

Information Collection Request Supporting Statement: Part B
Fatal Crash Seat Belt Use Reporting and Awareness
OMB Control Number 2127-NEW

Abstract:

The National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transportation is seeking approval to collect information from 1,500 participants from two seat belt user groups, 750 who are full-time and 750 who are occasional or non-users, for a one-time voluntary experiment to understand whether the inclusion of seat belt status in a fatal crash news report could affect seat belt use. NHTSA will contact a sample of 20,850 potential participants from a marketing research firm's panel with an invitation email and screening questions to identify adult volunteers who regularly drive a passenger vehicle. Recruiting participants for the experiment has an estimated burden of 348 hours for the invitation email and 70 hours for the screening questions. (An estimated 20% of the invited potential participants will be interested in participating in the study and will complete the screener form, i.e., 4,170 potential participants.) An estimated 1,668 potential participants will read the consent form with an estimated burden of 139 hours. The 1,500 participants will complete the experiment with an estimated burden of 500 hours. The experiment involves a 40-question online survey that participants will complete in their own homes using their personal computers. Participants will read one of three fictitious news reports of crashes (some of which involve fatalities) to gauge whether including seat belt use in news reports has the potential to increase belt use by occasional and non-seat belt users. After reading the news report, participants will report their recollection of belt use in the news report they read, self-reported seat belt use, intentions to use belts, attitudes about seat belts, and demographic information. The total estimated burden associated with reporting is 1,057 hours. The collection does not involve recordkeeping or disclosure. An approved Institutional Review Board (IRB), Advarra, has reviewed the study and determined that the research project is exempt from IRB oversight. NHTSA will summarize the results of the collection using aggregate statistics in a final report to be distributed to NHTSA program and regional offices, State Highway Safety Offices, and other traffic safety stakeholders. This collection will inform the development of countermeasures, particularly in the areas of communications and outreach, for increasing seat belt use and reducing fatalities and injuries associated with the lack of seat belt use.

B.1. Describe the potential respondent universe and any sampling or other respondent selection to be used

The potential respondent universe of individuals eligible to take part in the experiment includes individuals who are U.S. residents; age 18 or older, except age 19 or older in Nebraska and Alabama, and age 21 or older in Mississippi; are able to read and write in English fluently; have driven a car, van, SUV, or pickup truck at least once in the past month; whose main form of transportation is either a car, van,

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

SUV, or pickup truck, and not a motorcycle; and are willing to report personal seat belt use behavior (measured by the question, “When is the last time that you did not wear a seat belt when driving?”). The subcontractor, a marketing research firm (the Schlesinger Group), will provide the 1,500 participants for the experiment. The Schlesinger Group is a full-service marketing company that specializes in providing study participants from its list of approximately 1.5 million contacts. The contacts complete an application form on the company’s website, providing their names, addresses, and government photo IDs. They are composed of consumers, as well as business professionals, patients, and medical professionals. The contacts represent a wide range of ages, gender, and ethnicities across the United States.

As described below, the Schlesinger Group will randomly select 20,850 potential participants from their list of 1.5 million contacts. Given that the intended purpose of this study is not to produce nationally representative statistics but rather to examine group differences as part of an experimental design, this study does not need statistical weighting, and no sample weights are calculated or used. However, contacts, and the recruited subjects, should be generally representative of the potential respondent universe such that the results of the experiment will have external validity.

Schlesinger Group uses web-assisted recruiting technology to identify contacts. Based on their experience in recruiting (20% participation rate), and the ratio of (self-reported) full-time seat belt use to part-time or no seat belt use of 80/20¹, the researchers estimate that they will need to send a recruitment email to 20,850 potential participants. The goal is to recruit 1,500 participants stratified by seat belt user group: 750 who are full-time seat belt users and 750 who are occasional or non-users of seat belts.

The recruitment notice will describe in detail the study protocol, payment, and how subject privacy will be maintained. It is expected that 10% (or fewer) who are interested, qualify, and read the consent form will decline to participate. This estimate is based upon the Schlesinger Group’s corporate experience with similar types of recruitment as well as NHTSA’s experience with the recent “Psychological Constructs Related to Seat Belt Use” survey.²

Based on the recruitment email to 20,850 potential participants, it is estimated that 4,170 will be interested and qualify (20% of 20,850). Of the 4,170 who are interested and qualify, 834 will be non- or part-time users (20% of 4,170). Schlesinger will provide a link to the consent form for the 834 non- or part-time users. Of the 834 part-time or non-users who read the consent form, 750 will participate (90% of 834).

¹ Spado, D., Schaad, A., & Block, A. (2019, December). *2016 motor vehicle occupant safety survey; Volume 2: Seat belt report* (Report No. DOT HS 812 727). National Highway Traffic Safety Administration. <https://rosap.nhtl.bts.gov/view/dot/43609>

² Sheveland, A. C., Bleiberg, M. A., Mendelson, J., Luchman, J. N., Eby, D. W., Molnar, L. J., & Walton, B. R. (2020, December). *Psychological constructs related to seat belt use, volume 1: Methodology report* (Report No. DOT HS 813 032). National Highway Traffic Safety Administration. <https://rosap.nhtl.bts.gov/view/dot/54281>

Fatal Crash Seat Belt Use Reporting and Awareness Supporting Statement Part B

Of the 4,170 who are qualified and are interested, there will be 3,336 who are full-time seat belt users (80% of 4,170). Schlesinger will provide the link to the consent form to the first 834 who request participation, with the expectation that 750 will provide consent and complete the study.

Hypothesis testing in this study will include comparing the estimated proportion of responses (recalled seat belt status) for the three experimental treatments (articles) within the always and not always belt use groups. Under assumptions of two-sided testing, an alpha of 0.05, and a beta of 0.80, a sample size of 272 for each group is needed to detect a difference of 0.12 centered around 0.50. A sample size of 232 is needed to detect a difference of 0.13. As such, this collection's sample size of three treatment groups of 250 each (within each belt use group) provides sufficient power to detect differences of 13 percent points or larger and to detect smaller differences in some instances.

B.2. Describe the procedures for the collection of information.

The Schlesinger Group will send an invitation to 20,850 from their pool of participants (estimated at 1.5 million individuals) to participate in a study. Schlesinger will select the 20,850 based on the match between their panel demographics and the screener inclusion criteria. Since seat belt use status is not a known factor among the 1.5 million contacts, it is included on the screener form. Schlesinger can email up to 1,000 contacts a day until they reach the recruitment goal. Based on their corporate experience, Schlesinger estimates that 20% of those who are recruited will qualify and be interested in participating (approximately 4,170 of the 20,850).

Based on research showing that approximately 80% of respondents self-reported wearing a seat belt every time they drive and 20% do not, it is anticipated that 834 of the 4,170 recruits will be non- or part-time seat belt users. Those who qualify based on the inclusion criteria will be provided with a link to the consent form. There will be a larger proportion of recruits who qualify for the full-time user group; Schlesinger will provide the first 834 with a link to the consent form. Of the 1,668 recruits who are provided with a link to the consent form (834 full-time seat belt users and 834 part-time or non-users), it is anticipated that 90% (or 1,500) will provide consent and participate in the study.

Participants will participate from their own homes, using their personal computers. The screening questions will be part of Schlesinger's web platform. Interested individuals who meet the screening requirements will be provided with a link to the consent form. Once participants click on the link to the consent form, they will be directed to a web platform. Upon submission of the questionnaire (after completion) the Schlesinger Participant ID will be sent to the Schlesinger Group, so they will know which participants completed the questionnaire. TransAnalytics, upon receipt

Fatal Crash Seat Belt Use Reporting and Awareness Supporting Statement Part B

of the dataset, will re-code the Schlesinger ID in the analysis database to a number between 1 and 1,500.

Upon entering the site, participants will be instructed to read and electronically sign the consent form. It is estimated that 1,668 potential participants will read the consent form and of these, 1,500 will provide consent (90%). Following their consent, they will click another link, which will take them to the study introduction and background, and instructions for completing the questionnaire. The crash report will appear with instructions that inform participants that after they read the crash report and are ready to respond to the questions, they will not be able to re-read the crash report to help them answer the questions.

Following completion of the 40 questions, the Schlesinger Group will provide study compensation in the form of \$3.00 worth of points to the participant's online Schlesinger account that can be used in exchange for gift cards through the Schlesinger Group. TransAnalytics will then re-code the Schlesinger ID in the dataset to a number between 1 and 1,500 to preserve participant anonymity.

B.3 Describe methods to maximize response rates and to deal with issues of nonresponse.

As we estimate a response rate of 20%, and we need approximately 4,170 to achieve the ultimate 1,500 participants required, we expect to send the invitation to 20,850 potential participants. Schlesinger will send 1,000 recruitment emails per day, with no follow up, until they reach the recruitment goal. Respondents who consent and participate in the study will receive points worth \$3.00 in their Schlesinger account, which they may exchange for gift cards. This is commensurate with incentives that Schlesinger provides for their online studies of similar length. The incentive and the fact that recruits can participate online from their home computers should make responding attractive.

To help make the questions as simple and brief as possible, the research team conducted in-person, one-on-one cognitive interviews with nine respondents (3 full-time seat belt users, 3 part-time, and 3 non-users) at The Schlesinger Group's Philadelphia, PA office. There were five males and four females; respondents ranged in age from 34 to 66. Four were white, three Black, and two Hispanic/Latino. These respondents read one of three crash reports, and then provided responses to the 40 questions presented in paper format. The study Principal Investigator (PI) served as the moderator and used a structured set of question probes to "walk through" the questionnaire with the study participant, beginning with the first question. The probes were designed to investigate four aspects of the question-response process:

Comprehension: Was the question constructed in a manner that ensured respondents understood the question to mean what the researchers intended? (e.g., In your own words, what is this question asking?)

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

Retrieval: Could respondents recall the information needed to answer the question? (e.g., Was there a fatality at the scene of the crash?)

Judgment: How did the respondents decide on his or her response to the question? (e.g., How important to you is wearing a seat belt?)

Response: Were response options provided that clearly tap into ways respondents think about the issue? (e.g., You chose “Somewhat likely.” How well does that apply to you?)

The PI asked other questions, as appropriate, to ensure he understood the participant’s thought process in answering questions. The PI also asked questions about whether there were any words in the crash report that the participant did not understand. This feedback provided valuable information about how best to create a questionnaire that is manageable for respondents who will be engaging in a self-administered study procedure. After interviews were completed, the moderator provided a written report that contained question-by-question summaries on respondents’ reactions to the questions and suggestions for how to improve questions in a way that will create a more positive and efficient questionnaire experience.

B.4. Describe any tests of procedures or methods to be undertaken.

As stated above, cognitive testing has been conducted with nine participants on the finalized version of the questionnaire and study. The Schlesinger Group provided an audio recording and transcript of the virtual meeting to the PI. The participants consented to this, by reading the consent form and through the consent process with the PI. The cognitive testing study was approved by Advarra IRB. The cognitive testing did not result in any changes to the questionnaire as the participants did not have difficulty understanding the questions and did not find the questions to be vague.

The methods used in the final report will involve cross-tabulation and logistic regression. As is typical of experiments, group differences are controlled through random assignment of treatment. Among the 750 full-time seat belt users, each respondent will be randomly assigned to one of three conditions: story where both drivers (car and pick-up truck) reported as wearing seat belts and both survived, story where one driver (car) wore a belt and survived while the other driver (pick-up truck) did not wear a seat belt and died, and a story where one driver (car) survived and one (pick-up truck) died but no mention of seat belt use for either driver (baseline). The same procedure will be applied to the 750 part-time and non-users. The experimental design and participant questionnaire enable the testing of multiple hypotheses within the two use groups. For example, one question enables testing accurate recall of the car driver’s belt use status and another question the pick-up truck driver’s use status. Hypothesis testing of participants’ recall of aspects from the story will likely involve cross-tabulation and chi-squared tests. Note that the experimental design controls for seat belt use through group assignment and other possible factors, such as demographic differences, through random assignment of the treatment. However,

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

comparison of the results across the two belt use groups or other aggregation of the groups will require multivariable analyses, most likely logistic regression. Multivariable analyses will be needed because participants in the two belt use groups are likely to differ on many factors. Multivariable logistic regression can test whether treatment group assignment, self-reported belt use, attitudes towards belt use, and demographic variables predict accurate recall of belt use status. In addition, the inclusion of demographic variables in the logistic regression will help control for possible differences between the participants and the universe of passenger vehicle drivers.

B.5. Provide the name and telephone number of individuals consulted on statistical aspects of the design.

TransAnalytics, Larry Decina, Principal Investigator (215-538-3820)

TransAnalytics, Loren Staplin, Program Manager (215-538-3820)

The Schlesinger Group, Maleica Grant, VP Client Solutions (610-563-9638)

**Fatal Crash Seat Belt Use Reporting and Awareness
 Question by Question Justification**

Questionnaire Item	Rationale for question	Previous research
<p><i>Part I - Screening Questions (Criteria for inclusion in experiment)</i></p>		
<p>Screening questions to be part of the sample.</p>		
<p>A</p>	<p>Study sample is composed of U.S. residents; Age 18 or older (except age 19 or older in NE and AL, and age 21 or older in MS); ability to read and write in English fluently; driven a car, van, SUV, or pick-up truck at least once in past month; main form of transportation is either a car, van, SUV, or pickup truck and not motorcycle; and willing to report personal seat belt use behavior as either full-time seat belt user or a part-time/non-user of seat belts when driving a vehicle.</p>	<p>Screening elements are specific to the study; and modeled from the NHTSA Motor Vehicle Occupant Safety Survey, (Spado, D., Schaad, A., & Block, A. (2019, December). <i>2016 motor vehicle occupant safety survey; Volume 2: Seat belt report</i> (Report No. DOT HS 812 727) National Highway Traffic Safety Administration.)</p>
<p><i>Part II. - Recall of Fatal Crash Report</i></p>		
<p><u>Questions 1 to 6</u></p>		
<p>Responses to these questions will identify participants' recall of what they read in the crash report.</p>		
<p>1-6</p>	<p>To determine participant recall of the crash report, especially relating to motorists' seat belt use. To enable analyses describing the relationship of participants' recall with their other responses, including their seat belt status.</p>	<p>Questions are specific to the intent of the study. The literature search reviewed one study similar in context, that is, it identified participants' assessment of road safety upon reading a traffic crash report (Goddard, T., Ralph, K., Thigpen, C. G., & Iacobucci, E. (2019). Does news coverage of traffic crashes affect perceived blame and preferred solutions? Evidence from an experiment. <i>Transportation Research Interdisciplinary Perspectives</i>, 103 (93), 149-153.)</p>

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

<p><i>Part III - Perceptions of safety benefit of seat belt use when involved in a motor vehicle crash</i></p> <p><u>Questions 7 to 10</u></p> <p>Responses to these questions will identify participants’ perceptions of the benefits of using a seat belt when involved in a motor vehicle crash based on reading the crash report. They will also involve participants’ overall thoughts on the benefit of wearing a seat belt.</p>		
7-10	<p>To determine participants’ perceptions of the safety benefits of seat belt use when recalling the crash report and seat belt use in general. To enable analyses to determine which test stimuli will produce a maximum desired outcome (e.g., awareness of restraint use, and its effects, increased knowledge of restraints, enhanced perception of efficacy and risk, increase in self-reported likelihood of seat belt use). Response values of the seat belt user groups will be reflected upon in the analysis, as well.</p>	<p>Questions are specific to the intent of the study.</p> <p>Literature search reviewed one study similar in context, that is, it identified participants’ assessment of road safety upon reading a traffic crash report (Goddard, T., Ralph, K., Thigpen, C. G., & Iacobucci, E. (2019). Does news coverage of traffic crashes affect perceived blame and preferred solutions? Evidence from an experiment. <i>Transportation Research Interdisciplinary Perspectives</i>, 103 (93), 149-153.)</p>
<p><i>Part IV – Seat belt behavior; and intentions and reasons to use or not use a seat belt when driving or as a passenger in a motor vehicle.</i></p> <p><u>Questions 11 to 16</u></p> <p>Responses to these questions are intended to identify current seat belt use; and identify participants’ reasons for wearing or not wearing a seat belt as a driver or as a passenger.</p> <p><u>Question 17</u></p> <p>This question identifies if participants are following the intent of the questionnaire, i.e., the question gauges whether the participants are focusing on the questions.</p>		
11-16	<p>To determine the participants’ seat belt use behavior and intentions and reasons to use or not use a seat belt when driving or as a passenger in a motor vehicle.</p> <p>To enable analyses to determine which test stimuli will produce a maximum desired outcome (e.g.,</p>	<p>Questions are specific to the intent of the study, but many of these questions were also modeled from a recently released study by NHTSA. (Spado, D., Schaad, A., & Block, A. (2019, December). <i>2016 motor vehicle occupant safety survey; Volume 2: Seat belt report</i> (Report No. DOT HS 812 727) National Highway Traffic Safety Administration.)</p>

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

	awareness of restraint use, and its effects, increased knowledge of restraints, enhanced perception of efficacy and risk, increase in self-reported likelihood of seat belt use). Response values of the seat belt user groups will be reflected upon in the analysis, as well.	
17	A counterfeit question with a highway safety topic to determine if participants are scrolling through the survey and just checking the first response in every case.	Counterfeit questions were previously used by the researchers in Decina, L. E., Will, K. E., Maple, E. L., Perkins, A. M., Kirley, B., & Mastromatto, T. (2016). <i>Effectiveness of Child Passenger Safety Information for the Safe Transportation of Children</i> (Report No. DOT HS 812 245) National Highway Traffic Safety Administration.)
<p><i>Part V. – Opinions on seat belt laws and enforcing these laws</i></p> <p><u>Questions 18 and 19</u></p> <p>Responses to these questions will identify participants’ opinions of State seat belt laws and law enforcement enforcing these laws.</p>		
18, 19	<p>These two questions are asking participants their opinions of State seat belt laws and law enforcement enforcing these laws.</p> <p>To enable analyses describing the relationship of participants’ opinions about laws and enforcement with other participant responses relating to seat belt use.</p>	<p>These questions were modeled from a recently released study by NHTSA. (Spado, D., Schaad, A., & Block, A. (2019, December). <i>2016 motor vehicle occupant safety survey; Volume 2: Seat belt report</i> (Report No. DOT HS 812 727) National Highway Traffic Safety Administration.)</p>
<p><i>Part VI. – Intentions of wearing a seat belt and their thoughts on utility of wearing a seat belt.</i></p> <p><u>Questions 20 to 23</u></p> <p>Responses to these questions help to identify participants’ intent on wearing seat belts (either as a driver or passenger) in the future and in a future crash. One question addresses identifying participants’ thoughts on the utility of wearing a seat belt in a crash.</p>		
20 - 23	These four questions are	These questions are specific to the

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

	<p>asking participants their intent on wearing seat belts (either as a driver or passenger) in the future and in a future crash. One question addresses their thoughts on the utility of wearing a seat belt in a crash.</p> <p>These questions will be used in the research to ascertain if characteristics of the participants' seat belt use or non-use relates to their responses to their future intent to wear a seat belt or not.</p>	<p>research study, but also modeled from a recently released NHTSA report. (Spado, D., Schaad, A., & Block, A. (2019, December). <i>2016 motor vehicle occupant safety survey; Volume 2: Seat belt report</i> (Report No. DOT HS 812 727) National Highway Traffic Safety Administration.)</p>
<p><i>Part VII. – Demographics, Driving Behavior and Experience, News Sources</i></p> <p><u>Questions 24 to 40</u></p> <p>Responses to these questions will identify the demographics of the participants. Responses will also identify driver behavior and experience (i.e., crash involvement, tickets), including seat belt use. One question will identify participants' news sources.</p>		
24	<p>The question is intended to identify participants' news sources.</p>	<p>The question is specific to the intent of the study.</p>
25-31, 39	<p>These questions are demographic questions that will be used in the research to help ascertain who are the persons who are less likely to wear their seat belts and who, based on the experimental manipulation, are the most likely to remember seat belt status in a crash vignette. These questions are intended to allow for targeted countermeasure development.</p>	<p>These questions were modeled from a recently released NHTSA report. (Spado, D., Schaad, A., & Block, A. (2019, December). <i>2016 motor vehicle occupant safety survey; Volume 2: Seat belt report</i> (Report No. DOT HS 812 727) National Highway Traffic Safety Administration.)</p>
32 -38, 40	<p>Questions are intended to identify participants' current driving behavior and crash history.</p>	<p>These questions were modeled from a recently released NHTSA report. (Spado, D., Schaad, A., & Block, A. (2019, December). <i>2016 motor vehicle occupant safety survey; Volume 2: Seat</i></p>

Fatal Crash Seat Belt Use Reporting and Awareness
Supporting Statement Part B

	<p>To enable analyses describing the relationship of driver experience with responses (e.g., awareness of restraint use, and its effects, increased knowledge of restraints, enhanced perception of efficacy and risk).</p>	<p><i>belt report</i> (Report No. DOT HS 812 727) National Highway Traffic Safety Administration.)</p>
--	---	--