new platform for the CHSC, and one that we have not used before, it is tailored to researchers who are creating and managing interventions and seems to be a good fit based on the design of the random controlled trial outlined in this project.

5.4 Hypotheses

We hypothesize that:

1. The brief intervention will result in reduced impulsivity, increased driving emotional intelligence, increased use of harm-mitigating strategies, increased risk perceptions, and increased protective beliefs.
 - a. Compared to participants in the control group, participants in the intervention group will have greater reductions in impulsivity scores and greater increases in drivers' emotional intelligence scores.
 - b. Compared to participants in the control group, participants in the intervention group will report increased contemplation and use of harm-mitigating strategies.
 - c. Compared to participants in the control group, participants in the intervention group will have increases in risk perception and other protective beliefs.
2. The brief intervention will result in participants engaging in fewer high-risk driving behaviors.
 - a. Compared to participants in the control group, participants in the intervention group will report fewer high-risk driving behaviors at follow up.
 - b. Reductions in high-risk driving behaviors are expected to be associated with skills gained through the intervention (e.g., reduced impulsivity, increased emotional intelligence, increased use of strategies, etc.).

5.5 Planned Analysis

The primary analysis will be a repeated measure multiple analysis of variance (MANOVA) with the intervention identified as a between factor. MANOVA is the appropriate main analytical test for both hypotheses and will allow us to test the effect of the intervention on impulsivity, emotional intelligence, risk perceptions, beliefs, and the four driving behaviors. We will conduct additional correlations and/or regressions to understand the relationship between the study variables (e.g., the relationship between impulsivity, use of mitigating strategies, and driving behaviors).

6 CONCLUSIONS

In this Report, we summarized Task 2 of this project, which included creating a survey assessment tool, creating content for a brief intervention to reach drivers who engage in multiple risky behaviors, pilot testing and refining the survey tool and brief intervention, and developing an outline for the randomized control trial to be implemented in Task 3.

7 REFERENCES

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8 APPENDICES

8.1 Assessment

Instructions

The Center for Health and Safety Culture is asking for your input. We are learning about ways to improve traffic safety and we will use the information we gather from this survey to validate and improve our survey questions for future research projects.

Your voice matters. Each and every survey is very important to us.

Your participation is voluntary, and you can stop at any time. You can choose to not answer any question you do not want to answer. Your responses are confidential. You may be asked to complete another similar survey in a few weeks and your responses to the two surveys will be linked. However, your name or other identifying information is never stored with your responses to the survey questions. We will not share individual responses; only summary results will be shared in reports.

This study has been approved by the Montana State University (MSU) Institutional Review Board (IRB). If you have questions or comments about the survey, please contact Bridget Hanson with the Center for Health and Safety Culture at bridget.hanson@montana.edu. If you have questions about your rights as a participant, you may contact the MSU IRB at irb@montana.edu.

Proceeding with the survey indicates your consent to participate. Thank you for taking this survey!

A. Initial Qualification

drive In the last 30 days, how often have you driven a vehicle?

0 = never; 1 = less than once a week; 2 = about once a week; 3 = a few times a week; 4 = most days each week

age How old are you? _____ years

gender With what gender do you identify? Man; Woman; Non-binary; Prefer to self-describe: _____

Participant is eligible and continues to driving behavior screen if:

drive \geq 2

age range 18-25

If not eligible: Thank you for your interest in this survey.

B. Risky Driving Behavior Screen

For each of the following, please think about your driving over the last 30 days.

0 = never; 1 = just once; 2 = a few times; 3 = fairly often; 4 = regularly

speed1 How often have you driven more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph?

distract3 How often have you driven while manually typing or sending a text message or an email?

0 = never; 1 = seldom; 2 = sometimes; 3 = usually; 4 = always

belt1 When you were the driver, how often did you wear a seat belt when you were within a few miles of your home?

The next question is about whether you drove after drinking alcohol in the last 30 days.

0 = never; 1 = once; 2* = more than once.

In the last 30 days, how many times did you...

duia1 drive within 2 hours of drinking any amount of alcohol?

*if 2, pop up for **duia1s** “estimate number of days over the last 30 days: _____”

Participant is eligible and continues to full survey if any TWO of the following:

speed1 ≥ 2

distract3 ≥ 2

belt1 ≤ 2

duia1 = 2

If not eligible: Thank you for your interest in this survey.

C. Risky Driving Behaviors

For each of the following, please think about your driving over the last 30 days.

0 = never; 1 = just once; 2 = a few times; 3 = fairly often; 4 = regularly

*Aggressive and speed items only if qualified based on speed (i.e. **speed1** ≥ 2)*

aggressive1 How often have you passed a vehicle which is driving/going about the posted speed limit?

aggressive2 How often have you driven so close to the vehicle in front that it might be difficult to stop in an emergency?

speed2 How often have you driven more than 10 mph over the speed limit on roads with speed limits between 55 mph and 65 mph?

0 = never; 1 = just once; 2 = a few times; 3 = fairly often; 4 = regularly

*Distract items only if qualified based on distract (i.e. **distract3** ≥ 2)*

- distract1** How often have you driven while holding and talking on a cell phone?
- distract2** How often have you driven while reading a text or an email on a cell phone?
- distract4** How often have you reached for an object while driving with the vehicle in motion?

For each of the following, please think about whether you wore a seat belt over the last 30 days when you were in a vehicle other than a bus.

0 = never; 1 = seldom; 2 = sometimes; 3 = usually; 4 = always

Belt items only if qualified based on seat belt (i.e. belt1 ≤ 2)

belt2 When you were the driver, how often did you wear a seat belt when you were many miles away from your home?

belt3 How often did you wear a seat belt as a passenger?

For the following questions, please think about whether you drove after drinking alcohol and/or using marijuana over the last 30 days.

0 = never; 1 = once; 2* = more than once.

*if 2, pop up for “Please estimate the number of days (in the last 30) that you... _____”

In the last 30 days, how many times did you...

duica drive within 2 hours of consuming marijuana AND alcohol (any amount of each)?

duic1 drive within 2 hours of consuming only marijuana (any amount)?

duia1 drive within 2 hours of consuming only alcohol (any amount)?

duic2 drive while you felt high from marijuana?

duia2 drive while you felt buzzed or drunk from drinking?

duic3 use marijuana while driving?

duia3 drink alcohol while driving?

D. Short-Term Outcomes

Compensating Risk Behaviors:

Thinking back over the last month, have you thought about or considered doing any of the following driving behaviors? Have you done any of the following (in the last month)?

Only items that correspond to risky driving behaviors that were endorsed above.

In the last 30 days, while driving...	Check if you have <i>thought about</i> doing this	Check if you have <i>done</i> this.
Wearing my seatbelt in dangerous weather conditions like rain, snow, or ice	compt1	compd1
Wearing my seatbelt when at high speeds	compt2	compd2
Wearing my seatbelt when my friends are in the vehicle	compt3	compd3
Keeping speed at or below the speed limit after drinking alcohol or using marijuana	compt4	compd4

Not using my phone in dangerous weather conditions like rain, snow, or ice	compt5	compd5
Using my phone only if my speed is low	compt6	compd6
Using my phone only if my vehicle is stopped	compt7	compd7
Putting my phone out of reach before I start driving	compt8	compd8
Asking a passenger to manage my phone (read and respond to texts, use a map, etc.)	compt9	compd9
Coordinating alternative transportation in advance of drinking alcohol or using marijuana	compt10	compd10
Not speeding when others are in my vehicle	compt11	compd11
Not speeding in dangerous weather conditions like rain, snow, or ice	compt12	compd12
Not speeding on the interstate	compt13	compd13
Setting a reminder to call a taxi or schedule a rideshare (e.g., Uber, Lyft, etc.) when drinking alcohol or using marijuana	compt14	compd14
Not drinking alcohol or using marijuana when I will be driving with others in the vehicle	compt15	compd15
Not drinking alcohol or using marijuana when I will be driving in dangerous weather conditions like rain, snow, or ice	compt16	compd16
Not drinking alcohol or using marijuana when I am going on interstate	compt17	compd17
Wearing my seatbelt after drinking alcohol or using marijuana	compt18	compd18
Creating more distance between my vehicle and the vehicle in front of me	compt19	compd19
Being more attentive to what is going on around me	compt20	compd20
Deciding not to have any passengers in my vehicle so I can better concentrate when driving	compt21	compd21

Risk Perceptions

How dangerous do you feel the following driving behaviors are?

1 = not at all dangerous; 2 = slightly dangerous; 3 = moderately dangerous; 4 = very dangerous; 5 = extremely dangerous

rpaggress1 ... passing a vehicle that is driving/going about the posted speed limit?

rpaggress2 ... driving so close to the vehicle in front that it might be difficult to stop in an emergency?

rpspeed1 ... driving more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph?

rpspeed2 ... driving more than 10 mph over the speed limit on roads with speed limits between 55 mph and 65 mph?

rpdistra1 ... driving while holding and talking on a cell phone?

rpdistra2 ... driving while reading a text or an email on a cell phone?

rpdistra3 ... driving while manually typing or sending a text message or an email?

rpdistra4 ... reaching for an object while driving with the vehicle in motion?
rpbelt1 ... as the driver, not wearing a seat belt when you are within a few miles of home?
rpbelt2 ... as the driver, not wearing a seat belt when you are many miles away from home?
rpbelt3 ... not wearing a seat belt as a passenger?
rpduica ... driving within 2 hours of consuming marijuana AND alcohol (any amount of each)?
rpduic1 ... driving within 2 hours of consuming only marijuana (any amount)?
rpduia1 ... driving within 2 hours of consuming only alcohol (any amount)?
rpduic2 ... driving while feeling high from marijuana?
rpduia2 ... driving while feeling buzzed or drunk from drinking?
rpduic3 ... using marijuana while driving?
rpduia3 ... using alcohol while driving?

Control Beliefs

cbsspeed1	I have the ability to drive within the speed limit.	1 (I definitely do not) – 7 (I definitely do)
cbsspeed2	If it were entirely up to me, I am confident I will be able to drive within the speed limit.	1 (strongly disagree) – 7 (strongly agree)
cbsspeed3	How confident are you that you will be able to drive within the speed limit?	1 (not at all confident) – 7 (extremely confident)
cbsspeed4	For me, driving within the speed limit would be...	1 (difficult) – 7 (easy)
cbdistract1	I have the ability to drive and not use my phone.	1 (I definitely do not) – 7 (I definitely do)
cbdistract2	If it were entirely up to me, I am confident I will be able to drive and not use my phone.	1 (strongly disagree) – 7 (strongly agree)
cbdistract3	How confident are you that you will be able to drive without using your phone?	1 (not at all confident) – 7 (extremely confident)
cbdistract4	For me, driving without using my phone would be...	1 (difficult) – 7 (easy)
cbbelt1	I have the ability to always wear my seat belt while driving.	1 (I definitely do not) – 7 (I definitely do)
cbbelt2	If it were entirely up to me, I am confident I will be able to always wear my seat belt while driving.	1 (strongly disagree) – 7 (strongly agree)
cbbelt3	How confident are you that you will be able to always wear your seat belt while driving?	1 (not at all confident) – 7 (extremely confident)
cbbelt4	For me, always wearing my seat belt while driving would be...	1 (difficult) – 7 (easy)
cbduia1	I have the ability to not drive within 2 hours after drinking any alcohol.	1 (I definitely do not) – 7 (I definitely do)
cbduia2	If it were entirely up to me, I am confident I will be able to not drive within 2 hours after drinking any alcohol.	1 (strongly disagree) – 7 (strongly agree)
cbduia3	How confident are you that you will be able to not drive within 2 hours after drinking any alcohol?	1 (not at all confident) – 7 (extremely confident)
cbduia4	For me, not driving within 2 hours of drinking any alcohol would be...	1 (difficult) – 7 (easy)
cbduic1	I have the ability to not drive within 2 hours of using any amount of marijuana.	1 (I definitely do not) – 7 (I definitely do)

cbduic2	If it were entirely up to me, I am confident I will be able to not drive within 2 hours of using any amount of marijuana.	1 (strongly disagree) – 7 (strongly agree)
cbduic3	How confident are you that you will be able to not drive within 2 hours of using any amount of marijuana?	1 (not at all confident) – 7 (extremely confident)
cbduic4	For me, not driving within 2 hours of using any amount of marijuana would be...	1 (difficult) – 7 (easy)

Injunctive Norms

1 (strongly disapprove) – 5 (strongly approve)

How much do you believe people who are important to you would approve or disapprove if you were to...

inaggress1 ... pass a vehicle which is driving/going about the posted speed limit?

inaggress2 ... drive so close to the vehicle in front that it might be difficult to stop in an emergency?

inspeed1 ... drive more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph?

inspeed2 ... drive more than 10 mph over the speed limit on roads with speed limits between 55 mph and 65 mph?

indistract1 ... drive while holding and talking on a cell phone?

indistract2 ... drive while reading a text or an email on a cell phone?

indistract3 ... drive while manually typing or sending a text message or an email?

indistract4 ... reach for an object while driving with the vehicle in motion?

inbelt1 ... as the driver, not wear a seat belt within a few miles of home?

inbelt2 ... as the driver, not wear a seat belt many miles away from home?

inbelt3 ... not wear a seat belt as a passenger?

induica ... drive within 2 hours of consuming marijuana AND alcohol (any amount of each)?

induic1 ... drive within 2 hours of consuming only marijuana (any amount)?

induia1 ... drive within 2 hours of consuming only alcohol (any amount)?

induic2 ... drive while feeling high from marijuana?

induia2 ... drive while feeling buzzed or drunk from drinking?

induic3 ... use marijuana while driving?

induia3 ... use alcohol while driving?

Descriptive Norms

0 (never); 1 (occasionally); 2 (sometimes); 3 (regularly); 4 (often); 5 (always)

In your opinion, when driving, how often do MOST drivers your age...

dnaggress1 ... pass a vehicle which is driving/going about the posted speed limit?

dnaggress2 ... drive so close to the vehicle in front that it might be difficult to stop in an emergency?

dnspeed1 ... drive more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph?

dnspeed2 ... drive more than 10 mph over the speed limit on roads with speed limits between 55 mph and 65 mph?

dndistract1 ... drive while holding and talking on a cell phone?

dndistract2 ... drive while reading a text or an email on a cell phone?

- dndistract3** ... drive while manually typing or sending a text message or an email?
- dndistract4** ... reach for an object while driving with the vehicle in motion?
- dnbelt1** ... as the driver, wear a seat belt within a few miles of home?
- dnbelt2** ... as the driver, wear a seat belt many miles away from home?
- dnbelt3** ... wear a seat belt as a passenger?
- dnduica** ... drive within 2 hours of consuming marijuana AND alcohol (any amount of each)?
- dnduic1** ... drive within 2 hours of consuming only marijuana (any amount)?
- dnduia1** ... drive within 2 hours of consuming only alcohol (any amount)?
- dnduic2** ... drive while feeling high from marijuana?
- dnduia2** ... drive while feeling buzzed or drunk from drinking?
- dnduic3** ... use marijuana while driving?
- dnduia3** ... use alcohol while driving?

Impulsivity (Short UPPS-P)

For each statement, indicate how much you agree or disagree with the statement.

1 (agree strongly) – 4 (disagree strongly)

- impulse1** I generally like to see things through to the end.
- impulse2** My thinking is usually careful and purposeful.
- impulse3** When I am in a great mood, I tend to get into situations that could cause me problems.
- impulse4** Unfinished tasks really bother me.
- impulse5** I like to stop and think things over before I do them.
- impulse6** When I feel bad, I will often do things I later regret in order to make myself feel better now.
- impulse7** Once I get going on something I hate to stop.
- impulse8** Sometimes when I feel bad, I can't seem to stop what I am doing even though it is making me feel worse.
- impulse9** I quite enjoy taking risks.
- impulse10** I tend to lose control when I am in a great mood.
- impulse11** I finish what I start.
- impulse12** I tend to value and follow a rational, "sensible" approach to things.
- impulse13** When I am upset, I often act without thinking.
- impulse14** I welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional.
- impulse15** When I feel rejected, I will often say things that I later regret.
- impulse16** I would like to learn to fly an airplane.
- impulse17** Others are shocked or worried about the things I do when I am feeling very excited.
- impulse18** I would enjoy the sensation of skiing very fast down a high mountain slope.
- impulse19** I usually think carefully before doing anything.
- impulse20** I tend to act without thinking when I am really excited.

Emotion Regulation

Please indicate the extent to which you disagree or agree with each of the following statements.

1 (completely disagree) – 7 (completely agree)

deis1	Managing my emotions while driving is not a problem for me.
deis2	I often find it difficult to see things from another driver's viewpoint.
deis3	On the whole, I'm highly motivated to be a safe and courteous driver.

deis4	I usually find it difficult to regulate my emotions while driving.
deis5	I generally don't find driving enjoyable.
deis6	I cooperate effectively with other drivers.
deis7	I tend to change my mind frequently while driving.
deis8	Many times, I can't figure out what emotion I'm feeling.
deis9	I feel that I have a number of good driving qualities.
deis10	I often find it difficult to assert myself in traffic.
deis11	I'm usually able to influence the behavior and feelings of other road users.
deis12	On the whole, I have a gloomy feeling about driving.
deis13	People who ride with me often complain that I don't treat other drivers right.
deis14	I often find it difficult to adjust my driving to traffic and driving conditions.
deis15	On the whole, I'm able to deal with driving-related stress.
deis16	I often find it difficult to care about other road users on the road with me.
deis17	I'm usually able to see things from another road user's perspective.
deis18	I normally find it difficult to stay motivated as a driver.
deis19	I'm usually able to find ways to control my emotions while driving.
deis20	On the whole, I'm pleased with my driving.
deis21	I would describe myself as good at resolving conflict with other road users.
deis22	I tend to get involved in driving situations, which I wish I could have avoided.
deis23	I often pause and think about my feelings while driving.
deis24	I understand my strengths and weaknesses as a driver very well.
deis25	I tend to get intimidated by stressful driving situations.
deis26	I worry that other drivers get upset with me.
deis27	I generally believe that I am safe when I drive.
deis28	I find it difficult to think that other road users are similar to me.
deis29	Generally, I'm able to adapt to different traffic and driving situations.
deis30	Others would describe me as an anxious driver.

E. Demos

state What state do you live in?

rurality Which of the following best describes the place where you currently live?
a large city; a suburb near a large city; a small city or town; a rural area

edu What is the highest level of education you have completed?
Less than high school diploma; high school diploma/GED; associate degree; some college, no degree; bachelor's degree; master's degree; doctorate or professional degree

drive2 At what age did you start driving?

drive3 What kind of vehicle do you drive most often?
Car/sedan; SUV/crossover/minivan; pickup truck; motorcycle; commercial vehicle; other, please specify: _____

8.2 Intervention Content for Pilot Testing

Intervention content for five learning sessions was developed including emotion identification/regulation content, seat belt content, speeding/aggressive driving content, distracted driving content, and driving under the influence content. The details of the intervention content are provided.

8.2.1 Emotion Identification/Regulation Content

Thanks for answering the questions. Based on your responses, we would like to invite you to review the following content and write down some of your thoughts, feelings, and reactions. Does the content make sense? Does it connect to you? Does it sound like you?

Everyone who chooses to be part of the study will be asked to take three surveys over a period of approximately three months, and some study participants will also be asked to participate in a few short learning sessions and receive some short and informative text messages. This is the content from one of those learning sessions.




Content for Emotion Learning Session

Most young adults in Montana care about creating positive change for themselves, their community, and their state. One positive change that young adults can make that impacts everyone is to reduce risky driving behaviors. This study includes a series of virtual sessions to reduce risky driving behaviors by improving skills and providing tools.

As a college student, you have a lot going on. You may be living on your own for the first time, balancing school, work, a social life, and paying your own expenses (and we know gas, groceries, and rent can cost a lot!). College life can be challenging and figuring it all out doesn't come easy. Sometimes, it can leave you feeling anxious, stressed, or frustrated.

Understanding your feelings is important. Feelings can influence the decisions you make and the actions you take every day. For example, if you feel angry when driving, you might speed, honk your horn at another driver, or decide not to let another driver into traffic in front of you. If you feel happy when driving, you might slow down for the bicycle riding on the shoulder of the road or wait patiently for someone to turn. Understanding how you feel can help you to make different choices about how you behave in any situation, including while driving.

The feelings you have can be experienced differently depending on the situation. Here's an example of how a feeling like frustration might be experienced.

	A frustrated feeling might be a 2 out of 10, like when you find out the class you need to take is only offered at 8am. How annoying!
	Or it might be a bit stronger, a 5 out of 10, like when you've spent a lot of time on a paper and gotten a lower grade than expected. Ahhhh!
	Or, it could be even stronger, an 8 out of 10, like when you find out you need to buy one more textbook for a class – and it is \$120. Your blood starts to boil, and it makes you see red!

Understanding feelings is a skill, and it takes practice. Here's how you can do it.

- Tune in and try to identify your feelings. *“Is this a frustrated feeling, or is this a feeling of anger – or maybe I'm scared?”*
- Try to describe it.
 - *“How would I rate the intensity of this feeling on a scale of 1-10?”*
 - *“Does this feeling give me a physical reaction? Is it a sick feeling, like having an upset stomach?”*
 - *“Does it remind me of anything? Is it similar to how I felt when I lost my keys the other day?”*

How you feel about something can impact what you do, but you can change your feelings in any situation and at any time (even before you are in the situation). Learning to change how you feel is a skill and takes practice. Here's how you can do it.

- You can change how you think.
 - If you are feeling overwhelmed, instead of thinking about all the homework you need to get done, you could think about how much you are learning and enjoying the class.
- You can change what you do.
 - If you are feeling stressed, instead of sitting home and ruminating on what is bothering you, you could go for a walk and breathe some fresh air. Fresh air and body movement help clear your head.
 - If you are feeling annoyed by your roommate interrupting your study time (even with your headphones on!), take a few deep breaths.

Now it's your turn to practice.

Think about a recent situation you experienced while driving (Think about someone not letting you merge into traffic, someone honking their horn at you, someone driving REALLY slowly and backing up traffic, etc.). Can you picture this situation in your head?

What was the situation?

- Tune in and try to identify your feelings. *“Was this an annoyed feeling, or was this a feeling of anxiety – or maybe you were stressed?”*
 - What was the feeling?
 - (Open-Ended Response) _____
- Try to describe it.
 - *“How intense was this feeling on a scale of 1-10?”*
 - *“Did this feeling give me a physical reaction?”*
 - *“Did it remind me of anything?”*

Now, consider how you could change the feeling you identified.

- You can change how you think.
 - If you were feeling annoyed: Instead of thinking the person that cut you off in traffic is rude, you could think how that person is probably in a hurry to get somewhere important.
 - If you were feeling frustrated: You could remind yourself that you aren’t in a hurry to get to your destination and it’s OK that traffic is moving slower than usual.
 - How could you think about the situation differently?
 - (Open-Ended Response) _____
- You can change what you do. Changing what you do can include doing something in the moment to change how you feel (e.g., taking a few deep breaths), doing something before you are in the situation (e.g., leaving early to avoid feeling rushed), or doing something to avoid a situation where you are likely to have a strong feeling (e.g., taking a different route home).
 - If you were feeling upset by someone pulling out in front of you: Take a few deep breaths.
 - If you were feeling anxious: You could leave earlier to arrive on time.
 - If you were feeling angry: You could avoid rush hour traffic.
 - You could plan your work schedule so that you leave at a time when traffic is less busy to avoid the angry feelings you have when facing heavy traffic.
 - What could you do to change how you feel in this situation, before you get into the situation, or to avoid the situation?
(Open-Ended Response) _____

Understanding how you feel, how your feelings impact your behavior, and how to change how you feel are skills you can practice and get better at.

And, these skills can be helpful in every area of your life – dealing with a difficult professor, responding to an upset customer at work, or deciding what to do when you are driving.

Consider how your feelings impact your behavior. And, consider how you can change what you think or what you do to change how you feel.

Emotion Text Messages the Participants Will Receive

Common feelings include angry, frustrated, happy, and excited. Have you been practicing the skill of identifying your feelings in everyday situations?

Start to notice your feelings. Consider how your feelings impact your behavior. Consider how you can change what you think or what you do to change how you feel.

Think about the last time you drove. Can you identify how you were feeling? Can you recall how your feelings impacted your driving?

A quick reminder: Changing what we think or what we do can change how we feel in any situation.

8.2.2 Seat Belt Content

Thanks for answering the questions. Based on your responses, we would like to invite you to review the following content and write down some of your thoughts, feelings, and reactions. Does the content make sense? Does it connect to you? Does it sound like you?

Everyone who chooses to be part of the study will be asked to take three surveys over a period of approximately three months, and some study participants will also be asked to participate in a few short learning sessions and receive some short and informative text messages. This is the content from one of those learning sessions.

Content for Seat Belt Learning Session

Most young adults in Montana care about creating positive change for themselves, their community, and their state. One positive change that young adults can make that impacts everyone is to reduce risky driving behaviors. This study includes a series of virtual sessions to reduce risky driving behaviors by improving skills and providing tools.

Wearing a seat belt was one of the behaviors you answered a lot of questions about in the survey.

Here's how you responded. You said in the past 30 days when you were the driver you <belt1 response> wore your seat belt when you were within a few miles of your home, and you <belt2 response> wore your seat belt when you were many miles away from you home. You also said that you <belt3 response> wore your seat belt when you were the passenger.

Did you know more than half of all traffic crashes occur within five miles from home? That's close! Your favorite local restaurant or coffee shop, your classes, and your work are probably within a five-mile radius.

Did you also know almost half (47%) of the people killed in a traffic crash in 2019 were not wearing their seat belt? Wearing a seat belt can save your life. And it's easy, kind of like putting on your shoes or brushing your teeth.

Most drivers your age always wear a seat belt. And, in Montana, wearing a seat belt is a law.

After spending some time thinking about seat belts and identifying some of the feelings you might have about wearing a seat belt, do you feel like you can commit to wearing your seat belt all the time?

Researcher Note- We will be presenting participants with different options to select from to encourage safer driving behaviors. The complete list is below. The participants will select one to practice over the upcoming week.

- a. I will put my seat belt on before starting my car.
- b. I will ask others in my car to wear their seat belt.
- c. I will choose to wear my seat belt when I drive with friends in the vehicle.
- d. I will choose to wear my seat belt when I am driving in dangerous weather conditions like rain, snow, or ice.
- e. I will choose to wear my seat belt when I am driving at a high speed.
- f. I am not comfortable with any of these choices.
- g. I will choose to create more distance between my vehicle and the vehicle in front of me.
- h. I will choose to be more attentive to what is going on around me.
- i. I will choose not to have any passengers in my vehicle.

Seat Belt Text Messages the Participants Will Receive

You have selected <response a-i>. Hopefully you have had the chance to practice this while driving. The more you practice the easier it will be. You got this!

You said that people who are important to you would not approve if you were to not wear a seat belt a few miles from home. It is clear that people care about you and want you to be safe; wear it for them.

Spend a minute and reflect on the people who care about you like your parents and your friends. Consider wearing a seat belt for them.

How do you feel? How could you change what you think or what you do to change how you feel?

8.2.3 Speeding/Aggressive Driving Content

Thanks for answering the questions. Based on your responses, we would like to invite you to review the following content and write down some of your thoughts, feelings, and reactions. Does the content make sense? Does it connect to you? Does it sound like you?

Everyone who chooses to be part of the study will be asked to take three surveys over a period of approximately three months, and some study participants will also be asked to participate in a

few short learning sessions and receive some short and informative text messages. This is the content from one of those learning sessions.

Content for Speeding/Aggressive Driving Learning Session

Most young adults in Montana care about creating positive change for themselves, their community, and their state. One positive change that young adults can make that impacts everyone is to reduce risky driving behaviors. This study includes a series of virtual sessions to reduce risky driving behaviors by improving skills and providing tools.

You answered a lot of questions about speeding and other aggressive driving behaviors on the survey.

Here's how you responded. You said that in the past 30 days, you <aggressive1 response> passed a vehicle that was driving/going about the posted speed limit and that you have <aggressive2 response> driven so close to the vehicle in front that it might be difficult to stop in an emergency.

Most drivers your age don't drive aggressively.

You might be wondering what exactly aggressive driving is. Aggressive driving is considered any unsafe driving behavior that a person does on purpose that is intended to be negative. Those include behaviors like tailgating someone, not yielding (when you probably should), preventing other drivers from passing, running stop signs, yelling or honking, and cutting off other drivers in traffic on purpose (Yikes!).

Aggressive driving is considered a leading cause of traffic crashes, and some research suggests that aggressive driving may be a cause in approximately 56% of crashes where someone dies.

On the survey you took, you said in the past 30 days, you <speed1 response> drove more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph, and you <speed2 response any> drove more than 10 mph over the speed limit on roads with speed limits between 55 mph and 65 mph.

Speeding is a major factor in traffic crashes. In 2019 alone, speeding was involved in approximately one-third of all traffic fatalities.

In Montana, speed was listed as a contributing factor in crashes over 19,000 times in four years. (That's a lot!)

After spending some time learning about speeding and identifying some of the feelings you might have about speeding, do you feel like you can commit to not speeding when driving?

Researcher Note- We will be presenting participants with different options to select from to encourage safer driving behaviors. The complete list is below. The participants will select one to practice over the upcoming week.

- a. I will monitor my speed especially when I am feeling anxious and/or upset.
- b. I will check on my speed when I see a speed limit sign.

- c. I will choose to not speed when I drive with others in the vehicle.
- d. I will choose to not speed when I am driving in dangerous weather conditions like rain, snow, or ice.
- e. I will choose to not speed when I am driving on the interstate.
- f. I am not comfortable with any of these choices.
- g. I will choose to create more distance between my vehicle and the vehicle in front of me.
- h. I will choose to be more attentive to what is going on around me.
- i. I will choose not to have any passengers in my vehicle.

Speeding/Aggressive Driving Text Messages the Participants Will Receive

You selected the following strategy <response a-i>. Hopefully you have had the chance to practice this while driving. The more you practice the easier it will be. You got this!

You said that people who are important to you would not approve if you were to drive more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph. It is clear people care about you; drive the speed limit for them.

Speeding increases your risk of a traffic crash. Consider driving the speed limit for the people who care about you.

Driving somewhere today? Identify how you feel. Consider how those feelings might impact how you drive. Consider how you could change what you think or what you do to change how you feel.

8.2.4 Distracted Driving Content

Thanks for answering the questions. Based on your responses, we would like to invite you to review the following content and write down some of your thoughts, feelings, and reactions. Does the content make sense? Does it connect to you? Does it sound like you?

Everyone who chooses to be part of the study will be asked to take three surveys over a period of approximately three months, and some study participants will also be asked to participate in a few short learning sessions and receive some short and informative text messages. This is the content from one of those learning sessions.

Content for Distracted Driving Learning Session

Most young adults in Montana care about creating positive change for themselves, their community, and their state. One positive change that young adults can make that impacts everyone is to reduce risky driving behaviors. This study includes a series of virtual sessions to reduce risky driving behaviors by improving skills and providing tools.

Distracted driving was one of the behaviors you answered a lot of questions about in the survey.

Here's how you responded. You said that in the past 30 days, when you were the driver you <distract1 response> held and talked on a cell phone, <distract2response> read a text or an email on a cell phone, <distract3response> manually typed or sent a text message or email, and <distract4> reached for an object while the vehicle was in motion.

We know it can be hard to stay focused on one task at a time. We are used to using our phones a lot too! We know you care about being connected, but we also know you care about the people around you.

Did you know, most drivers your age don't typically read a text or an email or send a text or an email on their phone when they are driving?

Even though most people don't do things that can distract them while driving, in 2019, there were still 3,142 people who died in a distraction-related crash.

Throughout Montana, there are local ordinances that do not allow distracted driving.

There is a lot to pay attention to while driving. A large survey found that most people feel very unsafe if their driver is sending or reading emails or texts. Since we text so often, it can feel easy and like it doesn't interfere with our ability to concentrate. But distracted driving is dangerous – texting while driving more than doubles your odds of being in a crash.

After spending some time thinking about distracted driving and identifying some of the feelings you might have about distracted driving, do you feel like you can commit to not engaging with your phone while driving?

Researcher Note- We will be presenting participants with different options to select from to encourage safer driving behaviors. The complete list is below. The participants will select one to practice over the upcoming week.

- a. I will put my phone away and out of reach when I am driving.
- b. I will turn my phone off while I am driving.
- c. I will set my phone to "Do Not Disturb" while driving.
- d. I will choose to not use my cell phone when I am driving at high speeds.
- e. I will choose to not use my cell phone when I am driving in dangerous weather conditions like rain, snow, or ice.
- f. I will choose to hand my phone to a passenger to manage my phone (read and respond to texts, use a map, etc.). This way I won't miss any important calls, texts, or emails.
- g. I will choose to only look at my phone when I am stopped.
- h. I am not comfortable with any of these choices.
- i. I will choose to create more distance between my vehicle and the vehicle in front of me.
- j. I will choose to be more attentive to what is going on around me.
- k. I will choose not to have any passengers in my vehicle.

Distracted Driving Text Messages the Participants Will Receive

You selected the following strategy <response a-j>. Hopefully you have had the chance to practice this while driving. The more you practice, the easier it will be. You got this!

You said that people who are important to you would not approve if you were to drive and text. Choosing to drive without using your cell phone increases safety. Drive engaged for the people you care about.

Instead of reaching for your phone while driving, identify how you feel. Consider how those feelings influence your behavior. Consider how you could change what you think or what you do to change how you feel.

8.2.5 Driving Under the Influence Content

Thanks for answering the questions. Based on your responses, we would like to invite you to review the following content and write down some of your thoughts, feelings, and reactions. Does the content make sense? Does it connect to you? Does it sound like you?

Everyone who chooses to be part of the study will be asked to take three surveys over a period of approximately three months, and some study participants will also be asked to participate in a few short learning sessions and receive some short and informative text messages. This is the content from one of those learning sessions.

Content for Driving Under the Influence Learning Session

Most young adults in Montana care about creating positive change for themselves, their community, and their state. One positive change that young adults can make that impacts everyone is to reduce risky driving behaviors. This study includes a series of virtual sessions to reduce risky driving behaviors by improving skills and providing tools.

Driving under the influence of substances was one of the behaviors you answered a lot of questions about in the survey.

Here's how you responded. You said that in the past 30 days, you <duic1 response> drove within 2 hours of consuming marijuana, <duia1 response> drove within 2 hours of consuming alcohol, <duic2 response> drove while you felt high from marijuana, and <duia2 response> drove while you felt buzzed or drunk from drinking.

Most drivers (18 to 25) don't drive after drinking enough alcohol that they may be over the legal limit and don't drive within one hour of using marijuana.

In Montana, most young adults think driving under the influence of alcohol increases the risk of getting in a crash, and most young adults think driving under the influence of marijuana increases the risk of getting in a crash.

In Montana, it's illegal to drive under the influence of alcohol and/or marijuana, and the penalties are high with some fines as much as \$10,000. And, those fines don't include court fees,

attorney fees, treatment fees, and increases in your insurance (Yes, seriously!). And your driver's license gets suspended for 6 months (What a bummer. No thank you.).

In 2020, over 60% of traffic fatalities in Montana involved impaired driving. In one study, it was found that a driver with a .08 blood alcohol level (BAC) is almost 4 times more likely to be in a crash than a driver who does not have alcohol in their system (Lacey et al., 2016). (Note to self: Don't drive impaired.)

After spending some time thinking about driving under the influence of substances, do you feel like you can commit to making the choice not to drive under the influence of substances?

Researcher Note- We will be presenting participants with different options to select from to encourage safer driving behaviors. The complete list is below. The participants will select one to practice over the upcoming week.

- a. I will plan for alternative transportation in advance of drinking alcohol or using marijuana.
- b. I will go out with a designated driver.
- c. I will choose to set a reminder to call a taxi or schedule a ride share (e.g., Uber, Lyft, etc.) when drinking alcohol or using marijuana.
- d. I will choose not to drink alcohol or use marijuana when I will be driving with others in the vehicle.
- e. I will choose not to drink alcohol or use marijuana when I will be driving in dangerous weather conditions like rain, snow, or ice.
- f. I will choose not to drink alcohol or use marijuana when I will be driving on the interstate.
- g. I am not comfortable with these choices.
- h. I will choose to wear my seat belt after drinking alcohol or using marijuana.
- i. I will choose not to speed when I drive under the influence.

Driving Under the Influence Text Messages the Participants Will Receive

You selected the following strategy <response a-i>. Hopefully you have had the chance to practice this while driving. The more you practice, the easier it will be. You got this!

You said that people who are important to you would <response induic2> if you drove while feeling high from marijuana and <response induia2> if you drove while buzzed or drunk from drinking. At a .08 BAC level, you are almost 4 times more likely to be in a crash than a driver who did not have alcohol in their system. It is clear that people care about you and your safety; drive sober for them.

A driver with a .08 BAC level is almost 4 times more likely to be in a crash than a driver who does not have alcohol in their system. Avoid a crash.

8.3 Pilot Intervention Recruitment

Email to send to students asking for participation in research study or content can be posted by professor on Desire to Learn

Subject: Important study about risky driving behaviors

Hello All,

The Center for Health and Safety Culture at MSU is engaging in a research project to help people improve their driving. They need your help and are asking you to complete a brief online survey. If you qualify, they will invite you to participate in a brief interview that will take about 20 minutes. The purpose of this interview is to gather feedback about content and language we may use in activities to reduce risky driving behaviors.

If you choose to participate in the interview, you will be compensated with a \$20 Amazon gift card.

If you are willing, please complete this online survey by the end of the week.

The survey can be completed on a computer or cell phone. Here is a link to take the survey:

[unique-link-goes-here]

We thank you for your time.

Sincerely,

Submit the following to MSU Today:

The Center for Health and Safety Culture seeks participants ages 18-25 for a study to help people improve their driving.

Calendar post

Staying around Bozeman this summer? Interested in getting paid to answer a few questions?

Researchers from Montana State's Center for Health and Safety Culture are looking for adults (18-25 years old) to take part in a study to help people improve their driving. Please email Kelly Green at kelly.green6@montana.edu for more information!

Eligibility Requirements:

- Age: 18-25 years old
- College student
- Driven in the last 30 days
- Engaged in two of the following behaviors in the last 30 days
 - Distracted Driving
 - Speeding
 - Not wearing a seat belt
 - Driving while under the influence of alcohol and/or marijuana

8.4 Eligibility Screening Survey for Pilot Intervention

Instructions/Consent

The Center for Health and Safety Culture is asking for your input. We are learning about ways to help people improve their driving. We invite you to complete this brief survey that asks questions about you and your driving. We will use the information we gather from this survey to invite those who qualify to participate in a brief interview to gather feedback about content and language we may use in future activities to reduce risky driving behaviors.

Your participation is voluntary and you can stop at any time. You can choose to not answer any question you do not want to answer. Your responses are confidential. We will store the information securely and delete all survey responses and data after we invite people to participate in interviews.

This study has been approved by the Montana State University (MSU) Institutional Review Board (IRB). If you have questions or comments about the survey, please contact Kari Finley with the Center for Health and Safety Culture at kari.finley@montana.edu. If you have questions about your rights as a participant, you may contact the MSU IRB at irb@montana.edu.

Proceeding with the survey indicates your consent to participate. Thank you for taking this survey!

Initial Qualification

drive In the last 30 days, how often have you driven a vehicle?

0 = never; 1 = less than once a week; 2 = about once a week; 3 = a few times a week; 4 = most days each week

age How old are you? _____ years

gender With what gender do you identify? Man; Woman; Non-binary; Prefer to self-describe:

Participant is eligible and continues to driving behavior screen if:

drive ≥ 2

age range 18-25

If not eligible

Thank you for answering these questions! Based on your responses, you are not eligible for the interview portion of the study and this concludes your participation. We appreciate your time.

Risky Driving Behaviors

For each of the following, please think about your driving over the last 30 days.

0 = never; 1 = just once; 2 = a few times; 3 = fairly often; 4 = regularly

speed1 How often have you driven more than 10 mph over the speed limit on roads with speed limits between 35 mph and 50 mph?

speed2 How often have you driven more than 10 mph over the speed limit on roads with speed limits between 55 mph and 65 mph?

aggressive1 How often have you passed a vehicle which is driving/going about the posted speed limit?

aggressive2 How often have you driven so close to the vehicle in front that it might be difficult to stop in an emergency?

0 = never; 1 = just once; 2 = a few times; 3 = fairly often; 4 = regularly

distract1 How often have you driven while holding and talking on a cell phone?

distract2 How often have you driven while reading a text or an email on a cell phone?

distract3 How often have you driven while manually typing or sending a text message or an email?

distract4 How often have you reached for an object while driving with the vehicle in motion?

For each of the following, please think about whether you wore a seat belt over the last 30 days when you were in a vehicle other than a bus.

0 = never; 1 = seldom; 2 = sometimes; 3 = usually; 4 = always

belt1 When you were the driver, how often did you wear a seat belt when you were within a few miles of your home?

belt2 When you were the driver, how often did you wear a seat belt when you were many miles away from your home?

For the following questions, please think about whether you drove after drinking alcohol and/or using marijuana over the last 30 days.

0 = never; 1 = once; 2 = more than once

In the last 30 days, how many times did you...

duic1 drive within 2 hours of consuming marijuana (any amount)?

duia1 drive within 2 hours of consuming alcohol (any amount)?

duic2 drive while you felt high from marijuana?

duia2 drive while you felt buzzed or drunk from drinking?

Participant is eligible and continues to contact information if any TWO of the following:

speedx or aggressivex ≥ 2

distractx ≥ 2

beltx ≤ 2

duia2 or duic2 = 2

[In English: can qualify based any two of: any speeding/aggressive or distraction behavior if “a few times” or more often, any seat belt behavior if “sometimes” or less often, and dui behavior based on driving while feeling intoxicated more than once.]

Contact Information

Thank you for completing the survey! Based on your responses, you may be invited for part 2. In part 2, we will have a one-on-one virtual meeting with you. In the meeting, we will tell you about a project we are creating that provides information and activities to help people improve their driving. We will show you content and materials and ask for your feedback and suggestions. We expect the discussion to take about 20 minutes and we will compensate you with a \$20 gift card for participating.

If you are willing to participate in part 2, please provide the following information:

First Name: _____

Preferred Email: _____

If not eligible

Thank you for completing the survey! Based on your responses, you are not eligible for the interview portion of the study, and this concludes your participation. We appreciate your time.

8.5 Pilot Intervention Informed Consent

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT MONTANA STATE UNIVERSITY (MSU)

Researchers at the Center for Health and Safety Culture (CHSC) are asking you to participate in a research study to help people improve their driving. This form describes this study and explains how you can ask questions. This study is being led by Dr. Kari Finley, a Research Scholar at the CHSC.

What the study is about

The purpose of this research is to help people improve their driving. We want to get your feedback on the content and language we will use in brief virtual activities delivered to college students to help improve their driving. This information will help us improve the activities for future participants.

What we will ask you to do

We will ask you to participate in an interview that will take about 20 minutes. Prior to the interview, we may send you a document to review ahead of time.

Risks and discomforts

We do not anticipate any risks to you from participating in this interview.

Benefits

You may benefit from reflecting on your own risky driving behaviors. The conversation may provide insights that will be helpful. Information from this study will be used to improve activities to help people improve their driving and will benefit future participants.

Funding

This project is funded through a grant to Montana State University's Center for Health and Safety Culture from Montana Department of Transportation and the Federal Highway Administration (FHWA). There are no costs to you. Your participation will not impact your relationship with Montana State University or the state of Montana.

Compensation for participation

If you choose to participate, you will receive a \$20 Amazon gift card.

Audio recording

We will audio record the conversation and use the recording to develop a transcription. Following transcription, the audio recording will be deleted. By participating in the interview, you agree to be recorded.

Privacy/Confidentiality/Data Security

Your name, email address, and any other identifying information will be removed from the transcriptions and not stored. Access to the data will be limited to Center staff who are working on this project. Data will be analyzed for common themes, and results will be reported in summary format. We may use brief direct quotes to illustrate themes but will ensure they do not contain detail that may identify you.

Taking part is voluntary

Your participation is voluntary. You may choose to not participate with no penalty or impact on your relationship with MSU or the CHSC. If you choose to participate in the interview, you may skip any questions you do not wish to answer or discontinue your participation at any time.

Follow-up studies

We may contact you again to request your participation in a follow-up study. As always, your participation will be voluntary, and we will ask for your explicit consent to participate in any of the follow-up studies.

If you have questions

The main researcher conducting this study is Kari Finley, PhD, a Research Scholar at the CHSC. You may contact her at kari.finley@montana.edu. You will also have a chance to ask questions of the interviewer before the interview. If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) for Human Participants at 406-994-4706 or access their website at <http://www.montana.edu/orc/irb/index.html>.

Consent

Proceeding with this research or interview indicates your consent to participate. Researcher Documentation of Interview Consent:

Yes

No

Date:

APPROV 06/2022

IRB #KF060622-EX

8.6 Interview Protocol

Interviewer to introduce self, thank person for their time, confirm receipt of informed consent, and ask if any questions.

Ask if person is willing to participate and be recorded.

If not willing to participate, thank them for their time and end conversation.

If willing to participate but not be recorded, take notes throughout interview and after.

If yes to both, "I'll now turn on the recording."

Prior to this interview, we sent you a document to review. This document is a part of a virtual activity that we plan to implement with college students in the Fall. We would like your feedback about the content and language.

1. What were your initial thoughts and feelings about the content?
 - a. What resonated with you?
 - b. What parts were confusing?
 - c. Were there any language choices that did not resonate with you?
 - d. What were your feelings after reading the content? Or, how did you feel after reading the content?
 - e. What was the overall tone of the language used (e.g., friendly, approachable, sarcastic, hopeful, negative etc.)
 - f. Did the examples used throughout the document feel relatable?
 - g. Did the strategy options provided seem doable to you? (Sessions 3 and 4 only)
2. How interested or motivated would you be to participate in virtual sessions to improve your driving? (explain virtual sessions would be based on the content they reviewed)
3. What are some reasons you'd want to participate? (probe for motivations)
4. What would make participating less appealing?
5. If you were asked to complete three virtual sessions, each session being 5-7 minutes long, followed by a series of text messages to encourage you to practice what you learned in the session, how much would you like to be compensated for participating?
6. If you received a gift card, what vendors would you like to get one from?
7. If you were asked to complete an online survey, would you participate if you were entered into a raffle to receive highly value items like ski tickets, concert tickets or an iPad?
8. If not, what would you prefer to receive?
9. Is there anything else you'd like to share about the content of this activity?

Thank you again for your time today.