

Question-by-Question Justification for Screener

ITEM	EXPLANATION
1-14	These items are used to screen participants. Age and gender will be used to place participants into the demographic cells of the design outlined on pages 2-3 of Part B. To be eligible to participate, volunteers must also have a valid motorcycle endorsement, own a motorcycle from a list of specified models that is in at least fair mechanical condition, have liability insurance, report that others will not operate their motorcycle regularly during the study period, be eligible for employment in the US, and be comfortable reading and writing English.
Open Ended Riding Experience Description, pages 4-6	This item is used to screen participants into cells of the design based on their riding experience, as outlined on pages 2-3 of Part B. To simplify the process, volunteers will be asked to explain their motorcycle riding experience in their own words and then will be asked follow-up questions for clarification.
15	This question is to determine how the participant learned about the study. Responses will help us determine which recruitment methods are most successful. Methods to recruit future participants may be altered based on responses to this question.

Question-by-Question Justification for Intake Questionnaires

Questionnaire 1 of 4. Demographics and Riding History – pages 1-3

ITEM	EXPLANATION
1-2	Standard demographic questions. Year of birth will be used to determine age, and also to determine years of motorcycle riding experience from future questions.
3-5	These items ask respondents about their prior motorcycle riding experience. They will be used to confirm that respondents fall into the experience categories they were placed into during screening, and will also be used to report descriptive statistics on the years of riding experience for respondents in the different experience level categories.
6-7	Responses to these items will indicate if the instrumentation applied to the respondent's motorcycle will likely capture all of the riding the respondent does over the course of the year, or if the respondent may also be riding other motorcycles.
8-11	These items will capture information on prior motorcycle riding experience for respondents who have returned to motorcycle riding after taking a break. As in questions 3-5, these items will be used to confirm that respondents fall into the experience categories they were placed into during screening, and will also be used to report descriptive statistics on the years of riding experience for respondents who have recently returned to motorcycle riding after a break.
12-22	These items ask respondents about the frequency with which they rode their motorcycle in the past year, and the purpose of these rides. This self-report information will be compared to objective trip information captured with instrumentation. These comparisons will provide information on the accuracy of motorcycle riders' self-reported riding frequency. The resulting information will aid in the interpretation of self-reported riding frequency data from prior studies, and will inform the design of future studies where riding frequency data are desired.
23-26	These questions ask respondents about the motorcycle rider training they have received. Responses will give more insight into the respondent's prior motorcycle riding experience.
27-28	These questions ask respondents about motorcycle helmet use. This self-reported information can be compared to video footage of what the rider wears on the road.

Questionnaire 2 of 4. Sensation- and Thrill-Seeking Questionnaire (labeled on questionnaire as “perceptions”) – pages 4-5

ITEM	EXPLANATION
1-8	These questions constitute the Brief Sensation Seeking Scale (BSSS). The BSSS was adapted from Form V of the Sensation Seeking Scale (SSS-V) developed by Zuckerman, Eysenck, and Eysenck (1978) and was validated in its shorter form as the BSSS by Hoyle, Stephenson, Palmgreen, Lorch, and Donohew (2002). Sensation seeking has been shown to be related to crashes, traffic violations, self-reported risky driving behavior, and risky driving in a simulator (e.g., Jonah, 1997; Schwebel, Severson, Ball, & Rizzo, 2006). In this study, we will examine if it also related to observed on-motorcycle riding behavior.
9-12	These items were derived from Akers’ Social Learning Theory (Akers, 1977) and assess how social influences affect risk taking.
13-20	These questions constitute eight of the nine questions of the thrill-seeking scale of the Driver Stress Inventory, which was developed and validated by Matthews, Desmond, Joyner, Carcary, and Gilliland (1997). These eight questions have been shown to be related to speeding behavior in a driving simulator (Stradling, Meadows, & Beatty, 2004). In this study, we will used answers to these items to examine if thrill seeking is also related to observed on-motorcycle riding behavior.

Questionnaire 3 of 4. NEO Five Factor Inventory (NEO-FFI) – pages 6-8

ITEM	EXPLANATION
1-60	These questions constitute the NEO Five Factor Inventory (NEO-FFI). The NEO-FFI is validated measure of the personality characteristics of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness developed by Costa and McRae (1992).

ITEM	EXPLANATION
All Items	The Motorcycle Rider Behavior Questionnaire (MRBQ) is a validated self-report measure of motorcycle riding behavior and errors that predict crash risk. The MRBQ was developed by Elliot, Baughan, and Sexton (2007) and was adapted for motorcycle riders from the Driver Behavior Questionnaire, or DBQ (Reason, Manstead, Stradling, Baxter, & Campell, 1990).

Question-by-Question Justification for Debriefing Questionnaire

ITEM	EXPLANATION
1	This question asks respondents about the frequency with which they may have been under the influence of drugs or alcohol while riding during this study. This will allow respondents to self-report a risky behavior that will not be captured by the data acquisition system.
2	This question asks respondents about their seat belt use when driving a car. The risky behavior of driving a car unbelted can be compared to riding behaviors observed on-road.
3	This item asks respondents how much stress they felt during the time they participated in the study. This self-reported information about the respondent's stress level can be compared to riding behaviors observed on-road.
4-5, 8-11	These items ask respondents about their subjective experiences riding with the instrumentation, including if they feel the instrumentation affected their behavior.
6-7	These questions ask riders to rate their safety and skill compared to other riders. The self-reported safety and skill levels of respondents can be compared to riding behaviors observed on-road.